ADMINISTRATIVE DRAFT

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Beach Access Repair Project

PROJECT NO. CDP 2021-0011/ HDP 2021-0002/ HMP 2021-0003 (DEV 2021-0049)

LEAD AGENCY:

City of Carlsbad
1635 Faraday Avenue
Carlsbad, California 92008
Contact: Lauren Ferrell
442.339.2558

May 2023

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1. **PROJECT NAME:** Beach Access Repair Project
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3. **LEAD AGENCY:**

   City of Carlsbad
   1635 Faraday Avenue
   Carlsbad, CA 92008

4. **PROJECT APPLICANT:**

   City of Carlsbad, Public Works
   1635 Faraday Avenue
   Carlsbad, CA 92008

5. **LEAD AGENCY CONTACT PERSON:** Izzak Mireles, Associate Planner, Phone: 442.339.2693 | Email: izzak.mireles@carlsbadca.gov
6. **PROJECT LOCATION:** The Project area is regionally located in the northwestern portion of the City of Carlsbad; refer to Figure 1, *Project Location*. Locally, the Project area extends along the western area of Carlsbad Boulevard and the beach promenades from Pine Avenue at the north to Tamarack Avenue at the south; refer to Figure 2, *Project Vicinity.*
7. **GENERAL PLAN LAND USE DESIGNATION**: Open Space (OS)
8. **ZONING:** Open Space (OS)
9. **PROJECT DESCRIPTION:** The Beach Access Repair Project (Project) proposes structural repairs and improvements to the existing concrete sidewalks, retaining walls, and beach access stairways located along Carlsbad Boulevard. These stairways provide access along, and to the popular Carlsbad State Beach. The Project consists primarily of repairing or replacing existing features in-kind, with the exception of the upper sidewalk, which is proposed to be widened to accommodate the heavy traffic of passive and active recreational user groups. The locations of the proposed sidewalk improvements and repairs, proposed stairway replacements, as well as the proposed staging area for the Project is shown in Figure 3. The Project is within City and California State Parks jurisdiction (State Parks).

   The sidewalks and stairways were built in the 1980s and need repairs and/or replacements to maintain structural integrity and safe public access. The proposed repairs were identified as being necessary according to a structural condition assessment prepared by TTG Engineers in 2016 Replacement of the elevated sidewalk would be a long-term solution (approximately 50 years) to the existing deteriorated sidewalk, with the new beams anticipated to be designed with high-strength, corrosion resistant precast concrete.

   The proposed Project consists of two (2) major elements: The Upper Sidewalk Improvements and Beach Access Stairway Replacements. The proposed actions associated with these elements are outlined below:

   - Upper Sidewalk Improvements:
     - Replacement and widening by 2.5’ through the removal of a surface-mounted railing and metal beam guardrail (1’ gained) and a 1.5’ sidewalk widening/extension to the west. This upper sidewalk is heavily trafficked by various user groups and the proposed widening was identified by the City as being critically important to allow for adequate space for these user groups. The total upper sidewalk width would be increased from 9’ to 11’-4” to 11’-10” in the proposed condition.

- Replacement of the existing upper sidewalk surface-mounted railing between Pine Avenue and Tamarack Avenue with a side-mounted railing to provide an additional extra sidewalk walking width.

- Beach Access Stairway Replacements:
  - Replacement of five (5) stairways
    - Replacement of four (4) existing elevated access stairways and railings in same configuration (size and shape) at each access location. The replacements will utilize the existing reinforced concrete pile that support the stairway landings. The handrails edging the stairs and platforms would be replaced with similar railings and handrails that meet applicable codes and would include downward facing lighting.
    - Replacement of one (1) on-grade access stairway and railings at Tamarack Avenue within the footprint of the existing stair curbs and walkway.
  - Replacement of existing sandbags with short retaining wall extensions (no more than 20 linear feet) at the base of the Maple, Sycamore, and Hemlock Avenues stairways to control soil sloughing from the bluff from impacting use of the stairs.
  - Installment of new under rail accent lighting at the elevated access platforms and the Tamarack Avenue on-grade access stairway.

The Project also includes miscellaneous improvements in the Project vicinity such as replacement of the existing streetlight poles along the beach side of Carlsbad Boulevard from Pine Avenue to Tamarack Avenue and replacement of the existing sidewalk and railing around the beach shower along the upper sidewalk near the Tamarack Avenue restroom. In total there are 14 existing LED streetlights; 11 of the existing streetlights are double mast and three (3) are single mast. All the existing streetlights will be replaced with in-kind double mast streetlights within the footprints of the existing streetlights.

UPPER SIDEWALK IMPROVEMENTS

Upper sidewalk improvements will increase the walking width from 9’ to 11’- 4” to 11’-10” through the removal of a surface-mounted railing and metal beam guardrail (approximately 1’ walking width gained) and a 1.5’ sidewalk widening/extension to the west. Removal of the metal beam guardrail is allowable per the American Association of Highway and Transportation Officials (AASHTO) Roadside Design Guide due to the low posted road speed and clear-zone width at top of slope.

The existing sidewalk varies from north to south within the Project area; therefore, the proposed structural solutions vary as well. Specifically, the sidewalk between Pine Avenue and Maple Avenue is supported by concrete piles, while the sidewalk from Maple Avenue to Cherry Avenue is on-grade. The proposed sidewalk improvements within these two (2) discrete sections of the upper sidewalk are detailed below:

- Pine Avenue to Maple Avenue: The pile-supported sidewalk would be extended to the west on a cantilever via a number of proposed structural elements (e.g., new concrete beams, see Figure 4).
- Maple Avenue to Cherry Avenue: The on-grade sidewalk with retaining wall would be extended to the west via a new concrete wall and pier (Figure 5).

The two (2) elevated upper sidewalk overlooks at Walnut Avenue, between Chestnut Avenue and Maple Avenue, and the on-grade upper sidewalk overlook at Acacia Avenue would be replaced but are not proposed to be widened. The surface-mounted railing at each of the elevated overlooks would be

replaced with new side-mounted railing, and the on-grade overlook railing would be replaced with new surface-mounted railing, which would provide additional usable space.

BEACH ACCESS STAIRWAY REPLACEMENT

The beach access stairways between the upper and lower sidewalks consist of five (5) stairways; four (4) sets of elevated stairs supported on reinforced concrete platforms near the intersections of Carlsbad Boulevard and Sycamore Avenue, Carlsbad Boulevard and Maple Avenue, Carlsbad Boulevard and Cherry Avenue, Carlsbad Boulevard and Hemlock Avenue, and one (1) set of stairs on-grade at Tamarack Avenue. The four (4) sets of elevated stairways have deteriorated to the point of needing continual maintenance to remain safe and are proposed to be completely replaced, including railing, concrete platforms, and stair treads. The large, reinforced piles supporting the elevated stairway platforms on the bluff would remain in place to be reused for supporting the new platforms of similar dimensions (Figure 6). The one (1) on-grade stairway at Tamarack Avenue is proposed to be completely replaced, with new stair curbs, railing, and landings within its existing configuration.

CONSTRUCTION PHASING AND METHODS

Construction of the proposed Project will be phased to maintain public access to the beach over the duration of the Project. Stairway replacements will be conducted in phases, completing one (1) staircase replacement at a time to reduce impacts to public access. Construction signage will be posted to inform the public of the closed stairway and to direct the public to use the other stairways along Carlsbad Boulevard or the beach access ramp at Pine Avenue, which will remain open throughout the duration of the Project. The entire length of Carlsbad State Beach will remain open throughout the duration of the Project as to not impede access or use of the beach/coastal areas for the public as well as City and State Park staff.

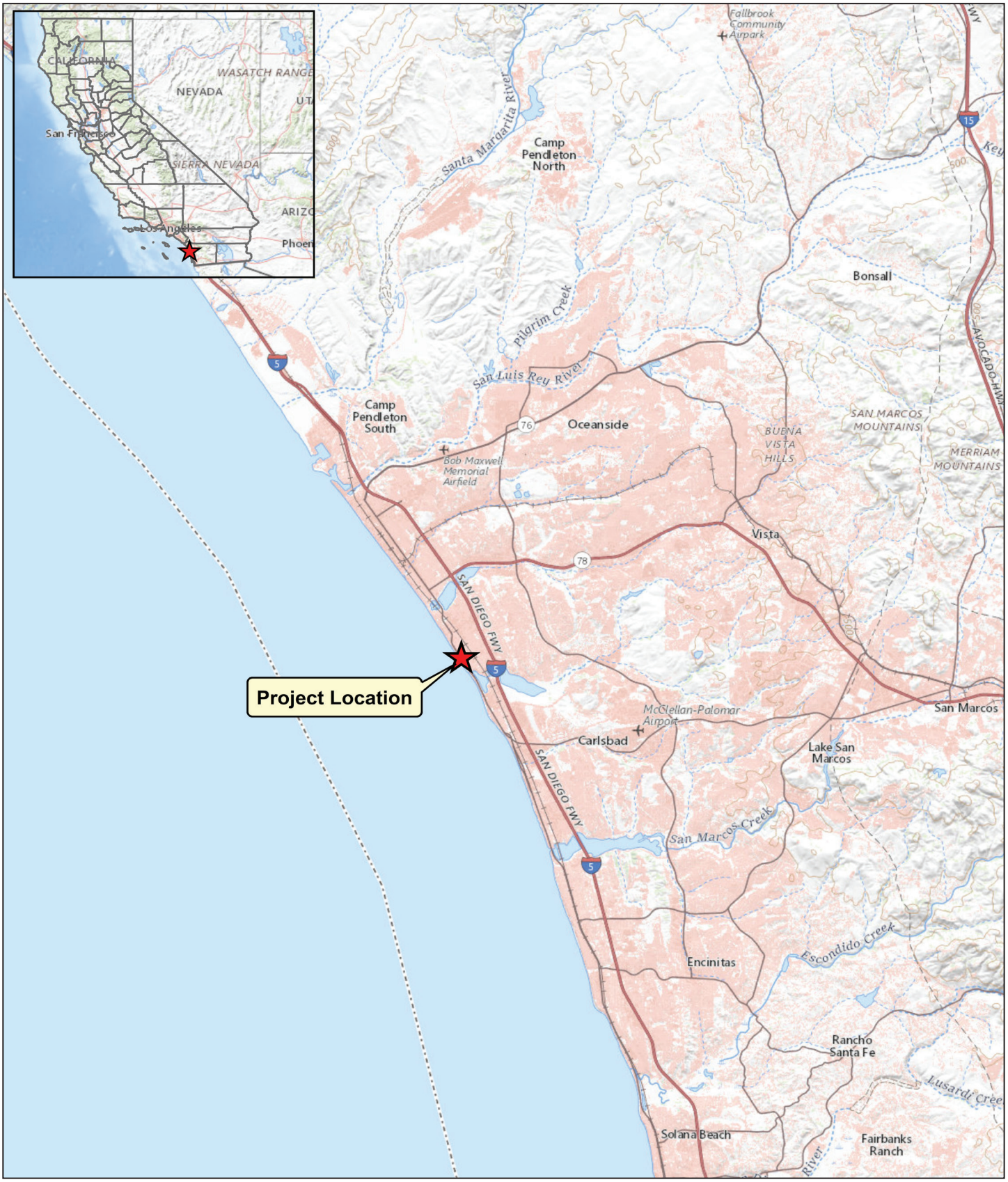
Proposed work will not impact existing underground utilities and no relocation of utilities will be necessary to complete the Project. When performing work on the Tamarack Avenue stairway, the Tamarack Avenue restroom will remain open throughout the duration of construction, with the exception of a brief window during which repairs are being made to the adjacent sidewalk. The associated temporary restroom closure is estimated at about two (2) weeks. During this brief period, signage would be posted directing beachgoers to the Pine Avenue restroom, approximately 2,000’ to the north (a short 6-minute walk). This approach will maintain convenient access to restroom facilities, while avoiding the potential for disturbance, odor, vandalism, and visual impacts associated with installing a temporary restroom facility along Carlsbad Boulevard. Details will be coordinated among the City and State Parks during final design and construction.

The construction staging and laydown area is proposed within a grassy area/lawn along the west side of Carlsbad Boulevard between Juniper Avenue and Hemlock Avenue (see Figure 3). The total square-footage for the construction staging area would be approximately 8,000 square feet and would be the same for construction Phases 1 and 2. Of the 35 on-street parallel parking stalls along Carlsbad Boulevard, approximately 15-20 parking stalls will be temporarily closed off to accommodate the construction staging area. There are two (2) ADA (Americans with Disabilities Act) parking stalls located at the intersection of Hemlock Avenue and Carlsbad Boulevard that will not be impacted by construction activities. The staging and laydown area was minimized as much as possible to allow for efficient construction while limiting impacts to beach access, parking, and coastal resources. The Tamarack Avenue parking lot, located at the south end of the Project area, will remain open during the Project.

The construction of the Project is estimated to take approximately 20 months. The first phase of Project activities would occur over a 9-month period (estimated September 2023 to May 2024). The first phase

of the Project includes the beach access stairways located at Sycamore, Maple, and Tamarack Avenues. The second phase of Project activities is expected to occur over a 6-month period (estimated September 2024 to February 2025), which includes the stairways located at Cherry Avenue and Hemlock Avenue. No onsite work is proposed during the summer months (i.e., between Memorial Day and Labor Day) to minimize recreational impacts. The anticipated construction equipment that may be required for the Project include the following: air compressor, crane, backhoe, bobcat tractor, concrete mixer, bulldozer, jack hammer, pavement roller, excavator, street sweeper, man lift, dump truck, generator set, loader, and welder. Silt fences will be used to surround all demolition activities, including concrete removal and excavation, to capture debris to protect the beach. Temporary construction fencing will also be used to secure the Project site and avoid impacts to the public.

Work is anticipated to take place along the western edge/shoulder of Carlsbad Boulevard; no beach work is proposed. Given the proposed work area, the Project is anticipated to require traffic control measures during construction, such as the temporary closure of lanes along Carlsbad Boulevard. During the demolition and replacement of the elevated sidewalk, the two (2) southbound lanes will need to be shut down. Traffic control measures necessary to accomplish the work will require a traffic control permit from the City and will be the responsibility of the selected contractor. Traffic control measures will not take place during summer months (Memorial Day through Labor Day) as to avoid impacts to the peak summer tourist season. Lateral and vertical beach access will be maintained to Carlsbad State Beach during all construction activities.



Source: USGS; December 2020.

BEACH ACCESS REPAIR PROJECT
Initial Study/Mitigated Negative Declaration

Project Location

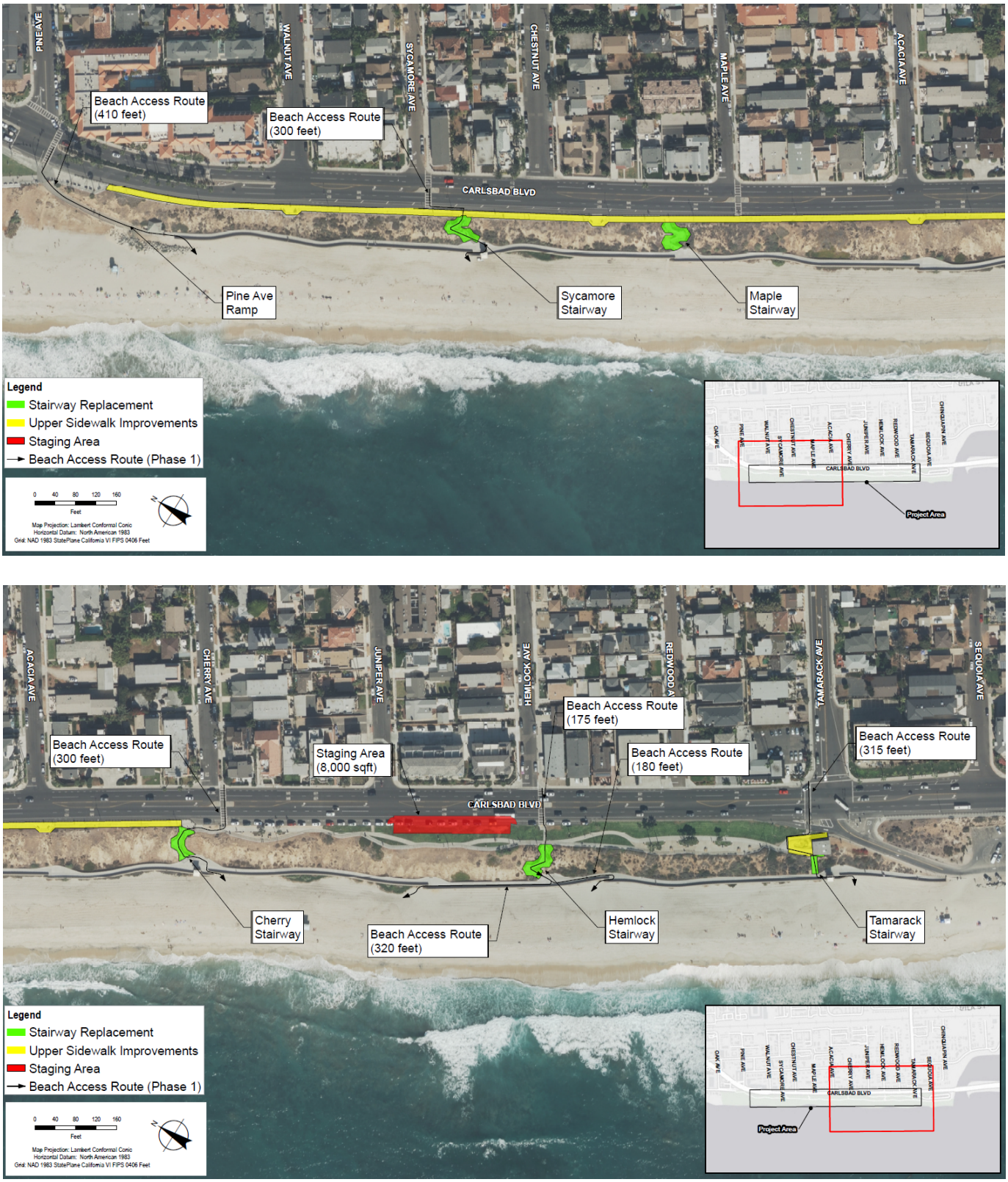
Figure 1

Source: ESRI; December 2020.

BEACH ACCESS REPAIR PROJECT
Initial Study/Mitigated Negative Declaration

Project Vicinity

Figure 2

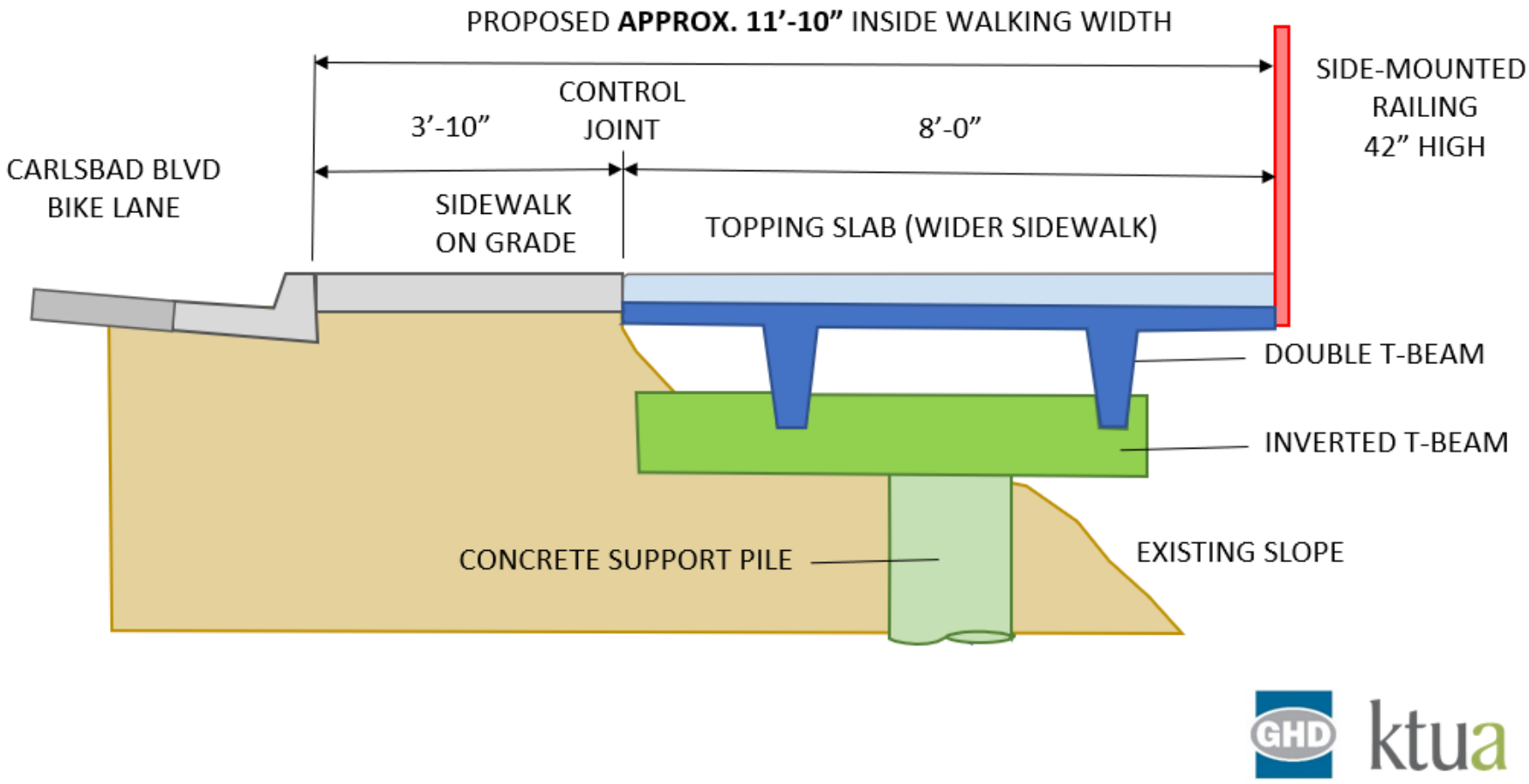


Source: USGS; 2014.

BEACH ACCESS REPAIR PROJECT
Initial Study/Mitigated Negative Declaration

Area of Potential Effects

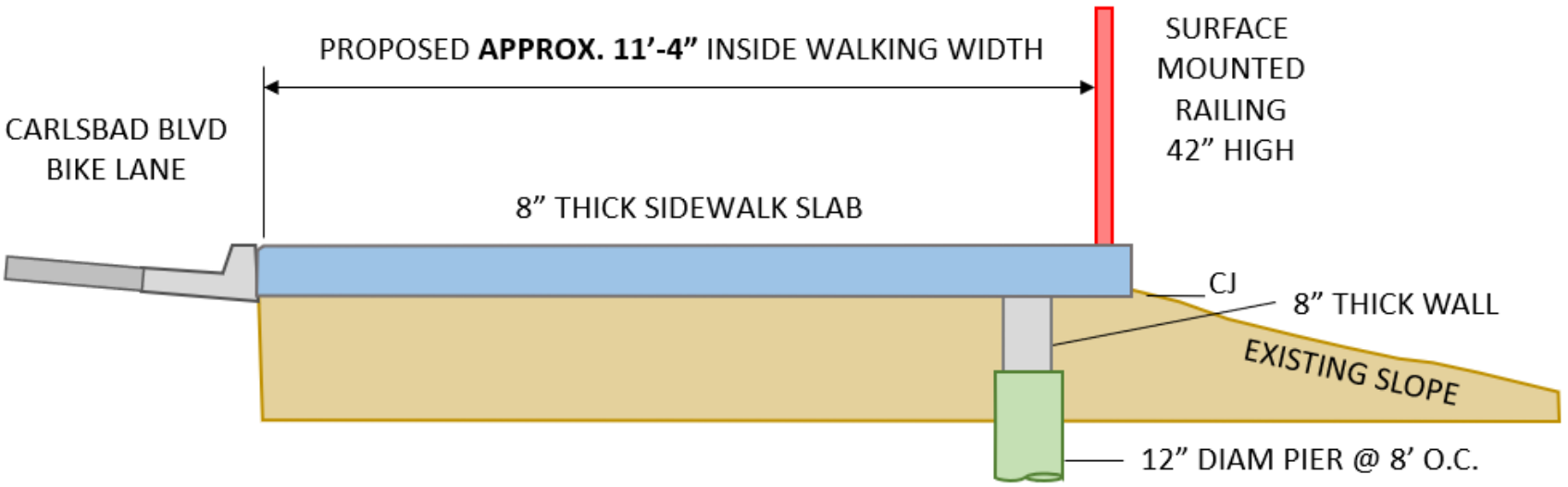
Figure 3



Source: GHD and KTUA; June 2022.

Proposed Upper Sidewalk Improvements - Typical Section - Pine Avenue to Maple Avenue

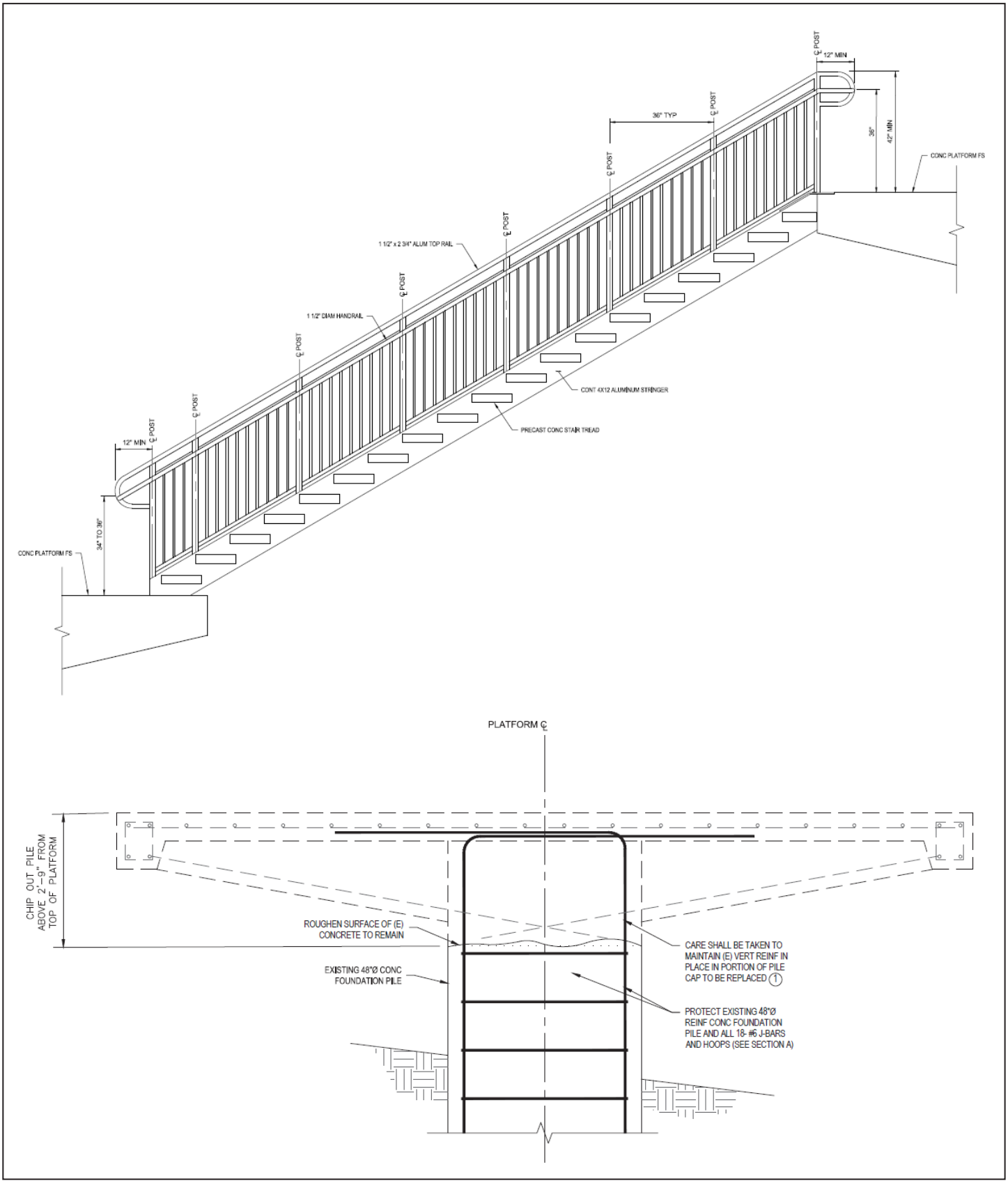
Figure 4



Source: GHD and KTUA; June 2022.

Proposed Upper Sidewalk Improvements - Typical Section - Maple Avenue to Cherry Avenue

Figure 5



Source: GHD; June 2022.

BEACH ACCESS REPAIR PROJECT
Initial Study/Mitigated Negative Declaration

Proposed Stairway Replacement - Typical Section and Platform Detail

Figure 6

10. ENVIRONMENTAL SETTING/SURROUNDING LAND USES:

UPPER SIDEWALK AREA

The Project area is situated within a coastal urbanized setting within the northwest portion of the City of Carlsbad. The Project area is generally bounded by Pine Avenue to the north, Tamarack Avenue to the south, Carlsbad Boulevard to the east and the Pacific Ocean to the west. The existing land uses within the Project area are mostly higher density residential uses with some visitor commercial land uses. The northern most end of the Project area is adjacent to the Carlsbad Village Planning Area and south of the Barrio Planning Area. Both Planning Areas have special planning design consideration goals and policies.

The Project area is within state-designated Coastal Zone and included within the City's Local Coastal Program (LCP). The LCP establishes goals, policies, site development, and design standards to guide land use development and community improvements within the Coastal Zone. A focus of the LCP is to increase coastal access and recreation opportunities within the Coastal Zone. Additionally, the Project is consistent with the Carlsbad Community Vision, which is community value system that is comprised of nine (9) core values that were established through public engagement efforts across the City of Carlsbad. Core values include items such as "small town/beach community feel," neighborhood revitalization/community design, open space, and the natural environment, as well as the importance of walking and biking connectivity. The Carlsbad Community Vision also helps guide City decision making, including the City's General Plan. The Project aims to restore safe public access along Carlsbad State Beach, which will improve the overall aesthetics and connectivity of the beach corridor and will promote community use of the area for recreation.

The City General Plan Mobility Element identifies Carlsbad Boulevard as an Identity Street. The intent of an Identity Street is to safely move all modes of travel while enhancing mobility for pedestrians and bicyclists. Vehicle speeds should be managed to promote safe pedestrian and bicycle movement. Additionally, Carlsbad Boulevard intersects with Village streets that are also designed to safely move all modes of travel while enhancing mobility for pedestrians and bicyclists and promote pedestrian and bicycle connectivity through short block lengths.

The Project is consistent with the City of Carlsbad's Sustainable Mobility Plan, which aims to improve transportation-related safety, reduce greenhouse gas (GHG) emissions, and expand community mobility. Key elements of the Sustainable Mobility Plan consist of improvements to community infrastructure, including bicycle lanes and pedestrian walkways, and connected walking, cycling, transit, and trail networks. The Project will expand sidewalk areas along Carlsbad Boulevard, which will promote walking and bicycling to and from the City's coastal areas, which will promote connectivity city-wide. Additionally, the City's Pedestrian Master Plan aligns well with the Project and encourages multiple modes of travel for pedestrians, including walking and promoting greater circulation across the City.

The proposed Project is consistent with California Department of Parks and Recreation Carlsbad State Beach General Plan (1984). This Plan provides a framework to manage natural resources within the State Park and maintain recreational uses for public enjoyment. The policies and guidance provided in the Carlsbad State Beach General Plan outline the importance of protecting and restoring public facilities in the Coastal Zone. The proposed Project aims to combat the impacts from erosion on the public access stairways and walkways along Carlsbad Beach Boulevard and provide safe access to the public for continued use of the beach for recreation.

COASTAL BLUFF AREA

Elevations within the Survey Area range from approximately 13' to 52' above mean sea level (MSL). The Project area is situated along a westerly facing coastal bluff. The bluff face is approximately 30' in height with an overall gradient varying from about 1.5:1 to 2.5:1. Localized areas with over-steepened and near vertical gradients exist on the bluff face. Vegetative cover along the bluff face ranges from no vegetation coverage, exposed soil to dense vegetative growth. Vegetation communities include a mix of non-native vegetation and native vegetation, including Diegan Coastal Sage Scrub, Maritime Succulent Scrub, Alkali Meadow, Disturbed Southern Willow Scrub, and Disturbed Coastal and Valley Fresh Marsh. Irrigation lines and sprinkler heads are located along the bluff face.

A concrete walkway is located along the west side of Carlsbad Boulevard along the top of the coastal bluff from Pine Avenue to the south of Tamarack Avenue, for a length of approximately 3,200'. The majority of the bluff-top walkway, between Pine Avenue and just north of Maple Avenue, consists of precast concrete panels supported on regularly spaced transverse pier-supported foundation elements. South of Maple Avenue, the majority of the bluff-top walkway consists of concrete slabs on-grade. An asphalt concrete parking lot and adjacent asphalt walkway exist at the top of the bluff at the northern end of the Project area. A concrete slab-on-grade walkway exists along the toe of the coastal bluff (from about 200' south of the western terminus of Pine Avenue to about 200' south of Tamarack Avenue). The "Carlsbad Seawall" exists along the westerly side of this bluff-toe walkway. The sand beach of Carlsbad State Beach exists westerly of the seawall. Northerly of Hemlock Avenue, an approximately 3.3' high bluff-toe wall exists along the easterly side of this walkway. Southerly of Hemlock Avenue, a low concrete curb defines the easterly edge of the concrete walkway.

Public beach access stairways descend the coastal bluff at the Project site. Four (4) of these access stairways are elevated on pier supports. These four (4) stairways are located at the approximate western termini of Hemlock, Cherry, Maple, and Sycamore Avenues. Additionally, a stairway descends from the restroom near Tamarack Avenue that consists of on-grade concrete stairs and another set of on-grade concrete stairways which descend from Carlsbad Boulevard approximately 650' south of Tamarack Avenue. The existing building/structure located at Tamarack Avenue warrants additional environmental study for impacts to historical resources. (Any building that is at least 45 years of age or older warrants at least initial consideration under the *Carlsbad Tribal, Cultural, and Paleontological Resources Guidelines (2017)*). The southern restroom facility has been studied and the report concluded the site is potentially eligible for listing on the California Register of Historic Resources (CRHR) and National Register of Historic Places (NRHP) (*California Department of Parks and Recreation, 2016*). The proposed Beach Access Repair Project proposes no modifications to the restroom structure, nor would the Project impair those physical characteristics that convey the resource's historical significance for the purposes of the California Environmental Quality Act (CEQA). Project improvements adjacent to the restroom would be limited to in-kind replacement of stairs and walkways sufficient to ensure public safety and would not negatively affect the historic integrity of the restroom. Additional details are presented in Environmental Checklist Item V. Cultural Resources of this IS/MND.

Two (2) restroom facilities exist in the Project area. The northern restroom is located at the toe of the bluff between Pine Avenue and Walnut Avenue. The southern restroom facility is located near the top of the bluff at the western terminus of Tamarack Avenue. The condition of the concrete walkways, stairways, and walls varies. Some portions of the sidewalks, access stairways, and walls show deterioration such as concrete spalling, cracking, and exposed rebar, likely due to the corrosive nature of the marine environment. In places, soil has eroded away from foundation elements.

11. OTHER REQUIRED AGENCY APPROVALS (e.g., permits, financing approval or participation agreements):

- Coastal Development Permit
- California State Parks Encroachment Permit

12. CALIFORNIA NATIVE AMERICAN TRIBES CONSULTATION.

a. Have California Native American Tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to public resources code section 21080.3.1?

☒ **Yes** ☐ **No**

b. If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

☒ **Yes** ☐ **No**

13. PREVIOUS ENVIRONMENTAL DOCUMENTATION: Please see *Appendices* section of this document.

14. SUMMARY OF ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The summary of environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact," or "Less Than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Public Services
☐ Agriculture & Forestry Resources	☐ Hazards/Hazardous Materials	☐ Recreation
☐ Air Quality	☐ Hydrology/Water Quality	☒ Transportation
☒ Biological Resources	☐ Land Use & Planning	☒ Tribal Cultural Resources
☒ Cultural Resources	☐ Mineral Resources	☐ Utilities/Service Systems
☐ Energy	☒ Noise	☐ Wildfire
☒ Geology/Soils	☐ Population & Housing	☒ Mandatory Findings of Significance

15. PREPARATION: The Initial Study for the subject Project was prepared by:

05/12/2023

Charles Smith, AICP, LEED AP — Date
Business Group Leader, Natural Resources & Impact Assessment
GHD

16. DETERMINATION: *(to be completed by Lead Agency)*
On the basis of this initial evaluation:

☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described herein have been added to the Project. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed Project MAY have a "potentially significant impact(s)" on the environment, but at least one potentially significant impact 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described herein. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project. Therefore, nothing further is required.

17. ENVIRONMENTAL DETERMINATION: The initial study for this Project has been reviewed and the environmental determination, indicated above, is hereby approved.

Eric Lardy — May 16, 2023

Eric Lardy, City Planner — **Date**

18. APPLICANT CONCURRENCE WITH MITIGATION MEASURES: This is to certify that I have reviewed the mitigation measures in the Initial Study and concur with the addition of these measures to the Project.

Lauren Ferrell — 5/12/2023

Signature — **Date**

Lauren Ferrell
Associate Engineer

19. EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Less than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.
8. The explanation of each issue should identify:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to less than significant.

9. Tribal consultation, if requested as provided in Public Resources Code Section 21080.3.1, must begin prior to release of a negative declaration, mitigated negative declaration, or environmental impact report for a Project. Information provided through tribal consultation may inform the lead agency's assessment as to whether tribal cultural resources are present, and the significance of any potential impacts to such resources. Prior to beginning consultation, lead agencies may request information from the Native American Heritage Commission regarding its Sacred Lands File, per Public Resources Code sections 5097.9 and 5097.94, as well as the California Historical Resources Information System administered by the California Office of Historic Preservation.

I. AESTHETICS **Except as provided in Public Resources Code Section 21099, would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light and glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

The following analysis is based on a Visual Impact Analysis prepared by KTUA in June 2022 and is presented in Appendix A. The Visual Impact Analysis evaluated a larger conceptual construction Project that included the proposed Project activities. Beyond the proposed Project, the larger conceptual Project evaluation included an eastward expansion of the coastal bluff trail into Carlsbad Boulevard and proposed modifications to the center landscape median on Carlsbad Boulevard. The analysis for the proposed Project incorporates relevant information and analysis from the Visual Impact Analysis to evaluate potential aesthetic impacts.

EXISTING AESTHETIC ENVIRONMENT

The proposed Beach Access Repair Project work would occur along the walkways and access ways paralleling Carlsbad Boulevard on the east and Tamarack Beach on the west. Carlsbad Boulevard is a four-lane roadway in the Project area, with bike lanes on each side, striped turning pockets, and, at the north end of the Project, a vegetated median. See Photograph 1 of Figure 7a, *Existing Site Photographs*, which includes the bike lanes, a pedestrian crossing, and the vegetated median in the background.

The east side of Carlsbad Boulevard is bordered mostly by single and attached residential units, a few restaurants, and a hotel. Most of the structures are two (2) or three (3) stories tall, with some single-story houses among them. The lots generally are fronted by trimmed shrubs and small palm trees, generally not extending above 6' tall, and a concrete sidewalk. The streetscape is divided at semi-regular intervals by driveways and roadways that are used for circulation access and parking.

At the south end of the Project, Tamarack Avenue provides vehicular access to the Tamarack State Beach parking lot near the beach level. North of this roadway is a single-story restroom building, the only building visible west of Carlsbad Boulevard from the street in the Project area. A pedestrian ramp and staircase provide access to the lower walkway and beach next to this restroom building. Photograph 2 of Figure 7a is a view of this restroom building from the short ramp that provides access to the building and the beach access stairs. There is an additional restroom building at the north end of the Project site, located at the lower walkway area that is not visible from Carlsbad Boulevard.

Between Tamarack Avenue and Cherry Avenue (a little less than 1,000'), an area of turf separates the upper walkway from Carlsbad Boulevard, and a secondary walkway meanders away from and back toward the cliff-edge walkway. Photograph 3 of Figure 7a is a view of this area and also shows the typical buildings aligned along the east side of Carlsbad Boulevard in the background. A few trees are growing west of Carlsbad Boulevard, south of Cherry Avenue. Between Cherry Avenue and Pine Avenue, at the north end of the Project area, the walkway directly borders the west side of Carlsbad Boulevard.

Between the below and upper walkways there is a steep slope vegetated mostly with native shrubs. The slope is approximately a 2:1 slope where 2' of horizontal distance occurs for every 1' of vertical height change. Native shrubs cover most of the slope, with some brown exposed soil visible in places, a bit darker and warmer than the beach sand. There is very little vegetation beneath the staircases or under the areas that have exposed sidewalk cantilevers. Photograph 4 of Figure 7a illustrates a typical view of the slope from an overlook along the upper sidewalk. Photograph 5 of Figure 7b, *Existing Site Photographs*, shows the bare and eroded soil near one of the stairways.

A 42" tall aluminum, vertical picket railing extends along the length of the upper walkway to protect pedestrians from the steep slope above the beach. This railing is visible in Figure 7a. Three (3) wider concrete overlooks extend west from the walkway between Pine Avenue and Cherry Avenue. Five (5) staircases provide access to the lower walkway and the beach. The four (4) elevated staircases each have hexagonal landings and three (3) flights of stairs with metal vertical-picket railings similar in appearance to the railing along the upper walkway. Photograph 6 of Figure 7b is a view of one of these elevated staircases, viewed from the upper platform. Seen from the lower walkway, the elevated staircases are large, geometric structures contrasting with the natural slope. The hexagonal landings are supported by large, round, concrete pillars and fins. The concrete steps are supported by metal stringers painted pale blue. The vertical-picket railings are also painted pale blue. Photograph 7 of Figure 7b is a view of the northernmost staircase, as seen from the lower walkway.

The lower walkway is separated from the beach by a substantial concrete seawall approximately 3' above the walkway surface. A smaller 8" thick concrete wall retains the lower edge of the slope on the inland side. These walls are integrally-colored a warm brown to match the color of the adjacent natural slope. Occasional openings in the seawall provide access stairways to the sandy beach abutting it on the west. From the lower walkway, the beach and ocean extending westward is the main visible feature. The vegetated slope east of the lower walkway shields views of the road above and the buildings east of Carlsbad Boulevard. Photograph 8 of Figure 7b shows a view of the lower walkway and natural slope. The walkway and walls, the stairways, two (2) lifeguard stations, and the restroom buildings are the only structures generally visible from the lower walkway. Some houses to the north are visible in the distance, but do not dominate the view.

Viewer Groups

The proposed Project consists primarily of improvements of pedestrian access and resources, and pedestrians would be the primary viewer group that would directly and closely see the Project. Changes to the upper sidewalk would also be visible to motorists on Carlsbad Boulevard, as well as bicyclists and local residents.

Photograph 1
Looking north along Carlsbad Boulevard.

Photograph 2
Looking south down the pedestrian ramp at the restroom building at the south end of the project area.

Photograph 3
Turf area between Tamarack Avenue and Cherry Avenue.

Photograph 4
The vegetated slope as seen from the upper sidewalk.

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Existing Site Photographs

Figure 7a

Photograph 5
The vegetated slope as seen from the lower walkway.

Photograph 6
Access stairs between upper sidewalk and lower walkway, look down.

Photograph 7
Access stairs between upper sidewalk and lower walkway, looking up.

Photograph 8
Lower walkway and slope.

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Initial Study/Mitigated Negative Declaration

Existing Site Photographs

Figure 7b

Pedestrians are the largest viewer group, as they would have access to both the upper sidewalk and the staircases. Users of the walkways are both residents and visitors, and whether passing through while exercising or pausing to spend time on the beach, most pedestrian users are sensitive to the views of the ocean from this area and also notice a great deal of detail. The ocean and beach are the predominant scenic features, followed by the natural slope and park areas. Pedestrians have the highest viewer exposure to all aspects of the Project and are also highly aware of the scenery and visual environment.

Residents of buildings bordering the eastern edge of Carlsbad Boulevard, while fewer in number than pedestrians, are also highly aware of the scenic resources and sensitive to any changes to the visual environment. Residents have stationary views and long exposures, whereas pedestrians have shorter exposure and dynamic views as they move through the Project area. However, for most residents the position of the foreground compared to the middle-ground of the beaches and nearshore line areas and the background, the viewer's attention is not on the walkways and railing.

Motorists and bicyclists on Carlsbad Boulevard are aware of the scenic resources around them, but also must pay attention to the roadway. Their sensitivity is less than pedestrians and residents as a result. They also are not able to see most of the stairways, and thus their exposure is lower as well.

Visual Analysis

Analysis of a project's impacts to visual resources is based on the identification of the change that would occur when a project proposes to alter the existing visual character of the environment. The amount of contrast between the proposed elements and the existing setting is critical in determining how visible and how much of a contrast would occur with the setting. The viewers' response to the change must also be considered in the impact analysis. If the project is hidden from sight and would only be seen by the project users and the contrast with the setting is not high, viewer response would likely be minimal. However, if the project is visible to many existing viewers, the viewers' sensitivity to and expectations of the view may place more importance on the change. The change must alter either the visual character or quality, or the viewers' response to the view, in a negative way to be considered an adverse impact. The viewer response to project changes is determined by viewer exposure and viewer sensitivity to the project. The resulting visual impact is determined by combining the severity of resource change with the degree to which people are likely to oppose or be disturbed by the change.

Key Views

It is not possible to analyze every public view or public vantage point in a viewshed; therefore, representative or "key views" with the highest degree of visibility, the greatest number of viewers, and the potential to reveal the most change due to the proposed Project have been chosen to illustrate the potential Project impacts. A total of 10 "Candidate Key Views," were identified. The location of each public view or public vantage point is shown on Figure 8, *Key View Location Map*, and Figures 9a and 9b, *Candidate Key Views*. Table 1, *Candidate Key View Visual Quality Descriptions*, provides a summary of each view.

Source: KTUA; December 2020.

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Key View Location Map

Figure 8

Candidate Key View 1 - Southbound view from the west side of Carlsbad Boulevard north of Pine Avenue.

Candidate Key View 2 - Southbound view from the west side of Carlsbad Boulevard north of Pine Avenue.

Candidate Key View 3 - Westbound view from the north side of Pine Avenue at Carlsbad Boulevard.

Candidate Key View 4 - Southbound view from east side of Carlsbad Boulevard at Pine Avenue.

Candidate Key View 5 - Southbound view from west side of Carlsbad Boulevard crosswalk at Pine Avevenue.

Candidate Key View 6 - Southbound view from west side of Carlsbad Boulevard crosswalk at Pine Avevenue.

Candidate Key View 7 - Northward view from west side of Carlsbad Boulevard south of Pine Avenue.

Candidate Key View 8 - Northwestward view from east side of Carlsbad Boulevard at Walnut Avenue.

Candidate Key View 9 - Northbound view from west side of Carslbad Boulevard at Walnut Avenue.

Candidate Key View 10 - Northbound view from center of Carlsbad Boulevard at Walnut Avenue.

Table 1: Candidate Key View Visual Quality Descriptions

Candidate Key View No.	Existing Visual Quality			Viewer Groups	Viewer Sensitivity	Viewer Exposure	Distance from Viewer to Proposed Project
	Vividness	Unity	Intactness				
1	Moderately High	Moderately High	Moderately High	Pedestrians, Bicyclists, Motorists	Moderately High	High	Middle ground to background
2	Moderately High	Moderately High	Moderately High	Pedestrians, Bicyclists, Motorists	Moderately High	High	Middle ground
3	High	Moderately High	Moderately High	Pedestrians, Bicyclists, Motorists	Moderately High	High	Middle ground
4	High	Moderately High	Moderately High	Pedestrians, Bicyclists, Motorists	Moderately High	High	Background
5	Moderate	Moderately High	Moderately High	Pedestrians, Bicyclists, Motorists	Moderately High	High	Foreground to Middle ground
6	Moderately High	Moderately High	Moderately High	Pedestrians, Bicyclists, Motorists	Moderately High	High	Foreground to Middle ground
7	Moderate	Moderately High	Moderately High	Pedestrians, Bicyclists, Motorists	Moderately High	High	Foreground to Middle ground
8	Moderately High	Moderately High	Moderately High	Pedestrians, Bicyclists, Motorists	Moderately High	High	Middle ground to background
9	Moderately High	Moderately High	Moderately High	Pedestrians, Bicyclists, Motorists	Moderately High	High	Foreground to Middle ground
10	Moderately High	Moderately High	Moderately High	Pedestrians, Bicyclists, Motorists	Moderately High	High	Foreground to Middle ground

Source: KTUA, *Visual Impact Analysis for the Carlsbad Beach Access Repair*; December 2020.

REGULATORY SETTING

California Coastal Act

The proposed Project is located within the State of California Coastal Zone, defined in the California Coastal Act as the area between the seaward limits of the state's jurisdiction and 1,000 yards landward from the mean high tide line. In Carlsbad, the Coastal Zone boundary generally encompasses the area east of the Pacific Ocean to El Camino Real, including the lower and upper walkways, the steep natural slopes of the coastal bluff between, and Carlsbad Boulevard. The California Coastal Act (Public Resources Code Section 30000 et seq.) authorizes the state of California to regulate development within the State Coastal Zone. While scenic resources are not specifically mentioned, Public Resources Code Section 30001.5 calls to "protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources."

City of Carlsbad Scenic Preservation Overlay Zone

The City of Carlsbad's Municipal Code includes a Scenic Preservation Overlay Zone (Chapter 21.40). The Coastal Zone restrictions (21.40.135) within this Scenic Preservation Overlay Zone would apply to Carlsbad Boulevard. Under the Coastal Zone Restrictions, "public views and panoramas shall be maintained." The

restrictions apply mainly to sites considered for development, "so as not to obstruct or otherwise damage the visual beauty of the coastal zone."

City of Carlsbad Coastal Shoreline Development Overlay Zone

The Coastal Shoreline Development Overlay Zone (21.204.010) "is intended to provide land use regulations along the coastline area including the beaches, bluffs, and the land area immediately landward thereof. The purpose of the coastal shoreline development zone is to provide for control over development and land use along the coastline so that the public's interest in maintaining the shoreline as a unique recreational and scenic resource, promoting public safety and access, and in avoiding the adverse geologic and economic effect of bluff erosion, is adequately protected. (Ord. NS-365 § 22, 1996)."

The Overlay Zone outlines permitted and conditional uses, requirements for public access, and requires site plan reviews with the following criteria: "The site plans required by Section 21.204.090 shall be reviewed and evaluated by the city planner for conformance with the following criteria:

A. Coastal Development Regulations. All elements of the proposed development are consistent with the intent and purpose of the coastal shoreline development overlay zone.

B. Appearance. Buildings and structures would be so located on the site as to create a generally attractive appearance and be agreeably related to surrounding development and the natural environment.

C. Ocean Views. Buildings, structures, and landscaping would be so located as to preserve to the degree feasible any ocean views as may be visible from the nearest public street.

D. Retention of Natural Features. Insofar as is feasible, natural topography and scenic features of the site would be retained and incorporated into the proposed development.

E. Grading and Earth-Moving. Any grading or earth-moving operations in connection with the proposed development are planned and would be executed so as to blend with the existing terrain both on and adjacent to the site.

F. Public Access. The policies of the local coastal program pertaining to public access have been carried out" (Ord. CS-164 § 10, 2011; Ord. NS-365 § 22, 1996).

City of Carlsbad General Plan Land Use Element and Community Design Element

The Land Use and Community Design Element of the City of Carlsbad Master Plan includes Community Character and Design policies, including Beach Access and Waterfront Activity policies that identify opportunities to increase public park land and beach access along Carlsbad Boulevard coastal corridor, particularly in the Project area. Policy 2-P.53, "Plan and design Carlsbad Boulevard and adjacent public land (Carlsbad Boulevard coastal corridor)." These principles include the following related to aesthetics and visual character:

A. Carlsbad Boulevard shall become more than a road. This transportation corridor shall provide for recreational, aesthetic and community gathering opportunities that equal the remarkable character of the land.

B. Open views are desirable and important to maintaining the character of the area. Preservation and enhancement of views of ocean, lagoons, and other water bodies and beaches shall be a high priority in road, landscaping, and amenity design and development.

   A signature scenic corridor shall be created through design that honors the coastline's natural beauty. The resulting improvements would capture the 'essence' of Carlsbad, making it a special

place for people from throughout the region with its natural beauty and vibrant public spaces. Properly carried out, the realigned boulevard would maximize public views and encourage everyone to slow down and enjoy the scenery.

City of Carlsbad General Plan Open Space Classification

Framework Category 1: Open Space for Preservation of Natural Resources (plant and animal habitat; nature preserves; beaches and bluffs; wetland and riparian areas; canyons and hillsides; water features such as lagoons and streams).

Framework Category 2: Open Space for Managed Production of Resources (forestry; agriculture; aquaculture; water management; commercial fisheries; and major mineral resources).

Framework Category 3: Open Space for Outdoor Recreation (school recreation areas; public parks and recreation areas; greenways; trails; campgrounds; golf courses; and equestrian facilities).

Framework Category 4: Open Space for Aesthetic, Cultural, and Educational Purposes (lands with scenic, historical, and cultural value; land use buffers; open space that marks entries to the City from surrounding communities and to major developments and neighborhoods within the City; greenbelts providing separation from surrounding communities; and museums, arboreta, zoos, and botanical gardens).

City of Carlsbad Local Coastal Program

Developed in conformance with the Coastal Act, the City of Carlsbad Local Coastal Program outlines policies to "Protect, maintain, and where feasible, enhance and restore the overall quality of the Coastal Zone environment and its natural and man-made resources." The specific policy related to Visual/Land Resources includes the implementation of the Scenic Preservation Overlay Zone (discussed above), and the preservation of natural vegetation on steep slopes. Within the Local Coastal Program, Land Use Policy 7-13, Visual Access states, "Visual access over more than 80% of the Carlsbad coastline is unobstructed because of public ownership. No future public improvements which would obstruct this visual access shall be permitted."

Carlsbad State Beach General Plan

California Department of Parks and Recreation developed the Carlsbad State Beach General Plan (1984) to ensure the public has access to the California coast and provide recreational community benefits to the maximum extent possible while preserving significant natural and cultural values. There is a shortage of facilities for almost every popular coastal recreational activity and a need to maintain access to allow for popular coastal pursuits including fishing, swimming, sightseeing, camping, and beach day use. The Plan also highlights the California Shoreline Erosion Protection Policy, which notes that where structures or areas of public use are threatened (i.e., deteriorated stairways and walkways), the state shall promote and support remedial projects to retain shoreline characteristics and provide recreational benefits to the extent possible. As such, the proposed Project objectives to provide unobstructed and safe coastal/beach access to allow for recreational uses in the Coastal Zone align well with the Carlsbad State Beach General Plan. Additionally, the Interpretive Element of the Carlsbad State Beach General Plan is consistent with the proposed Project as this Element outlines the importance of facilities to enhance the recreational experience available at Carlsbad State Beach. The Interpretive Element calls out the day-uses (surfing, swimming, fishing, beach access, wildlife and nature viewing) and emphasizes the need to protect and maintain these uses for the public accessing Carlsbad State Beach.

PROJECT IMPACTS

a) Have a substantial adverse effect on a scenic vista?

Less than Significant Impact: For purposes of determining significance under CEQA, a scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. The visual setting within which the proposed Project is located in a highly scenic area. The ocean views immediately west of the Project are highly valued, and all areas of the Project site provide ocean vistas. None of the proposed Project features would obstruct the available scenic vistas. The replaced vertical-picket railing along the upper walkway may have smaller pickets, and thus may increase the visibility of the ocean views when looking at and through it. The proposed walkway improvements would increase scenic viewing opportunities for the public. Furthermore, the scope of the Project includes four (4) elevated access stairways in the same configuration as each access stairway location. Stairway, railings, and related work would repair and replace existing features in-kind, providing structural support for continued access (physical and visual) along and to the popular Carlsbad State Beach.

Project construction is expected to occur in two (2) phases. The first phase is anticipated to take nine (9) months, occurring from September 2023 to May 2024, and consists of three (3) beach stairways. The second phase is expected to commence in September 2024, consisting of two (2) beach stairways, and take six (6) months to complete (ending in February 2025). Construction activities are not expected to be performed during the summer (Memorial Day to Labor Day) to avoid impacts to the summer tourist seasons. However, during construction, some public views along the walkways would not be accessible, which could temporarily affect scenic vista views. The scenic vista views would be briefly obstructed by construction activity. However, the construction activities would be short-term and once completed, existing scenic views within the Project area would be returned to their pre-construction condition. The Pine Avenue ramp access would remain open during the course of Project construction.

From beach level, construction equipment including work trucks, excavator, crane, concrete mixer, and construction screening and signage would be periodically visible to beachgoers at each of the staircases and along the Carlsbad Boulevard during construction activities. However, as the Project will be completed in phases, equipment and crews will shift along Carlsbad Boulevard and as construction phases are completed, equipment will be removed from the Project area, which will reduce the amount of visible construction equipment to the public. These visual impacts that can be seen from beach level as well as from the top of the bluff along Carlsbad Boulevard are temporary and upon completion of construction, will be removed and the Project area will be returned to pre-construction conditions. As such, potential impacts on scenic vistas would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact: The State Scenic Highway Program was established to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to state highways. State highways may be designated as scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. A scenic highway is designated under the State Scenic Highway Program when a local jurisdiction adopts a scenic corridor protection program. Existing law provides Caltrans with full possession and control of all state highways. This legislation places the Scenic Highway Program under the stewardship of Caltrans. The California Street and Highways Code also established standards for undertaking the development and designation of official scenic highways and assigns responsibility for the development of scenic highways to local jurisdictions. The State Scenic Highway system designates

highways that are either eligible for designation as a State Scenic Highway or have been designated as such. No Scenic Highways have been officially designated in the City of Carlsbad.

Additionally, the proposed Project is not located near or within a local scenic highway corridor. The area surrounding the Project does not support rock outcroppings or historic buildings, and the proposed Project would not impact any such resources.

Mitigation Measures: No mitigation measures are required.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

No Impact: The proposed Project features would create minor changes to the visual environment, character, and quality of public views of the site and its surrounding. The Project would increase more slightly open views of the ocean resulting from the proposed changes and would increase in the quality of the public views available in the area. According to the City of Carlsbad General Plan Open Space Classification, the proposed beach access repairs are not within or adjacent to the Framework Category 4 Open Space Areas for Aesthetic, Cultural, and Educational Purposes. Framework Category 4 are lands with scenic, historical, and cultural value and Project activities will not interfere with or overlap with these areas. As such, the proposed Project would not impact any such resources and none of the proposed changes would degrade the existing visual character or quality of the site and its surroundings.

The proposed Project is located in an urbanized area, and the applicable zoning and other regulations governing scenic quality have been listed above in *Regulatory Setting*. The Project's conformance with these regulations is outlined in Table 2, *Policies and Guidance*. The Project would not conflict with applicable zoning and other regulations governing scenic quality and would result in no impact since the Project is in conformance with all applicable policies.

Mitigation Measures: No mitigation measures are required.

Table 2: Policies and Guidance

California Coastal Act	Policy	Project Conformance	Conforms?
Regulation: Public Resources Code Section 30001.5			
City of Carlsbad	(a) Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.	The proposed Project maintains the quality of the coastal zone and enhances the artificial resources by repairing and upgrading access.	Yes
Regulation: Zoning Ordinance Chapter 21.40 S-P Scenic Preservation Overlay Zone 21.40.135 Coastal Zone Restrictions			
Zoning Ordinance Chapter 21.204 Coastal Shoreline Development Overlay Zone *21.204.100 Site Plan Review Criteria*	Within the coastal zone, existing public views and panorama shall be maintained. Through the individualized review process, sites considered for development shall be conditioned so as to not obstruct or otherwise damage the visual beauty of the coastal zone. In addition to the above, height limitations and see-through construction techniques should be employed. (Ord. NS-365 § 5, 1996).	The proposed Project does not obstruct views of the ocean or coastal area and maintains panoramic public views.	Yes

California Coastal Act	Policy	Project Conformance	Conforms?
General Plan Chapter 2.0 Land Use and Community Design	The site plans required by Section 21.204.090 shall be reviewed and evaluated by the city planner for conformance with the following criteria: A. Coastal Development Regulations. All elements of the proposed development are consistent with the intent and purpose of the Coastal Shoreline Development Overlay Zone. B. Appearance. Buildings and structures will be so located on the site as to create a generally attractive appearance and be agreeably related to surrounding development and the natural environment. C. Ocean Views. Buildings, structures, and landscaping will be so located as to preserve to the degree feasible any ocean views as may be visible from the nearest public street. D. Retention of Natural Features. Insofar as is feasible, natural topography and scenic features of the site will be retained and incorporated into the proposed development. E. Grading and Earth-Moving. Any grading or earth-moving operations in connection with the proposed development are planned and will be executed so as to blend with the existing terrain both on and adjacent to the site.	A. The proposed Project includes mainly replacement of existing features, and thus are consistent with the intent and purpose of the coastal shoreline development overlay zone, to include conformance with public access, grading, excavation, and geotechnical design criteria. B. The proposed Project does not include any structures. It does include the replacement of the shrubs that may disturbed by construction with vegetation of the same type. C. The proposed Project features (railings and vegetation) would not obstruct ocean views from the nearest public street (Carlsbad Boulevard). D. The natural topography of the slope between below the upper sidewalk area would be retained, and not be disrupted or disturbed by the proposed Project features. E. The proposed Project includes only earthmoving to repair existing erosion and would blend with existing terrain. If temporary impacts to native vegetation (i.e., coastal sage scrub, maritime succulent scrub) occurs, the affected areas will be revegetated to reflect pre-construction conditions. Additionally, the Project aims to keep improvements consistent with the current land use at the site. The beach access stairway replacements include in-kind repairs, and the replacement stairs and railings will maintain the same configuration (size and shape) at each access location.	Yes

California Coastal Act	Policy	Project Conformance	Conforms?
	F. Public Access. The policies of the local coastal program pertaining to public access have been carried out. (Ord. CS-164 § 10, 2011; Ord. NS-365 § 22, 1996)	F. The proposed Project retains and enhances public access to the coastal area.	
General Plan Chapter 4.0 Open Space, Conservation, and Recreation	Open Space Classifications: A. Category 1: Open Space for Preservation of Natural Resources (plant and animal habitat; nature preserves; beaches and bluffs; wetland and riparian areas; canyons and hillsides; and water features such as lagoons and streams)	A. The proposed Project will take place within the footprint of the existing staircases and walkways along Carlsbad Blvd and open space for natural resources, including habitat for species along the coastal bluff will not be adversely impacted. Temporary impacts from construction may occur along the bluff (i.e., clearing of vegetation), however, mitigation measures, including revegetation efforts, will be implemented to avoid impacts to open spaces for natural resources.	Yes
	B. Category 2: Open Space for Managed Production of Resources (forestry; agriculture; aquaculture; water management; commercial fisheries; and major mineral resources)	B. The Project will not have an impact on managed production of resources. The Project area contains recreational areas along the beach and bluff area on Carlsbad Blvd and no commercial production of natural resources occurs in this area or within the Project site.	
	C. Category 3: Open Space for Outdoor Recreation (school recreation areas; public parks and recreation areas; greenways; trails; campgrounds; golf courses; and equestrian facilities)	C. The proposed Project is within an area of open space for outdoor recreation. The Project area overlaps with a State Park and contains areas of public recreation (i.e., walking, sightseeing, biking) along Carlsbad Blvd and Carlsbad State Beach Park. The pedestrian walkways that transect the Project area will be improved to provide safe access for the public to view and use beach/coastal resources. This Project is consistent with this open space classification and will not negatively impact open space for outdoor recreation.	
	D. Category 4: Open Space for Aesthetic, Cultural, and Educational Purposes (lands with scenic, historical and cultural value; land use buffers; open space that marks entries to the city from surrounding communities and to major developments and neighborhoods within the city; greenbelts providing	D. The Project area is not in an open space area for Aesthetic, Cultural, and Educational purposes as per the City's General Plan Category 4 Open Space Classification. The Project is in an area of Carlsbad State Beach that contains scenic beauty and valuable open space for recreation, however, Project activities would not impact	

California Coastal Act	Policy	Project Conformance	Conforms?
	separation from surrounding communities; and museums, arboreta, zoos, and botanical gardens)	any Category 4 Open Space areas, and none are located adjacent to the Project area.	
Local Coastal Program *Policy 7-13 Visual Access*	2-P.53 Plan and design Carlsbad Boulevard and adjacent public land (Carlsbad Boulevard coastal corridor) according to the following guiding principles: a. Carlsbad Blvd shall become more than a road. This transportation corridor shall provide for recreational, aesthetic and community gathering opportunities that equal the remarkable character of the land. d. Open views are desirable and important to maintaining the character of the area. Preservation and enhancement of views of ocean, lagoons, and other water bodies and beaches shall be a high priority in road, landscaping, and amenity design and development. i. A signature scenic corridor shall be created through design that honors the coastline's natural beauty. The resulting improvements would capture the 'essence' of Carlsbad, making it a special place for people from throughout the region with its natural beauty and vibrant public spaces. Properly carried out, the realigned boulevard would maximize public views and encourage everyone to slow down and enjoy the scenery.	a. The proposed Project widens the sidewalk along Carlsbad Blvd to increase recreational opportunities and would retain the existing bike lanes. d. The proposed Project preserves ocean views. i. The proposed Project increases public pedestrian access by widening the upper sidewalk, enhancing the opportunity for all to have access to ocean vistas.	Yes
Carlsbad State Beach General Plan	Provides a framework for natural and cultural resources conservation, facilities development, recreational priorities, and Interpretation of these features within State Park Land. Directs the long-range development and management of the State Park by providing broad policies and program guidance. A. Policy for Shoreline Erosion Protection – Applies to planning and improving State Park System units. Situations where structures or areas of public use are threatened should the state resort to funding or approving remedial	A. Project is consistent with this policy as substantial erosion-related deterioration has impacted the stairways and walkways at Carlsbad State Beach and repairs are required to maintain safe public access to	Yes

California Coastal Act	Policy	Project Conformance	Conforms?
	projects. When necessary, projects should restore natural processes, retain shoreline characteristics, and provide recreational benefits to the extent possible. B. Interpretive Element - Importance of facilities to enhance the recreational experiences and uses available at Carlsbad State Beach.	ensure coastal-dependent recreational activities. B. Project conforms with this component of the Carlsbad State Beach General Plan as the Project aims to restore and improve public access stairways and walkways along Carlsbad Blvd to ensure safe access for recreational users.	

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact: The proposed Project would not include any changes to lighting along the upper sidewalk. The replaced stairway handrails and landing platform railings may include low-level lighting shining from the upper rail onto the stairs and the landing platform. If included, the down-lighting would be a new source of light seen from the stairs, landings, and lower walkway. The down-lighting at the top of the stairs where they meet the upper sidewalk may be visible from street-level at five (5) locations along Carlsbad Boulevard, and by nearby residences as well. The proposed lighting would be a low lumen light addition that would not create any nuisance glare or lighting spill over beyond a few feet radius.

Carlsbad Boulevard and the upper sidewalk are currently lit with tall, double-fixture streetlights. The proposed railing down-lighting would be noticeable, but would not increase the levels of night lighting in the Project area nor would they dominate, spill over, or combine with other incompatible light sources. The railing down-light fixtures have the potential to be visible from the lower walkway, and to create night lighting when viewed from below. However, the lights would be low output, shielded LEDs, with integrated materials designed to diffuse the light and reduce any glare.

The proposed down-lighting, if included in the Project, would not create a new source of substantial light or glare, would not adversely affect nighttime views, and would result in a low visual impact. Metal surfaces on site features such as the aluminum railing have the potential to reflect sunlight in such a way as to disrupt views. The potential for glare can be reduced by using a non-polished, matte anodized finish on the new replacement railing. The proposed features, therefore, would not create a new source of glare in daytime views, and would be limited to a low visual impact.

Mitigation Measures: No mitigation measures are required.

II. AGRICULTURAL AND FORESTRY RESOURCES* **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), or timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	☐	☐	☒

***** *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model-1997 (LESA) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. There are no lands present in Carlsbad that meet the state's definition of forest land (Public Resources Code section 12220(g)), timberland (Public Resources Code section 4526), or production (Government Code 51104(g)). Therefore, questions related to forestry resources will have no impacts.*

PROJECT IMPACTS

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact: According to the City's General Plan Open Space, Conservation and Recreation Element and the State of California Farmland Mapping and Monitoring Program, there is no Prime Farmland, Unique Farmland or Farmland of Statewide Importance within the Project area. Therefore, the construction and operation of the proposed Project would not result in adverse impacts to Prime Farmland, Unique Farmland or Farmland of Statewide Importance.

Mitigation Measures: No mitigation measures are required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact: According to the City of Carlsbad Zoning Code, the Project area is not zoned for agriculture land uses. Therefore, the proposed Project would not conflict with any lands zoned for agriculture uses. Additionally, the Project area is not under a Williamson Contract.

Mitigation Measures: No mitigation measures are required.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact: The proposed Project would not cause a rezone of lands that are zoned for forest land or timberland.

Mitigation Measures: No mitigation measures are required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact: The Project area does not contain forest land resources. Therefore, implementation of the proposed Project would not result in the loss of forest land or conversion of forest land to non-forest uses.

Mitigation Measures: No mitigation measures are required.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact: The Project area and surrounding properties do not contain farmland or timberland. The construction and operation of the proposed Project would be confined to the Project area and would not cause any onsite or offsite conversion of farmland or forest land to non-agriculture uses or non-forest uses.

Mitigation Measures: No mitigation measures are required.

III. AIR QUALITY* Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

* Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the determinations in this section.

The following analysis is based on an *Air Quality/Greenhouse Gas Study* and is presented in Appendix B. The Air Quality Analysis/Greenhouse Study evaluated a larger construction project that included the proposed Project activities along with a proposed eastward expansion of the coastal bluff trail into Carlsbad Boulevard and proposed modifications to the center landscape median in Carlsbad Boulevard. Because the proposed Project involves less construction activities compared to the former proposed project and would not result in greater air quality impacts, the analysis Air Quality/Greenhouse Study is adequate to evaluate the proposed Project impacts.

BACKGROUND ANALYSIS

An area is designated in attainment when it is in compliance with the National Ambient Air Quality Standards (NAAQS) (federal) and/or California Ambient Air Quality Standards (CAAQS) (state). These standards are set by the Environmental Protection Agency or the California Air Resources Board for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. The criteria pollutants of primary concern that are considered in an air quality assessment include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter (PM_{10}, and $PM_{2.5}$), lead and toxic air contaminants. Additionally, volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), are precursors to the formation of ground-level O_3. The Project area is within the San Diego Air Basin (SDAB). The following table shows the SDAB designations for criteria pollutants. As of November 2017, the SDAB is designated in attainment for all criteria pollutants under the NAAQS with the exception of O_3 (8-hour) and PM_{10}, which is listed as unclassifiable. The SDAB is currently designated nonattainment for O_3 and particulate matter, PM_{10} and $PM_{2.5}$, under the CAAQS. It is designated as attainment under CAAQS for CO, NO_2, SO_2, lead and sulfates; refer to Table 3, *San Diego Air Basin Attainment Status*.

Table 3: San Diego Air Basin Attainment Status

Criteria Pollutant	Federal Designation (NAAQS)	State Designation (CAAQS)
Ozone (8-Hour)	Nonattainment	Nonattainment
Ozone (1-Hour)	[1]	Nonattainment
Carbon Monoxide	Attainment	Attainment
PM_{10}	Unclassifiable[2]	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility	No Federal Standard	Unclassified

Notes:
1 The federal 1-hour standard of 12 pphm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.
2 At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.
Source: *San Diego County Air Pollution Control District. Attainment Status for Criteria Pollutants. Available at: https://www.sdapcd.org/content/sdapcd/planning/attainment-status.html*

PROJECT IMPACTS

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact: The Project site is in the SDAB. The periodic violations of NAAQS in the SDAB, particularly for O_3 in inland foothill areas, requires that a plan be developed outlining the pollution controls that will be undertaken to improve air quality. In San Diego County, this attainment planning process is embodied in the Regional Air Quality Strategies (RAQS) developed by the San Diego County Air Pollution Control District (APCD) with regional growth projections provided by San Diego Association of Governments (SANDAG). The RAQS outlines the APCD's plans and regulatory control measures designed to attain state air quality standards for ozone. The RAQS, which was adopted by the San Diego County Air Pollution Control Board in 1992, is updated on a triennial basis, with the most recent revision prepared in December 2016.

The APCD has also developed the SDAB's input into the State Implementation Plan (SIP), which is required under the Federal Clean Air Act (CAA) for pollutants that are designated as being in nonattainment of national air quality standards for the air basin. The SIP relies on the same information from SANDAG to develop emission inventories and emission control strategies that are included in the attainment plan for the air basin. As noted, the RAQS relies on information from California Air Resources Board (CARB) and SANDAG, including projected growth in the County, mobile, area, and all other source emissions to project future emissions and determine from those data the strategies necessary for the reduction of stationary source emissions through regulatory controls. Projects that propose development that would be consistent with the growth anticipated by the General Plan would be consistent with the SIP, Air Quality Management Plan (AQMP), and RAQS. The proposed Project involves enhancement pedestrian sidewalk and coastal access repair and improvements. The Project does not introduce new housing or employment land use activities and would not induce growth or cause the local population to increase beyond what is planned within the region. Therefore, the Project would be consistent with the SIP, AQMP, and RAQS. Potential Impacts related to conflicts with or obstructions to applicable air quality plan would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact: The San Diego Air Pollution Control District (SDAPCD) monitors air quality conditions at locations throughout the SDAB. For this analysis, data from the Camp Pendleton monitoring station located west of the site were used to characterize existing ozone and nitrogen oxide concentrations in the general vicinity of the Project site. No PM_{10} or $PM_{2.5}$ data from the Camp Pendleton monitoring station is available post-2015. PM_{10} data from the Beardsley Street monitoring station (2016) in the City of San Diego is shown for 2016. A summary of the data recorded at the Camp Pendleton monitoring station from 2016 through 2018 is presented in Table 4, *Ambient Air Quality Data*.

Table 4: Ambient Air Quality Data

Pollutant	2016	2017	2018
Ozone, ppm – First High 8-Hour Average (2015 Standard)	0.073	0.081	0.068
Number of days of above 2015 standard (>0.070 ppm)	4	4	0
Nitrogen Dioxide, ppm – First High National	72.0	73.0	48.0
Nitrogen Dioxide, ppm – First High State	72.0	73.0	48.0
Days above the State standard (>0.18 ppm)	0	0	0
Days above the national standard (>100 ppb)	0	0	0
Particulate Matter <10 microns, $\mu g/m^3$ First High Federal	49	*	*
Particulate Matter <10 microns, $\mu g/m^3$ First High State	51	*	*
Estimated number of days greater than national 24-hour standard (>150 $\mu g/m^3$)	0	*	*
Estimated number of days greater than state standard (>50 $\mu g/m^3$)	0	*	*
Particulate Matter <2.5 microns, $\mu g/m^3$ First High National	*	*	*
Particulate Matter <2.5 microns, $\mu g/m^3$ First High State	34.4	*	*
Number of samples of Federal exceedances (>12 $\mu g/m^3$)	0	*	*

Camp Pendleton Monitoring Location: 21441 West B Street
Note – PM_{10} and $PM_{2.5}$ data obtained from 1110 Beardsley Street Monitoring Station, City of San Diego.
*Data insufficient to determine the value.
Source: *California Air Resources Board. 2016, 2017, 2018 Annual Air Quality Data Summaries available at http://www.arb.ca.gov/adam/topfour/topfour1.php*

A significant adverse air quality impact could occur when a project individually or cumulatively interferes with progress toward the attainment of the ozone standard by generating emissions that equal or exceed the established long-term quantitative thresholds for pollutants or exceed a state or federal ambient air quality standard for any criteria pollutant.

The SDAPCD does not provide quantitative thresholds for determining the significance of construction or mobile source-related projects. However, the SDAPCD does specify Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources (SDAPCD Rules 20.1 through 20.3). If these incremental levels are exceeded, an AQIA must be performed. Although these trigger levels do not generally apply to mobile sources or general land development projects, for comparative purposes, these levels may be used to evaluate the increased emissions from these projects. For CEQA purposes, the screening level thresholds can be used to demonstrate that a project's total emissions would not result in a significant impact to air quality. Because the AQIA screening thresholds do not include VOCs, the screening level for VOCs used in this analysis are from the South Coast Air Quality Management District (SCAQMD), which generally has stricter emissions thresholds than SDAPCD. The thresholds shown below are used in this analysis to determine whether the improvement program has the potential to violate an air quality standard or contribute substantially to an existing or projected air quality violation:

- Carbon Monoxide (CO) - 550 pounds/day;

- Nitrogen Oxides (NO_X) - 250 pounds/day;
- Particulate Matter (PM_{10}) - 100 pounds/day;
- Particulate Matter ($PM_{2.5}$) - 67 pounds/day;
- Sulfur Oxides (SO_X) - 250 pounds/day; and
- Volatile Organic Compounds (VOCs)/Reactive Organic Gases (ROGs) - 75 pounds/day.

CONSTRUCTION EMISSIONS

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust (PM_{10} and $PM_{2.5}$) from soil disturbance and exhaust emissions (NO_x and CO) from heavy construction vehicles. For purposes of estimating emissions, it was assumed that the improvements would be constructed consecutively over the course of nine (9) months. As noted, construction would generally consist of concrete repair/replacement, installation of new stairs, and related improvements as detailed in the Project description.

Site preparation, grading, and stair installation would involve the greatest concentration of heavy equipment use and the highest potential for fugitive dust emissions. The Project would be required to comply with SDAPCD Rules 52 and 54, which identify measures to reduce fugitive dust and would be required to be implemented. Therefore, the following conditions, which are required to reduce fugitive dust in compliance with SDAPCD Rules 52 and 54, were included in California Emission Estimator Model (CalEEMod) analysis for site preparation and grading phases of construction.

1. Minimization of Disturbance. Construction contractors should minimize the area disturbed by clearing, grading, earth moving, or excavation operations to prevent excessive amounts of dust.
2. Soil Treatment. Construction contractors should treat all graded and excavated material, exposed soil areas and active portions of the construction site, including unpaved onsite roadways to minimize fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. As referenced, watering would be implemented for dust control. Watering will be performed as often as necessary, and at least twice daily, preferably in the late morning and after work is done for the day. Note – it was assumed watering would occur two (2) times daily for modeling purposes.
3. Soil Stabilization. Construction contractors should monitor all graded and/or excavated inactive areas of the construction site at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction, and environmentally safe dust control materials shall be applied to portions of the construction site that are inactive for over four (4) days. If no further grading or excavation operations are planned for the area, the area shall be seeded and watered until landscape growth is evident, or periodically treated with environmentally safe dust suppressants, to prevent excessive fugitive dust.
4. No Grading During High Winds. Construction contractors should stop all clearing, grading, earth moving, and excavation operations during periods of high winds (20 miles per hour or greater, as measured continuously over a 1-hour period).
5. Street Sweeping. Construction contractors should sweep all onsite driveways and adjacent streets and roads at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

Construction is assumed to begin in September 2023 and be completed by May 2025. Table 5, *Estimated Maximum Mitigated Daily Construction Emissions*, summarizes the estimated maximum daily emissions of pollutants occurring during the construction period assuming the most intensive use of heavy equipment. As shown in Table 5, construction of the proposed Project would not exceed the SDAPCD regional construction emission thresholds for daily emissions. Thus, the Project construction would not conflict with the SIP, RAQS or AQMP, violate an air quality standard or contribute to an existing or Projected violation, result in a cumulatively considerable increase in ozone or particulate matter emissions, or expose receptors to substantial pollutant concentrations.

Table 5: Estimated Maximum Mitigated Daily Construction Emissions

Construction Phase	Maximum Emissions (lbs/day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2021-2022 Maximum lbs/day	2.7	21.8	20.4	0.04	1.2	1.0
SDAPCD Regional Thresholds	*75*	*250*	*550*	*250*	*100*	67
Threshold Exceeded 2019	**No**	**No**	**No**	**No**	**No**	**No**
Source: *Air Quality/Greenhouse Gas Study;* June 2020.						

LONG-TERM REGIONAL IMPACTS

Table 6, *Estimated Operational Emissions*, summarizes emissions associated with operation of the proposed Project. Operational emissions would be comprised of vehicle trips (mobile sources) to inspect and maintain the improvements. However, these emissions are currently occurring as part of ongoing inspection and maintenance activities. Operation of the Project would not generate area emissions or emissions related to energy consumption. For modeling purpose, it was assumed that cumulatively, the Project would generate one (1) vehicle trip daily over the course of a year. This method likely overestimates actual emissions; however, the approach is intended to provide comparative data for the purpose of CEQA compliance. As shown in Table 6, emissions associated with operation of the Project would not exceed the SDAPCD thresholds for ROG, NO_X, CO, SO_X, $PM_{10,}$ or $PM_{2.5}$. Therefore, the Project's regional air quality impacts, including impacts related to criteria pollutants, sensitive receptors, and violations of air quality standards, would be less than significant.

Table 6: Estimated Operational Emissions

Proposed Project	Estimated Emissions (lbs/day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area	0.01	0.0	0.01	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Mobile	0.01	0.01	0.03	0.01	0.01	0.01
Maximum lbs/day	**0.02**	**0.01**	**0.04**	**0.01**	**0.01**	**0.01**
SDAPCD Thresholds	*75*	*250*	*550*	*250*	*100*	67
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Note: See Appendix for CalEEMod version. 2016.3.2 computer model output. Summer emissions shown. Source: *Air Quality/Greenhouse Gas Study;* June 2020.						

The proposed Project would represent a contribution to a cumulatively considerable potential net increase in emissions throughout the air basin. As described above, however, emissions associated with the proposed Project would be minimal. Given the limited emissions potentially associated with the proposed Project, air quality would be essentially the same whether or not the proposed Project is implemented. According to the CEQA Guidelines Section 15064(h)(3), the proposed Project's incremental contribution to the cumulative effect is not cumulatively considerable. Any impact would be assessed as less than significant.

Mitigation Measures: No mitigation measures are required.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact: Sensitive receptors include schools, hospitals, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, or other facilities that house individuals with health conditions that would be adversely impacted by changes in air quality. The closest properties defined herein as sensitive receptors are residences located along the east side of Carlsbad Boulevard, 70' from the proposed construction area.

CONSTRUCTION-RELATED TOXIC AIR CONTAMINANT IMPACTS

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed Project. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk." The California Office of Environmental Health Hazard Assessment (OEHHA) health risk guidance states that a residential receptor should be evaluated based on a 30-year exposure period. "Individual cancer risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. Given the short-term construction schedule, the proposed Project would not result in a long-term (i.e., 30 or 70 year) exposure to a substantial source of toxic air contaminant emissions and thus, would not be exposed to the related individual cancer risk. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed Project.

LOCAL CARBON MONOXIDE EMISSIONS

Carbon monoxide is a colorless, odorless, poisonous gas that may be found in high concentrations near areas of high traffic volumes. CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. The SDAB is in attainment of state and federal CO standards; thus, CO data is no longer collected and not all monitoring stations have CO data available. The maximum 8-hour average CO level recorded in 2012 (the last year data were recorded) at the Escondido East Valley Parkway site (the site closest to the Project area) was 3.61 parts per million (ppm). Concentrations were below the 9-ppm state and federal 8-hour standard.

Mitigation Measures: No mitigation measures are required.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact: The proposed Project could generate emissions resulting in objectionable odors from construction, vehicles, and/or equipment exhaust from VOCs, ammonia, carbon dioxide, hydrogen sulfide, methane, alcohols, disulfides, dusts, or other pollutants during the construction or operation of the Project. Such exposure would be in trace amounts, localized in the immediate area, temporary, and would generally occur at magnitudes that would not affect substantial numbers of people. The Project would not generate uses or activities that would have long-term operational odorous emissions. Therefore, impacts associated with odors during construction or operation would be considered less than significant.

Mitigation Measures: No mitigation measures are required.

IV. BIOLOGICAL RESOURCES **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian, aquatic or wetland habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) 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?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

The following analysis is based on a *Biological Technical Report* and is presented in Appendix C.

EXISTING SETTING

The Project area is comprised of approximately 15 acres within a highly recreated area situated between Carlsbad Boulevard and Carlsbad State Beach. The Survey Area is comprised of several different land use types: bare sandy beach, paved road and walking paths with ornamental landscaping, and a mostly continuous stretch of native coastal scrub habitat punctuated by five (5) concrete stairways. The areas to the north and east of the Project area are fully developed, including residential neighborhoods and commercial buildings. The area to the south of the Project site includes a small, paved parking lot and a tidal inlet to Agua Hedionda Lagoon. The area to the west of the Project site is Carlsbad State Beach.

Vegetation Communities

Vegetation/land cover mapping and acreages for each vegetation community and land type within the Survey Area can be found in Table 7, *Vegetation Communities/Land Cover Observed within the Survey Area*, and Figures 10 and 11. Figures 10a-10e, *Vegetation/Land Cover Survey Area – Modified Holland*, depict vegetation communities within the Project area that were mapped using the modified Holland system (CDFW et al., 2003). Figures 11a-11e, *Vegetation/Land Cover Survey Area – Manual of CA Vegetation*, depict vegetation communities within the Project area that were mapped using the Manual of California Vegetation (Sawyer et al., 2009).

Table 7: Vegetation Communities/Land Cover Observed within the Survey Area

Vegetation Community/Land Cover Type		Acreage Subtotals	Acreage Totals
Modified Holland System	Vegetation Alliance (Sawyer et al., 2009)		
32500 Diegan Coastal Sage Scrub	*Rhus integrifolia* Shrubland Alliance (Lemonade Berry scrub)	0.96	3.85
	Encelia californica Shrubland Alliance (California brittle bush scrub)	2.89	
32400 Maritime Succulent Scrub	*Opuntia littoralis* Shrubland Alliance (Coast prickly pear scrub)	0.69	0.69
45310 Alkali Meadow	*Distichlis spicata* Herbaceous Alliance (Salt grass flats)	0.04	0.04
63320 Disturbed Southern Willow Scrub	*Salix exigua* Shrubland Alliance (Sandbar willow thickets)	0.04	0.04
52410 Disturbed Coastal and Valley Fresh Marsh	*Typha latifolia* Herbaceous Alliance (Cattail marsh)	0.07	0.07
11000 Non-Native Vegetation	*Cakile maritima* Provisional Herbaceous Semi-Natural Alliance (Sea rocket stands)	0.03	0.22
	Myoporum laetum Woodland Semi-Natural Alliance (Myoporum groves)	0.02	
	Limonium perezii stand (Perez's sea lavender stand)	0.17	
13000 Unvegetated Habitat	Disturbed/Bare	0.11	0.11
12000 Urban/Developed	Disturbed/Developed	10.12	10.12
		Total	15.14

Source: Bing, GHD; December 2020.

Vegetation/Land Cover Survey Area Index Map – Modified Holland

Figure 10a

Source: Bing, GHD; December 2020.

Vegetation/Land Cover Survey Area Frame 1 – Modified Holland

Figure 10b

Source: Bing, GHD; December 2020.

BEACH ACCESS REPAIR PROJECT
Initial Study/Mitigated Negative Declaration

Vegetation/Land Cover Survey Area Frame 2 – Modified Holland

Figure 10c

Source: Bing, GHD; December 2020.

BEACH ACCESS REPAIR PROJECT
Initial Study/Mitigated Negative Declaration

Vegetation/Land Cover Survey Area Frame 3 – Modified Holland

Figure 10d

Source: Bing, GHD; December 2020.

Vegetation/Land Cover Survey Area Frame 4 – Modified Holland

Figure 10e

Source: Bing, GHD; December 2020.

Vegetation/Land Cover Survey Area Index Map – Manual of CA Vegetation

Figure 11a

Source: Bing, GHD; December 2020.

Vegetation/Land Cover Survey Area Frame 1 – Manual of CA Vegetation

Figure 11b

Source: Bing, GHD; December 2020.

Vegetation/Land Cover Survey Area Frame 2 – Manual of CA Vegetation

Figure 11c

Source: Bing, GHD; December 2020.

Vegetation/Land Cover Survey Area Frame 3 – Manual of CA Vegetation

Figure 11d

Source: Bing, GHD; December 2020.

Vegetation/Land Cover Survey Area Frame 4 – Manual of CA Vegetation

Figure 11e

Diegan Coastal Sage Scrub: A total of 3.85 acres of Diegan Coastal Sage scrub was mapped within the Project area. This drought-deciduous community occurs on dry south-facing slopes and is comprised of aromatic shrubs and annual and perennial herbs and grasses. Characteristic species of this group that are present within the Survey Area include coastal sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and black sage (*Salvia mellifera*). Based on Sawyer et al. (2009), this community can be sub-divided into two (2) alliances:

- *Rhus integrifolia* Shrubland Alliance (Lemonade Berry scrub): A total of 0.96 acres of *Rhus integrifolia* Shrubland Alliance was mapped within Diegan Coastal Sage Scrub. These areas occur along the bluff and are dominated or co-dominated by lemonade berry (*Rhus integrifolia*), with California brittle bush (*Encelia californica*), at times, as a co-dominant species. Other species observed within these areas include California buckwheat and laurel sumac (*Malosma laurina*).
- *Encelia californica* Shrubland Alliance (California brittle bush scrub): A total of 2.89 acres of *Encelia californica* Shrubland Alliance was mapped within Diegan Coastal Sage Scrub along the bluff. These areas are typically dominated by California brittle bush. At times, California brittle bush is co-dominant in the shrub canopy with coyote brush (*Baccharis pilularis*), San Diego goldenbush (*Isocoma menziesii menziesii*), spreading goldenbush (*Isocoma menziesii sedoides*), and/or black sage. Additional native species observed in these areas include coastal sagebrush, coast prickly pear (*Opuntia littoralis*), four-wing saltbush (*Atriplex canescens*), bladderpod (*Peritoma arborea* var. *arborea*), lady-fingers (*Dudleya edulis*), deer weed (*Acmispon glaber* var. *glaber*), California fuchsia (*Epilobium canum* ssp. *canum*), California buckwheat, and coast desert-thorn (*Lycium californicum*). Non-native species observed within these areas include hottentot fig (*Carpobrotus edulis*), crystalline iceplant (*Mesembryanthemum crystallinum*), spotted spurge (*Euphorbia maculata*), and great bougainvillea (*Bougainvillea spectabilis*).

Maritime Succulent Scrub: A total of 0.69 acres of Maritime Succulent Scrub was mapped within the Project area. These areas occur on the bluff and are typically dominated by coast cholla (*Cylindropuntia prolifera*); a portion of these areas is co-dominated by coast prickly pear and California brittle bush. Other species observed in this community type include San Diego goldenbush and spreading goldenbush. This community can also be classified as *Opuntia littoralis* Shrubland Alliance (Coast prickly pear scrub; Sawyer et al., 2009).

Alkali Meadow: A total of 0.04 acres was mapped as Alkali Meadow within the Project area. These areas are comprised of salt grass patches along the west side of the sea wall in the sand. This vegetation community type was at times co-dominated by sea rocket (*Cakile maritima*). This community can also be classified as *Distichlis spicata* Herbaceous Alliance (Salt grass flats; Sawyer et al., 2009).

Disturbed Southern Willow Scrub: A total of 0.04 acres of Disturbed Southern Willow Scrub was mapped within the Project area. This area is comprised almost entirely of sandbar willow (*Salix exigua*) with a single stand of giant reed (*Arundo donax*) and the occasional salt heliotrope and sea rocket interspersed within. This community occurs in the sandy beach west of and adjacent to the sea wall near the stairway at the end of Cherry Avenue. Based on Sawyer et al. (2009), this area can also be classified as *Salix exigua* Shrubland Alliance (Sandbar willow thickets).

Disturbed Coastal and Valley Fresh Marsh: A total of 0.07 acres of the Project area was mapped as Disturbed Coastal and Valley Fresh Marsh. This community type is located in two (2) areas of the sandy beach west of and immediately adjacent to the sea wall south of the stairway at the end of Cherry Avenue, as well as in one (1) small area at the northern end of the Survey Area. These areas occur in depressions, exhibit standing water, and are dominated by broad-leaf cattail (*Typha latifolia*). Additional native species present within these areas include bulrush (*Schoenoplectus* sp.) and salt grass. Non-native plants present in these

areas include sea rocket and umbrella plant (*Cyperus involucratus*). This community can also be classified as *Typha latifolia* Herbaceous Alliance (Cattail marsh; Sawyer et al., 2009).

Non-Native Vegetation: A total of 0.22 acres of the Project area was mapped as Non-Native Vegetation, primarily comprised of sea rocket, myoporum (*Myoporum laetum*) trees, and Perez's sea lavender. Based on Sawyer et al. (2009), this vegetation community can be divided into three (3) alliances:

- *Cakile maritima* Provisional Herbaceous Semi-Natural Alliance (Sea rocket stands): A total of 0.03 acres of *Cakile maritima* Provisional Herbaceous Semi-Natural Alliance was mapped within the Project area. These areas occur along the west side of the sea wall in the sand and are dominated by sea rocket (*Cakile maritima*); salt heliotrope (*Heliotropium curassavicum* var. *oculatum*) was also observed in these areas.
- *Myoporum laetum* Woodland Semi-Natural Alliance (Myoporum groves): A total of 0.02 acres of *Myoporum laetum* Woodland Semi-Natural Alliance was mapped at one (1) location within the Project area at the top of the bluff, just north of the stairway at the end of Hemlock Avenue. This area is dominated by myoporum trees with little to no native vegetation present.
- *Limonium perezii* stand: A total of 0.17 acres of *Limonium perezii* stand was mapped within the Project area. These areas along the bluff are dominated by non-native Perez's sea lavender with little to no native vegetation present.

Disturbed/Bare: A total of 0.11 acres of the Project area is considered Disturbed/Bare. These areas occur adjacent to developed areas. Portions of the slopes (especially the upper slopes) show a lack of vegetative cover. Much of these areas occur above the uppermost irrigation lines, where vegetation was likely not planted when habitat installation occurred along the slopes. These areas may also be subject to disturbance from ongoing vegetation maintenance. Some areas under and adjacent to the five (5) stairways that bisect the slopes show a large amount of erosion and are deeply incised. These areas often lack vegetation and are included in the disturbed/bare category.

Disturbed/Developed: A total of 10.12 acres of the Project area is considered Disturbed/Developed. Disturbed/Developed land cover includes paved, pedestrian paths, stairways, and a portion of Carlsbad Boulevard. Ornamental vegetation occurs within this area along the upper sidewalks and Carlsbad Boulevard, including Mexican fan palm (*Washingtonia robusta*), crimson bottlebrush (*Callistemon citrinus*), fountain grass (*Pennisetum setaceum*), and bird of paradise (*Strelitzia reginae*).

Sensitive Status Vegetation Communities: The habitats described above as Diegan Coastal Sage Scrub (Lemonade berry scrub and California brittle brush scrub) and Maritime Succulent Scrub (Coast prickly pear scrub) are considered sensitive vegetation communities by California Fish and Wildlife (CDFW). The habitat described as Disturbed Coastal and Valley Fresh Marsh (cattail marsh) may also be considered a sensitive resource by CDFW.

The habitats described as Diegan Coastal Sage Scrub, Maritime Succulent Scrub, Disturbed Coastal and Valley Fresh Marsh, and Beach are identified as sensitive habitats requiring mitigation under the City's Habitat Management Plan (HMP).

Southern Coastal Salt Marsh community was reported in the California Natural Diversity Database (CNDDB) within two (2) miles of the Project site; however, this plant community was not observed in the Project site.

Plants

A total of 57 plant species were observed within the Project area during the July 2018 and June 2020 surveys and are listed in Appendix B of the *Biological Technical Report*.

SENSITIVE PLANT SPECIES ONSITE

Two (2) observations of sensitive plant species occurred during the July 2018 survey. Biologists identified two (2) cliff spurge (*Euphorbia miseria*) individuals within areas of Diegan Coastal Sage Scrub and several individuals of coast desert-thorn (*Lycium californicum*). Cliff spurge is a perennial shrub with a California Rare Plant Rank (CRPR) of 2B.2 and is a covered species under the City's HMP. Cliff spurge was originally introduced to the area by California State Parks as part of a bluff revegetation project and the plants were sourced from the Torrey Pines State Natural Reserve Genetic Stock. Coast desert-thorn is a perennial shrub with a CRPR of 4.2 and is not a covered species under the HMP. The locations of cliff spurge individuals are included in the Vegetation/Land Cover Maps; refer to Figures 10 and 11.

No other sensitive plant species were observed within the Project area during the 2018 and 2020 general biological surveys.

SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

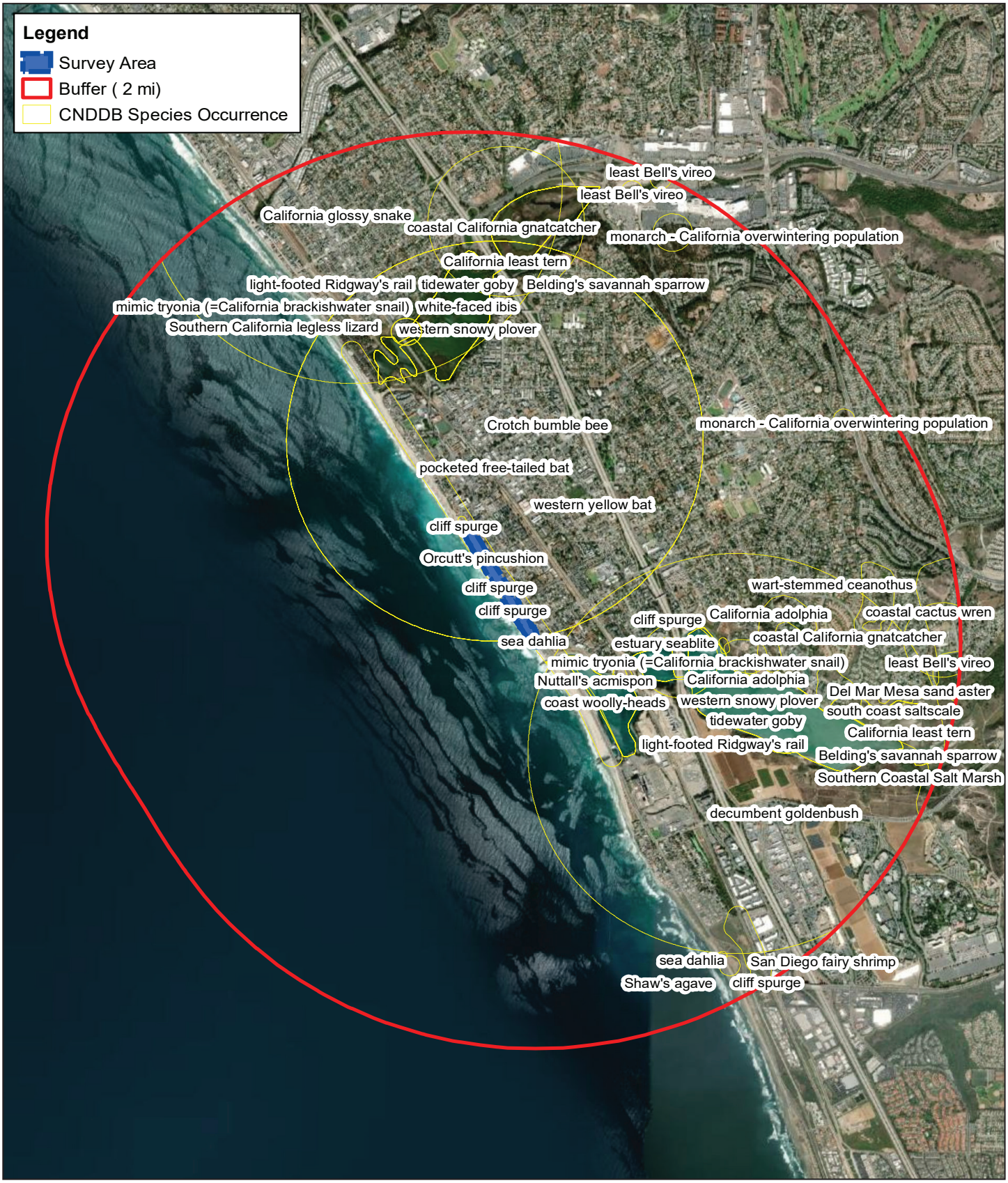
Sensitive plant species include federally, or state listed threatened or endangered species and those species listed on California Native Plant Society's (CNPS) rare and endangered plant inventory. Species with the potential to occur onsite were analyzed based on distribution, habitat requirements, and existing site conditions, and are listed in Appendix B of the *Biological Technical Report*.

One (1) special status plant species exhibits a high potential to occur onsite: sea dahlia (*Leptosyne maritima*), a perennial herb with a CRPR of 2B.2. Sea dahlia is not a covered species under the City's HMP. There were two (2) recorded CNDDB observations of this species within the Survey Area in 2015.

The following special status plant species have a moderate potential to occur within the Project area: South Coast saltscale (*Atriplex pacifica*), Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*), Del Mar Mesa sand aster (*Corethrogyne filaginifolia* var. *linifolia*), San Diego barrel cactus (*Ferocactus viridescens*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), and San Diego County viguiera (*Viguiera laciniata* [= *Bahiopsis laciniata*]).

Wildlife

The CNDDB was used to identify any special status wildlife that may exist within a 2-mile radius of the Project site; refer to Figure 12, *California Natural Diversity Database (CNDDB)*. CNDDB records are generally used as a starting point when determining what special status species, if any, may occur in a particular area. However, these records may be old, lack data not yet entered, and do not represent all the special status species that could be in that area. Sensitive wildlife species include the following classifications: federally or state listed threatened or endangered species, California species of special concern, and fully protected species (as designated by CDFW). Species with the potential to occur onsite were analyzed based on distribution, habitat requirements, and existing site conditions.



Source: CNDDB and ESRI; December 2020.

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California Natural Diversity Database (CNDDB)

Figure 12

No special status animal species were observed within the Project area during the July 2018 and June 2020 general biological surveys. The following special status animal species have a moderate potential to occur within the Project area: coastal California gnatcatcher, coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), western yellow bat (*Lasiurus xanthinus*), and pocketed free-tailed bat (*Nyctinomops femorosaccus*).

The coastal California gnatcatcher is a federally threatened species and a CDFW Species of Special Concern. This subspecies is a year-round resident of coastal southern California and northwestern Baja California and is closely aligned with coastal scrub vegetation, including Diegan Coastal Sage Scrub. They could also occur in other nearby vegetation communities but rely on coastal scrub for reproduction. The Diegan Coastal Sage Scrub community identified within the Project area could offer some transitory foraging and/or resting habitat for coastal California gnatcatcher, as the Survey Area is situated between Buena Vista Lagoon (to the north) and Agua Hedionda Lagoon (to the south), both contain suitable gnatcatcher habitat. The coastal sage scrub habitat onsite is comprised of a narrow strip of bluff situated below the upper sidewalk area and punctuated by large stairways used for public beach access. It is located within a highly utilized recreation area for biking, walking/running, and beach activities. Based on these factors, the Diegan Coastal Sage Scrub habitat within the Survey Area would not likely function as a nesting habitat for coastal California gnatcatcher.

The coastal cactus wren is a CDFW Species of Special Concern and a USFWS Bird of Conservation Concern. This subspecies is a year-round resident of southern California and is an obligate inhabitant of coastal sage scrub. They nest almost exclusively in coast prickly pear and coast cholla vegetation. Like the coastal California gnatcatcher, the coastal cactus wren could utilize the Diegan Coastal Sage Scrub and Maritime Succulent Scrub within the Project area as transitory foraging and resting habitat. Based on the small and narrow nature of the native scrub habitats onsite and the high degree of recreational use of immediately adjacent areas, the Maritime Succulent Scrub within the Survey Area would not likely function as a nesting habitat for coastal cactus wren.

The western yellow bat is a CDFW Species of Special Concern and a Western Bat Working Group 'High' priority species. This species is a year-round resident of southern California that roosts in trees and often in palm trees. The palm trees along the upper sidewalk and within the median along Carlsbad Boulevard could provide some roosting habitat for this species.

The pocketed free-tailed bat is a CDFW Species of Special Concern and a Western Bat Working Group 'Moderate' priority species. This species is a year-round resident of southern California that roosts in rock crevices, caverns, or buildings. Potentially suitable crevices under the existing stairways could offer roosting habitat for this species.

Critical Habitat

The Project site does not fall within or adjacent to critical habitat. The nearest critical habitat is coastal California gnatcatcher and thread-leaved brodiaea critical habitats located over two (2) miles from the Survey Area; refer to Figure 13, *Critical Habitat*.

Source: ESRI and USFWS; December 2020.

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Critical Habitat

Figure 13

Wildlife Movement

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Corridors effectively act as links between different populations of a species. An increase in a population's genetic variability is generally associated with an increase in a population's health. Wildlife movement activities usually fall into one of three (3) movement categories:

- Dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions);
- Seasonal migration; and
- Movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

The Project area is comprised of several different land use types: bare sandy beach, paved road and walking paths with ornamental landscaping, and a mostly continuous stretch of native coastal scrub habitat punctuated by five (5) concrete stairways. The coastal scrub within the Project area could provide some connectivity between Buena Vista Lagoon (to the north) and Agua Hedionda Lagoon (to the south) for highly mobile wildlife, like birds. However, this area does not provide continuous habitat between the lagoons. Furthermore, the coastal scrub area is immediately surrounded by development and highly utilized recreational areas and would not be large enough to provide many of the benefits of a typical wildlife corridor.

Avian Nesting and Bat Roost

The Project area has the potential to support nesting birds within vegetation, on the ground, or within structures such as the stairways. The general biological surveys occurred within the nesting season; biologists did not observe signs of nesting activity within the Project area. The Project area also has the potential to support roosting bats within the palm trees along the upper sidewalks and within the stairways. While a focused survey for bat roosting was not conducted at the time of the general biological surveys, no active bat roosts were incidentally observed during the 2018 and 2020 surveys.

Jurisdictional Waters

The following sources were reviewed to determine the potential presence or absence of jurisdictional streams/drainages and wetlands and their location within the watersheds associated with the Project area and other features that could contribute to federal or state jurisdictional authority located within watersheds associated with the Project area; National Wetlands Inventory (NWI) maps (USFWS, 2020), USGS National Hydrography Dataset, Aerial Imagery, USGS 7.5-Minute Topographic Maps; and Natural Resource Conservation Service (NRCS) Soil Survey.

Additionally, a field survey of the Project area was conducted to assess the presence of jurisdictional wetland waters of the United States (WOUS), using the methodology published in the USACE 1987 Wetland Delineation Manual (USACE, 1987) and the Arid West Supplement (USACE, 2008). The Project area was also assessed for jurisdictional non-wetland WOUS, as determined through the observation of an Ordinary High Water Mark (OHWM), which is defined as the "line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

The Survey Area contains potentially jurisdictional features along the west side of the sea wall, within areas identified as sandbar willow thickets and cattail marsh. Two (2) discrete emergent wetland areas identified as cattail marsh occur along the west side of the sea wall, between the two (2) stairways located at the end

of Cherry Avenue and Hemlock Avenue. These areas occur in depressions and contain standing water. Native vegetation in these areas include broad-leaf cattail, bulrush, and salt grass. Non-native vegetation in these areas include sea rocket and umbrella plant. A third potentially jurisdictional feature occurs just north of the two (2) emergent wetland areas along the west side of the sea wall in the area identified as sandbar willow thickets. This feature occurs in the sandy beach soil and is dominated by sandbar willow with a single patch of Arundo. During the 2018 and 2020 general biological surveys, biologists did not observe standing water at this feature, nor did they observe evidence of soil saturation or a high-water table.

REGULATORY FRAMEWORK

Table 8, *Regulatory Framework*, is a list of the relevant federal, state, and local laws and regulations that apply to protecting plant communities, plants, wildlife, and water quality from impacts within the Project site.

Table 8: Regulatory Framework

Agency/ Organization	Laws/Regulations	Notes
Federal	Clean Water Act (CWA) Section 404	Jurisdictional WOUS may be present within the Project site but will not be impacted during Project activities; therefore, a Section 404 Permit from the United States Army Corps of Engineers (USACE) is not required.
	CWA Section 401	Jurisdictional WOUS and Waters of the State (WOS) may be present within the Project site but will not be impacted during Project activities; therefore, a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB) is not required.
	CWA Section 408	No facilities subject to Section 408 occur within the Project.
	Migratory Bird Treaty Act (MBTA)	Compliance with the MBTA will be achieved with pre-construction surveys for nesting birds within three (3) days prior to initiation of work during the nesting bird season (February 15 - September 15).
	Endangered Species Act (ESA)	As discussed in Section IV, there is a moderate potential for the federally threatened coastal California gnatcatcher (*Polioptila californica californica;* "gnatcatcher") to occur onsite in a transitory nature; however, this species is not likely to utilize the Project site as nesting habitat. See Mitigation Measure BIO-5 below for recommendations regarding pre-construction surveys during the gnatcatcher breeding season. Should an active gnatcatcher nest occur within or adjacent to the Project site, consultation with the United States Fish and Wildlife Service (USFWS) will need to occur.
State	Section 1600 of the Fish and Game Code (FGC)	Jurisdictional WOS may be present within the Project site but will not be impacted during Project activities; therefore, a Section 1600 Permit through the CDFW is not required.

Agency/ Organization	Laws/Regulations	Notes
	Sections 3503, 3503.5, and 3513 of the FGC	These FGC sections offer protection of nesting birds, birds-of-prey, and migratory birds. Compliance will be maintained with a pre-construction survey for nesting birds (including birds-of-prey and migratory birds) within three (3) days prior to initiation of work during the nesting bird season (February 15 - September 15).
	Section 4150 of the FGC	Prohibits incidental or deliberate "take" of non-game mammals, including bats. Potential impacts to bats will be avoided with a pre-construction survey conducted prior to initiation of work.
	Porter-Cologne Water Quality Control Act and Water Discharge Requirements (WDR)	WOS and WOUS may be present within the Project site but will not be impacted during Project activities; therefore, a Water Quality Certification is not required.
City of Carlsbad	Habitat Management Plan (HMP)	The Project is located within the City of Carlsbad and is subject to the requirements of the City's HMP, which functions as Carlsbad's Subarea Plan within the North County Multiple Habitat Conservation Plan (MHCP) as well as an Ongoing Multi-Species Plan (OMSP) consistent with California's Natural Community Conservation Planning (NCCP) program. The HMP also constitutes a habitat conservation plan (HCP) pursuant to the ESA and the California Endangered Species Act (CESA) for authorization to take certain listed species. The Project site lies within Local Facilities Management Zone 1, within the portion of the City labeled "Development Areas," outside of the HMP planning area.
	Carlsbad HMP Permit	A Minor HMP Permit or HMP Permit is required for any Project that directly or indirectly impacts natural habitat and/or sensitive species within the City of Carlsbad (Section 21.210.070 of City Zoning Ordinance).
	Carlsbad HMP Incidental Take Permit	A Carlsbad HMP Incidental Take Permit is required for take of a state or federally listed species within the City of Carlsbad that is covered by the HMP (Section 21.210.075 of City Zoning Ordinance). It is unlikely that this permit will be necessary as no state or federally listed species were observed during the general biological field surveys nor have any been previously documented within the Survey Area. A discussion of the potential for gnatcatcher to occur onsite is included in Section IV.
	Coastal Development Permit (CDP)	A CDP is required for the Project as it lies within the Coastal Zone. The City of Carlsbad has an approved LCP.

PROJECT IMPACTS

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated.

SENSITIVE PLANTS

The Project would potentially impact one (1) individual cliff spurge (*Euphorbia miseria*), located approximately 5' west of the stairway at Cherry Avenue and Carlsbad Boulevard. However, the species cliff spurge is included in the plant revegetation palette for the proposed Project and mitigation for impacts to cliff spurge will be planted at a ratio of 3:1. This species is adequately covered under the City's HMP, where 94 percent of the preferred habitat of the species is conserved within the City (City of Carlsbad, 2004). The other cliff spurge identified, as well as the coast desert-thorn individuals are not located within the limits of disturbance and would not be subject to direct impacts by Project activities. While not observed during the general biological surveys in 2018 and 2020, sea dahlia has been previously recorded within the Project area and could potentially be impacted from Project activities. With the implementation of Mitigation Measure BIO-1, potential impacts to sensitive plant species would be less than significant.

Sensitive plant species not directly impacted by Project activities but located near the Project limits of disturbance could be indirectly impacted by construction activities. Indirect impacts could include increases in dust, debris, and trash. With the implementation of Mitigation Measure BIO-6, potential indirect impacts sensitive plant species would be less than significant.

SENSITIVE PLANT CRITICAL HABITAT

The Project site does not fall within or adjacent to critical habitat. The nearest critical habitat is coastal California gnatcatcher and thread-leaved brodiaea (*Brodiaea filifolia*) critical habitats located over two (2) miles from the Survey Area. Therefore, there would be no impacts to critical habitat.

SENSITIVE WILDLIFE

Based on the literature and database review, there are four (4) special status wildlife species with moderate potential to occur in the Project area: coastal California gnatcatcher, coastal cactus wren, western yellow bat, and pocketed free-tailed bat. Coastal California gnatcatcher and coastal cactus wren would have the potential to occur within the coastal sage scrub and succulent scrub habitats within the slopes, within and adjacent to the Project site. The western yellow bat has the potential to roost within the palm trees along Carlsbad Boulevard; however, these palms are not anticipated to be removed. Should these City owned and maintained palm trees need to be removed during construction, the trees must be replaced at a 2:1 ratio as per the City's Community Forest Management Plan (2019a). There is potential for the pocketed free-tailed bat to use crevices under the existing stairways as roosting habitat; these stairways would be replaced as part of Project activities. With the implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-5, and BIO-6, potential impacts to sensitive plants and sensitive wildlife would be less than significant.

SENSITIVE WILDLIFE CRITICAL HABITAT

The Project site does not fall within any critical habitat. Thus, there would be no impacts to critical habitat.

Mitigation Measures:

BIO-1: Prior to the start of construction activities, including vegetation removal, demolition, and grading activities, a qualified biologist shall conduct a survey for sensitive plants within the Project footprint and immediately adjacent habitat. To the extent practicable, the plant survey shall occur within the blooming period for those sensitive species previously observed onsite and/or those species with a high potential to occur onsite. To the extent practicable, sensitive plant species shall be avoided by Project activities. If sensitive plant avoidance is not practicable, then it is recommended that the impacted species be either (a) transplanted outside of the Project impact footprint prior to Project implementation or (b) replanted onsite (1:1 ratio) following Project implementation, if feasible.

BIO-2: Bat Protection. Prior to the start of construction, including demolition and grading activities, all suitable areas within the Project site and an appropriate survey buffer shall be surveyed for the presence of bat roosts by a qualified bat biologist. Surveys are required as follows:

(1) Initial surveys are recommended to be conducted at least six (6) months prior to the initiation of vegetation removal and ground disturbing activities, ideally during the maternity season (typically March 1 - August 31), to allow time to prepare mitigation and/or exclusion plans if needed; and

(2) Pre-construction surveys shall be conducted by a qualified bat biologist no more than two (2) weeks prior to the initiation of vegetation removal and ground disturbing activities. Surveys may entail direct inspection of the trees, stairways, and/or other suitable habitat or nighttime surveys.

BIO-2(a): If active bat roosts are present, a qualified bat biologist shall determine the species of bats present and the type of roost (i.e., day roost, night roost, maternity roost). If the biologist determines that the roosting bats are not a special-status species and the roost is not being used as a maternity roost, then the bats may be evicted from the roost by a qualified bat biologist experienced in developing and implementing bat mitigation and exclusion plans.

BIO-2(a)(i): If special-status bat species or a maternity roost of any bat species is present, but no direct removal of active roosts will occur, a qualified bat biologist shall determine appropriate avoidance measures, which may include implementation of a construction-free buffer around the active roost.

BIO-2(a)(ii): If special-status bat species or a maternity roost of any bat species is present and direct removal of habitat (roost location) will occur, then a qualified bat biologist experienced in developing bat mitigation and exclusion plans shall develop a mitigation plan to compensate for the lost roost site. Removal of the roost shall only occur when the mitigation plan has been approved by the City and only when bats are not present in the roost. The mitigation plan shall detail the methods of excluding bats from the roost and the plans for a replacement roost in the vicinity of the Project site. The mitigation plan shall be submitted to the City for approval prior to implementation. The plan shall include: (1) a description of the species targeted for mitigation; (2) a description of the existing roost or roost sites; (3) methods to be used to exclude the bats if necessary; (4) methods to be used to secure the existing roost site to prevent its reuse prior to removal; (5) the location for a replacement roost structure; (6) design details for the construction of the replacement roost; (7) monitoring protocols for assessing replacement roost use; (8) a schedule for excluding bats, demolishing of the existing roost, and construction of the replacement roost; and (9) contingency measures to be implemented if the replacement roosts do not function as designed.

BIO-2(b): If the pre-construction survey determines that no active roosts are present, then trees/stairways/suitable habitat shall be removed within two (2) weeks following the pre-construction survey.

BIO-2(c): All potential roost trees shall be removed in a manner approved by a qualified bat biologist, which may include presence of a biological monitor.

BIO-2(d): All construction activity in the vicinity of an active roost shall be limited to daylight hours.

BIO-3: Construction activities, including vegetation removal, demolition, and grading activities, shall occur outside of the gnatcatcher breeding season (February 15 – August 31). If breeding season avoidance is not practicable, then BIO-4 shall be implemented.

BIO-4: If construction activities, including vegetation removal, demolition, and grading activities, will occur within gnatcatcher breeding season (February 15 - August 31), the following will be implemented:

a. A permitted biologist shall conduct a pre-construction survey within the Project site and adjacent suitable habitat prior to the start of work. The survey will be conducted no more than three (3) days prior to construction.

b. If an active gnatcatcher nest (nest containing eggs or an empty or partial nest with gnatcatchers actively exhibiting breeding behaviors) occurs within the Project site or adjacent habitat, the biologist shall establish a 500' no work buffer around the active gnatcatcher nest and consultation with USFWS shall occur.

c. If no active gnatcatcher nests are observed during the pre-construction survey, no further action is required.

BIO-5: A nesting bird survey shall be conducted within three (3) days prior to start of construction, including demolition, grading, and vegetation removal, if construction and/or vegetation removal occur during the nesting bird season identified in the HMP (February 15 - September 15). If vegetation removal occurs outside of nesting season or if no nesting birds are found, no further action is required. If active nests are identified, the biologist will establish appropriate buffers around the area (typically 500' for raptors and sensitive species, 200' for non-raptors/non-sensitive species). All work within these buffers will be halted until the nesting effort is finished (i.e., the juveniles are surviving independent from the nest). The on-site biologist will review and verify compliance with these nesting boundaries and will verify the nesting effort has finished. Work can resume within the buffer area when no other active nests are found. Alternatively, a qualified biologist may determine that certain work can be permitted within the buffer areas and would develop a monitoring plan to prevent any impacts while the nest continues to be active (eggs, chicks, etc.). If vegetation clearing is not initiated within 72 hours of a negative survey during nesting season, the nesting survey must be repeated to confirm the absence of nesting birds.

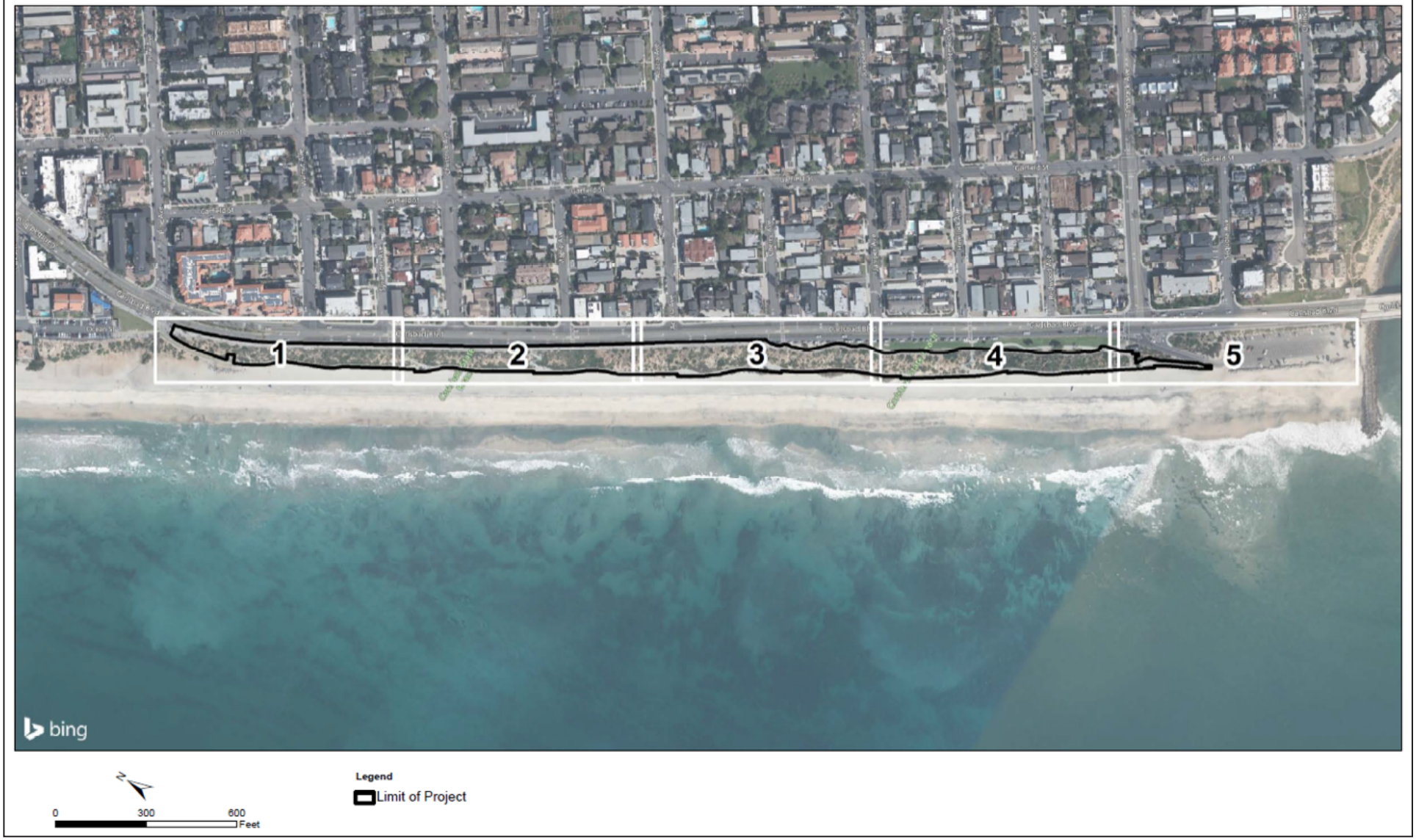
BIO-6: Implementation of general Best Management Practices (BMPs) is required to the extent practical. Key aspects of the BMPs are to clearly delineate the limits of disturbance, use properly maintained equipment, properly implement and monitor water quality BMPs, avoid use of chemicals near sensitive areas, develop procedures for minimizing the likelihood of spills and to control sediment, ensure worker safety, and minimize impacts to wildlife.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated: Potential impacts to vegetation/land cover types from implementation of the Project is shown in Table 9, *Vegetation Community Impacts*, and Figures 14 and 15. Figures 14a-14d, *Vegetation/Land Cover Impacts - Modified Holland*, depict proposed impacts to vegetation communities within the Project site that were mapped using the modified Holland system (CDFW et al., 2003). Figures 15a-15d, *Vegetation / Land Cover Impacts - Manual of CA Vegetation*, depict proposed impacts to vegetation communities within the Project site that were mapped using the Manual of California Vegetation (Sawyer et al., 2009).

Table 9: Vegetation Community Impacts

Vegetation Community/Land Cover Type		Permanent Impacts (acres)	Temporary Impacts (acres)
Modified Holland System	Vegetation Alliance (Sawyer et al., 2009		
32500 Diegan Coastal Sage Scrub	*Rhus integrifolia* Shrubland Alliance (Lemonade Berry scrub)	0.03	0.10
	Encelia californica Shrubland Alliance (California brittle bush scrub)		
32400 Maritime Succulent Scrub	*Opuntia littoralis* Shrubland Alliance (Coast prickly pear scrub)	0.02	0.02
45310 Alkali Meadow	*Distichlis spicata* Herbaceous Alliance (Salt grass flats)	0	0
63320 Disturbed Southern Willow Scrub	*Salix exigua* Shrubland Alliance (Sandbar willow thickets)	0	0
52410 Disturbed Coastal and Valley Fresh Marsh	*Typha latifolia* Herbaceous Alliance (Cattail marsh)	0	0
11000 Non-Native Vegetation	*Cakile maritima* Provisional Herbaceous Semi-Natural Alliance (Sea rocket stands)	0.003	0.03
	Myoporum laetum Woodland Semi-Natural Alliance (Myoporum groves)		
	Limonium perezii stand (Perez's sea lavender stand)		
13400 Beach	Sand	0	0
13000 Unvegetated Habitat	Disturbed/Bare	0.01	0.03
12000 Urban/Developed	Disturbed/Developed	0	0
	Total	0.063	0.18



Source: Bing, GHD; December 2020.

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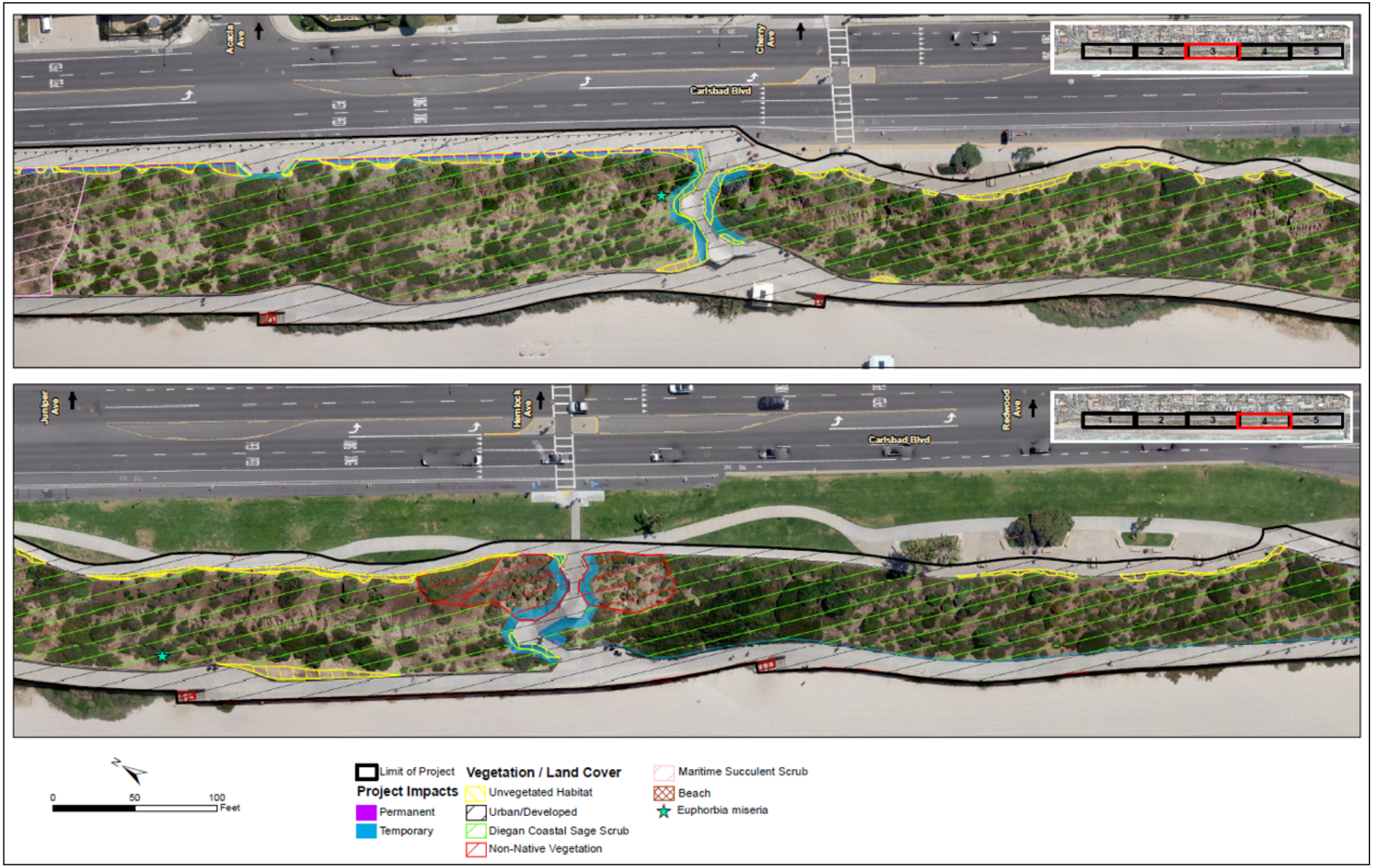
Vegetation/Land Cover Impacts Index Map – Modified Holland

Figure 14a

Source: Bing, GHD; December 2020.

Vegetation/Land Cover Impacts Frames 1 and 2 – Modified Holland

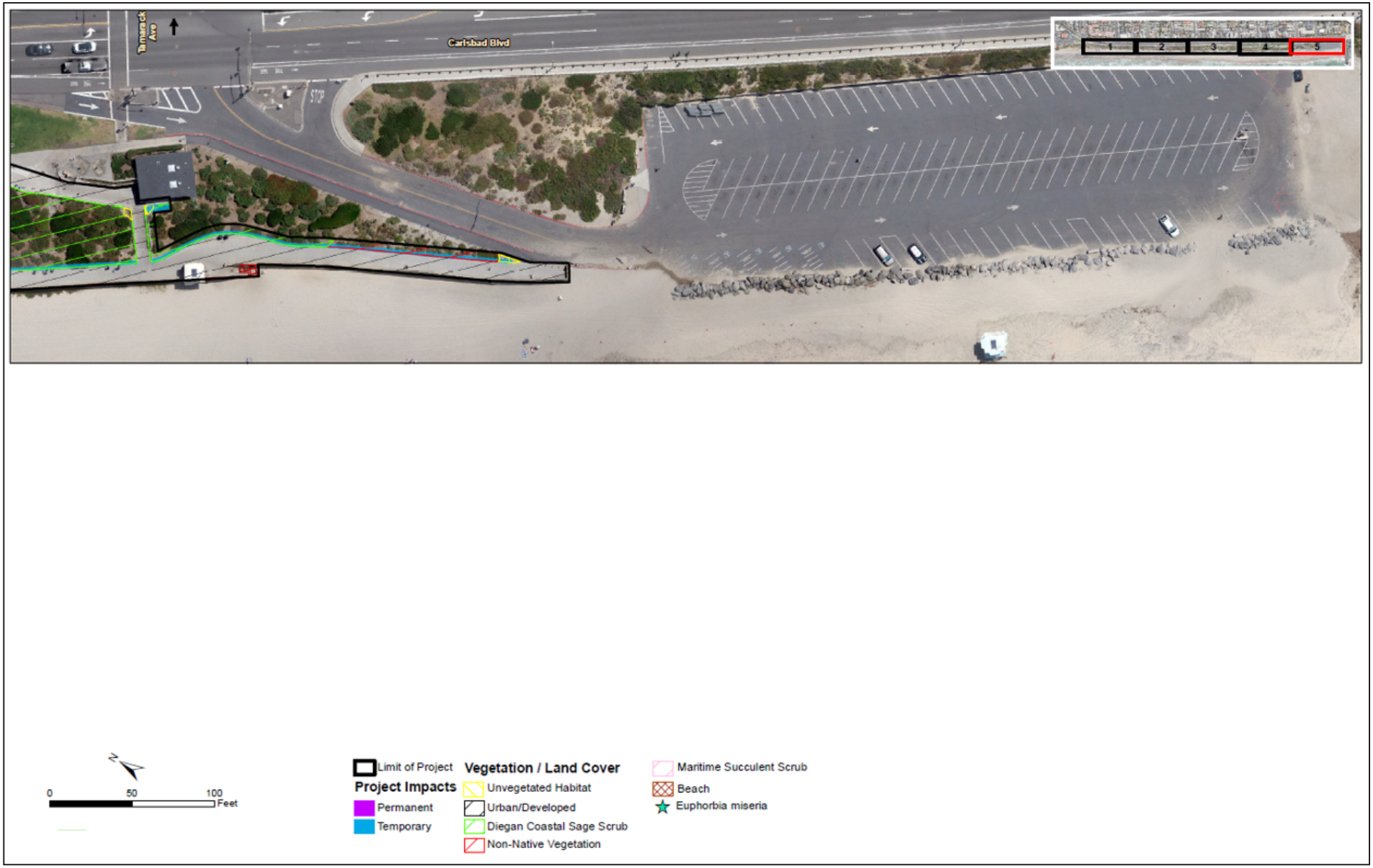
Figure 14b



Source: Bing, GHD; December 2020.

Vegetation/Land Cover Impacts Frames 3 and 4 – Modified Holland

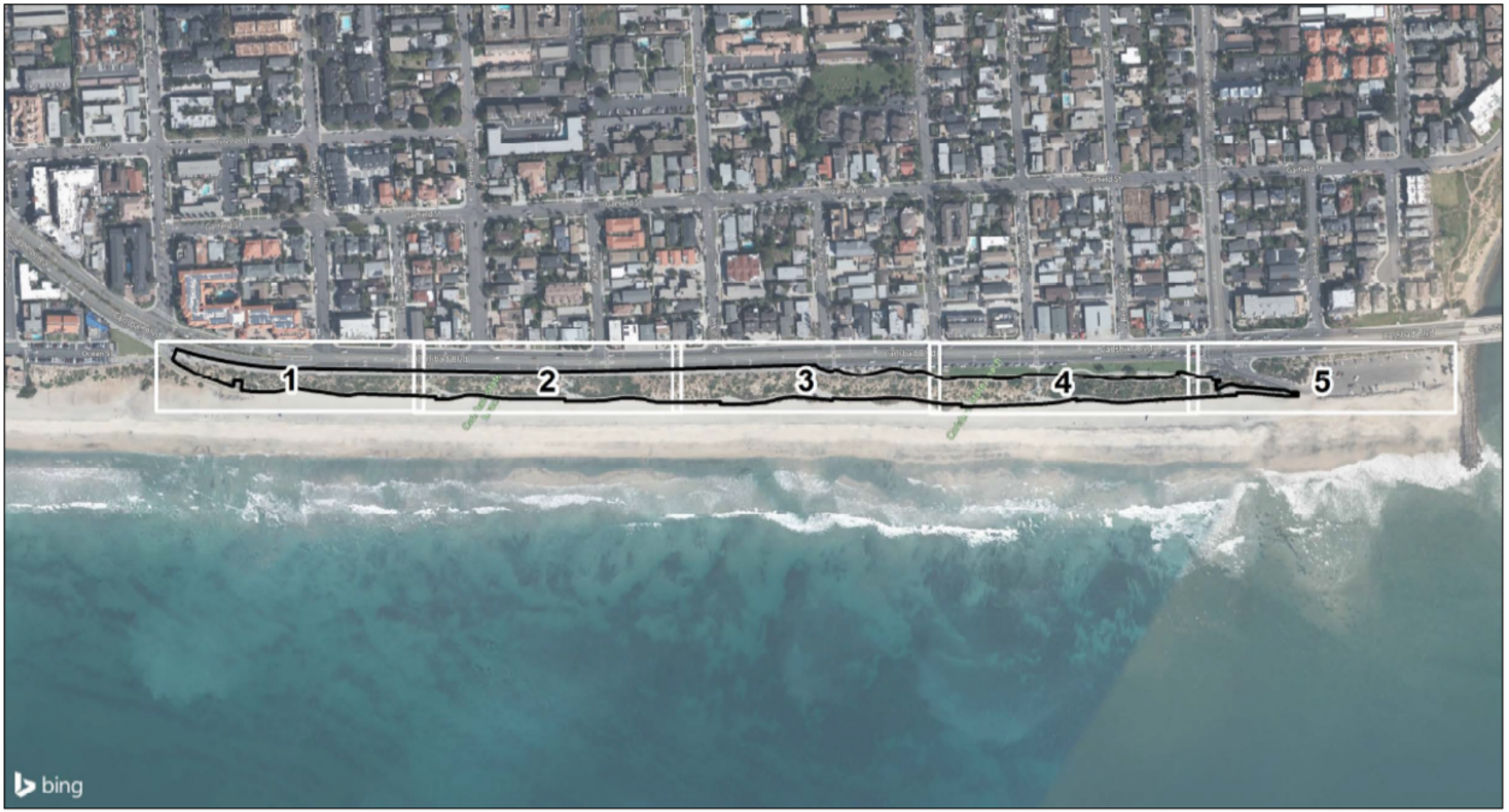
Figure 14c



Source: Bing, GHD; December 2020.

Vegetation/Land Cover Impacts Frame 5 – Modified Holland

Figure 14d



Source: Bing, GHD; December 2020.

Vegetation/Land Cover Impacts Index Map – Manual of CA Vegetation

Figure 15a

Source: Bing, GHD; December 2020.

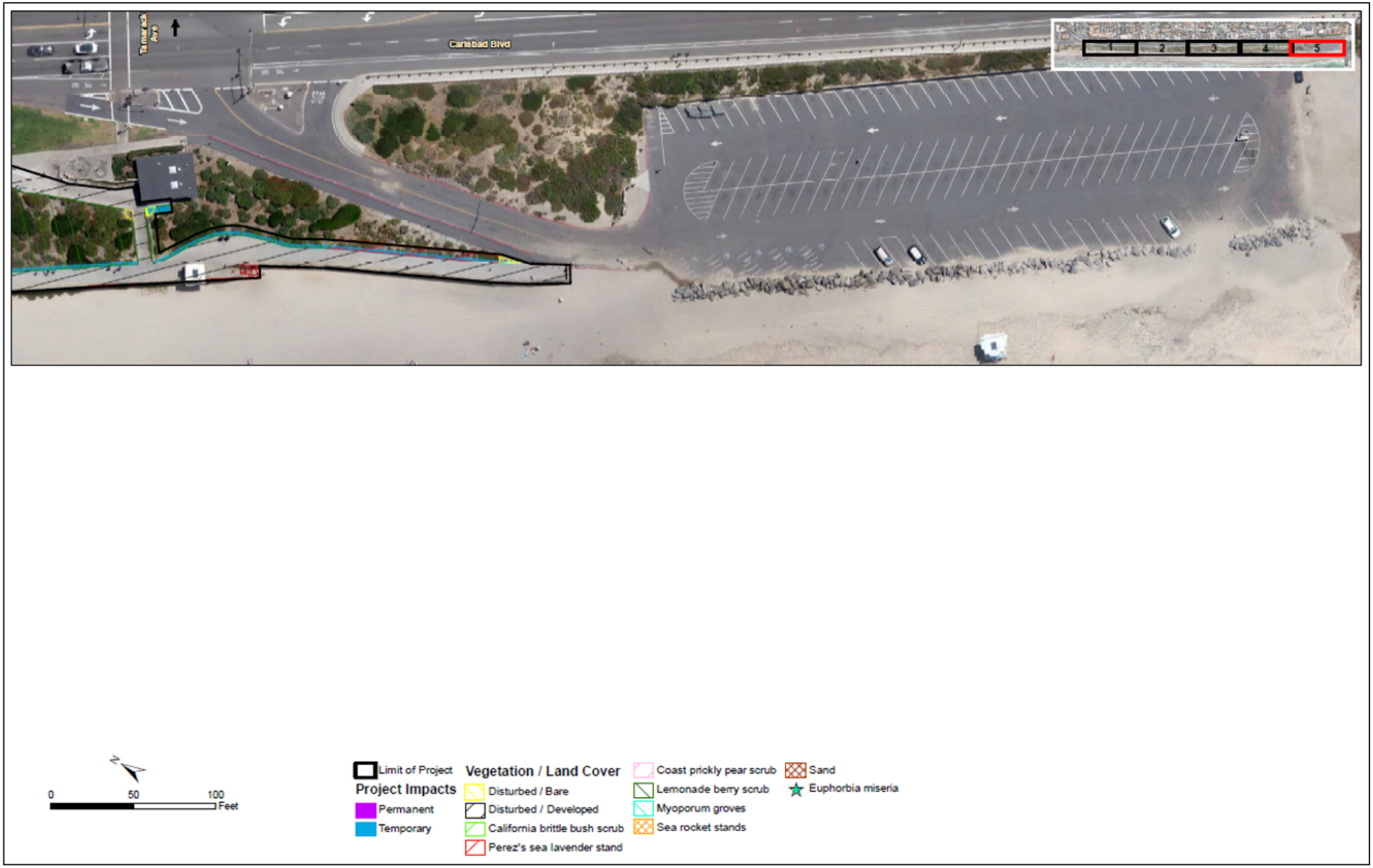
Vegetation/Land Cover Impacts Frames 1 and 2 – Manual of CA Vegetation

Figure 15b

Source: Bing, GHD; December 2020.

Vegetation/Land Cover Impacts Frames 3 and 4 – Manual of CA Vegetation

Figure 15c



Source: Bing, GHD; December 2020.

Vegetation/Land Cover Impacts Frame 5 – Manual of CA Vegetation

Figure 15d

The Project proposes to permanently impact 0.03 acres of Diegan Coastal Sage Scrub and 0.02 acres of Maritime Succulent Scrub within the Project site, primarily along the upper boundary of the slope, where the sidewalk would be cantilevered an additional 1.5' over the bluff side to widen the walkway. No additional footings would be placed underneath the widened sidewalk. While no structures would be physically placed into the soil, the extension of the walkway would likely create a shading impact, limiting the growth and survival of existing vegetation, as well as inhibiting recruitment of vegetation into this area. Results from the *Carlsbad Boulevard Upper Sidewalk Widening Shading Impact Analysis* (Appendix H) conducted by KTUA concluded that there would be a slight increase in shading (approximately seven (7) additional minutes of shade in the morning before full sun exposure for the rest of the day) and this would not hinder the re-establishment of native plants in the slope areas disturbed by the Project. The same species of plants that exist on the slope currently would grow on the slope with the upper walkway cantilevered 1.5' farther west. As such, impacts due to shading on the native plant communities on the upper slope area would be negligible.

The Project proposes to temporarily impact 0.10 acres of Diegan Coastal Sage Scrub and 0.02 acres of Maritime Succulent Scrub, primarily in the areas adjacent to the stairways that transect to replace the stairway structures and to accommodate equipment access. Temporary impacts to these communities are also anticipated for access along the upper slope where the sidewalk would be widened as well as along the base of the bluff for minor repairs to the lower retaining wall/curb. The Diegan Coastal Sage Scrub and Maritime Succulent Scrub communities are considered sensitive by CDFW and require mitigation under the City's HMP. Sensitive vegetation communities not directly impacted by Project activities but located near the Project limits of disturbance could be indirectly impacted by construction activities. Indirect impacts could include increases in dust, debris, and trash. With the implementation of Mitigation Measures BIO-6, indirect impacts to sensitive vegetation communities would be less than significant.

The Project proposes to permanently impact 0.003 acres and temporarily impact 0.03 acres of Non-Native Vegetation. The Project also proposes to permanently impact 0.01 acres and temporarily impact 0.03 acres of Disturbed/Bare land. To reduce impacts on vegetation, the following mitigation measures will be implemented.

Mitigation Measures:

BIO-7: Permanent impacts to native vegetation communities (including the newly shaded are on the slope of the coastal bluff area) shall be mitigated in accordance with the City's HMP for areas within the coastal zone as shown in Table 10, *HMP Mitigation for Impacts to Vegetation Communities*, through establishment of habitat onsite where non-native vegetation currently exists or where there is a lack of vegetative cover.

BIO-8: Areas where temporary impacts occur to native vegetation communities from the Project construction activities shall be revegetated with appropriate native vegetation following Project implementation. Habitat establishment on site shall follow the recommendations outlined in the *Guidelines for Habitat Creation and Restoration* (TAIC, 2009) prepared for the City of Carlsbad. Plant material for revegetation efforts shall also be consistent with State Parks Statement of Policy for plant genetic integrity (Policies 11.4 and 11.5) to ensure preservation and diversity of vegetative entities within the State Park System.

BIO-9: An approved landscape specialist (appointed by the City of Carlsbad) shall monitor and maintain the vegetated communities that were impacted by construction activities as well as the areas that were revegetated in compliance with the required mitigation ratios. One (1) year after the completion of the Project, monitoring activities shall continue for an additional five

(5) years. Plant maintenance activities would include pruning as needed, shrubbery to be checked monthly for breakage/damage, and operation and maintenance of irrigation systems.

Watering Requirements for Native Plants:

- Water plants once a week, for the first month or until the rainy season begins.
- After the rain begins, only water through April and only if it has not rained in 3 consecutive weeks.
- Do not water in direct sun or on an unseasonably warm day.
- Infrequent deep watering is more desirable that frequent shallow watering.

Based on the preponderance of non-native vegetation or a lack of vegetative cover due to disturbance within these land cover types, impacts to non-native vegetation and disturbed/bare land would be considered less than significant.

The Project proposes to temporarily or permanently impact native vegetation communities present within the Project site. Table 10, *HMP Mitigation for Impacts to Vegetation Communities*, includes the mitigation ratios described in the City's HMP for areas within the coastal zone.

Table 10: HMP Mitigation for Impacts to Vegetation Communities

Vegetation Community	HMP Mitigation Ratio	Additional HMP Requirements within the Coastal Zone	Temporary Impacts (acres)	Permanent Impacts (acres)	Anticipated Mitigation Requirement for Permanent Impacts (acres)
Diegan Coastal Sage Scrub	2:1	Minimum 1:1 creation or substantial restoration within Carlsbad Coastal Zone	0.10	0.03	0.17
Maritime Succulent Scrub	3:1	Minimum 1:1 creation or substantial restoration within Carlsbad Coastal Zone	0.02	0.02	0.09
Bare/ Non-native	No mitigation for bare/non-native areas required	--	--	--	--

Permanent impacts (0.03 acres of Diegan Coastal Sage Scrub; and 0.02 acres of Maritime Succulent Scrub) will be mitigated at 2:1 and 3:1, respectively with at least 0.17 acres of Diegan Coastal Sage Scrub creation and 0.09 acres of Maritime Succulent Scrub creation. Temporary impacts include 0.10 acres of Diegan Coastal Sage Scrub, and 0.02 acres of Maritime Succulent Scrub will be mitigated at 1:1 through revegetation. Permanent impacts to Diegan Coastal Sage Scrub and Maritime Succulent Scrub communities would be reduced to less than significant with establishment of habitat on site where non-native vegetation currently exists or where there is a lack of vegetative cover.

Temporarily impacted by Project activities within Diegan Coastal Sage Scrub and Maritime Succulent Scrub communities would be reduced to less than significant by revegetating temporary impacted areas with appropriate native vegetation following Project implementation. With implementation of Mitigation Measures BIO-7, BIO-8, and BIO-9, permanent impacts and temporary impacts to sensitive vegetation communities would be less than significant.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant with Mitigation Incorporated: The Project area contains features that are potentially jurisdictional as WOS and/or WOUS. These features would be avoided as part of Project activities. Therefore, no direct impacts to jurisdictional waters are anticipated. Minor improvements along the sea wall are anticipated adjacent to these features, however, this work would occur along the eastern side of the sea wall to avoid direct impacts to these features. The construction activities for the Project could result in adverse indirect impacts such as increases in dust, debris, and trash. With implementation of Mitigation Measure BIO-6, potential indirect impacts to jurisdictional waters would be less than significant.

Mitigation Measures: Mitigation Measure BIO-6 is required.

d) 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?

Less than Significant with Mitigation Incorporated: Native habitats such as coastal sage and succulent scrub within the Project area could play a limited role in local wildlife movement between the two (2) large lagoon habitats located north and south of the Project area. However, Project activities would avoid the majority of the native coastal scrub on site; thus, the native coastal scrub habitat within the Survey Area would retain any wildlife movement functions it provides currently. No significant impacts to wildlife movement are anticipated to occur from implementation of the Project.

The Project area has the potential to support nesting birds and/or roosting bats. Due to the potential for on-site bird nesting and/or bat roosting, Project construction could result in impacts to nesting birds that would be in violation of the MBTA and FGC and/or result in impacts to protected bat maternity roosts if construction activities are to take place during nesting or maternity roosting season. With implementation of Mitigation Measures BIO-3, BIO-4, and BIO-5, potential impacts to nesting birds would be less than significant.

Mitigation Measures: Mitigation Measures BIO-3, BIO-4, and BIO-5 are required.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact: The City of Carlsbad Municipal Code Chapter 11.12.10 provides a comprehensive program for installing, maintaining, and preserving trees within the City. The program establishes policies, regulations, and specifications necessary to govern installation, maintenance, and preservation of trees to beautify the City, to purify the air, to provide shade and wind protection, and to preserve trees with historic or unusual value. It is the policy of the City to line its streets with trees and to conduct a consistent and adequate program for maintaining and preserving these trees. It is also the policy of the City to protect and preserve all desirable trees that are located on the City's right-of-way.

The Project is also in compliance with the City's Community Forest Management Plan, which focuses on the importance of trees in the urban environment and outlines how the City cares for its existing trees and plans to increase the overall forest canopy in the City. The plan highlights the importance of trees to the community including improved air quality, habitat for wildlife, neighborhood beautification, and increased property value. The proposed Project is consistent with these principles as the Project's purpose is to improve the functionality and aesthetics of public access areas along the beach and Carlsbad Boulevard and provide the community with improved areas to enjoy the natural environment. Additionally, implementation of the proposed Project would not remove any trees on the Project site, or within the City's

right-of-way. Therefore, the Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Mitigation Measures: No mitigation measures are required.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less than Significant with Mitigation Incorporated: The Project is located within the City of Carlsbad and is subject to the requirements of the City's HMP, which functions as Carlsbad's Subarea Plan within the North County MHCP as well as an OMSP consistent with California's NCCP program. The HMP also constitutes an HCP pursuant to the ESA and the CESA for authorization to take certain listed species. The Project site lies within Local Facilities Management Zone 1, within the portion of the City labeled "Development Areas," outside of the HMP planning area.

Furthermore, the proposed Project complies with the City's HMP policies as they relate to properties in the Coastal Zone. Specifically, conservation standards that are outlined in the City's HMP include the importance of protecting environmentally sensitive habitat areas (ESHAs; Section 7-1), no net loss of habitat (i.e., Diegan Coastal Sage Scrub and Maritime Succulent Scrub; Section 7-8), and upland habitat mitigation requirements (Section 7-9). The Project area does not include any ESHAs and any loss of habitat/temporary impacts to Diegan Coastal Sage Scrub and Maritime Succulent Scrub communities shall be revegetated with appropriate native vegetation following Project implementation. Furthermore, one (1) year after the completion of the Project, plant communities impacted by the Project and revegetated will be monitored and maintained for five (5) years through the implementation of BIO-9.

The proposed Project has been evaluated in accordance with required methods identified in the City's HMP and would mitigate impacts to native vegetation in accordance with required established mitigation ratios and would provide required avoidance and minimization for special status species and sensitive vegetation. With implementation of Mitigation Measures BIO-1 to BIO-9, the Project would not conflict with the City's HMP.

Mitigation Measures: Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, and BIO-9 would be implemented.

V. CULTURAL RESOURCES **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

The following analysis is based on a Cultural Resources Assessment prepared and is presented in its entirety in Appendix D. The historic resources discussion regarding the restroom facility at the western terminus of Tamarack Avenue is summarized from *The Tamarack Avenue Comfort Station at Carlsbad State Beach – Historical Background Study and Determination of Eligibility* (California Department of Parks and Recreation, 2016).

Prehistoric Overview

The earliest Holocene inhabitants of the Carlsbad area were part of the San Dieguito Complex evident at the Harris site on the San Dieguito River, near Lake Hodges, that dates to 9,000 to 7,500 before present (BP).

The succeeding Encinitas Tradition, referring to the long time period of mobile hunter-gatherers exploiting small game, shellfish, and hard seeds and berries, was named the La Jolla Pattern along the coast. The La Jolla Pattern (in three (3) phases) began about 8,500 BP and extended until approximately 1,300 BP. Most of these sites are concentrated along the area's coastal lagoons (ECORP, 2017).

The San Luis Rey Complex (ca. 1,000 to 150 BP) indicates increased sedentism and intensification of land and resource use; a consolidation of settlements; the use of Cottonwood Triangular points, bedrock mortars, beads, the introduction of ceramics. These are the forerunners of the Luiseño (ECORP, 2017).

Ethnohistoric Overview

The Carlsbad area was home to two (2) distinct cultures: the Luiseño and the Kumeyaay.

The Luiseño were one of the Takic-speaking families (also including Gabrielino, Juaneño, Serrano, Kitanemuk, Cahuilla, and Cupeño languages) of Uto-Aztecan stock. Takic speakers are the western expression of the Uto-Aztecan stock that include cultures from the Great Basin to the Pueblo Southwest and from southern Arizona to Central America. Uto-Aztecan is one of the most geographically extensive languages in the Americas (Golla, 2007).

Luiseño villages were located in valleys, along water courses, or along the coast. Their subsistence focused on acorn and seed gathering, supplemented by small and large mammal and bird hunting and the taking of sea mammals, fish, crustaceans, and mollusks. Animals were taken individually or in groups using throwing sticks, nets, traps, and bow and arrow. Canoes, fish traps, and shell hooks were used to capture fish, and baskets, ceramic storage containers, manos and metates, and ceramic jars were used to process and store vegetable foods.

The Kumeyaay, or also known as Tipai-Ipai or Diegueno (historic Spanish name), and their language belongs to the Yuman-Cochimi language branch of the Hokan group. Kumeyaay live at the northern border of Baja California in Mexico and the southern border of California in the United States. Included with the Kumeyaay Yuman branch are the PaiPai, Kiliwa, Cocopa, Mohave, Maricopa, Quechan, Yavapai, Havasupai, Hualapai. The Hokan language family is wide-ranging, extending across much of the coastal lands of southern California (Bugbee, 2023).

Prehistoric and ethnohistoric cultural context for the Project area is largely adapted from the document *Carlsbad Tribal, Cultural, and Paleontological Resources Guidelines* (ECORP, 2017). Please refer to that document for the full context.

Historic Overview of Carlsbad State Beach

CREATION OF CARLSBAD STATE BEACH

According to the Carlsbad State Beach General Plan (1983), Carlsbad State Beach has been a unit of the State Park System since 1933. The creation of Carlsbad State Beach coincided with the completion of paving Coast Highway from San Diego to Santa Barbara in 1929, promoting public use of coastal resources along the California coast. The Carlsbad State Beach unit was classified as a state beach by the State Park and Recreation Commission in 1969 and is comprised of approximately 44 acres. Public Resources Code Section 5019.56 defines state recreation units as "areas selected, developed, and operated to provide outdoor recreational opportunities." The State Park and Recreation Commission established Carlsbad State Beach as part of San Diego coast state beaches in June of 1964 with the goal to "make [state beaches] available to the people, for their benefit and enjoyment forever, the scenic and recreational resources inherent to the coastal beaches and adjacent uplands of San Diego County."

The State Beach is visited by over one million people annually and there is a need to maintain safe access and use of the State Beach resources for public enjoyment. The beach access stairways within Carlsbad State Beach Park were originally constructed over 30 years ago and have undergone numerous renovations and repairs overtime. Established Resource Management Directives, specifically Section 73 of the Carlsbad State Beach General Plan, notes that "where recreational resources are primary in a State Park System unit, development and operation of facilities shall be aimed at making optimal public use of the recreational opportunities present," (CADPR, 1983; 1984). The overarching goals and objectives of Carlsbad State Beach Park are to manage the natural environment to protect important coastal resources while enhancing the recreational experience and access for the public.

TAMARACK COMFORT STATION

The Tamarack Comfort Station was originally constructed in 1959 and was built with a minimalistic and austere box-like design consistent with the contemporary style of postwar American architecture. The building materials consist of exposed wood beams, stacked cinderblock-shaped concrete masonry units and wood window openings (CADPR, 2016). The Comfort Station acts as a transitional area between the upper coastal bluff area at street level and the base of the bluff at beach level. Hardscape improvement and additions to the accessways, including the concrete ramp, walkways, and access stairway, were made over time by State Parks to meet park access demands and ensure safe public access. Additions and modifications included the installation of aluminum handrails to meet code requirements and a retaining wall to provide a level terrace of compacted earth fill to accommodate a flagpole and public shower area north of the Comfort Station.

The Comfort Station is potentially eligible for listing on the California National Register of Historic Places as it is over 50 years old and is associated with one of the largest expansion and growth periods in California State Parks history (CADPR, 2016). The master architect, Robert F. Uhte, designed the Tamarack Comfort

Station and was known for his modernized and post-WWII building designs that exhibited a more playful and inventive style, which stood out in the landscape as opposed to pre-WWII park building designs. This type of architectural design build holds unique and important historical significance in California State Park aesthetics.

ENVIRONMENTAL ANALYSIS

Background

"Cultural Resources" as defined in the CEQA Checklist include historical, architectural, archeological, and paleontological elements. Cultural resources include prehistoric archaeological sites, historic archaeological sites, historic structures, and artifacts made by people in the past. Prehistoric archaeological sites are places that contain the material remains of activities carried out by the native population of the area (Native Americans) prior to the arrival of Europeans in southern California. Artifacts found in prehistoric sites include flaked stone tools such as projectile points, knives, scrapers, and drills; ground stone tools such as manos, metates, mortars, and pestles for grinding seeds and nuts; and bone tools. Historic archaeological sites are places that contain the material remains of activities carried out by people during the period when written records were produced after the arrival of Europeans. Historic archaeological material usually consists of refuse, such as bottles, cans, and food waste, deposited near structure foundations. Historic resources include houses, roads, commercial structures, industrial facilities, and other structures and facilities more than 50 years old. All components of a development must be considered in evaluating potential impacts to historical, archeological, and paleontological resources.

Regulatory Setting

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

CEQA requires a lead agency to determine whether a Project would have a significant effect on one (1) or more historical resources. A "historical resource" is defined as a resource listed in or determined to be eligible for listing in the CRHR (*California Public Resources Code*, Section 21084.1); a resource included in a local register of historical resources (14 *California Code of Regulations* [CCR], Section 15064.5[a][2]); or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (14 CCR 15064.5[a][3]). The term "local historic register" or "local register of historical resources" means a list of resources that are officially designated or recognized as historically significant by a local government pursuant to resolution or ordinance. "Historical Resources" also includes resources identified as significant in an historical resource survey meeting certain criteria. Additionally, properties which are not listed but are otherwise determined to be historically significant, based on substantial evidence, would also be considered "historical resources."

Section 5024.1 of Public Resource Code, Section 15064.5 of the State CEQA Guidelines (14 CCR), and Sections 21083.2 and 21084.1 of the CEQA Statutes were used as the basic guidelines for the cultural/historical resources study. Public Resource Code 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the CRHR. The purposes of the CRHR are to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly developed to be in accordance with criteria developed for listing in the NRHP (per the criteria listed in the *Code of Federal Regulations* [CFR], Title 36, Section 60.4) and include those listed below.

A resource may be listed as a historical resource in the California Register if it meets any of the following NRHP criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

According to Section 15064.5(a)(3) of the State CEQA Guidelines (14 CCR), a resource is considered historically significant if it meets the criteria for listing in the NRHP (per the criteria listed at 36 CFR 60.4, previously discussed). Impacts that affect those characteristics of the resource that qualify it for the NRHP or that would adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered to have a significant effect on the environment. Impacts to cultural resources from a Project are thus considered significant if the Project: (1) physically destroys or damages all or part of a resource; (2) changes the character of the use of the resource or physical feature within the setting of the resource that contributes to its significance; or (3) introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource. The first step for an environmental evaluation is to determine whether the potential property fits the definition of an "historical resource" as defined in the CEQA Statutes and Guidelines. For this analysis, additional information is typically prepared to assist in the determination whether that property is an historical resource for purposes of CEQA and/or to aid in the evaluation of the effects a proposed project may have on an historical resource. The purpose of a cultural/historical resource investigation is to evaluate whether any resources are present in or near the Project area. If resources are discovered, management recommendations would be included that require evaluation of the resources for NRHP or CRHR eligibility.

After determining that a property is a "historical resource" for the purposes of CEQA, the next step is to determine if the proposed project could cause a substantial adverse change in the significance of an historical resource. CEQA defines a "substantial adverse change" as the physical demolition, destruction, relocation or alteration of the historical resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. CEQA goes on to define "materially impaired" as work that materially alters, in an adverse manner, those physical characteristics that convey the resources' historical significance and justify its inclusion in the CRHR, a local register of historical resources, or an historical resource survey. CEQA Guidelines Section 15064.5(b)(3) considers any adverse impacts to be mitigated if the project follows the Secretary of the Interior's Standards for the Treatment of Historic Properties.

CITY OF CARLSBAD

The City of Carlsbad's General Plan Chapter 7, *Arts, History, Cultural, and Education*, outlines the goals of the consideration, protection, preservation, and recognition of important cultural resources of the City.

The City's Municipal Code Chapter 22.06 states that a historic resource may be considered and approved by the City Council for inclusion in the City's historic resources inventory if it is deemed significant under defined criteria similar to the CEQA significance considerations.

The City's Cultural Resource Guidelines were developed in 1990 for the treatment of cultural resources consistent with federal, state, and local laws, as well as the United States Secretary of the Interior's Standards for Archaeology and Historic Preservation. The City's guidelines establish standards of performance and detail a systematic method of preserving and protecting cultural resources. These guidelines were superseded in 2017 (see below).

Tribal Cultural Resource Protection Council Policy No. 83, effective March 1, 2016, outlines the City's tribal consultation and treatment and protection of Tribal Cultural Resources protocols to assist the City in implementing the requirements of Assembly Bill (AB) 52. The City's policy is to protect the important

historical and cultural values of current Tribal Cultural Resources within the City limits and to improve consultations with local Native American Tribes, including the San Luis Rey Band of Mission Indians. This will be facilitated by early consultation with Tribes.

Recently, ECORP Consulting, Inc. developed the *Carlsbad Tribal, Cultural, and Paleontological Resources Guidelines* for the City (ECORP, 2017). These guidelines are meant to replace the 1990 cultural resources guidelines due to new and amended cultural resources laws and regulations that went into effect after 1990. This document serves as the official City guidelines for the treatment of cultural resources within the limits of the City.

HUMAN REMAINS

Section 7050.5 of the *California Health and Safety Code* provides for the disposition of accidentally discovered human remains. Section 7050.5 states that, if human remains are found, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined the appropriate treatment and disposition of the human remains. Section 5097.98 of the Public Resource Code states that, if remains are determined by the Coroner to be of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours which, in turn, must identify the person or persons it believes to be the MLD of the deceased Native American. The descendants shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

RECORD SEARCH

The South Coastal Information Center (SCIC) at San Diego State University completed a records search on March 26, 2018. The review consisted of an examination of the U.S. Geological Survey's (USGS') San Luis Rey 7.5-minute quadrangle map to evaluate the Project site for any cultural sites recorded or cultural resources studies conducted on and near the Project site. In addition, California Points of Historical Interest (PHI), California Historical Landmarks (CHL), the CRHR, the NRHP, the California State Historic Resources Inventory (HRI), and historic topographic maps were reviewed. The search also revealed that five (5) cultural resources have been recorded within one-half mile of the Project site; refer to Table 11, *Cultural Resources Sites Recorded within One-Half Mile of Project Site*. According to the SCIC, Cultural Resource 37-036871 was recorded as two (2) 1920's era bricks. They were recorded in an undeveloped area immediately north of the Tamarack Beach parking lot. They were not observed during the survey.

Table 11: Cultural Resources Sites Recorded within One-Half Mile of Project Site

Resource Number	Recorder/Year	Description
37-010478/SDI-10478	Pigniolo & Gallegos/1986	Campsite; shell midden
37-013076/SDI-13076	Gallegos & Associates/1993	Lithic and shell scatter
37-017443/	Walker/no date	Santa Fe Rail Depot
37-026518/SDI-17414	Unknown/1972	Lithic scatter, modern refuse
37-036871*	Downs/2017	Two (2) bricks
*Includes Project site.		

PROJECT IMPACTS

a) Cause a substantial adverse change in the significance of a historical resource pursuant to in Section 15064.5?

Less than Significant Impact with Mitigation Incorporated: The purpose of the cultural/historical resources assessment is to identify any cultural/historical resources that may exist on the Project site, to determine the sensitivity of the Project site for the presence of buried historical or archaeological material,

and to make recommendations to the lead agency regarding the development of mitigation measures to reduce the impacts of the Project on resources to a less than significant level. The records search noted that one (1) historical resource, two (2) historical era bricks, has been recorded within one-half mile radius of the Project site. However, the resource was located outside the disturbance area and would not be impacted by the Project.

The Project consists of repairing and replacing five (5) access stairways and railings in the same configuration at each access location. The Project would include the in-kind replacement of stairs and walkways adjacent to the restroom facility located near the top of the bluff at the western terminus of Tamarack Avenue. Because of the beach access stairway's relationship to the adjacent building/structure, a Historical Background Study and Determination of Eligibility Report was prepared to provide a historical background study of the existing building/structure and its associated site improvements to determine if the site or its resources are historically significant. The restroom facility has been studied and concluded potentially eligible for listing on the CRHR and NRHP (*California Department of Parks and Recreation, 2016*). The restroom was constructed in 1959, and various maintenance-related modifications were made in 2015. The CADPR Historical Background Study concluded:

> *"Although it [the Tamarack Comfort Station] has experienced certain alterations and replacement of certain exterior and interior features, they have not had a cumulative effect on the restroom's ability to convey its historic integrity.*
>
> *Therefore, any alterations needed to comply with the Americans with Disabilities Act would have to be consistent with both the Secretary of the Interior's Standards and Guidelines for Rehabilitation, and the California Historical Building Code."*

As noted in the Project description, the Beach Access Repair Project proposes structural repairs and improvements to the existing concrete sidewalks, retaining walls, and beach access stairways in order to maintain structural integrity and safe public access. Current conditions adjacent to the Tamarack Avenue restroom feature visible degradation of the concrete walkways, stairways, and walls such as concrete spalling, cracking, and exposed rebar, likely due to the corrosive nature of the marine environment. In places, soil has been eroded from foundation elements. Collectively, these conditions present potential safety concerns to users of the restroom and adjacent paths.

The CADPR Historical Background Study acknowledges that prior: *"…alterations made to the comfort station's exterior and interior areas, have not obscured or altered the comfort station's outward appearance or viewsheds."* Similarly, the proposed Beach Access Repair Project proposes no modifications to the restroom structure, nor would the Project noticeably alter views of the restroom or its surroundings. Project improvements adjacent to the restroom would be limited to in-kind replacement of stairs and walkways sufficient to ensure public safety and would not negatively affect the historic integrity of the restroom. These changes will maintain the same look and feel of the historic stairs being replaced.

As long as it can be shown that there are no substantial adverse changes to the significance of the historical resource(s), or that any changes can be mitigated to a less than significant level, then a statement that the Project will not have a significant effect on the environment can be prepared. CEQA Guidelines Section 15064.5(b)(3) considers any adverse impacts to be mitigated if the project follows the Secretary of the Interior's Standards for the Treatment of Historic Properties. Therefore, mitigation, presented below, would ensure that proposed alterations needed to comply with the ADA would be consistent with both the Secretary of the Interior's Standards and Guidelines for Rehabilitation, and the California Historical Building Code. With implementation of Mitigation Measure CR-1, potential adverse impacts to historic resources would be less than significant and that the Project would not materially impair those physical characteristics that convey the resources' historical significance for the purposes of CEQA.

Mitigation Measures: Mitigation Measure CR-1 is required.

CR-1: Alterations needed to comply with the ADA would be consistent with both the Secretary of the Interior's Standards and Guidelines for Rehabilitation, and the California Historical Building Code. Proposed improvements shall be in-kind and exclusive to the sidewalk that surrounds the Comfort Station, and the project shall mitigate to a level of less than a significant impact on the historical resource. A description of specific improvements proposed for rehabilitation would be submitted to State Parks for review and approval in advance of construction to ensure that the Comfort Station retains its historic integrity.

A qualified archaeological monitor shall be present during all work taking place within 20' of the CRHR eligible Comfort Station. Photo documentation of the stairs, ramp, and Comfort Station surrounding features (including the retaining walls and concrete slab/cantilevered deck) prior to demolition is required. The qualified archaeologist will attend all pre-construction meetings to consult with the grading and excavation contractors concerning excavation schedules, archaeological field techniques, and safety issues. The qualified archaeologist will consult with the qualified State Historian and Associate State Archaeologist regarding any impacts that have the potential to affect the historic Comfort Station. The archaeologist shall retain the option to reduce monitoring, with concurrence from the City and qualified historian, if it is determined that work will not be impacting the resource.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than Significant with Mitigation Incorporated: The cultural study prepared for the proposed Project demonstrates that there are no recorded archaeological resources within the Project area. The Project would involve minor excavation activities grading into the slope at the base of the stairs for a new, small retaining wall at Maple Avenue and Hemlock Avenue stairways. The potential to encounter archaeological resources would be low. However, because cultural resources are known to occur within the vicinity of the Project area, there is some potential for unknown archaeological resources to be present. To avoid potential impacts to unknown archaeological resources, a qualified archaeologist and a qualified Native American/cultural monitor should observe earth disturbing activities resulting from this Project. In the event archaeological resources are encountered, all working in the immediate area of the finding will halt until the significance of the finding is determined. With the implementation of Mitigation Measure CR-2, potential adverse impacts to unknown archaeological resources would be less than significant.

Mitigation Measures: Mitigation Measure CR-2 is required.

CR-2: A qualified archaeological monitor and a qualified Native American/cultural monitor shall be present during all ground disturbing activities related to this project as well as during any work taking place within 20 feet of the CRHR eligible Comfort Station. The qualified archaeologist and qualified Native American/cultural monitor will attend all pre-construction meetings to consult with the grading and excavation contractors concerning excavation schedules, archaeological field techniques, and safety issues. In the event that potential cultural resources are discovered during ground-disturbing activities, the qualified archaeologist on site will notify the Associate State Archaeologist from State Parks and City of Carlsbad immediately and all work shall stop and/or be diverted in that area and within 30 feet of the find until the significance of the resource can be assessed, and appropriate treatment measures developed and implemented, if necessary. The Associate State Archaeologist from State Parks, an appropriate representative from the City of Carlsbad, and a tribal representative shall assess the significance of the cultural resource. The archaeologist and the tribal representative shall

make recommendations to the Lead Agency on the measures that will be implemented to protect the cultural resource(s), including but not limited to, avoidance in place, excavation, relocation, and further evaluation of the discoveries in accordance with California Environmental Quality Act (CEQA). If the resource is determined to be culturally significant, the City of Carlsbad shall engage with the consulting Tribes to confer regarding the appropriate treatment for the cultural resource. Pursuant to Calif. Pub. Res. Code § 21083.2(b), avoidance is the preferred method of preservation.

Artifacts/cultural materials encountered during project work should be left *in situ*, if possible. If project work or other planned future disturbance of that specific location requires the cultural material to be relocated, it should be reburied as close to the original location as possible, on State Parks property, in a location that will be free from future disturbance. If any such artifacts are collected, they shall be prepared to a point of identification and permanent preservation. Any/all collected items that have thoroughly been evaluated by a Luiseño Native American monitor shall be repatriated to the consulting Tribes for reburial on project site. No photographs shall be taken, and no invasive or non-invasive testing shall be conducted unless prior written permission has been given by all the consulting Tribes. Materials of non-Native American origin and as agreed upon by the tribal monitor may be collected for curation. Curation must include obtaining an accession number and cataloging collections in the Excel format approved for use with TMS. A monitoring report containing photograph documentation and monitoring forms as well as an appended catalog of artifacts (if any are collected) shall be prepared and shall signify completion of the mitigation. The archaeologist shall retain the option to reduce monitoring, with concurrence from the State and City, if it is determined that the sediments were previously disturbed or previously monitored.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant with Mitigation Incorporated: No human remains, or cemeteries are known to exist within or near the Project area. Even though there are no recorded burial grounds within the Project area and the potential to encounter cultural resources from the Project's minor excavation activities would be low, there is always the potential that subsurface construction activities associated with the proposed Project could potentially damage or destroy previously undiscovered human remains. Accordingly, this would be considered a potentially significant impact. In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5; Health and Safety Code Section 7050.5; Public Resource Code Section 5097.94 and Section 5097.98 must be followed. A qualified archaeological monitor and a qualified Native American/cultural monitor is recommended to be present during all ground disturbance related to this Project, as these specialist monitors are qualified to identify buried cultural materials. With the implementation of Mitigation Measure CR-3, potential impacts to human remains would be less than significant.

Mitigation Measures: Mitigation Measure CR-3 is required.

CR-3: If human remains are encountered during excavation activities, all work shall halt in the vicinity of the remains and the City of Carlsbad shall notify the County Coroner (*California Public Resource Code,* Section 5097.98). In addition to the County Coroner, State Parks Associate State Archaeologist/Tribal Liaison shall be notified. The County Coroner will determine whether the remains are of forensic interest. If the Coroner, with the aid of a qualified archaeologist and a qualified Native American/cultural monitor, determines that the remains are prehistoric, he/she will contact the Native American Heritage Commission (NAHC). The NAHC will be responsible for designating the most likely descendant (MLD), who will be responsible for the

ultimate disposition of the remains, as required by Section 7050.5 of the *California Health and Safety Code*. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. If feasible, the MLD's recommendation should be followed and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (*California Health and Safety Code,* Section 7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (*California Public Resource Code,* Section 5097.98).

VI. ENERGY **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

The following analysis is based on an Energy Calculation Memorandum prepared by Birdseye Planning Group in June 2020 and is presented in Appendix E. The Energy Analysis evaluated a larger construction project that included the proposed Project activities along with a proposed eastward expansion of the coastal bluff trail into Carlsbad Boulevard and proposed modifications to the center landscape median in Carlsbad Boulevard. Because the proposed Project involves less energy consumption construction activities compared to the former proposed project and would not result in greater consumption of energy, the analysis in Energy Calculation Memorandum is adequate to evaluate the proposed Project energy impacts.

PROJECT IMPACTS

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation?

Less than Significant Impact: Based on the scope and sequence of construction activities, daily emissions were conservatively estimated using the most intensive mix of equipment over the 180-day construction period extending from September 2021 to May 2022. The common method is to calculate fuel demand based on the six (6) phases of construction defined in CalEEMod 2016.3.2; demolition, site preparation, grading, building construction, paving, and painting (i.e., architectural coating). However, for the purpose of determining maximum daily air emissions and annual GHG emissions, a single phase was used and incorporated the most intensive use of heavy equipment likely to occur during the construction cycle. These data were used to conservatively estimate gasoline and diesel fuel demand during construction using the most equipment intensive operation as the basis for the calculations. As referenced in the Air Quality/Greenhouse Gas Study, the most intensive portion of the construction would require the following equipment:

- Excavator, 158 horsepower at 0.38 load factor;
- Crane, 231 horsepower at 0.29 load factor;
- Off-Highway Truck, 402 horsepower at 0.38 load factor;
- Fork-Lift, 89 horsepower, 0.2 load factor;
- Generator Set, 84 horsepower, 0.74 load factor;
- Tractor/Loader/Backhoe, 97 horsepower, 0.37 horsepower; and
- Welder, 46 horsepower, 0.45 load factor.

Because this equipment mix would not be required daily throughout the duration of the Project, calculations likely overestimate actual diesel fuel demand. During operation, emissions associated with maintenance trips are not expected to be greater than what occurs under existing conditions. While

negligible operating emissions were quantified in the Air Quality/Greenhouse Gas Report, fuel demand for operation/maintenance of the improvements were not quantified.

The following tables show estimated gasoline demand for construction workers and construction equipment. All fuel calculations are based on the total Carbon Dioxide Equivalent (CO_2e) value calculated for the building construction and vehicle miles traveled (VMT) using CalEEMod version 2016.3.2. Data are reported in annual metric tons of CO_2e. Metric tons are converted to kilogram CO_2e and then divided by a conversion factor used by the U.S. Environmental Protection Agency to estimate gallons of gasoline (8.87) and diesel fuel (10.18) consumed based on carbon emissions. Table 12, *Construction Worker Gasoline Demand*, shows the gasoline demand for construction workers for work occurring in 2021 and 2022. Table 13, *Construction Equipment Diesel Demand*, shows the diesel fuel demand for equipment operation in 2021 and 2022.

Table 12: Construction Worker Gasoline Demand

Year	CO_2E MT	Kg CO_2e	Gallons
2021			
Worker Fuel	14	14,000	1,578
2022			
Worker Fuel	16	16,000	1,803
Total			**3,381**
Source: Birdseye Planning Group, *Air Quality/Greenhouse Study*, June 2020.			

Table 13: Construction Equipment Diesel Demand

Year	CO_2E MT	Kg CO_2e	Gallons
2021			
Equipment Fuel	151	151,000	14,833
2022			
Equipment Fuel	181	181,000	17,779
Total			**32,612**
Source: Birdseye Planning Group, *Air Quality/Greenhouse Study*, June 2020.			

Petroleum-based fuel usage represents the highest amount of transportation energy potentially consumed during construction, which would be utilized by both off-road equipment operating on the Project site and on-road automobiles transporting workers to and from the Project site and on-road trucks transporting equipment and supplies to the Project site.

The off-road construction equipment fuel usage was calculated through use of the off-road equipment assumptions and fuel use assumptions, which found that the off-road equipment utilized during construction of the proposed Project would consume 35,000 gallons of fuel. The amount of fuel consumed in the state is approximately 19 billion gallons annually (15 billion-gasoline, four (4) billion-diesel, 2015). The total amount of fuel consumed by the Project would represent 0.0000018421 percent of the total amount consumed by the state annually. The amount construction-related fuel use would be nominal, when compared to current fuel usage rates.

Construction activities associated with the proposed Project would be required to adhere to all state and SCAQMD regulations for off-road equipment and on-road trucks, which provide minimum fuel efficiency standards. As such, construction activities for the proposed Project would not result in the wasteful, inefficient, and unnecessary consumption of energy resources. Impacts regarding transportation energy would be less than significant. Implementation of the Project would not result in the need to manufacture construction materials or create new building material facilities specifically to supply the proposed Project. It is difficult to measure the energy used in the production of construction materials such as asphalt, steel,

and concrete, it is reasonable to assume that the production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business. Additionally, the proposed Project would be constructed in accordance with all applicable City Building and Fire Codes. Therefore, the proposed Project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation. Potential Impacts associated if the Project would be wasteful, inefficient, or the unnecessary consumption of energy resources during Project construction or operation would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact: The City of Carlsbad Climate Action Plan (CAP), adopted in July 2020, includes goals, policies, and actions for Carlsbad to reduce GHG emissions and combat climate change. The CAP includes:

- An inventory of Carlsbad's citywide and local government GHG emissions.
- Forecasts of future citywide and local government GHG emissions.
- A comprehensive, City-wide strategy and actions to manage and reduce GHG emissions, with emission targets through 2035.
- Actions that demonstrate Carlsbad's commitment to achieve state GHG reduction targets by creating enforceable measures and monitoring and reporting processes to ensure targets are met. The timeframe for the Plan extends from the date of adoption through 2035.

The CAP also contains General Plan policies and actions that are intended to be implemented City wide to reduce GHG emissions. These are organized according to the following categories: Project-specific actions within each category are identified and the reduction in GHG emissions associated with these actions are provided.

- Bikeway System Improvements.
- Pedestrian Improvements and Increased Connectivity.
- Traffic Calming.
- Parking Facilities and Policies.
- Transportation Improvements.

Section 2.0 of the CAP provides an emissions inventory. The total community GHG emissions were 705,744 $MTCO_2e$ in 2011. The largest sector is transportation, at 39 percent, followed by commercial and industrial (32 percent), residential (25 percent), solid waste (three [3] percent) and wastewater (one [1] percent). Total Carlsbad GHG emissions from the 2005 inventory were 630,310 metric tons carbon dioxide equivalents ($MTCO_2e$) per year. The 2020 target under state guidance is a 15 percent reduction from 2005 emissions, which corresponds to a target of 535,763 $MTCO_2e$. The long range 2050 target is an 80 percent reduction from 2020 emissions target. The 2050 target for Carlsbad is city-wide emissions of 107,153 $MTCO_2e$. This is a substantial decrease in overall emissions, over 500,000 $MTCO_2e$ below baseline 2005 emissions levels. The horizon year for the current CAP is 2035. The CAP uses a linear trajectory in emissions reductions between 2020 and 2050 to determine the 2035, target. Using current projections, the baseline exceeds the 2020 reduction target by 15 percent, and the 2035 target by 49 percent. For the purpose of this discussion, projects that contribute to a reduction in GHG emissions are presumed consistent with the

CAP. The proposed Project involves pedestrian improvements and, therefore, would be consistent with City of Carlsbad CAP and potential impacts would be less than significant.

Section 5.0 of the CAP addresses implementation and monitoring measures, including how individual projects should be evaluated for CEQA consistency. As stated, the California Air Pollution Control Officers Association (CAPCOA) published various screening thresholds to guide lead agencies in determining which projects require GHG analysis and mitigation for significant impacts related to climate change. Utilizing this guidance, the City has determined that new development Projects emitting less than 900 $MTCO_2e$ annual GHG would not contribute considerably to cumulative climate change impacts and, therefore, do not need to demonstrate consistency with the CAP. Emissions associated with the proposed Project reflect the construction phase and the annual emissions from construction are estimated to be approximately 5.91 $MTCO_2e$. This is less than the 900 $MTCO_2e$ annual threshold and the Project would incorporate bicycle and pedestrian improvements that are consistent with the CAP initiatives referenced above. As such, potential impacts associated if the Project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency would be less than significant.

Mitigation Measures: No mitigation measures are required.

VII. GEOLOGY AND SOILS **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d) Be located on expansive soils, as defined in Section 1803.5.3 of the California Building Code (2016), creating substantial direct or indirect risks to life or property?	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

The following analysis is based on the Geotechnical Basis of Design prepared by Terra Costa Consulting Group, July 3, 2018. The report is presented in Appendix F. The Geotechnical Basis of Design report provides preliminary geotechnical recommendations for the design and rehabilitation of the deteriorating public access improvements in the Project area based on a robust review of geologic maps, previous geotechnical reports, field mapping and geotechnical evaluations. The geotechnical recommendations examine the following components:

- Foundation Design for Sidewalk Support/Retaining Walls
- Slab Design for On-Grade Sidewalk Slabs
- Retaining Walls
- Structural Fill Placement

PROJECT IMPACTS

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less than Significant Impact: The Alquist-Priolo Earthquake Fault Zoning Act regulates development near active faults in order to mitigate the hazards of surface fault-rupture. An active fault is one that has experienced earthquake activity in the past 11,000 years. Under the Act, the State Geologist is required to delineate special study zones along known active faults. The Act also requires that prior to approval of a Project, a geologic study be prepared to define and delineate any hazards from surface rupture and that a 50' building setback be established from any known trace hazard. According to the California Geological Survey and the City of Carlsbad General Plan Public Safety Element Figure 6-5 Earthquake Faults, there are no Alquist-Priolo Earthquake Faults within the Project area. The Newport-Inglewood Rose Canyon Fault located approximately four (4) miles offshore of the City's coastline would be the closest active fault. The likelihood that the fault would cause an onsite ground rupture within the Project area would be low. Therefore, potential impacts associated with ground rupture impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

2) Strong seismic ground shaking?

Less than Significant Impact: The nearest fault to the Project would be the Newport-Inglewood-Rose Canyon Fault, which runs offshore of the western edge of the city and is considered active. Other faults in the region include the Coronado Bank, La Nacion, Elsinore, Agua Caliente, and San Jacinto. In the event a moderate to large earthquake occurs along one of these faults, the Project area could have the potential for periodic shaking, possibly of considerable intensity. The risk for seismic shaking impacts within the Project area would be like other areas in the southern California region. The proposed Project does not involve the construction of any habitat structures that would increase the risk of injury or loss of property from seismic shaking impacts. The proposed Project improvements would be designed to meet the most recent seismic standards of the California Building Code to accommodate seismic loading requirements and withstand anticipated ground shaking caused by an earthquake within an acceptable level of risk. With compliance of the California Building Code Seismic Safety Standards, potential seismic shaking impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

3) Seismic-related ground failure, including liquefaction?

No Impact: Liquefaction is the phenomenon in which loosely deposited soils located below the water table undergo rapid loss of shear strength due to excess pore pressure generation when subject to strong earthquake induced ground shaking. Liquefaction is known generally to occur in saturated or near-saturated cohesion-less soils at depths shallower than 50' below the ground surface. The City of Carlsbad General Plan Public Safety Element, Figure 6-5 Liquefaction Hazards, identifies the Project area is not within a Liquefaction Hazard Zone. Therefore, no liquefaction impacts are anticipated to occur.

Mitigation Measures: No mitigation measures are required.

4) Landslides?

No Impact: The areas that are most susceptible to earthquake-induced landslides are steep slopes in poorly cemented or highly fractured rocks, areas underlain by loose, weak soils, and areas on or adjacent to existing landslide deposits. According to the California Department of Conservation, California Geological Survey, the Project area is not within a vicinity of any existing or historic landslide deposits and would not be subject to landslide risks.

Mitigation Measures: No mitigation measures are required.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact: Implementation of the proposed Project would involve some earth disturbing activities that would expose soils. The exposed soils could potentially be subject to erosion impacts caused by water and wind. Additionally, construction equipment and vehicles could indirectly transport sediment to offsite locations.

According to the State Water Resources Control Board (SWRCB) Order 2009-009-DWQ, construction projects that disturb one (1) or more acres of soil would be required to obtain coverage under a General Construction Permit by the SWRCB. The earthwork activities for the proposed Project would disturb more than one (1) acre and would be required to obtain a General Construction Permit. The General Construction Permit would require the filing of a Notice of Intent with the SWRCB and the preparation of a Stormwater Pollution Prevention Plan (SWPPP). As part of the SWPPP, erosion control BMPs would be identified and implemented. With compliance of the General Construction Permit and conditions and implementation of SWPPP, potential erosion impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant with Mitigation Incorporated: The proposed Project would involve expansion of the coastal bluff sidewalk and replacement of existing stairways that extend along the coastal bluff to the beach. The existing facing bluff is approximately 30' in height with an overall gradient varying from about 1.5:1 to 2.5:1 (horizontal to vertical). Locally, in the erosion rills and gullies, slope inclinations are generally steeper than 1:1 and in some cases are near vertical. Soils comprising the slope are generally very friable sands with low to insignificant amounts of cohesion. As such, these soils are susceptible to surface disturbance, which will eliminate any inherent cohesion, and result in accelerated mass wasting and erosion. In addition, the slope soils are susceptible to water erosion, as evidenced by the erosion rills and gullies that exist across the slope. The majority of the coastal bluff site is underlain by "old paralic deposits," which are commonly called "terrace deposits." Along the bluff face, these terrace deposits appear to generally consist of poorly indurated to locally well indurated, slightly silty, fine- to medium-grained sandstone. The majority of terrace deposits at the site are friable and easily eroded. In places, upper portions of the terrace deposits are cemented and eroded into near-vertical slopes with rills. Relatively minor amounts of fill soils exist at the subject property. Deeper fills associated with the backfill of storm drain trenches exist at the western termini of Walnut, Sycamore, and Maple Avenues. The onsite geologic units (excluding fill) are generally known to exhibit adequate bearing characteristics for typical light construction (i.e., walkways and restrooms, as exist at the site).

The Geotechnical Basis Report prepared by Terra Cota Consultants identifies recommendations to enhance stability of the bluff, which include surface water control, vegetation and irrigation maintenance, rodent control, and installation of retaining structures. Additionally, the Geotechnical Basis Report provides design and construction of new foundation elements to include foundation design for sidewalks and retaining walls, slab design for on-grade sidewalk slabs, retaining walls, and structural fill placement. Based on final engineering, these recommendations would be considered and, where feasible, would be implemented to ensure the stability of the proposed Project. With implementation of Mitigation Measure GEO-1, potential geologic constraints affecting the stability of the Project would be less than significant.

Mitigation Measures:

GEO-1: The final design of the Project shall consider and, where feasible, implement the coast bluff stability enhancement recommendations and the design and construction recommendations provided in the Geotechnical Basis of Design prepared by Terra Cota Consultants, and presented in Appendix F. Geotechnical recommendations focus on design and structural considerations as well as materials and fill type to be used during construction. The Geotechnical recommendations are listed below:

- Foundation Design for Sidewalk Support/Retaining Walls
- Slab Design for On-Grade Sidewalk Slabs
- Retaining Walls
- Structural Fill Placement

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than Significant with Mitigation Incorporated: Expansive soils are characteristically clay and are prone to large volume changes (swelling and shrinking) that are directly related to changes in water content. Based on the Geotechnical Basis Report prepared by Terra Cota Consultants, the onsite soils are generally anticipated to have a very low to low expansion potential, though localized areas of soils with a high expansion potential may exist at the site. With implementation of Mitigation Measure GEO-1, potential expansive soil impacts would avoid substantial direct or indirect risks to life or property and potential impacts would be less than significant.

Mitigation Measures: Mitigation Measure GEO-1 is required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

No Impact: The proposed Project does not propose septic tanks or alternative wastewater disposal systems.

Mitigation Measures: No mitigation measures are required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant with Mitigation Incorporated: The San Diego Natural History Museum (SDNHM) conducted a review of the museum's geologic and paleontological records for the Project site and vicinity on March 6, 2018. The Museum's description of the rock units that underlie the site follows:

- Beach Deposits: Late Holocene marine beach deposits occur along the western side of the Project site. These deposits consist of unconsolidated fine- and medium-grained sand and are still actively

accumulating along the shoreline. The SDNHM does not have any fossil localities from Holocene beach deposits within a one (1) mile radius of the Project site. Holocene surficial deposits are generally less than 11,000 years old and are assigned a low paleontological sensitivity based on their young geologic age and the lack of known fossil localities. However, these deposits may overlie paleontologically sensitive geologic units (Bay Point Formation and Sespe/Vaqueros Formation, or Santiago Formation, see below) where the contact is relatively shallow.

- Bay Point Formation: The nearshore marine deposits of the Pleistocene-age (approximately 750,000 to 10,000 years old) Bay Point Formation underlie the northern and southern ends of the Project site. More specifically, these deposits rest on the Bird Rock and St. Louis terraces (approximately 45,000 years old), and are broadly equivalent to units 7 and 8, old paralic deposits, of Kennedy and Tan (2007). The SDNHM does not have any fossil collection localities from the Bay Point Formation within a one (1) mile radius of the Project site. Elsewhere in western San Diego County, the Bay Point Formation has produced diverse assemblages of marine invertebrate fossils, as well as remains of fossil vertebrates. The Bay Point Formation has been assigned a high paleontological sensitivity for the diverse and well-preserved fossils of marine invertebrates and marine vertebrates that have been recovered from these deposits.
- Sespe/Vaqueros Formation or Santiago Formation: Late Oligocene-age (approximately 28 to 23 million years old) deposits have been observed along the beach cliffs and road outcrops in the City of Carlsbad, in areas mapped as the Eocene-age (approximately 49 to 40 million years old) Santiago Formation. The age of these deposits has been determined by the presence of Sespia californica (indicative of the early Arikareean North American Land Mammal Age), such as those recovered from SDNHM locality 5292, located less than one (1) mile south of the Project site along the beach. These deposits have been previously mapped as the Eocene-age Santiago Formation but are now recorded in the SDNMH paleontology database as the undifferentiated Sespe/Vaqueros Formation. Until a field survey can be conducted on site, it is not possible at this time to determine if units mapped as Santiago Formation are middle Eocene or late Oligocene in age. However, both the Sespe/Vaqueros Formation and Santiago Formation have produced significant terrestrial fossil vertebrate localities in northern San Diego County and Orange County, and these units are considered to have a high paleontological sensitivity (Deméré and Walsh, 1993; Eisentraut and Copper, 2002).

The SDNHM records search revealed that one (1) fossil locality lies within one (1) mile of the Project site (in the Sespe/Vaqueros Formation); however, none are recorded on the Project site. Because of the high paleontological sensitivity of the Bay Point, Sespe/Vaqueros, and Santiago Formations and the presence of a nearby fossil locality, there would be some potential to encounter paleontological resources during excavations. The Project would involve minor excavation activities grading into the slope at the base of the stairs for a new small retaining wall at Maple Avenue and Hemlock Avenue stairways. There could be the potential that excavations could encounter Bay Point, Sespe/Vaqueros, and Santiago Formations. SDNHM recommends the implementation of a paleontological resource mitigation program during any proposed excavations that extend into these rock units.

To avoid potential impacts to unknown paleontological resources, a qualified paleontologist should observe earth disturbing activities occurring at Maple Avenue and Hemlock Avenue stairways and in the event paleontological resources are encountered, all working in the immediate area of the finding will halt until the significance of the finding is determined. With the implementation of Mitigation Measure GEO-2, potential impacts to paleontological resources would be less than significant.

Mitigation Measures:

GEO-2: A qualified paleontologist should observe earth disturbing activities occurring at Maple Avenue and Hemlock Avenue stairways. The paleontologist should attend the pre-construction meeting to consult with the grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues. In the event that potential paleontological resources are discovered during ground-disturbing activities, work shall stop in that area and within 30' of the find until a qualified paleontologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Specimens shall be curated into a professional, accredited museum repository with permanent retrievable storage such as the SDNHM. A report of findings, with an appended itemized inventory of specimens, shall be prepared and shall signify completion of the mitigation. The paleontologist shall retain the option to reduce monitoring, with concurrence from the City, if it is determined that the sediments were previously disturbed. Monitoring may also be reduced with concurrence from the City if potentially fossiliferous units are not present or, if present, are determined to have a low potential to contain fossil resources.

VIII. GREENHOUSE GAS EMISSIONS **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purposes of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

The following analysis is based on an *Air Quality/Greenhouse Study* prepared by Birdseye Planning Group in June 2020 and is presented in Appendix B. The Air Quality Analysis/Greenhouse Study evaluated a larger construction project that included the proposed Project activities along with a proposed eastward expansion of the coastal bluff trail into Carlsbad Boulevard and proposed modifications to the center landscape median in Carlsbad Boulevard. Because the proposed Project involves less construction activities compared to the former proposed project and would not result in greater GHG emission impacts, the analysis Air Quality/Greenhouse Study is adequate to evaluate the proposed Project impacts.

BACKGROUND ANALYSIS

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone, and certain hydrofluorocarbons (HFCs). These gases, known as GHGs, allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. GHGs are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and contribute to what is termed "global warming," the trend of warming of the Earth's climate from anthropogenic activities. Global climate change impacts are by nature cumulative; direct impacts cannot be evaluated because the impacts themselves are global rather than localized impacts.

California Health and Safety Code Section 38505(g) defines GHGs to include the following compounds: CO_2, CH_4, N_2O, ozone, chlorofluorocarbons (CFCs), HFCs, perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). As individual GHGs have varying heat-trapping properties and atmospheric lifetimes, GHG emissions are converted to carbon dioxide equivalent (CO_2e) units for comparison. The CO_2e is a consistent methodology for comparing GHG emissions because it normalizes various GHG emissions to a consistent measure. The most common GHGs related to the Project are those primarily related to energy usage: CO_2, CH_4, and N_2O.

In July 2020, the City of Carlsbad adopted an update to the 2015 CAP to outline actions that the City will undertake to achieve its proportional share of State GHG emissions reductions. The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP.

In March 2019, the City Council adopted several ordinances to implement the 2015 CAP aimed at reducing GHG in new construction and alterations to existing buildings. The 2020 CAP update and more recent adoption of the 2022 edition of the California Building Standards Code (effective January 1, 2023) do not

change the validity or effectiveness of the CAP implementing ordinances. Projects requiring building permits will be subject to these ordinances, which address the following:

- Energy efficiency (Ord. No. CS-437);
- Solar photovoltaic systems (Ord. No. CS-437);
- Water heating systems using renewable energy (Ord. Nos. CS-437 and CS-348);
- Electric vehicle charging (Ord. No. CS-349); and
- Transportation demand management (Ord. No. CS-350).

The CAP established a screening threshold of 900 metric tons carbon dioxide equivalent ($MTCO_2e$) per year for new development projects in order to determine if a project would need to demonstrate consistency with the CAP through the Consistency Checklist and/or a self-developed GHG emissions reduction program (Self-developed Program). Projects that are projected to emit fewer than 900 $MTCO_2e$ annually would not make a considerable contribution to the cumulative impact of climate change and, therefore, do not need to demonstrate consistency with the CAP. Regardless of this screening threshold, all projects requiring building permits are subject to the above-referenced CAP ordinances. Such projects are, therefore, required to show compliance with the ordinances through submittal of a completed Consistency Checklist and shown on site plans and building plans.

For a proposed project that requests a land use change through a General Plan amendment, master plan/ specific plan amendment, and/or zone change, a project-specific GHG emissions analysis as described in Section 4 of the P-31 GHG Guidance must be submitted as part of the discretionary permit application (City of Carlsbad, 2020a). If the study reveals the project to be more GHG-intensive as compared to that assumed for the existing land use designation, and the Project's emissions would be at or above the screening threshold of 900 $MTCO_2e$, the project applicant would need to demonstrate compliance with the CAP ordinances through completion of a CAP Consistency Checklist and identify additional mitigation measures to offset the increase in emissions resulting from the land use change.

The City's CAP contains a baseline inventory of GHG emissions for 2005, an updated baseline inventory for 2011, a projection of emissions to 2035 (corresponding to the General Plan horizon year), a calculation of the City's targets based on a reduction from the 2005 baseline, and emission reductions with implementation of the CAP.

The City emitted a total of 630,310 $MTCO_2e$ in 2005 and 705,744 $MTCO_2e$ in 2011. Accounting for future population and economic growth, the City projects GHG emissions of 1,007,473 $MTCO_2e$ in 2035. The CAP set a target to achieve a 15 percent reduction from the 2005 baseline by 2020 based on the recommendation by the CARB. The CAP also includes a reduction target to reduce emissions below the 2005 baseline by 49 percent by 2035. Therefore, the City must implement strategies that reduce emissions to 535,763 $MTCO_2e$ in 2020 and 321,458 $MTCO_2e$ in 2035. By meeting the 2020 and 2035 targets, the City will meet the 2030 state goal identified in Senate Bill 32 and maintain a trajectory to meet its proportional share of the 2050 state target identified in Executive Order S-3-05.

PROJECT IMPACTS

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact: The proposed Project would generate GHG emissions during construction and operation. Construction activities generate GHG emissions though the combustion of gasoline and diesel fuels in the engines of on- and off-road construction equipment and commuting vehicles used by

construction workers. Every phase of the construction process, including demolition, grading, paving, and building emits GHGs.

Construction emissions are generated during each phase of construction based on the heaviest construction equipment required and other factors determined as needed to complete construction by the target completion year. As such, each day will have varying quantities of GHG emissions. As recommended by the SCAQMD and the Association of Environmental Professionals (2010), total construction GHG emissions are amortized over 30 years and added to operational GHG emissions (SCAQMD 2009). The Project will include demolition of existing concrete, access stairs, railings, and other components. Limited grading would be required to create new areas for concrete placement. All spoils are assumed to be balanced onsite requiring no import/export. The Project construction is modeled assuming construction would begin in September 2023 and be completed in May 2025 for a total of 180 construction days (36 weeks) (e.g., assumes 20 days per month for nine (9) months). CalEEMod defaults for construction phasing equipment, worker trips, and vendor trips were used. Based on CalEEMod results, construction activity for the Project would generate an estimated 362 metric tons of carbon dioxide equivalent (CO_2E) as shown in Table 14, *Estimated Construction Related Greenhouse Gas Emissions*. Amortized over a 30-year period (the assumed life of the Project), construction of the proposed Project would generate 12 metric tons of CO_2E per year. Potential construction related greenhouse gas emission impacts would be less than significant.

Table 14: Estimated Construction Related Greenhouse Gas Emissions

Year	Annual Emissions (metric tons CO_2E)
2021	165
2022	197
Total	**362**
Amortized over 30 years	**12 metric tons per year**
Source: Birdseye Planning Group, *Air Quality/Greenhouse Study*, June 2020.	

OPERATIONAL INDIRECT AND STATIONARY DIRECT EMISSIONS

Long-term emissions relate to energy use, solid waste, water use, and transportation. Each source is discussed below and includes the emissions associated with the anticipated emissions that would result from the proposed Project.

Energy Use

GHGs are emitted where electricity and natural gas are used as energy sources. GHGs are generated during the generation of electricity from fossil fuels offsite in power plants. These emissions are considered indirect but are calculated in association with a building's operation. Emissions were only calculated for the direct combustion of natural gas. Building energy use is typically divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as plug-in appliances. In California, Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. The proposed Project would not create demand for natural gas or electricity. Thus, as shown in Table 15, *Estimated Construction Related Greenhouse Gas Emissions*, the overall net increase in energy use (i.e., natural gas and electricity) at the Project site would result in zero metric tons of CO_2E per year.

Table 15: Estimated Construction Related Greenhouse Gas Emissions

Year	Annual Emissions (metric tons CO_2E)
Proposed Project	
Electricity	0 metric tons
Natural Gas	0 metric tons
Total	**0 metric tons**
Source: Birdseye Planning Group, *Air Quality/Greenhouse Study*, June 2020.	

Water Use Emissions

The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both CH_4 and N_2O. GHG emissions associated with supplying and treating the water and wastewater are calculated for this Project based on outdoor water use consumption data for each land use subtype. Based on information in the Pacific Institute's *Waste Not, Want Not: The Potential for Urban Water Conservation in California* 2003 (Cushing et al., 2003), a percentage of total water consumption was dedicated to landscape irrigation. This percentage was used as an estimate of water demand needed to clean and maintain the improvements. Table 16, *Estimated Annual Solid Waste and Water Use Greenhouse Gas Emissions*, shows conservatively water demand would be estimated to generate approximately 3.4 MT CO_2E annually.

Table 16: Estimated Annual Solid Waste and Water Use Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Water	3.40 metric tons
Solid Waste	0.01 metric tons
Total Water and Solid Waste	**3.41 metric tons**
Source: Birdseye Planning Group, *Air Quality/Greenhouse Study*, June 2020.	

Solid Waste Emissions

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. To calculate the GHG emissions generated by solid waste disposal, the total volume of solid waste was calculated using waste disposal rates identified by California Department of Resources Recycling and Recovery. The methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change method, using the degradable organic content of waste. For solid waste generated onsite, it was assumed that the Project would be involved in a municipal recycling program that would achieve a 75 percent diversion rate, as required by AB 341. Table 18 shows that the Project would result in approximately 0.01 metric tons of CO_2E per year associated with solid waste disposed within landfills.

Transportation Emissions

Mobile source GHG emissions were estimated assuming two (2) daily trips for inspection and maintenance purposes. Table 17, *Estimated Annual Mobile Source Emissions of Greenhouse Gases,* shows the estimated mobile emissions of GHGs for the Project based on the estimated annual VMT of 3.050. As shown in Table 17, the Project would generate approximately 1.3 metric tons of CO_2E associated with new vehicle trips.

Table 17: Estimated Annual Mobile Source Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO_2E)
Proposed Project	
Mobile Emissions (CO_2 & CH_4)	1.20 metric tons
Mobile Emissions (N_2O)	0.06 metric tons
Total	1.26 metric tons
Source: Birdseye Planning Group, *Air Quality/Greenhouse Study*, June 2020.	

Combined Construction, Stationary and Mobile Source Emissions

Table 18, *Combined Annual Greenhouse Gas Emissions*, combines the net new construction, operational, and mobile GHG emissions associated with the proposed Project. As discussed above, temporary emissions associated with construction activity (approximately 36 metric tons CO_2E) are amortized over 30 years (the anticipated life of the Project). The combined annual emissions are conservatively estimated to be approximately 5.91 metric tons per year in CO_2E. This total represents less than 0.001 percent of California's total 2015 emissions of 440.4 million metric tons. The majority of the Project's GHG emissions are associated with the construction phase. This would be less than the 900 MT annual significance threshold.

Table 18: Combined Annual Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Construction	12.00 metric tons
Operational	
Energy	0.00 metric tons
Solid Waste	0.01 metric tons
Water	3.40 metric tons
Mobile	1.30 metric tons
Total	16.71 metric tons
Source: Birdseye Planning Group, *Air Quality/Greenhouse Study*, June 2020.	

GHG CUMULATIVE SIGNIFICANCE

The proposed Project would be under the annual threshold of 900 MT CO_2E. Further, the Project would incorporate pedestrian and bicycle improvements which are consistent with the General Plan and CAP initiatives referenced above. Thus, the beach access improvements would not have a significant or adverse effect on global climate change. Impacts would be less than significant (thresholds a and b).

Mitigation Measures: No mitigation measures are required.

b) Conflict with an applicable plan, policy or regulation adopted for the purposes of reducing the emissions of greenhouse gases?

Less than Significant Impact: As stated above, the City of Carlsbad adopted a CAP in 2020 that outlines actions that the City will undertake to achieve its proportional share of State GHG emissions reductions. The CAP demonstrates that, with implementation of applicable General Plan goals and policies, coupled with State and federal actions, and execution of CAP measures and actions, the City would reduce GHG emissions in alignment with State goals established by AB 32 and Senate Bill 32, and maintain a trajectory to meet its proportional share of the 2050 state target identified in Executive Order S-3-05. As described in the response above, the proposed Project would be under the annual threshold 900 MT CO_2E. Further, the Project would incorporate pedestrian and bicycle improvements which are consistent with the General Plan and CAP. As such, the proposed Project would not conflict with any applicable plan, policy or regulation adopted for the purposes of reducing the emissions of greenhouse gases.

Mitigation Measures: No mitigation measures are required.

IX. HAZARDS AND HAZARDOUS MATERIALS **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or environment?	☐	☐	☒	☐
e) For a Project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

The following analysis incorporates hazardous site information obtained from the San Diego RWQCB GeoTracker Search Database accessed in December 2019.

PROJECT IMPACTS

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact: Title 22 of the CCR, Division 4.5, Chapter 11, Article 3 classifies hazardous materials into the following four (4) categories based on their properties: toxic (causes human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), and reactive (causes explosions or generates toxic gases). Hazardous materials have been and are commonly used in commercial, agricultural, and industrial applications as well as in residential areas to a limited extent. Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. The health impacts of hazardous materials exposure are based on the frequency of exposure, the exposure pathway, and individual susceptibility.

There would be the potential that hazardous materials could be transported and handled within the Project area. The transportation of hazardous materials through the City would be required to comply with state and federal laws and regulations involving the transportation of hazardous materials. Additionally, construction operations associated with the proposed Project would involve the handling of incidental

amounts of hazardous materials, such as fuels, oils, and solvents. The construction and operation of the proposed Project would be required to comply with local, state, and federal laws and regulations regarding the handling and storage of hazardous materials. Compliance with local, state, and federal laws and regulations regarding the handling and storage of hazardous material would reduce potential hazardous material impacts to the public to a less than significant level.

Mitigation Measures: No mitigation measures are required.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact: The construction operations associated with the proposed Project would involve the handling of incidental amounts of hazardous substances, such as fuels, oil, and solvents. The level of risk associated with the accidental release of hazardous substances would not be considered significant due to the small volume and low concentration of hazardous materials that would be utilized during construction and identify standard construction controls and safety procedures that would avoid or minimize the potential for accidental release of hazardous substances into the environment. Construction safety measures including the use of silt fences and temporary construction fencing would be used during construction and demolition activities to prevent debris from entering the beach or public areas. The most relevant measures would pertain to Material Delivery and Storage; Material Use; and Spill Prevention and Control. These measures would outline the required improvements and procedures for preventing impacts of hazardous materials to workers and the environment during construction. With compliance with local, state and federal hazardous material laws and regulations and implementation of Material Delivery and Storage; Material Use; and Spill Prevention and Control BMPs, potential hazardous impacts involving the accidental release of hazardous materials into the environment would be less than significant.

Mitigation Measures: No mitigation measures are required.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact: The closest school site to the Project would be Jefferson Elementary School located approximately 0.35 miles to the east of the proposed Project area. As indicated previously, the construction and operation of the proposed Project would not emit hazardous emissions or handle hazardous materials where they would pose a threat to public safety. The fact that the Project area is located more than 0.25 miles to a school site and the proposed Project would be required to comply with local, state, and federal regulations to protect inadvertent release of hazardous materials, the potential impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than Significant Impact: A database search of the SWRCB GeoTracker Database was conducted to determine the presence of any hazardous waste sites within the vicinity of the Project area that could adversely impact the proposed Project. As shown in Figure 16, *Hazardous Waste Sites Geotracker Radius Search*, there are no hazardous cleanup sites within the proposed Project footprint. Additionally, there are no Department of Toxic Substances Control (DTSC) Cleanup sites or Hazardous Waste Sites in the nearby area. There are two (2) Permitted Underground Storage Tank (UST) sites at the Carlsbad by the Sea Retirement Community approximately 900' northwest of the Project site and two (2) completed-closed

Leaking Underground Storage Tanks (LUST) Cleanup Site approximately 1,250' northwest of the Project site. Additionally, there are two (2) completed-closed cleanup Project sites in the vicinity of the proposed Project located at the Oceanside Glasstile Co. and Acacia Apartments, approximately 1,500' northwest and 1,200' north of the Project site, respectively. All cleanup sites and permitted facilities listed above would pose no hazardous risk for the proposed Project. Based on the fact that there are no known hazardous sites or ongoing clean-up activities occurring within the Project area that would pose a hazardous risk, the construction and operation of the proposed Project would not create significant hazards to the public or environment.

Mitigation Measures: No mitigation measures are required.

e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two (2) miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

Less than Significant Impact: The closest airport to the Project area would be the McClellan-Palomar Airport, located approximately 3.5 miles to the southeast. According to City of Carlsbad General Plan Public Safety Element, Figure 6-7, McCellan-Palomar Airport Influence Area/Safety Area, the Project area is not within an airport influence area and would not be subject to safety hazards or excessive overhead aircraft noise. Therefore, potential safety impacts associated with McClellan-Palomar Airport would be less than significant.

Mitigation Measures: No mitigation measures are required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact: The City of Carlsbad Fire Department's Emergency Preparedness Division supports the emergency organization by further defining the scope of the City's Emergency Management Program and large-scale incident response activities. Carlsbad is a participant in the Unified San Diego County Emergency Services Organization (USDCESO). The USDCESO Operational Area Emergency Plan contains evacuation routes resulting from a variety of emergencies. Local jurisdictions would work with law enforcement agencies to identify and establish transportation points. Transportation points would function to collect and transport people without transportation resources to evacuation points. Evacuation routes would be determined based on the location and extent of the incident and would include as many pre-designated transportation routes as possible. Important roadway characteristics and factors that should be considered when selecting an evacuation route include:

- Shortest route to the designated destination areas;
- Maximum capacity;
- Ability to increase capacity and traffic flow using traffic control strategies;
- Maximum number of lanes that provide continuous flow through the evacuation area;
- Availability of infrastructure to disseminate real-time conditions and messages to evacuees enroute, such as changeable message signs; and
- Minimal number of potentially hazardous points and bottlenecks, such as bridges, tunnels, lane reductions.

The long-term operation of the proposed Project would not include any features that would impair access to evacuation routes identified in the City, or otherwise conflict with an emergency response plan or emergency evacuation plan. The construction activities for the proposed Project would not involve any

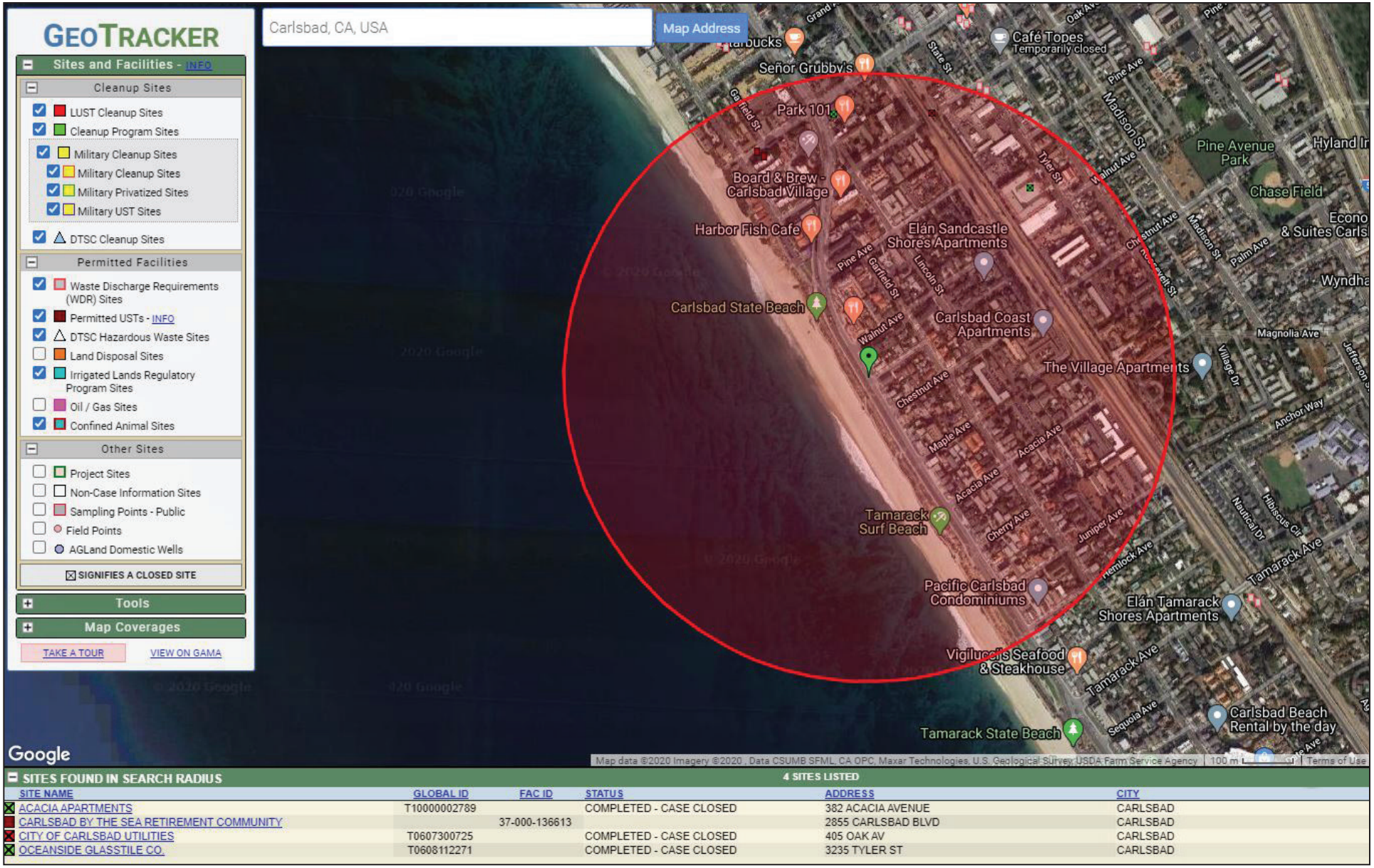
activities that would physically impair or interfere with emergency response plans for the Project area. During construction, there could be the potential for temporary lane closures. However, the temporary lane closures would be for a short period of time and would be implemented in accordance with recommendations provided in the California Temporary Traffic Control Handbook to ensure that emergency access would be maintained all times. Potential impacts associated with conflicts to emergency response plans would be less than significant.

Mitigation Measures: No mitigation measures are required.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact: According to the California Department of Forestry and Fire Protection, the Project area is not within a Wildland Fire Hazard Area. Therefore, implementation of the proposed Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. Therefore, no indirect fire hazard impacts are anticipated to occur.

Mitigation Measures: No mitigation measures are required.



SITES FOUND IN SEARCH RADIUS — 4 SITES LISTED

SITE NAME	GLOBAL ID	FAC ID	STATUS	ADDRESS	CITY
ACACIA APARTMENTS	T10000002789		COMPLETED - CASE CLOSED	382 ACACIA AVENUE	CARLSBAD
CARLSBAD BY THE SEA RETIREMENT COMMUNITY		37-000-136613		2855 CARLSBAD BLVD	CARLSBAD
CITY OF CARLSBAD UTILITIES	T0607300725		COMPLETED - CASE CLOSED	405 OAK AV	CARLSBAD
OCEANSIDE GLASSTILE CO.	T0608112271		COMPLETED - CASE CLOSED	3235 TYLER ST	CARLSBAD

Source: State of California, State Water Resources Control Board GeoTracker; July 2020.

Hazardous Waste Sites Geotracker Radius Search

Figure 16

X. HYDROLOGY AND WATER QUALITY **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with ground water recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner, which would:				
i. Result in substantial erosion or siltation on- or offsite;	☐	☐	☒	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite	☐	☐	☒	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

EXISTING SETTING

The Project area is included within the Carlsbad Watershed Management Area (WMA) and is comprised of six (6) distinct hydrologic areas covering a land area of 211 square miles. The Carlsbad WMA extends from the headwaters above Lake Wohlford in the east to the Pacific Ocean in the west, and borders San Luis Rey and San Dieguito Watersheds to the north and south. There are numerous important surface hydrologic features within the Carlsbad WMA including four (4) unique coastal lagoons, three (3) major creeks, and two (2) large water storage reservoirs. The downstream receiving water body that would have the potential to be affected by the proposed Project would be the Agua Hedionda Lagoon and the Pacific Ocean.

Onsite Drainage

The onsite drainage for the Project area can be divided into three (3) primary drainage areas: 1) the upper sidewalk, parkway, and roadway area (Upper Area); 2) the Tamarack Avenue Area (Tamarack Area); and 3) the beach access stairways (Lower Area). Runoff from the entire site is characterized by a combination of sheet, shallow concentrated, and subgrade open channel flow.

UPPER AREA

Between Pine Avenue and just north of Juniper Avenue, the upper sidewalk area is adjacent to the Carlsbad Boulevard roadway. From just north of Juniper Avenue to Tamarack Avenue, the upper sidewalk is separated from the roadway by a vegetated parkway. Runoff from the entire Upper Area flows to a combination of catch basin and area inlets that ultimately convey flows to a mainline storm drain that runs beneath Carlsbad Boulevard. For the entirety of the Project area, roadway runoff from the Upper Area flows to the gutter along the west side of the roadway. Gutter flows between Pine Avenue and approximately just south of Acacia Avenue are conveyed to two (2) curb inlet catch basins, one (1) located between Sycamore Avenue and Chestnut Avenue and the other just south of Maple Avenue. Gutter flows between Cherry Avenue and just north of Tamarack Avenue are conveyed to one (1) of three (3) grated drop inlet catch basins located between Cherry Avenue and just south of Hemlock Avenue. The northernmost inlet is located on the west side of the upper sidewalk at Cherry Avenue. A curb cut at this location allows flows to discharge across the upper sidewalk and into the inlet. The remaining two (2) catch basins are located adjacent to the curb in a section of street parking area along Carlsbad Boulevard. Catch basin inlets and area drains in the parkway from just north of Juniper Avenue to Tamarack Avenue capture flows from both the parkway and upper sidewalk area. All of the aforementioned inlets connect to the mainline storm drain system beneath Carlsbad Boulevard. This mainline storm drain outfalls into Agua Hedionda Lagoon beneath the Carlsbad Boulevard Lagoon overpass.

TAMARACK AREA

Stormwater runoff from the western portion of the roadway in the vicinity of Tamarack Avenue sheet flows to gutters along the Carlsbad Boulevard/Tamarack Avenue intersection. All of the flows are ultimately conveyed via curb and gutter flow down the western edge of the Tamarack Avenue beach access roadway to a riprap outfall on the beach.

LOWER AREA

Precipitation that falls on the Project site west of the Upper Area concrete sidewalk generates runoff that flows overland westerly down the coastal bluff and lower stairways toward the lower sidewalk. Flows are conveyed across the lower sidewalk and outfall on the beach via drainage openings at the base of the existing sea wall.

REGULATORY FRAMEWORK

San Diego Regional Water Quality Control Board Basin Plan

Within the Carlsbad Watershed, surface water bodies, coastal lagoons, coastal waters, and groundwater basins are regulated by the San Diego RWQCB Basin Plan (Basin Plan). The basin identifies and provides for the protection of beneficial uses, environmentally sensitive areas, and impaired water bodies.

Beneficial Uses

The Basin Plan designates beneficial uses for surface waters, coast streams and coastal waters in Carlsbad Watershed. The beneficial uses include quantitative and narrative criteria for a range of water quality constituents that are applicable to certain receiving water bodies in order to protect the beneficial uses. The beneficial uses in the Basin Plan are described in Table 19, *Beneficial Use Descriptions*, that are required to be protected. Additionally, the Basin Plan identifies impaired water bodies and environmental sensitive areas within the region that afford additional protection.

Table 19: Beneficial Use Descriptions

Abbreviation	Beneficial Use
GWR	Groundwater Recharge waters are used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to future extraction, maintaining water quality, or halting saltwater intrusion into freshwater aquifers.
REC 1	Water Contact Recreation waters are used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses may include, but are not limited to swimming, wading, water skiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs.
REC 2	Non-Contact Water Recreation waters are used for recreational activities involving proximity to water, but not normally body contact with water where ingestion of water would be reasonably possible. These uses may include, but are not limited to picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, and aesthetic enjoyment in-conjunction with the above activities.
WARM	Warm waters support warm water ecosystems that may include but are not limited to preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
LWARM	Limited Warm Freshwater Habitat waters support warm water ecosystems that are severely limited in diversity and abundance.
COLD	Cold Freshwater habitat waters support cold water ecosystems.
BIOL	Preservation of Biological Habitats of Special Significance waters support designated areas of habitats.
WILD	Wildlife Habitat waters support wildlife habitats that may include but are not limited to the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.
RARE	Rare, Threatened or Endangered Species (RARE) waters support habitats necessary for the survival and successful maintenance of plant or animal species designated under state or federal law as rare, threatened, or endangered.
MUN	Municipal and Domestic Supply waters are used for community, military, municipal, or individual water supply systems. These uses may include, but are not limited to, drinking water supply.
AGR	Agricultural Supply waters are used for farming, horticulture, or ranching. These uses may include, but are not limited to irrigation, stock watering, and support of vegetation for range grazing.
IND	Industrial Service Supply waters are used for industrial activities that do not depend primarily on water quality. These uses may include, but are not limited to mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection and oil well depressurization.
PROC	Industrial Process Supply waters are used for industrial activities that depend primarily on water quality. These uses may include but are not limited to process water supply and all uses of water related to product manufacture or food preparation.
NAV	Navigation waters are used for shipping, travel, or other transportation by private, commercial, or military vessels.
POW	Hydropower Generation waters are used for hydroelectric power generation.
COMM	Commercial and sport fishing waters are used for commercial or recreational collection of fish or other organisms.
EST	Uses of water that support estuarine ecosystems including, but not limited to preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife.
WET	Uses of water that support wetland ecosystems including, but not limited to preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or wildlife, and other unique wetland functions that enhance water quality, such as providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants.
MAR	Use of water that support marine ecosystems including, but not limited to preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife.

Abbreviation	Beneficial Use
MIGR	Uses of water that support habitats necessary for migration, acclimatization between fresh and saltwater, or other temporary activities by aquatic organisms, such as anadromous fish.
SPWN	Use of water that supports high-quality aquatic habitats suitable for reproduction and early development of fish.
SHELL	Use of water that supports habitats suitable for the collection of filter-feeding shellfish for human consumption, commercial or sports purposes.
Source: California Water Boards, *San Diego Basin Water Quality Control Plan*, updated June 2019.	

As shown in Table 20, *Study Area Water Body Beneficial Uses*, the Basin Plan identifies beneficial uses for the Pacific Ocean.

Table 20: Study Area Water Body Beneficial Uses

Beneficial	Agua Hedionda Lagoon	Pacific Ocean
AGR	NL	NL
IND	E	E
NAV	NL	E
REC 1	E	E
REC 2	E	E
WARM	NL	NL
COMM	NL	E
BIOL	E	E
WILD	E	E
RARE	E	E
MIGR	E	E
SPAWN	E	E
SHELL	E	E
MAR	E	E

Abbreviations: E - Existing, NL - Not Listed
Source: California Water Boards, *San Diego Basin Water Quality Control Plan*, updated June 2019.

Environmentally Sensitive Areas

The San Diego RWQCB defines Environmentally Sensitive Areas as those areas that include, but are not limited to:

- All CWA Section 303(d) impaired waters (see below).
- Areas designated as Areas of Special Biological Significance by the SWRCB in the Water Quality Control Plan for the San Diego Region (aka the Basin Plan).
- State Water Quality Protected Areas.
- Water bodies designated with the RARE Beneficial Use category by the SWRCB in the Basin Plan (RARE).
- Areas designated as preserves or their equivalent under the NCCP.
- Any other Environmentally Sensitive Areas identified by the County.

The Basin Plan identifies RARE beneficial uses for the Pacific Ocean and Agua Hedionda Lagoon. Therefore, both water bodies are considered environmentally sensitive areas.

SECTION 303(D) WATER BODIES

Under Section 303(d) of the CWA, the SWRCB is required to develop a list of impaired water bodies. Each of the individual RWQCBs are responsible for establishing priority rankings and developing action plans, referred to as total maximum daily loads (TMDLs) to improve water quality of water bodies included in the 303(d) list. There are no 3093 (d) Listed Water Bodies within the Project area that the proposed Project would discharge into.

Stormwater Management

Section 402 of the CWA established the National Pollution Discharge Elimination System (NPDES) to control water pollution by regulating point sources that discharge pollutants into WOUS. In the State of California, the Environmental Protection Agency (EPA) has authorized the SWRCB to be the permitting authority to implement the NPDES program. The SWRCB issues two (2) baseline general permits, one (1) for industrial discharges and one (1) for construction activities (General Construction Permit). Additionally, the NPDES Program includes the long-term regulation of storm water discharges from medium and large cities through the MS4 Permit Program.

SHORT-TERM STORM WATER MANAGEMENT

The San Diego RWQCB would be responsible for regulating stormwater discharges within the Project area. Storm water discharges from construction sites with a disturbed area of one (1) or more acres are required to either obtain individual NPDES permits for storm water discharges or be covered by a General Construction Permit. Coverage under the General Construction Permit requires filing a Notice of Intent with the State Water Resources Control Board and preparation of SWPPP. Each applicant under the Construction General Permit must ensure that a SWPPP would be prepared prior to grading and implemented during construction. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction. BMPs include programs, technologies, processes, practices, and devices that control, prevent, remove, or reduce pollution.

LONG-TERM STORM WATER MANAGEMENT

The stormwater management regulatory requirements for the site include water quality requirements per the San Diego RWQCB Board MS4 Permit. New and redevelopment projects that would result in the disturbance of one (1) acre or more of land or would create more than 5,000 square feet of impervious surfaces are subject to the post-construction priority development project requirements in the Carlsbad Storm Water Standards Manual. Almost all projects must meet minimum standard storm water requirements, including the following Light Impact Development (LID) requirements:

- Drain a portion of impervious areas into pervious areas.
- Design and construct pervious areas, if any, to effectively receive and infiltrate runoff from impervious areas, taking into account soil conditions, slope, and other pertinent factors.
- Construct a portion of paved areas with low traffic and appropriate soil conditions with permeable surfaces.

PROJECT IMPACTS

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact: During construction, there would be the potential that degraded surface water runoff generated from the construction site could be conveyed into local drainage facilities.

Depending on the constituents in the surface water, the water quality of Project area surface water bodies could be reduced, which could conflict with beneficial uses established for the Project area surface water bodies. The proposed Project would disturb more than one (1) acre of area and would, therefore, be required to obtain a NPDES State General Construction Permit from the SWRCB. In accordance with the State General Construction Permit, the Project Applicant would be required to file a Notice of Intent (NOI) to the Storm Water Report Tracking System and obtain a waste discharger identification number from the SWRCB. Additionally, the General Construction Permit requires the development and implementation of a SWPPP. The SWPPP would identify BMPs to minimize degraded surface water runoff impacts. Such measures would include a site map that shows the construction site perimeter, existing and proposed buildings, parking areas, roadways, storm drain collection and discharge points before and after construction. Additionally, structural BMPs placement of such sandbags or waddles near drainages, use of rumble racks or wheel washers, or other measures would be implemented to avoid sediment transport. Compliance with the NPDES short-term regulatory requirements would reduce short-term construction related impacts to water quality to a less than significant level.

As part of the initial evaluation of the Project, the Project Engineer completed the City's Storm Water Standards Questionnaire to determine the Project's required water quality compliance and improvements. Based on the City's Storm Water Standards Questionnaire, the proposed Project would not be classified as a Priority Project and would not be required to prepare a Water Quality Management Plan (WQMP). As a non-Priority Project, the Project would be required to be constructed in accordance with United States EPA (USEPA) Green Streets guidance which requires the Project to implement site design, source control and treatment control BMPs to the maximum extent practicable. With compliance with USEPA Green Streets guidance, the Project would not create runoff that would violate water quality standards and degrade water quality.

Mitigation Measures: No mitigation measures are required.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

No Impact: The Project area is not within an area that has a managed groundwater basin. The proposed Project would have no activities that would extract groundwater or interfere with groundwater recharge activities.

Mitigation Measures: No mitigation measures are required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

1) Result in substantial erosion or siltation on- or offsite?

Less than Significant Impact: During earthwork activities, there would be the potential that uncovered soils on the Project site could be exposed to water erosion and/or wind erosion impacts. Additionally, there would be the potential that construction vehicles and construction equipment could transport sediment onto local streets and into local drainage systems. The proposed Project would disturb more than one (1) acre of area and would be required to obtain a General Construction Permit from the SWRCB. The General Construction Permit would require preparation and implementation of a SWPPP to avoid erosion and sediment transfer impacts. With obtaining General Construction Permit and preparation and implementation of a SWPPP, potential erosion and sediment transfer impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

2) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less than Significant Impact: The Project site is currently undeveloped and drains southerly and westerly to existing drainage channels. The construction of the proposed Project would introduce 3,574 square feet of additional impervious surfaces into the Project area associated with sidewalk widening from Pine Avenue to Cherry Avenue along Carlsbad Boulevard. The addition of new impervious surfaces would slightly increase the existing rate of surface water runoff. Presently, there are no deficient stormwater system conditions. Implementation of the proposed Project would not substantially increase the rate of surface water runoff where it would result in onsite or offsite flooding. Potential impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

3) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impact: The proposed Project is considered a redevelopment Project and would create and replace impervious surfaces. The Project involves the retrofitting of paved sidewalks and has been designed to meet the following criteria: be designed and constructed to direct storm water runoff to adjacent vegetated areas or other non-erodible permeable areas, and designed and constructed to be hydraulically disconnected from paved streets or roads. Based on the City's Storm Water Standards Questionnaire, the proposed Project would not be classified as a Priority Project and not be required to prepare a WQMP. As a non-Priority Project, the Project would be required to be constructed in accordance with USEPA Green Streets guidance, which require the Project to implement site design, source control and treatment control BMPs to the maximum extent practicable. With compliance with USEPA Green Streets guidance, the Project would not create runoff that exceeds existing or planned storm water systems or provide additional sources of pollution. Potential water quality impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

4) Impede or redirect flood flows?

Less than Significant Impact: The Federal Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps (FIRMs) that identify 100-year and 500-year flood zones. The City of Carlsbad Public Safety Element, Figure 6-1, Potential Flood Hazards, identifies that the coastline along the Project area is within a special flood hazard area. The proposed Project would involve the expansion and repair of existing pedestrian paths and access ways to the coastline. The Project would not place any new structures within a floodplain that impede or redirect flood flows.

Mitigation Measures: No mitigation measures are required.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?

Less than Significant Impact: The City of Carlsbad General Plan Public Safety Element, Figure 6-3, Maximum Tsunami Projected Run-Up, identifies tsunami and seiche hazards within the Project area.

Tsunamis are long wavelength ocean waves generated by sudden movements of the ocean bottom during events such as earthquakes, volcanic eruptions, or landslides. The City's General Plan identifies that the only areas identified within the City of Carlsbad as having risk for tsunami run-up are the immediate vicinity of the Buena Vista, Agua Hedionda, and Batiquitos Lagoons.

Seiches are defined as wave-like oscillatory movements in enclosed or semi-enclosed bodies of water such as lakes or reservoirs. Potential effects from seiches include flooding damage and related hazards in surrounding areas from spilling or sloshing waves, as well as increased pressure on containment structures. The County of San Diego maps zones of high risk for dam inundation throughout the County. The high-risk areas are located east of the Agua Hedionda and Batiquitos Lagoons.

The Project area is not located in a high-risk area for potential inundation from any stored water body or within a tsunami run-up area that would increase the risk for the release of pollutants. Potential impacts associated with the release of pollutants from a flood hazard would be less than significant.

Mitigation Measures: No mitigation measures are required.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact: Implementation of the proposed Project would not conflict with beneficial uses established for receiving water bodies for the Project, would not conflict with water quality objectives or further impair with existing impaired water bodies. The proposed Project would implement SWPPP and WQMP BMPs and would treat onsite low flows to protect beneficial uses for surface waters identified in the Basin Plan.

The California Sustainable Groundwater Management Act (SGMA) was passed in 2014. The law provides increased authority for local agencies to manage groundwater and requires that most groundwater basins be under sustainable management within 20 years in a manner that would be maintained without causing undesirable results. The Project site is not within an area that has a managed groundwater basin. Therefore, implementation of the proposed Project would not conflict or obstruct implementation of a sustainable groundwater management plan.

Mitigation Measures: No mitigation measures are required.

XI. LAND USE AND PLANNING **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

PROJECT IMPACTS

a) Physically divide an established community?

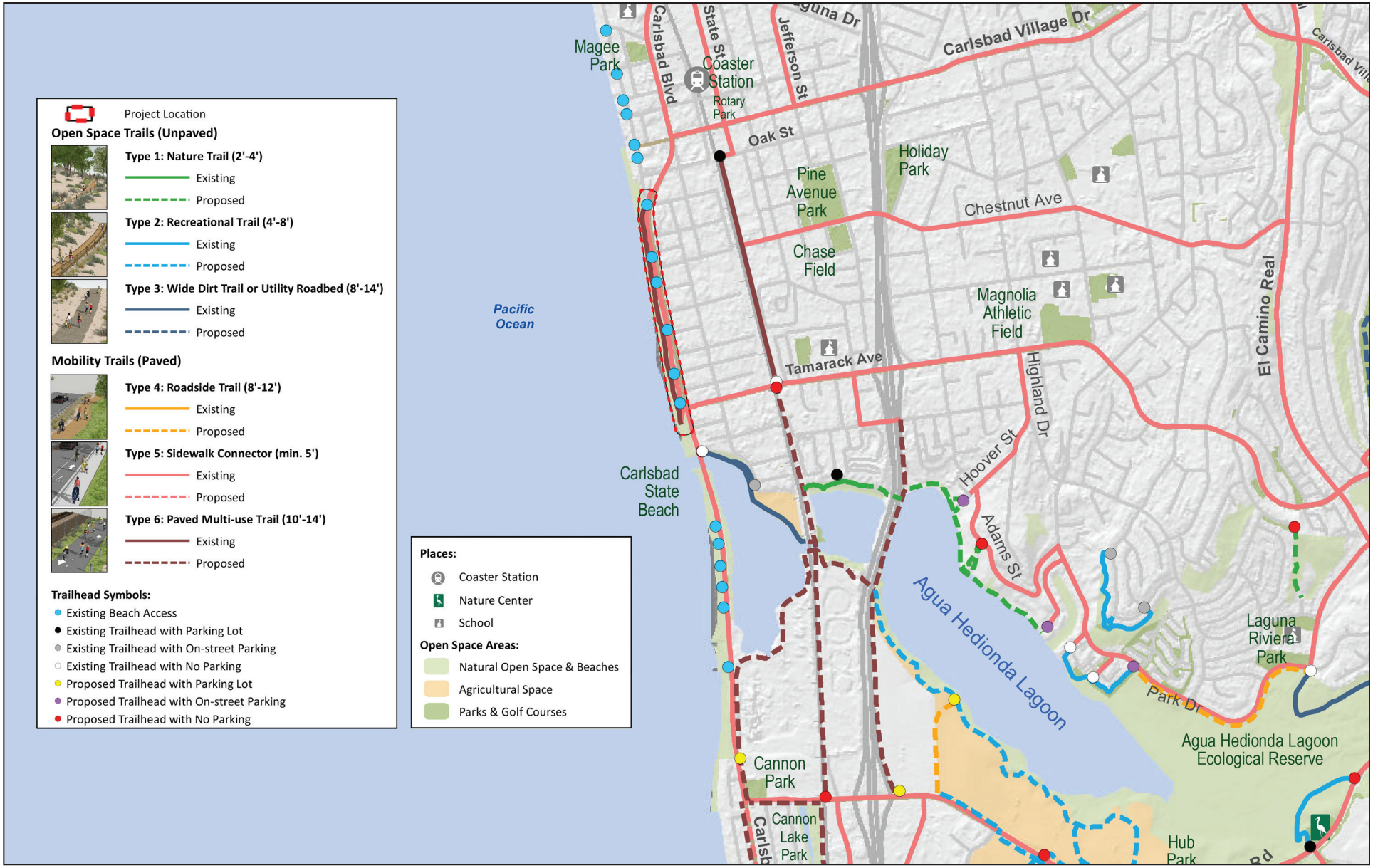
No Impact: The proposed Project involves the enhancement of existing pedestrian sidewalk and coastal access. The proposed Project improvements would not physically divide any established community or neighborhood. The proposed improvements would enhance pedestrian circulation within the Project area and surrounding neighborhoods. The proposed improvements would not introduce any physical barriers within the Project area that would physically divide an established community. No adverse land use impacts would occur.

Mitigation Measures: No mitigation measures are required.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact: The relevant planning programs associated with the proposed Project would be the City's General Plan, Local Coastal Program, and the City's Trails Master Plan. As shown in Figure 17, *Trails Master Plan*, the City's Trails Master Plan identifies an Existing Type 5 Sidewalk Connector along Carlsbad Boulevard. The Master Plan establishes standard and design criteria for various levels of trails. A Type 5 Trail is intended to support nearby roadway connections, to walk or bike to other open space trails and trailheads. The Master Plan for Type 5 Trails identifies a minimum 5' walk or a 4'-6" planted parkway with an adjacent bike lane or on street parking to move higher speeding vehicles away from walking areas. The existing sidewall is approximately 8'. The proposed improvements would expand the existing sidewalk to 9'-6" and would maintain the existing bike lane that is currently adjacent to the sidewalk and would not conflict with the Trails Master Plan. Additionally, the proposed Project would be consistent with the following goals and polices from the City's General Plan, Local Coastal Program, and Trails Master Plan provided in Table 21, *Relevant Supporting Policies*. The Project's compliance with the City's General Plan, Local Coastal Program, Sustainable Mobility Plan, and the Trails Master Plan would ensure that the Project would not result in conflicts that would result in a significant impact to the environment.

Mitigation Measures: No mitigation measures are required.



Source: City of Carlsbad, Trails Master Plan; adopted August 27, 2019.

Table 21: Relevant Supporting Policies

GENERAL PLAN
Trails Master Plan
Goal 1: Create a Connected and Complete Trails System. Objective: Provide a well distributed trail system that serves all sub-areas of Carlsbad with close and convenient access to the centers of residential development, tourist facilities, and other activity centers. A well distributed system is not only equitable, but it increases the chances of residents walking or biking within the subarea.
Goal 2: Accommodate a Variety of Trail Users in a Safe and Environmentally Sensitive Manner. Objective: Continue to develop multi-use trails that support a variety of users.
Goal 3: Identify Existing and Future Trail Development.
Goal 5: Manage, operate, and maintain trails to encourage their proper use.
Land Use and Community Design Element
Goal/Policy 2-P.53j: Plan and design Carlsbad Boulevard and adjacent public land (Carlsbad Boulevard coastal corridor) according to the following guiding principles, Reimagining of Carlsbad Boulevard shall be visionary. The reimagined Carlsbad Boulevard corridor will incorporate core community values articulated in the Carlsbad Community Vision by providing: (a) physical connectivity through multi-modal mobility improvements including bikeways, pedestrian trails, and a traffic-calmed street; (b) social connectivity through creation of memorable public spaces; and (c) economic vitality through a combination of visitor and local-serving commercial, civic, and recreational uses and services.
Goal/Policy 2-P.64: Enhance public access and public use in the area by allowing compatible public trails, community gathering spaces, and public and private, active, and passive park and recreation uses.
Mobility Element
Goal 3-G.1: Keep Carlsbad moving with livable streets that provide a safe, balanced, cost-effective, multi-modal transportation system (vehicles, pedestrians, bikes, transit), accommodating the mobility needs of all community members, including children, the elderly, and the disabled.
Goal 3-P.20: Engage Caltrans, the Public Utilities Commission, transit agencies, the Coastal Commission, and railroad agency(s) regarding opportunities for improved connections within the City, including; improved connections across the railroad tracks at Chestnut Avenue and other locations, completion and enhancements to the Coastal Rail Trail and/or equivalent trail along the coastline, improved connectivity along Carlsbad Boulevard for pedestrians and bicyclists, such as a trail, improved access to the beach and coastal recreational opportunities, and improved crossings for pedestrians across and along Carlsbad Boulevard.
Open Space, Conservation/Recreation Element
4-G.11: Utilize greenways and trails to connect the City's open space network.
Local Coastal Program
Guides development in the City's coastal zone in a manner that protects and enhances coastal resources in accordance with the policies and provisions outlined in the Coastal Act.

XII. MINERAL RESOURCES **Would the Project:**	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

PROJECT IMPACTS

a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?

No Impact: According to the City's General Plan EIR (page 3.15.1), there are no mineral resources within the Project area or the City that would have future value to the region and residents of the State. Therefore, implementation of the Project would not result in the loss of mineral resources of regional value and no impact would occur.

Mitigation Measures: No mitigation measures are required.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact: According to the City's General Plan EIR (page 3.15.1), there are no locally important mineral resources designated on the City's General Plan. Therefore, implementation of the Project would not result in the loss of mineral resources of local value and no impact would occur.

Mitigation Measures: No mitigation measures are required.

XIII. NOISE **Would the Project result in:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☒	☐

The following analysis is based on a Noise Study prepared by Birdseye Planning Group in June 2020 and is presented in Appendix G. The Noise Study evaluated a larger construction project that included the proposed Project activities along with proposed modifications to the center landscape median on Carlsbad Boulevard. Because the proposed Project involves less construction activities and associated construction noise impacts compared to the former proposed project and would not result in greater noise impacts, the analysis of the Noise Study is adequate to evaluate the proposed Project's impacts.

BACKGROUND ANALYSIS

Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 hertz). Sound pressure level is measured on a logarithmic scale with the 0 dB level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of three (3) dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a three (3) dBA change in community noise levels is noticeable, while a one (1) to two (2) dB change is generally not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range.

Sound Attenuation

Noise levels typically attenuate (or drop off) at a rate of six (6) dBA per doubling of distance from point sources (i.e., industrial machinery). Additionally, noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about five (5) dBA, while a solid wall or berm reduces noise levels by approximately seven (7) dBA. The manner in which older homes in California were constructed (approximately 30 years old or older) generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The

exterior-to-interior reduction of newer residential units and office buildings constructed to the California Energy Code standards is generally 30 dBA or more (Harris Miller Miller and Hanson, 2006).

Noise Metrics

One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over time (essentially, the average noise level). Typically, Leq is summed over a one (1) hour period. Lmax is the highest RMS (root mean squared) sound pressure level within the measuring period, and Lmin is the lowest RMS sound pressure level within the measuring period. Time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the day. Community noise is usually measured using Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10 dBA penalty for noise occurring during nighttime (10:00 PM to 7:00 AM) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a five (5) dBA penalty for noise occurring from 7:00 PM to 10:00 PM and a 10 dBA penalty for noise occurring from 10:00 PM to 7:00 AM. Noise levels described by Ldn and CNEL usually do not differ by more than one (1) dB. Daytime Leq levels are louder than Ldn or CNEL levels; thus, if the Leq meets noise standards, the Ldn and CNEL are also met.

REGULATORY PROGRAMS

Federal

The Federal Noise Control Act (1972) addressed the issue of noise as a threat to human health and welfare. To implement the Federal Noise Control Act, the USEPA undertook a number of studies related to community noise in the 1970s. The USEPA found that 24-hour averaged noise levels less than 70 dBA would avoid measurable hearing loss, levels of less than 55 dBA outdoors and 45 dBA indoors would prevent activity interference and annoyance (USEPA, 1972). The U.S. Department of Housing and Urban Development (HUD) published a Noise Guidebook for use in implementing the Department's noise policy. In general, HUD's goal is exterior noise levels that are less than or equal to 55 dBA Ldn. The goal for interior noise levels is 45 dBA Ldn.

State

Title 24 of the CCR establishes standards governing interior noise levels that apply to all new single-family and multi-family residential units in California. These standards require that acoustical studies be performed before construction at building locations where the existing Ldn exceeds 60 dBA. Such acoustical studies are required to establish mitigation measures that would limit maximum Ldn levels to 45 dBA in any habitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted a Ldn of 45 dBa as an upper limit on interior noise in all residential units.

In addition, the State of California General Plan Guidelines provides guidance for noise compatibility. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

Local

CITY OF CARLSBAD MUNICIPAL CODE AND NOISE GUIDELINE MANUAL

The City of Carlsbad has established noise guidelines in the Noise Element of the City's General Plan (City of Carlsbad, 2015) that are applicable for transportation noise sources. The noise guidelines identify compatible exterior noise levels for various land use types. Residential land uses are considered normally

acceptable up to 60 dB CNEL. Commercial land uses are considered normally acceptable up to 65 dB CNEL and conditionally acceptable up to 75 dB.

The City of Carlsbad Municipal Code regulates construction noise by limiting the hours of operation (City of Carlsbad, 2003). Construction activities are allowed Monday through Friday between the hours of 7:00 AM to sunset; and on Saturdays from 8:00 AM to sunset, excluding legal holidays. The City does not have quantitative noise level limits (i.e., based on sound levels) for general nuisance noise such as that associated with stationary equipment located on private property.

For purposes of this study, construction noise is quantified to evaluate potential noise impacts for CEQA review purposes. The Project would not generate traffic, nor would the ambient environment change with construction of the proposed improvements. The residential standard of 60 dB CNEL was used to evaluate current compliance with existing noise standards. An interior noise standard of 45 dBA CNEL was used herein as referenced in the City of Carlsbad Noise Guidelines Manual (1995).

Existing Noise Environment

The most common and primary sources of noise in the Project area are motor vehicles (e.g., automobiles, buses, trucks, and motorcycles) along Carlsbad Boulevard. Motor vehicles can be a concern when it is characterized by a high number of individual events that can create a sustained noise level in proximity to noise sensitive uses. Interstate 5 is located approximately 3,400' to the east. It is inaudible over existing traffic and the ocean waves breaking on the beach.

The Atichson, Topeka and Santa Fe Railroad (AT&SF) rail corridor is located approximately 1,300' east of the site. This segment of the Los Angeles – San Diego – San Luis Obispo (LOSSAN) corridor is the second busiest passenger and freight rail corridor in the United States. According to the rail timetables, up to 50 trains (40 passenger and 10 freight trains) use the corridor segment daily between Oceanside and the Santa Fe Depot in downtown San Diego. The existing rail operations are not audible at the Project site; however, the warning horns/bells at the Carlsbad Village Drive crossing are audible at the northern end of the Project area. Train noise contributes negligibly to the ambient noise environment in the study area. McClellan-Palomar Airport is located approximately 4.0 miles southeast of the site. The site is outside the airport influence area; however, aircraft operations (airplanes and helicopters) are audible and contribute to existing noise levels in the Project area. No other noise sources are near the Project site.

The City of Carlsbad General Plan Update Noise Element (2015) provides noise contours associated with transportation corridors (i.e., roadways, railroad and airport). This provides a graphic illustration of sound levels near road corridors, but typically does not include effects of landforms and adjacent structures. The noise contour distances describe worst-case conditions because they do not account for any obstructions to the noise path, such as walls, berms, or buildings. As noted, railroad bell/horn noise is audible at the northern end of the Project area when train pass-by events occur. The contours provided in the General Plan Update Noise Element provide a reasonable prediction of rail noise levels at the site. Noise contours show the residences located along the east side of Carlsbad Boulevard are within the 60-65 dBA CNEL contour interval.

To gather data on the general noise environment at the Project site, two (2) weekday 15-minute noise measurement were acquired at two (2) locations along Carlsbad Boulevard in proximity to the Project site on June 10, 2020. Site 1 is in the park area at the intersection of Carlsbad Boulevard and Pine Avenue. Site 2 is located on the west side of the Carlsbad Boulevard and Juniper Avenue intersection. The predominant noise source in the area during monitoring was traffic; however, breaking ocean waves on the beach are audible and contribute to background levels along the corridor. Aircraft overflights and train pass-by events did not contribute to ambient conditions during the monitoring period. The monitoring location and associated noise levels are shown in Table 22, *Noise Monitoring Results*.

Table 22: Noise Monitoring Results

Measurement Location	Primary Noise Source	Sample Time	Leq (dBA)
M1. Adjacent to the Project site located at Carlsbad Boulevard and Pine Avenue (6/10/20)	Traffic	Weekday Morning	63.5
M2. Adjacent to Project site located at Carlsbad Boulevard and Juniper Avenue (6/10/20)	Traffic	Weekday Morning	64.1
Note: Field visit using ANSI Type II Integrating sound level meter. Source: Birdseye Planning Group, *Beach Access Repair Project Noise Study*, June 2020.			

PROJECT IMPACTS

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?

Less than Significant with Mitigation Incorporated: The site is currently a sidewalk with various public access features adjacent to and along the west side of Carlsbad Boulevard. As referenced, the proposed Project would not be expected to generate additional traffic or other noise sources; thus, the impact discussion focuses on construction noise. The operational noise discussion would address existing compliance with exterior and interior noise standards for residential/hotel uses. As discussed, existing noise levels at the monitoring sites exceed 60 dBA.

The primary source of noise during construction activities would be heavy machinery used during demolition, removal of existing components such as the stair components and installation of the improvements including concrete and prefabricated stair assemblies. Table 23, *Typical Construction Equipment Noise Levels*, shows typical noise levels associated with types of heavy construction equipment that would be used to construct the proposed Project. As shown in Table 23, the average noise levels associated with the use of heavy equipment at a construction site can range from 79 to 95 dBA at 25 feet from the source, depending upon the types of equipment in operation at any given time and phase of construction (Hanson, Towers, and Meister, May 2006).

Table 23: Typical Construction Equipment Noise Levels

Equipment Onsite	Typical Level (dBA) 25 Feet from the Source	Typical Level (dBA) 50 Feet from the Source	Typical Level (dBA) 100 Feet from the Source
Air Compressor	84	78	64
Crane	91	85	79
Backhoe	84	78	64
Bobcat Tractor	84	78	64
Concrete Mixer	85	79	73
Bulldozer	88	82	76
Jack Hammer	95	89	83
Pavement Roller	86	80	74
Excavator	91	85	79
Street Sweeper	88	82	76
Man Lift	81	75	69
Dump Truck	82	76	70
Generator Set	88	82	76
Loader	91	85	79
Welder	79	73	67
Notes:			

Equipment Onsite	Typical Level (dBA) 25 Feet from the Source	Typical Level (dBA) 50 Feet from the Source	Typical Level (dBA) 100 Feet from the Source
Noise levels based on FHWA Roadway Construction Noise Handbook Table 9.1, August 2017. Noise levels based on FHWA Roadway Construction Noise Model (2006) Users Guide Table 1. Noise levels based on actual maximum measured noise levels at 50' (Lmax). Noise levels assume a noise attenuation rate of 6 dBA per doubling of distance. Source: Birdseye Planning Group, *Beach Access Repair Project Noise Study*, June 2020.			

Within the Project area, there are sensitive receptors including residential and hotel uses. Temporary construction related noise would be audible at these land uses. Table 24, *Typical Maximum Construction Noise Levels at Various Distances from Project Construction*, shows typical maximum construction noise levels at various distances from construction activity, based on a standard noise attenuation rate of six (6) dBA per doubling of distance. These levels assume use of the noisiest equipment referenced in Table 23 (i.e., crane, excavator, loader) that would be used for extended periods of time. If all three (3) pieces of equipment were used at the same time in the same location, noise levels at 25 feet could reach 96 dBA and 90 dBA at 50 feet. Based on empirical data obtained from noise studies addressing construction sites, the worst-case hourly construction noise level was found to be 80.8 dBA Leq at an average distance of 25 feet (Ldn Consulting, 2016). The daily 12-hour average was measured to be 76 dBA at distance of 25 feet. This results from periodic rather than constant use of equipment. Assuming a reference level of 76 dBA at 25 feet and a 6 dBA decrease per doubling of distance, the average noise level associated with the Project, over a 12-hour period would be approximately 70 dBA at 50 feet.

Table 24: Typical Maximum Construction Noise Levels at Various Distances from Project Construction

Distance from Construction	Maximum Noise Level at Receptor (dBA)
25 feet	91
50 feet	85
100 feet	79
250 feet	73
500 feet	66
1,000 feet	60
Source: Birdseye Planning Group, *Beach Access Repair Project Noise Study*, June 2020.	

As shown in Table 24, construction noise levels at residences and hotels along the east side of Carlsbad Boulevard could be as high as 91 dBA for short intervals and a sustained level of 70 dBA over the course of a typical day. At beach level (approximately 25 feet from construction activities), noise levels from demolition equipment (i.e., excavator) could reach a maximum of 91 dBA. Under the City's Municipal Code Noise Ordinance, temporary construction noise would be exempt from complying with the City's noise standards providing the construction activities would occur Monday through Friday between the hours of 7:00 AM to sunset; and on Saturdays from 8:00 AM to sunset, excluding legal holidays. The construction activities for the Project are proposed to occur during hours of the day when construction noise would be allowed. Therefore, temporary construction-related noise impacts would be less than significant.

While no significant construction noise impacts would occur, it is recommended that construction activities for the Project include the following noise construction BMPs to minimize nuisance noise to the extent possible:

- Construction Equipment. Electrical power shall be used to run air compressors and similar power tools where feasible. Internal combustion engines should be equipped with a muffler of a type recommended by the manufacturer and in good repair. All diesel equipment should be operated with closed engine doors and should be equipped with factory-recommended mufflers.

Construction equipment that continues to generate substantial noise at the Project boundaries should be shielded with temporary noise barriers, such as barriers that meet a sound transmission class (STC) rating of 25, sound absorptive panels, or sound blankets on individual pieces of construction equipment. Stationary noise-generating equipment, such as generators and compressors, should be located as far as practically possible from the nearest residential property lines.

- Neighbor Notification. Provide notification to residential occupants adjacent to the Project site at least 24 hours prior to initiation of construction activities that could result in substantial noise levels at outdoor or indoor living areas. This notification should include the anticipated hours and duration of construction and a description of noise reduction measures being implemented at the Project site. The notification should include a telephone number for local residents to call to submit complaints associated with construction noise.
- Noise Control Plan. Construction contractors shall develop and implement a noise control plan that includes a noise control monitoring program to ensure sustained construction noise levels do not exceed 75 decibels over a 12-hour period at the nearest sensitive receivers. The plan may include the following requirements:
  - Contractor shall turn off idling equipment while not being used for operations after idling for five (5) minutes.
  - Contractor shall perform noisier operation during the times least sensitive to receptors.
  - All diesel equipment shall be operated with closed engine doors and shall be equipped with factory-recommended mufflers.
  - Electrical power shall be used to run air compressors and similar power tools and to power any temporary structures, such as construction trailers or security staff facilities, where practical.

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Exterior Traffic Noise. Traffic is the primary noise source in the Project area. As referenced, traffic noise currently exceeds the 60 dBA standard for residential properties and other sensitive uses. The Project would not generate traffic; thus, no impact with respect to exterior traffic noise would occur.

Interior Traffic Noise. As referenced, the Project would not generate traffic or otherwise increase noise levels post-construction. Existing residences appear to have been constructed using modern techniques and materials. Assuming the buildings were designed and constructed to meet or exceed California Energy Code Title 24 standards, the construction methods and materials likely result in a 25 to 30 dBA reduction in exterior noise levels (assuming windows are closed). When windows are open, the insertion loss drops to about 10 dBA. Assuming windows are closed, interior noise levels associated with traffic operations would be reduced from 64.1 (baseline) to 34.1 dBA. Thus, while existing exterior noise levels exceed the 60-dBA standard, the 45-dBA interior standard would be met.

Mitigation Measures:

NOI-1: It is recommended that construction activities for the Project include the following noise construction BMPs to minimize nuisance noise to the extent possible:

- Construction Equipment. Electrical power shall be used to run air compressors and similar power tools where feasible. Internal combustion engines should be equipped with a muffler of a type recommended by the manufacturer and in good repair. All diesel

equipment should be operated with closed engine doors and should be equipped with factory-recommended mufflers. Construction equipment that continues to generate substantial noise at the Project boundaries should be shielded with temporary noise barriers, such as barriers that meet an STC rating of 25, sound absorptive panels, or sound blankets on individual pieces of construction equipment. Stationary noise-generating equipment, such as generators and compressors, should be located as far as practically possible from the nearest residential property lines.

- Neighbor Notification. Provide notification to residential occupants adjacent to the Project site at least 24 hours prior to initiation of construction activities that could result in substantial noise levels at outdoor or indoor living areas. This notification should include the anticipated hours and duration of construction and a description of noise reduction measures being implemented at the Project site. The notification should include a telephone number for local residents to call to submit complaints associated with construction noise.
- Noise Control Plan. Construction contractors shall develop and implement a noise control plan that includes a noise control monitoring program to ensure sustained construction noise levels do not exceed 75 decibels over a 12-hour period at the nearest sensitive receivers. The plan may include the following requirements:
  - Contractor shall turn off idling equipment while not being used for operations after idling for five (5) minutes.
  - Contractor shall perform noisier operation during the times least sensitive to receptors.
  - All diesel equipment shall be operated with closed engine doors and shall be equipped with factory-recommended mufflers.
  - Electrical power shall be used to run air compressors and similar power tools and to power any temporary structures, such as construction trailers or security staff facilities, where practical.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact: Vibration is a unique form of noise as the energy is transmitted through buildings, structures, and the ground whereas audible noise energy is transmitted through the air. Thus, vibration is generally felt rather than heard. The ground motion caused by vibration is measured as particle velocity in inches per second (PPV inches/second) and referenced as vibration decibels (VdB). The vibration velocity level threshold of perception for humans is approximately 65 VdB (PPV 0.04 inches/second). A vibration velocity of 75 VdB (PPV 0.25 inches/second) is the approximate dividing line between barely perceptible and distinctly perceptible levels.

City policies do not address construction-related vibration. The Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment Manual* (September 2018) and California Department of Transportation (Caltrans), *Transportation and Construction Vibration Guidance Manual* (September 2013) use the same thresholds but different descriptors for the purpose of determining vibration impacts. FTA uses VdB while Caltrans uses PPV. A threshold of 65 VdB (PPV 0.04) is used for buildings where low ambient vibration is essential for interior operations. These buildings include hospitals and recording studios. A threshold of 72 VdB (PPV 0.25) is used for residences and buildings where people normally sleep (i.e., hotels

and rest homes); thus, this is the threshold used for the purpose of determining vibration impacts associated with construction of the proposed Project.

Construction activities such as blasting, pile driving, demolition, excavation or drilling have the potential to generate ground vibrations near structures. With respect to ground-borne vibration impacts on structures, the FTA states that ground-borne vibration levels excess of 100 VdB would damage fragile buildings and levels in excess of 95 VdB would damage extremely fragile historic buildings. No historic buildings are known to occur near the site; thus, 100 VdB was used to quantify potential vibration impacts to neighboring structures. Construction activities referenced above that would generate significant vibration levels are not proposed. However, to provide information for use in completing the CEQA evaluation, construction-related vibration impacts were evaluated using the above referenced criteria.

PROJECT IMPACT

Use of the proposed improvements would not generate vibration. Thus, this discussion focuses on temporary vibration impacts caused by construction. The highest vibration levels are typically associated with large-scale grading, excavation, and impact construction methods such as pile driving. Construction of the proposed improvements would not require this level of ground disturbance or otherwise require impact construction methods. Based on the information presented in Table 25, *Vibration Source Levels for Construction Equipment*, the highest vibration levels could reach 86 VdB while loaded trucks used to remove demolition debris or deliver heavy components that are operating in the area. The nearest sensitive properties are located approximately 70' east of the construction area across Carlsbad Boulevard, a four (4) lane roadway. Vibration levels would attenuate to 76 dBA at 75', the approximate distance to the nearest sensitive properties.

Table 25: Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	87	81	79	77	75
Loaded Trucks	86	80	78	76	74
Jackhammer	79	73	71	69	67
Small Bulldozer	58	52	50	48	46
Source: Birdseye Planning Group, *Beach Access Repair Project Noise Study*, June 2020.					

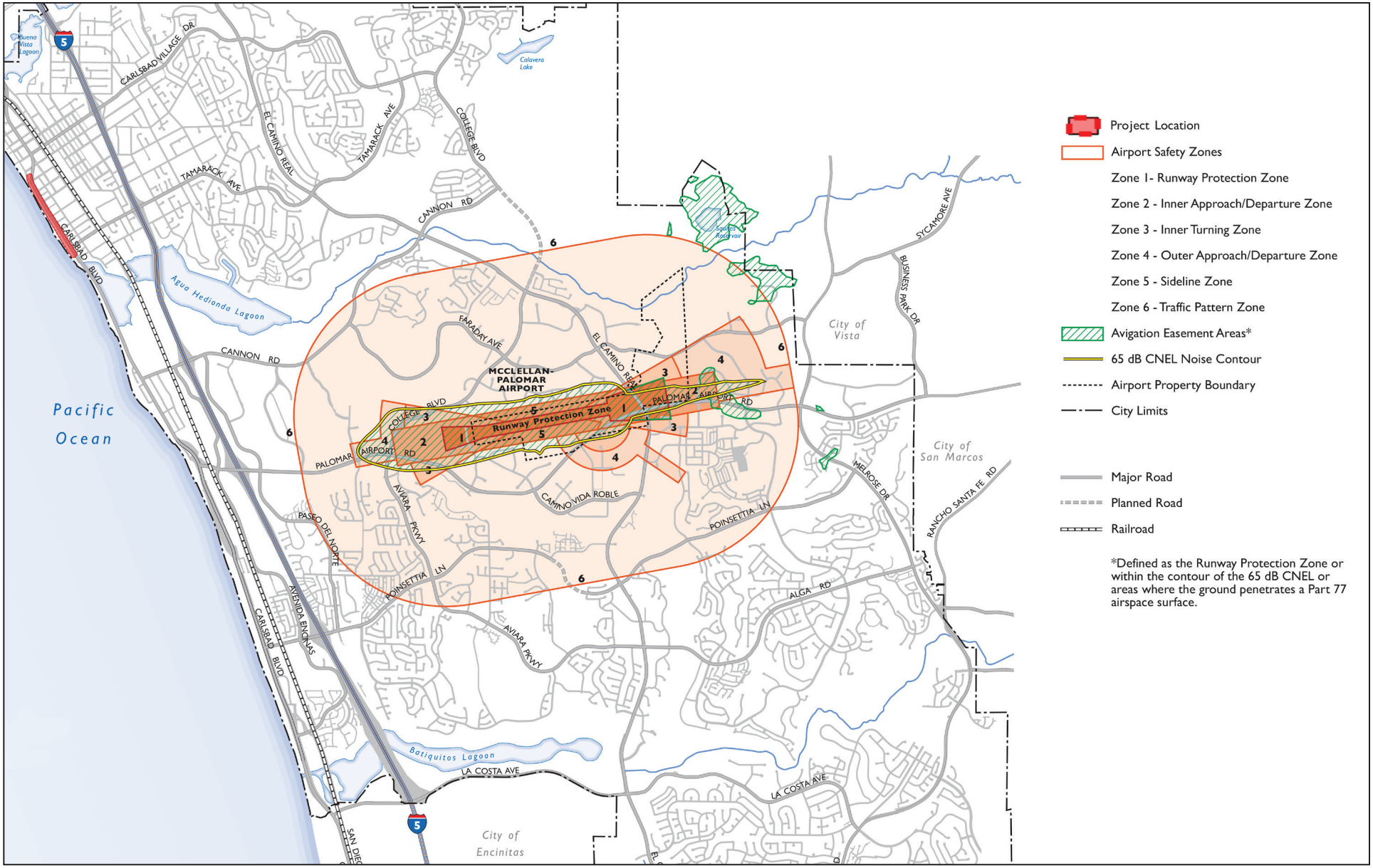
As discussed, 100 VdB is the threshold where minor damage can occur in fragile buildings. Vibration levels are Projected to be under this threshold; thus, structural damage would not be expected to occur from construction activities associated with the proposed Project. While vibration levels at residential buildings adjacent to the Project site could exceed the groundborne velocity threshold level of 72 VdB for residences and/or buildings where people sleep as discussed above, it is unlikely that vibration associated with truck operation would be perceptible over existing traffic volumes on Carlsbad Boulevard. The construction vibration occurs during the hours of the day when construction noise would be exempt under the City Municipal Code Noise Ordinance. Additionally, implementation of the noise construction BMPs would reduce vibration impacts. Temporary vibration impacts would be considered adverse but would be less than significant.

Mitigation Measures: No mitigation measures are required.

c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

Less than Significant Impact: The closest airport to the Project area would be McClellan-Palomar Airport, approximately 3.6 miles from the Project area. The City's General Plan Noise Element identifies that acceptable outdoor noise level for parks and recreation uses is 65 CNEL. As shown in Figure 18, *Airport Noise Compatibility*, the Project area would be well outside of the 65 CNEL contour and would not be exposed to excessive noise impacts.

Mitigation Measures: No mitigation measures are required.



Source: City of Carlsbad General Plan, Noise Element; September 2015.

BEACH ACCESS REPAIR PROJECT
Initial Study/Mitigated Negative Declaration

Airport Noise Compatibility

Figure 18

XIV. POPULATION AND HOUSING **Would the Project:**	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

PROJECT IMPACTS

a) Induce substantial unplanned population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact: The City of Carlsbad is a coastal city in the North County region of San Diego County. The City is 87 miles south of downtown Los Angeles and 35 miles north of downtown San Diego and is part of the San Diego-Carlsbad, CA Metropolitan Statistical Area. The population and housing data for the City of Carlsbad and County of San Diego are shown in Table 26, *Socioeconomic Data*.

Table 26: Socioeconomic Data

Data	City of Carlsbad	County of San Diego
Total Population	115,382	3,338,330
Total Households	43,293	1,118,980
Household Size	2.61	2.87
Household Income	$107,172	$74,855
Source: Southern California Association of Governments 2019 Local Community Report.		

The proposed Project involves improvements to existing pedestrian sidewalk and coastal access improvements. The improvements would not increase the existing population levels or estimated population levels within the Project area. The Project would not extend infrastructure into any undeveloped areas that would facilitate growth beyond the level of growth Projected in the City of Carlsbad General Plan. The proposed improvements would help support the recreational needs of the City's population. The Project would not generate any permanent employment opportunities that would generate additional housing demands. The construction of the proposed Project would generate short-term construction employment opportunities within the Project area that would most likely be filled from the local area and would not generate the need for new housing, public services, or commercial commerce. Therefore, implementation of the proposed Project would not induce substantial unplanned growth in the Project and no adverse population impacts would occur.

Mitigation Measures: No mitigation measures are required.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact: Implementation of the proposed Project would not involve any full, partial, or temporary property acquisitions that would involve residential properties that would require the need for replacement

housing. Implementation of the proposed Project would not displace any housing. Therefore, no replacement housing would be needed, and no impacts would occur.

Mitigation Measures: No mitigation measures are required.

XV. PUBLIC SERVICES **Would the Project** result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, a need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services**:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☐	☒

PROJECT IMPACTS

a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

1) Fire protection?

Less than Significant Impact: The City of Carlsbad Fire Department is an all-risk, all-threat first responder agency safeguarding lives, property, and the environment through 24-hour fire, rescue, and emergency medical services. The Fire Department is divided into three (3) sections: fire operations, fire prevention, and emergency preparedness. The City of Carlsbad has seven (7) fire stations strategically placed throughout the City to protect residents and businesses. The City also maintains a fleet of vehicles that respond to emergency incidents. In addition to front-line apparatuses, the City has reserve apparatuses that can immediately be placed in service when additional staffing is needed or when front-line apparatuses experience mechanical issues. The City's new temporary Fire Station 7 is the closest fire station to the Project area, located at 4600 Carlsbad Boulevard, approximately 0.75 miles from the Project area. The next closest fire station to the Project area would be Fire Station 1, which is located at 1275 Carlsbad Village Drive, approximately one (1) mile from the Project area. Fire Department response areas are based on real-time apparatus location measurements determined by GPS in conjunction with automatic vehicle locaters. The performance standard established by the Citywide Facilities and Improvements Plan requires that no more than 1,500 dwelling units be located outside of a five (5) minute response time. In its annual State of Effectiveness Report, the City uses response time benchmarks of six (6) minutes for the first unit on scene and nine (9) minutes for the second. According to the 2019 State of Effectiveness Report, the Fire Department achieved the benchmark in 63 percent of cases for the first unit on scene of six (6) minutes.

The determination of fire capacity to accommodate potential increased service demands would be based on information regarding facility needs, planning assessments and geographic data. Additional demands for fire protection services already located within service areas would be subject to similar response times and service standards as existing development in those areas.

The proposed sidewalk and coastal access improvements would not substantially increase the need for fire protection services above the current demand that would require addition staffing or construction of new facilities. During construction, there could be the potential that existing travel lanes could be temporary reduced along Carlsbad Boulevard, which could affect response times within the Project area. The temporary closures would be for a short period of time and would be implemented in accordance with recommendations provided in the California Temporary Traffic Control handbook to ensure that emergency access would be maintained all times. Potential effects on fire service protection services would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Police protection?

Less than Significant Impact: The City of Carlsbad Police Department provides police protection within the City. The Carlsbad Police Department conducts its police protection services primarily out of the Carlsbad Public Safety and Service Center, a 53,600-square-foot facility located at 2650 Orion Way. The patrol division is the core of the Police Department's law enforcement services, responding to more than 90,000 calls for service annually. Although street patrols are the majority of the division's activity, other special services include canine units, bicycle patrol, crisis negotiations, bilingual services, tactical response team (SWAT, Special Weapons and Tactics), and mental health assistance teams. The Citywide Facilities and Improvements Plan does not specify a standard for police services. The proposed sidewalk and coastal access improvements would not substantially increase the need for police protection services above the current demand that would require additional staffing or construction of new facilities. During construction, there could be the potential that existing travel lanes could be temporarily reduced along Carlsbad Boulevard, which could affect response times within the Project area. The temporary closures would be for a short period of time and would be implemented in accordance with recommendations provided in the California Temporary Traffic Control handbook to ensure that emergency access would be maintained at all times. Potential effects on police protection services would be less than significant.

Mitigation Measures: No mitigation measures are required.

c) Schools?

No Impact: The City of Carlsbad is served by four (4) school districts: Carlsbad Unified School District (CUSD), San Marcos Unified School District, Encinitas Union Elementary School District, and San Dieguito Union High School District. Most of Carlsbad (about 62 percent of residential land—4,187 of 6,797 acres) is served by CUSD, which comprises nine (9) elementary schools that feed into three (3) middle schools and two (2) high schools and accommodates more than 10,000 students. The proposed Project would not directly result in any student generation, as no homes or other growth inducing uses are proposed. Implementation of the proposed Project would not result in the need for the construction of additional school facilities. The closest school site to the Project area would be Jefferson Elementary School, which is located at 3743 Jefferson Street, and La Palma High School, which is located at 728 Chestnut Avenue. Both school sites are located approximately 0.50 miles from the study and are not directly accessed by Carlsbad Boulevard. Construction activities associated with the proposed Project would not have any effect on access to either school site. Therefore, no impacts to school services would occur.

Mitigation Measures: No mitigation measures are required.

d) Parks?

Less than Significant Impact: The City of Carlsbad park facility standard is three (3) acres of community parks or special use areas per 1,000 population within the park district. There are four (4) park districts within Carlsbad which correspond to the City's four (4) quadrants. Carlsbad maintains three (3) park categories, as described below:

- Community Parks: In Carlsbad, community parks are approximately 20-50 acres in size (though there are several smaller parks "grandfathered" into this classification) and are designed to serve the recreational needs of several neighborhoods.
- Special Use Areas: Special use areas are typically between one (1) and five (5) acres in size, with only one (1) or two (2) basic uses, which can be either active or passive in orientation.
- Special Resource Areas: Special resource areas have citywide and potentially regional significance related to the quality of the site or service that it provides. This quality may be a natural feature (geological, ecological, hydrological), historical (architectural, archaeological), or some combination thereof.

Carlsbad currently has 13 community parks (255.5 acres), 25 special use areas (68.5 acres), and five (5) special resource areas (more than 1,300 acres). The closest park sites to the Project area would be Magee Park located at 258 Beech Avenue, Maxton Park located at 500 Laguna Drive, and Pine Avenue Park located at 755 Chestnut Avenue. Additionally, within the Project area is the Frazee Tamarack State Beach Bluff Special Use Area. The City of Carlsbad provides beach access at Pine, Sycamore, Maple, Cherry, Hemlock, and Tamarack Avenues. Two (2) seawalls and a pedestrian walkway connect Pine Avenue to Cannon Road. The seawall south of Tamarack Avenue provides additional beach accessways and provides a pedestrian connection along this entire stretch of beach.

The proposed Project would expand the existing pedestrian sidewalk along Frazee Tamarack State Beach Bluff Special Use Area and would not generate the need for new park services. Moreover, the Project would not directly or indirectly induce substantial population growth in the Project area, which could generate needs for additional park services. Both Maxton Park and Pine Avenue Park are located well outside of the Project area and would not be affected by construction activities associated with the Project. During construction of the Project, portions of the Frazee Tamarack State Beach Bluff Special Use Area and coastal access ways to Carlsbad State Beach would be temporarily closed. The Project would be constructed in two (2) main phases to avoid the busy summer months between Memorial Day and Labor Day. Phased construction would allow one (1) southbound travel lane for traffic to remain open during the upper sidewalk widening improvements. During construction, the southbound bike lane along Carlsbad Boulevard, from Pine Avenue to Maple Avenue, would need to be temporarily closed and bike traffic would be rerouted. The proposed construction phasing along with implementation of traffic and pedestrian controls would ensure safe public access during construction. There would no adverse impact on the existing carry capacities of parks in the City that would require a need to construct new park facilities. Potential impacts on parks would be less than significant.

Mitigation Measures: No mitigation measures are required.

e) Other public facilities?

No Impact: The City of Carlsbad has three (3) library facilities: Dove Library, Georgina Cole Library, and the Carlsbad City Library Learning Center. The City has established a performance standard for library space equal to 800 square feet per 1,000 population. The proposed Project would expand

the existing pedestrian sidewalk along Frazee Tamarack State Beach Bluff Special Use Area and would increase coastal access to Carlsbad State Beach. The Project would not generate the need for new library services. Moreover, the Project would not directly or indirectly induce substantial population growth in the Project area, which could generate needs for additional library services. Additionally, there are no existing library facilities within the Project area that would be impacted by construction operations associated with the Project. Therefore, no impacts to library facilities or other public facilities would occur.

Mitigation Measures: No mitigation measures are required.

XVI. RECREATION	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

PROJECT IMPACTS

a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant Impact: The Project would increase the size of the pedestrian sidewalk along the coastal bluffs and enhance coastal access to Carlsbad State Beach, which would increase recreational opportunities for the public. During construction, some coastal accessways would temporarily be closed, which would require pedestrians to use other existing alternate accessways that are open. The use of the existing alternate accessways would be temporary and would not accelerate substantial physical deterioration. The proposed improvements would increase the longevity and recreational use of the pedestrian trails and coastal accessways within the Project area. Potential impacts on the use of existing recreational facilities would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Less than Significant Impact: The proposed Project involves improvements to existing pedestrian sidewalk and existing coastal accessways to Carlsbad State Beach. These improvements would enhance recreational uses within the Project area. Potential impacts associated with these recreational enhancement improvements have been evaluated in this Initial Study and have been determined to be less than significant.

Mitigation Measures: No mitigation measures are required.

XVII. TRANSPORTATION **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Conflict or be inconsistent with CEQA Guidelines 15064.3, subdivision?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
d) Result in inadequate emergency access?	☐	☒	☐	☐

PROJECT IMPACTS

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

No Impact: Pursuant to SB 743 and CEQA Guidelines Section 15064.3 subdivision (b), VMT is the program for measuring and addressing vehicular circulation system facilities under CEQA. Analysis of Level of Service (LOS) as provided in a Project Transportation Impact Study (TIS) is no longer the metric for determining transportation environmental impacts. City of Carlsbad's VMT Guidelines, which were adopted recently (October 2022), evaluate transportation impacts as they relate to the core values outlined in the City's General Plan. These core values include: (1) walking, biking, public transportation, and connectivity/mobility; (2) sustainability; and (3) neighborhood revitalization, community design, and livability. VMT is often measured using various travel demand modeling tools, trip generation surveys or trip generation rate data published by the Institute of Transportation Engineers. However, the proposed Project is exempt from a VMT Analysis as it meets the exemption criteria outlined in the VMT Guidelines. VMT is addressed in subsection b below.

The General Plan Mobility Element (item [1] listed above) promotes a livable streets strategy for mobility within the City. The objective of the strategy is to create a 'multi-modal' street network that balances the mobility needs of pedestrians, bicyclists, transit users, and vehicles. For each street in the City, the General Plan Mobility Element identifies the travel modes for which service levels should be maintained per the multi-modal level of service (MMLOS) standard. However, as per the recent VMT Guidelines, LOS is no longer the metric used to evaluate traffic impacts as VMT is the current program. Within the Project area, the Mobility Element identifies Carlsbad Boulevard as an Identify Street. According to the Mobility Element, Identify Streets are designed to safely move all modes of travel while enhancing mobility for vehicles, pedestrians, bicycles, and transit facilities.

Implementation of the proposed Project would not generate additional traffic trips or increase VMT in the Project area. Therefore, the proposed Project would not result in significant cumulative traffic impacts or conflict with the Mobility Element. Prior to the start of construction, a Traffic Control Management Plan would be prepared and implemented to maintain safe vehicular and pedestrian access within the Project area.

The proposed Project would increase the width of the existing pedestrian sidewalk along Carlsbad Boulevard between Pine Avenue and Tamarack Avenue, which would enhance pedestrian access. The existing on street bike lane would continue to provide bicycle access along Carlsbad Avenue. Therefore, the proposed Project would not reduce or impede any pedestrian, bicycle, or transit facility and no conflicts with the Mobility Plan would occur.

Mitigation Measures: No mitigation measures are required.

b) Conflict or be inconsistent with CEQA Guidelines 15064.3, subdivision?

No Impact: The Project was evaluated based on the City of Carlsbad's VMT Analysis Guidelines and does not meet any of the criteria to conduct a detailed VMT Analysis. According to the City's Guidelines, there are several screening criteria that are exempt from VMT Analysis including projects located near transit (Section 3.3.2), local-serving public facilities (Section 3.3.4), affordable housing projects (Section3.3.5), and redevelopment projects that result in a net reduction of VMT (Section 3.3.6). The proposed Project is exempt from a VMT Analysis as it is considered a local-serving public facility, which will expand public walkability and promote safe beach access along Carlsbad Boulevard and Carlsbad State Beach Park. Furthermore, the Project will not construct new facilities or generate additional traffic trips and no expansion or loss vehicular transportation corridors will occur. Therefore, the proposed Project would not contribute considerably to significant cumulative traffic impacts and would have less than a significant impact related to VMT.

Mitigation Measure: No mitigation measures are required.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant with Mitigation Incorporated: All Project circulation improvements would be designed and constructed to City standards and, therefore, would not result in design hazards. Therefore, it would not increase long-term hazards due to an incompatible use. The construction activities for the proposed Project could require temporary lane closure along Carlsbad Boulevard and along segments of the pedestrian sidewalk. Additionally, the construction activities would require the mobilization and demobilization of construction equipment and the operation of heavy construction equipment within the study area. To avoid conflicts with motorist and pedestrians when construction activities are occurring, a Traffic Control Management Plan would be prepared and implemented, which could include a combination traffic control measures such as a signage and flagman to direct equipment into and out of the work area and to guide pedestrians safely away from the work area. With the implementation of Mitigation Measure T-1, potential traffic hazards associated with proposed construction activities would be less than significant.

Mitigation Measures: Mitigation Measure T-1 is required.

T-1: Prior to the start of construction activities, a Traffic Control Management Plan will be prepared and implemented.

d) Result in inadequate emergency access?

Less than Significant with Mitigation Incorporated: During construction, there could be temporary lane closures and traffic detouring which could affect emergency access within the Project area. The Project construction activities would be coordinated with the Fire and Police Departments to ensure emergency requirements have been satisfied. As part of the proposed Project, a Traffic Control Management Plan would be prepared and implemented to ensure adequate emergency access would be maintained at all times. With the implementation of Mitigation Measure T-1, potential emergency access impacts would be less than significant.

Mitigation Measures: Mitigation Measure T-1 is required.

XVIII. TRIBAL CULTURAL RESOURCES **Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b) 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 Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

BACKGROUND ANALYSIS

A Phase I cultural resource survey of the Project area was completed as well as a California Historic Resources Information Systems (CHRIS) records search (See Appendix D – Cultural Resources Assessment). The CHRIS records search noted that one (1) cultural resource has been recorded within the buffer of the Project area; however, it consists of two (2) historical era bricks that lie outside the disturbance area and will not be impacted by the Project. No cultural resources were noted as a result of the survey. Results from the Phase I survey demonstrate that no known tribal cultural resources or recorded historical resources are present on the Project site; however, to avoid potential significant impacts to cultural resources, a qualified archaeological monitor and a qualified Native American/cultural monitor will be present on site during all ground disturbing activities. In the event that potential archaeological resources are discovered during ground-disturbing activities, the qualified archaeologist on site will notify the Associate State Archaeologist and City of Carlsbad immediately and all work shall stop and/or be diverted in that area and within 30' of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures.

To avoid significant impacts to unknown tribal cultural resources that could be present on the Project site, the proposed Project would be required to comply with Mitigation Measure CR-2, which requires that construction activities halt in the event tribal cultural resources are encountered.

In the event unknown burial remains are encountered during construction, the Project would be required to comply with Mitigation Measure CR-3, which requires grading and construction activities to cease pursuant to State Health and Safety Code Section 7050.5 until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Section 5097.98 of the California Public Resource Code.

California Assembly Bill 52 (AB52) established a formal consultation process for California tribes within the CEQA process. AB52 specifies that any Project may affect or cause a substantial adverse change in the significance of a tribal cultural resource that would require a lead agency to "begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the

proposed Project." Section 21074 of AB52 also defines a new category of resources under CEQA called "tribal cultural resources." Tribal cultural resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is either listed on or eligible for the CRHR or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource.

The City initiated the tribal consultant process for the purposes of AB52 for the proposed Project on April 7, 2021. Those tribes that have requested to be listed on the City's notification list for the purposes of AB52 were notified in writing via certified mail. As part of this process, the City has provided notification to each of these listed tribes the opportunity to consult with the City regarding the proposed Project. The following individuals/tribes were sent email letters:

1. San Luis Rey Band of Mission Indians
2. Rincon Band of Luiseño Indians
3. La Jolla Band of Luiseno Indians
4. Torres Martinez Desert Cahuilla Indians

The Rincon Band of Luiseno and San Luis Rey Band of Mission Indians tribes responded within 30 days and requested consultation. A finalized version of the Project was presented to the Rincon Band of Luiseno Indians on February 01, 2023. Since this meeting, multiple correspondence has occurred; however, the City did not receive a letter from Rincon formally acknowledging the end of consultation. The final version of the Project was also presented to the San Luis Rey Band of Mission Indians on April 11, 2023. In this meeting, San Luis Rey requested to review a copy of the land file search from the Native American Heritage Commission. City staff supplied that information on April 12, 2023. The mitigation measures were emailed once more to both San Luis Rey Band of Mission Indians and Rincon Band of Luiseno on May 5, 2023. AB 52 consultation with the San Luis Rey Band of Mission Indians and the Rincon Band of Luiseno Indians concluded on May 16, 2023.

PROJECT IMPACTS

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

Less than Significant Impact: The proposed Project is not listed nor eligible for listing in the CRHR or in a local register of historical resources as defined in Public Resource Code Section 5020.1(k).

Mitigation Measures: No mitigation measures are required.

b) 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 Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant with Mitigation Incorporated: The Sacred Lands File search completed by the NAHC returned a positive result. The NAHC requested that contact be made with the La Jolla Band of Luiseño Indians and the San Luis Rey Band of Mission Indians regarding the result. Additionally, the City's Planning Division notified the San Luis Rey Band of Mission Indians, Rincon Band of Luiseño Indians, the La Jolla Band of Luiseno Indians, and the Torres Martinez Desert Cahuilla Indians as part of the City's AB52 Consultation, which are traditionally and culturally affiliated with the California Native American tribes that have

requested notice of proposed Projects Therefore, mitigation measures TRC-1 and TRC-2 are incorporated to reduce this impact to a level less than significant.

Mitigation Measures:

TCR-1: Tribal Cultural Resources Monitoring

Prior to the commencement of any ground-disturbing activities, the project developer shall:

a. Retain the services of a qualified archaeologist who shall be on-site for ground-disturbing activities. In the event cultural material is encountered, the archaeologist is empowered to temporarily divert or halt grading to allow for coordination with the Luiseño Native American monitor, or other Traditionally and Culturally Affiliated Luiseño tribe ("TCA Tribe"), and to determine the significance of the discovery. The archaeologist shall follow all standard procedures for cultural materials that are not tribal cultural resources.

b. Enter into a Pre-Excavation Agreement, otherwise known as a Tribal Cultural Resources Treatment and Tribal Monitoring Agreement, with the San Luis Rey Band of Mission Indians or other Luiseño tribe that meets all standard requirements of the tribe for such agreements. This Agreement will address provision of a Luiseño Native American monitor and contain provisions to address the proper treatment of any tribal cultural resources and/or Luiseño Native American human remains inadvertently discovered during the course of the project. The Agreement will outline the roles and powers of the Luiseño Native American monitors and the archaeologist and may include the following provisions. In some cases, the language below may be modified in consultation with San Luis Rey Band of Mission Indians if special conditions warrant.

c. A Luiseño Native American monitor shall be present during all ground-disturbing activities. Ground disturbing activities may include, but are not limited to archaeological studies, geotechnical investigations, clearing, grubbing, trenching, excavation, preparation for utilities and other infrastructure, and grading activities.

d. Any and all uncovered artifacts of Luiseño Native American cultural importance shall be returned to the San Luis Rey Band of Mission Indians, and/or the Most Likely Descendant, if applicable, and not be curated, unless ordered to do so by a federal agency or a court of competent jurisdiction.

e. The Luiseño Native American monitor shall be present at the Project's pre-construction meeting to consult with grading and excavation contractors concerning excavation schedules and safety issues, as well as to consult with the archaeologist PI (principal investigator) concerning the proposed archaeologist techniques and/or strategies for the Project.

f. Luiseño Native American monitors and archaeological monitors shall have joint authority to temporarily divert and/or halt construction activities. If tribal cultural resources are discovered during construction, all earth-moving activity within and around the immediate discovery area must be diverted until the Luiseño Native American monitor and the archaeologist can assess the nature and significance of the find.

g. If a significant tribal cultural resource(s) and/or unique archaeological resource(s) are discovered during ground-disturbing activities for this project, the San Luis Rey Band of Mission Indians or other Luiseño tribe shall be notified and consulted regarding the respectful and dignified treatment of those resources. Pursuant to California Public Resource Code Section 21083.2(b) avoidance is the preferred method of preservation for archaeological and tribal cultural resources. If, however, the Applicant is able to demonstrate that avoidance of a significant and/or unique cultural resource is infeasible and a data recovery plan is authorized by the City of Carlsbad as the lead agency, the

San Luis Rey Band of Mission Indians shall be consulted regarding the drafting and finalization of any such recovery plan.

h. When tribal cultural resources are discovered during the project, if the archaeologist collects such resources, a Luiseño Native American monitor must be present during any testing or cataloging of those resources. If the archaeologist does not collect the tribal cultural resources that are unearthed during the ground-disturbing activities, the Luiseño Native American monitor may, at their discretion, collect said resources and provide them to the San Luis Rey Band of Mission Indians for dignified and respectful treatment in accordance with their cultural and spiritual traditions.

i. If suspected Native American human remains are encountered, California Health and Safety Code Section 7050.5(b) states that no further disturbance shall occur until the San Diego County Medical Examiner has made the necessary findings as to origin. Further, pursuant to California Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. Suspected Native American remains shall be examined in the field and kept in a secure location at the site. A Luiseño Native American monitor shall be present during the examination of the remains. If the San Diego County Medical Examiner determines the remains to be Native American, the NAHC must be contacted by the Medical Examiner within 24 hours. The NAHC must then immediately notify the "Most Likely Descendant" about the discovery. The Most Likely Descendant shall then make recommendations within 48 hours and engage in consultation concerning treatment of remains as provided in Public Resource Code 5097.98.

j. In the event that fill material is imported into the project area, the fill shall be clean of tribal cultural resources and documented as such. Commercial sources of fill material are already permitted as appropriate and will be culturally sterile. If fill material is to be utilized and/or exported from areas within the project site, then that fill material shall be analyzed and confirmed by an archaeologist and Luiseño Native American monitor that such fill material does not contain tribal cultural resources.

k. No testing, invasive or non-invasive, shall be permitted on any recovered tribal cultural resources without the written permission of the San Luis Rey Band of Mission Indians or any other Luiseño Native American consulting tribe.

TCR-2: Tribal Cultural Resources Monitoring and/or Evaluation Report

Prior to the completion of project construction, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis, and conclusions of the monitoring program shall be submitted by the Project Archaeologist, along with the Luiseño Native American monitor's notes and comments, to the City of Carlsbad for approval, and shall be submitted to the South Coastal Information Center. Said report shall be subject to confidentiality as an exception to the Public Records Act and will not be available for public distribution.

XIX. UTILITIES AND SERVICE SYSTEMS **Would the Project:**	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

PROJECT IMPACTS

a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Impact: Implementation of the proposed Project would not increase the demand for utility service systems and, therefore, would not require the expansion of existing utility systems or the construction of new utility systems. The proposed improvements would include adding low-level lighting under the elevated platform railing at each of the five (5) stairway locations. The additional lighting would tie into existing electrical utilities and would not result in any additional impacts outside of the footprint of the elevated platforms. Furthermore, there will be no relocation of utilities within or adjacent to the Project area and as such, impacts to existing utilities are not anticipated. As needed, utility service providers would be coordinated on the design and installation and would ensure that adverse impacts to the environment are avoided.

Mitigation Measures: No mitigation measures are required.

b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less than Significant Impact: The City of Carlsbad receives water service from three (3) water districts: Carlsbad Municipal Water District (CMWD), Olivenhain Municipal Water District, and Vallecitos Water District. The Project area is in the CMWD service area, which is the largest of the three (3) water districts. CMWD's service area is located in northern San Diego County, encompassing approximately 32 square miles. CMWD's 2015 water supplies included purchased water and recycled water. Potable water demands

are all currently met with water purchased from the San Diego County Water Authority (SDCWA), while recycled water is used for non-potable uses to offset potable water use. SDCWA is the regional wholesale water agency in San Diego County, and serves 24 member agencies, including CMWD. SDCWA's supply mix includes Colorado River water, State Water Project (SWP) water, and desalinated seawater.

Preparation of an Urban Water Management Plan (UWMP) is required by the California Department of Water Resources (DWR) for all urban water suppliers within the State of California, which includes CMWD. The UWMP identifies long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs. The UWMP includes a water supply and demand assessment that compares the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five (5) year increments for a normal water year, a single dry water year, and a drought lasting multiple consecutive water years. The water service reliability assessment is based on regional and local planning programs that provide population projections within the service area of the urban water supplier. The most recent UWMP for CMWD was prepared in 2015. Below, is a comparison between the supply and demand within the CMWD service area for projected years between 2020 and 2040 under a normal water year, single dry year, and multiple dry year; refer to Table 27, *Normal Year Demand Comparison*, Table 28, *Single Dry Year Demand Comparison*, and Table 29, *Multiple Dry Years Demand Comparison*.

Table 27: Normal Year Demand Comparison

Unit	2020	2025	2030	2035	2040
Supply Totals	28,526	29,696	29,984	30,450	30,474
Demand Totals	23,085	24,255	25,543	24,822	24,846
Difference	+5,441	+5,441	+4,441	+5,628	+5,628
Source: Carlsbad Municipal Water District, Urban Water Management Plan; Adopted 2016.					

Table 28: Single Dry Year Demand Comparison

Unit	2020	2025	2030	2035	2040
Supply Totals	29,750	31,000	31,308	31,793	31,818
Demand Totals	24,655	25,904	26,212	26,510	26,536
Difference	+5,095	+5,096	+5,096	+5,283	+5,282
Source: Carlsbad Municipal Water District, Urban Water Management Plan; Adopted 2016.					

Table 29: Multiple Dry Years Demand Comparison

Unit	2020	2025	2030	2035	2040
First Year					
Supply Totals	29,678	30,923	31,230	31,714	31,739
Demand Totals	24,562	25,807	26,114	26,411	26,436
Difference	+5,116	+5,116	+5,116	+5,303	+5,303
Second Year					
Supply Totals	30,543	31,844	32,164	32,661	32,688
Demand Totals	25,671	26,972	27,292	27,602	27,629
Difference	+4,872	+4,872	+4,872	+5,059	+5,059
Third Year					
Supply Totals	31,443	32,803	33,137	32,831	31,834
Demand Totals	26,825	28,184	28,519	28,843	28,871
Difference	+4,618	+4,619	+4,618	+3,988	+2,963
Source: Carlsbad Municipal Water District, Urban Water Management Plan; Adopted 2016.					

As shown in the above tables, the CMWD would have adequate water supplies for land uses within its service area under a normal year, single dry year, and multiple dry years. As indicated previously, the projected water demand projects are based on approved land use plans and associated population projections. Implementation of the proposed Project would not increase water demands above the current level of demand or result in any changes to approved land uses that effect long-term water projections and associated water demands. As shown above, the CMWD would have ability to provide adequate water service during normal, dry, and multiple dry years and potential impacts in regard to water supplies would be less than significant.

Mitigation Measures: No mitigation measures are required.

c) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?

Less than Significant Impact: The City of Carlsbad receives wastewater service from three (3) water districts: CMWD, Olivenhain Municipal Water District, and Vallecitos Water District. The CMWD services approximately 82 percent of the City. Carlsbad's Sewer Service Area extends from the Pacific Coast approximately four (4) to five (5) miles inland, providing wastewater collection, treatment, and disposal service. Sewer flows are conveyed in six (6) interceptors to the Encina Water Pollution Control Facility (EWPCF), which is along the coast and approximately centered north–south in the service area. Five (5) lift stations are part of the interceptor system, and 11 smaller lift stations are required in the collection system to convey wastewater flows to the EWPCF. Wastewater generated within the Carlsbad sewer service area is treated at the EWPCF. The EWPCF provides full secondary treatment, sludge handling, and disposal through a deep ocean outfall. The treatment levels meet current state and federal requirements for secondary treatment. The current treatment capacity at the EWPCF is 40.51 mgd. Carlsbad's current ownership capacity for treatment at the EWPCF is 9.24 mgd (average flow). The 2012 Sewer Master Plan Projected future 2035 wastewater flows to be approximately 10.0 mgd, based on growth estimates prior to the proposed General Plan. The City has requested an additional 1.02 mgd for a total of 10.26 mgd, which is currently pending.

The City of Carlsbad currently owns, operates, and maintains approximately 264 miles of wastewater collection pipelines, including interceptors, gravity flow collector pipelines, and inverted siphons. The collector sewer system includes approximately 6,300 manholes. The gravity pipelines range in size from 6" to 27" in diameter and up to 60" in diameter when including interceptor sewer pipelines. Pipe materials used throughout the gravity sewer system consist of predominately vitrified clay pipe (VCP) and polyvinylchloride (PVC), but other materials have also been used throughout the years. VCP was predominately installed in the City prior to 1980, with approximately three (3) percent of the City's gravity sewers having been installed prior to 1950. A portion of the City's sewers were installed as far back as 1929, in the "Village" area north of Carlsbad Village Drive in the proximity of State Street. Fortunately, much of the City's growth did not occur until the mid-1980s. Approximately 50 percent of the City's gravity sewer system has been installed in the past 25 years. According to the City's 2012 Sewer Master Plan, wastewater flows generated within Carlsbad are projected to increase by approximately 27 percent over existing flows, to a projected ultimate flow of approximately 10.0 mgd by the year 2035. A capacity analysis of the City's sewer system was conducted and presented in the above-mentioned plan. Results from the existing collection system analysis with peak wet weather flows indicate that several gravity pipelines are deficient with respect to the "trigger" criteria.

Implementation of the proposed Project would not increase the wastewater treatment demands within the Project area over the current level of demand, would not increase wastewater flows along any deficient

collection or wastewater conveyance system or result in any changes to approved land uses that effect long-term wastewater projections and demands. Therefore, the proposed Project would not have an adverse impact on the capacity of existing wastewater treatment systems and potential impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact: The City of Carlsbad provides solid waste collection and disposal services through its contractor, Waste Management, Inc. The services provided consist of residential, commercial, and industrial solid waste and designated recyclables collection service to over 20,000 single-family households and more than 2,000 commercial accounts. The City currently diverts approximately 61 percent of the solid waste generated within its jurisdiction from landfills. Solid waste that is not diverted from Carlsbad is hauled to two (2) landfills in San Diego County. The majority of the solid waste is sent to the Otay Landfill (approximately 98 percent), with the balance disposed of at the Sycamore Landfill (approximately two (2) percent). The Otay Landfill has a permitted daily capacity of 5,000 tons but is receiving only 2,260 tons daily, with an estimated remaining site life to 2027, according to the County. The Otay Landfill had a remaining capacity of 27 million cubic yards as of March 2010. Based on the remaining capacity and disposal rates, the Otay Landfill is expected to close in 2027.

The Sycamore Landfill has a maximum permitted daily capacity of 3,965 tons per day and a remaining capacity of 71 million cubic yards as of February 2011. The Sycamore Landfill is undergoing environmental review to permit a facility expansion. The expansion is anticipated to allow increased throughput volumes and annual and daily permitted tonnage over time (e.g., beyond 2040), which could result in an estimated additional capacity of up to 153 million cubic yards. Should the expansion occur as planned, the landfill would not be expected to close until approximately 2042. The County of San Diego has indicated that, given each existing landfill's estimated remaining capacity, and assuming the planned expansion of the Sycamore Landfill is implemented, as is the opening of the proposed Gregory Canyon Landfill, the County of San Diego would have enough daily landfill capacity to accommodate the County's solid waste disposal needs for the next 18 years.

The California Department of Resources Recycling and Recovery identifies that typical park use would generate 0.022 tons of solid waste per year. The operation of the proposed Project would not increase the demand for solid waste disposal and, therefore, would not have any long-term impacts on the carrying capacities of landfills that would serve the Project area. The construction operations for the proposed Project would generate debris as well as some construction worker trash that would require solid waste disposal. The amount of solid waste construction debris would be expected to be below the maximum allowed at each landfill. During all stages of the construction site, the proposed Project would be required to implement solid waste reduction measures to reduce the amount of waste generated, encourage reuse and/or recycling of materials to the greatest extent feasible, and utilize materials made of post-consumer materials where possible. The Project is consistent with the principles of the City of Carlsbad Reduce, Reuse, Recycle initiatives, which aim to inform the community of the importance of recycling and provides information on where and how to properly dispose of materials including hazardous waste, construction/demolition waste, and electronic waste. The Project also complies with the California Integrated Waste Management Act, which requires each jurisdiction in California to divert at least 50% of its waste away from landfills through waste reduction and recycling. Therefore, implementation of the proposed Project would not impair the attainment of solid waste reduction goals and potential impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact: The City of Carlsbad would be required to comply with state and local statutes and regulations related to solid waste. Applicable regulations include California's Integrated Waste Management Act of 1989 (AB 939), which required cities and counties throughout the state to divert 50 percent of all solid waste from landfills through source reduction, recycling, and composting; 2008 modifications of AB 939, to reflect a per-capita requirement rather than tonnage; AB 341, which increased the statewide goal for waste diversion to 75 percent by 2020; and the California Solid Waste Reuse and Recycling Access Act (AB 1327), which requires local agencies to adopt an ordinance to set aside areas for collecting and loading recyclable materials in development Projects (CalRecycle). In accordance with the California Department of Resources Recycling and Recovery disposal requirements, BMPs would be employed to reduce solid waste disposal such as the recycling of all plastic bags, containers, and green waste composting, chipping, and shredding. With implementation of the BMPs and compliance with California Department of Resources Recycling and Recovery disposal requirements, potential solid waste disposal impacts would be less than significant. Implementation of the proposed Project would not conflict with the ability to comply with these regulations.

Mitigation Measures: No mitigation measures are required.

XX. WILDFIRE **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

PROJECT IMPACTS

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact: The Project area is situated within an urban setting. As shown in Figure 19, *Fire Hazard Severity Zones*, according to the California Department of Forest and Fire Protection, the Project area is not identified as a high fire hazard area or near a state responsibility area. Therefore, the proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.

Mitigation Measures: No mitigation measures are required.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact: The Project area is situated within an urban setting. As shown in Figure 19, according to the California Department of Forest and Fire Protection, the Project area is not identified as a high fire hazard area or near a state responsibility area. Therefore, the proposed Project would not exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Mitigation Measures: No mitigation measures are required.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

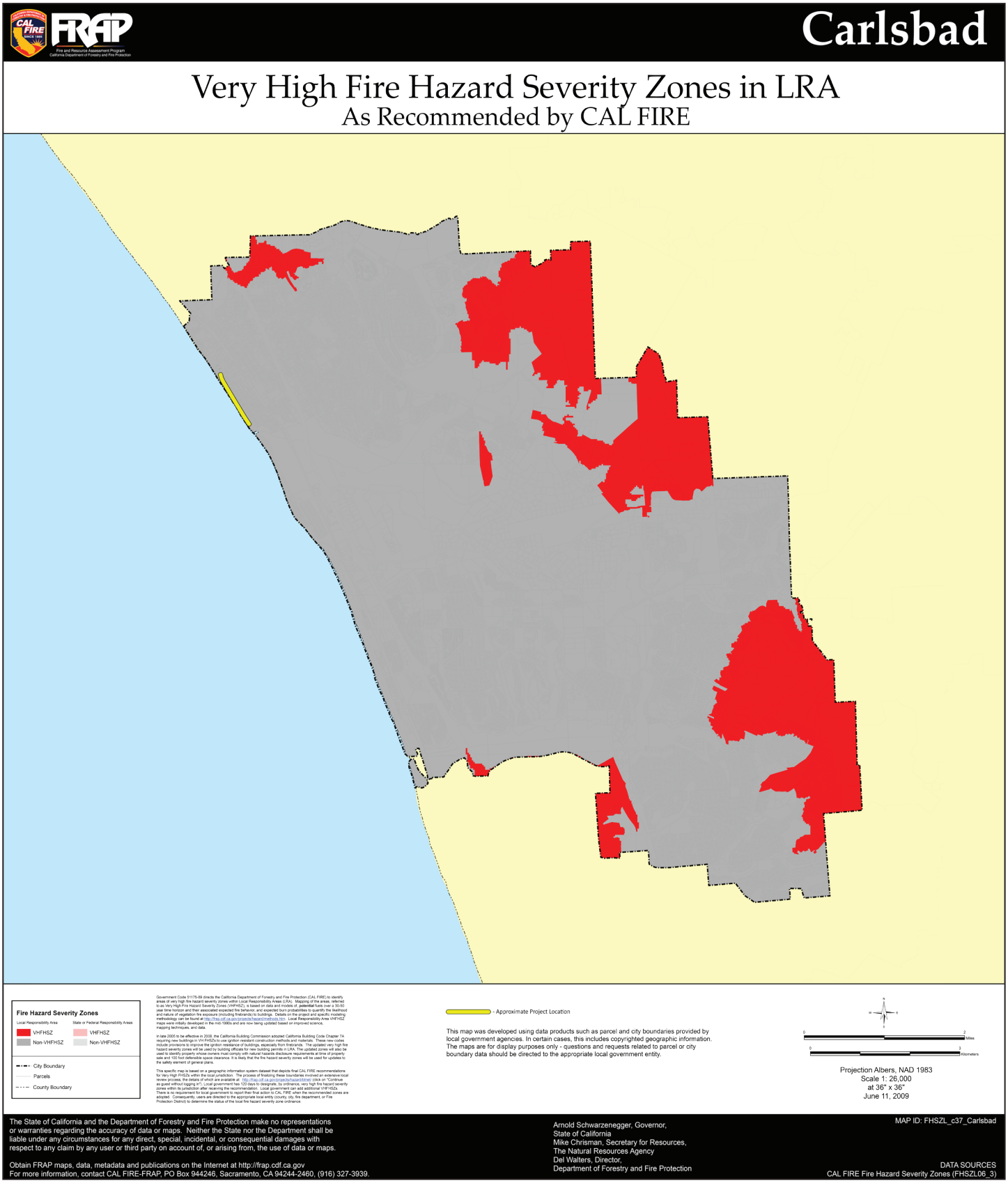
No Impact: The Project area is situated within an urban setting. As shown in Figure 19, according to the California Department of Forest and Fire Protection, the Project area is not identified as a high fire hazard area or near a state responsibility area. Therefore, the proposed Project would not exacerbate fire risk or result in temporary or ongoing impacts to the environment.

Mitigation Measures: No mitigation measures are required.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact: The Project area is situated within an urban setting. As shown in Figure 19, according to the California Department of Forest and Fire Protection, the Project area is not identified as a high fire hazard area or near a state responsibility area. Therefore, the proposed Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Mitigation Measures: No mitigation measures are required.



Source: California Department of Forestry and Fire Protection (CALFIRE); July 2020.

BEACH ACCESS REPAIR PROJECT
Initial Study/Mitigated Negative Declaration

Fire Hazard Severity Zones

Figure 19

XXI. MANDATORY FINDINGS OF SIGNIFICANCE **Would the Project:**	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)	☐	☒	☐	☐
c) Does the Project have environmental effects, which will cause the substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

PROJECT IMPACTS

a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant with Mitigation Incorporated: No special status animal species were observed within the Project area during the July 2018 and June 2020 general biological surveys. Additionally, CNNDB search identified the following special status animal species to have a moderate potential to occur within the Project area: coastal California gnatcatcher, coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), western yellow bat (*Lasiurus xanthinus*), and pocketed free-tailed bat (*Nyctinomops femorosaccus*). If these species are present during construction, there would be the potential that adverse direct impacts could occur. To avoid direct impacts to sensitive wildlife species, pre-construction surveys would be required prior to the start of construction and best management practices would be implemented. To avoid significant impacts and to ensure the Project does not cause sensitive wildlife populations to drop below self-sustaining levels, Mitigation Measures BIO-1 to BIO-6 have been incorporated into the Project. With implementation of Mitigation Measures BIO-1 to BIO-6, potential impacts to sensitive wildlife would be less than significant.

Two (2) observations of sensitive plant species occurred during the July 2018 survey, two (2) cliff spurge (*Euphorbia miseria*) individuals within areas of Diegan Coastal Sage Scrub and several individuals of coast desert-thorn (*Lycium californicum*). Additionally, the following special status plant species have a moderate potential to occur within the Project area: South Coast saltscale (*Atriplex pacifica*), Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*), Del Mar Mesa sand aster (*Corethrogyne filaginifolia* var. *linifolia*),

San Diego barrel cactus (*Ferocactus viridescens*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), and San Diego County viguiera (*Viguiera laciniata* [= *Bahiopsis laciniata*]).

The Project proposes to permanently impact 0.03 acres of Diegan coastal sage scrub and 0.02 acres of Maritime Succulent Scrub within the Project site, primarily along the upper boundary of the slope, where the sidewalk would be cantilevered an additional 1.5' over the bluff side to widen the walkway. Additionally, the Project would temporarily impact 0.10 acres of Diegan Coastal Sage Scrub and 0.02 acres of Maritime Succulent Scrub, primarily in the areas adjacent to the five (5) stairways that transect, to replace the stairway structures and to accommodate equipment access. Permanent impacts to Diegan Coastal Sage Scrub and Maritime Succulent Scrub communities would be reduced to less than significant with implementation of the following method: establishment of habitat onsite where non-native vegetation currently exists or where there is a lack of vegetative cover. Temporarily impacted by Project activities within Diegan Coastal Sage Scrub and Maritime Succulent Scrub communities would be reduced to less than significant by revegetating temporary impacted areas with appropriate native vegetation following Project implementation. To avoid significant impacts and to ensure the Project does not cause sensitive plant vegetation communities to drop below self-sustaining levels, Mitigation Measures BIO-7 and BIO-8 have been incorporated into the Project. With implementation of Mitigation Measures BIO-7 and BIO-8, potential impacts to sensitive plants and sensitive vegetation communities would be less than significant.

The cultural study prepared for the proposed Project demonstrates that there are no recorded archaeological resources or tribal cultural resources within the Project area. The Project would involve minor excavation activities, grading into the slope at the base of the stairs for a new, small retaining wall at Maple Avenue and Hemlock Avenue stairways. The potential to encounter archaeological resources would be low. However, because cultural resources are known to occur within the vicinity of the Project area, there is some potential for unknown archaeological resources to be present. To avoid potential significant impacts to the resource, the City of Carlsbad must be notified immediately, and all work in the immediate vicinity shall be halted or diverted until a qualified archaeologist and a qualified Native American/cultural monitor can evaluate the nature and significance of the discovery. To avoid eliminating important examples of the major periods of California history or prehistory, Mitigation Measures CR-1, CR-2, and CR-3 have been incorporated into the Project. With implementation of Mitigation Measures CR-1, CR-2, and CR-3, potential adverse impacts to historical and archaeological resources would be less than significant.

The records search identified that one (1) fossil locality lies within one (1) mile of the Project site (in the Sespe/Vaqueros Formation); however, none are recorded on the Project site. Because of the high paleontological sensitivity of the Bay Point, Sespe/Vaqueros, and Santiago Formations and the presence of a nearby fossil locality, there would be some potential to encounter paleontological resources during excavations. The Project would involve minor excavation activities, grading into the slope at the base of the stairs for a new small retaining wall at the Maple Avenue and Hemlock Avenue stairways. There could be the potential that excavations could encounter Bay Point, Sespe/Vaqueros, and Santiago Formations. SDNHM recommends the implementation of a paleontological resource mitigation program during any proposed excavations that extend into these rock units. To avoid potential impacts to unknown paleontological resources, a qualified paleontologist should observe earth disturbing activities occurring at the Maple Avenue and Hemlock Avenue stairways and in the event paleontological resources are encountered, all working in the immediate area of the finding will halt until the significance of the finding is determined. To avoid eliminating important examples of the major periods of California history or prehistory, Mitigation Measure GEO-2 has been incorporated into the Project. With the implementation of Mitigation Measure GEO-2, potential impacts to paleontological resources would be less than significant.

b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)

Less than Significant with Mitigation Incorporated: A cumulative impact may be significant if a Project's incremental effect, though individually limited, is cumulatively considerable. Cumulatively considerable means that the incremental effects of an individual Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects and the effects of probable future Projects. Cumulative impacts can occur as a result of the intersections of the interactions of environmental change from multiple projects that could affect the same environmental resources, such as traffic, noise and air quality. All potential significant impacts would be addressed with mitigation measures to reduce the extent of potential impacts. Cumulative impacts are further addressed below.

The analysis provided in the *Environmental Analysis* section identifies that no impacts would occur to aesthetics, agriculture and forestry resources and mineral resources. Therefore, the proposed Project would not contribute considerably to cumulative impacts in regard to these issues.

The analysis determined that potential impacts to energy, GHG emissions, land use and planning, population and housing, public services, recreation, utilities and service systems, and wildfire would be less than significant. Therefore, while the Project would contribute to cumulative impacts, the Project contribution would not be considerable to result in significant cumulative impacts.

Impacts related to air quality construction emissions, biological resources, cultural/paleontological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise and tribal resources were determined to be potentially significant and would require compliance with regulations and implementation of Mitigation Measures to reduce impacts to a less than significant level. Therefore, the proposed Project could contribute considerably to significant cumulative impacts in these environmental issue areas. These environmental issue areas are discussed in further detail below.

AIR QUALITY

The context for assessing cumulative air impacts from short-term construction activities includes quantifying emissions and comparing the emissions to the applicable SCAQMD screening thresholds. As discussed in *Air Quality*, the proposed Project's construction emissions would be below SDAPCD thresholds. Further, the proposed Project would be required to implement SDAPCD Fugitive Dust Rules 52 and 54, which would require dust suppression techniques to prevent fugitive dust from creating a nuisance offsite. With implementation of Fugitive Dust Rules 52 and 54, short-term construction air emissions would be less than significant, and the proposed Project would not result in a cumulatively considerable contribution to impacts related to short-term air quality emissions. Related cumulative projects in the Project area would be evaluated for potential air quality impacts and would be required to implement fugitive dust control measures where needed and other measures as needed to minimize air quality impacts. Therefore, the proposed Project considered with the related cumulative projects would not result in significant cumulative air quality impacts.

BIOLOGICAL RESOURCES

Biological surveys conducted on the Project did not identify any special status animal species. However, four (4) sensitive species, coastal California gnatcatcher, coastal cactus wren, western yellow bat, and pocketed free-tailed bat were identified to have a moderate potential to occur within the Project area. The Project would be required to implement Mitigation Measures BIO-1 to BIO-6, which require pre-

construction surveys prior to the start of construction and implementation of BMPs to avoid impacting special status wildlife species and their habitat.

Two (2) observations of sensitive plant species occurred during the July 2018 survey: two (2) cliff spurge individuals within areas of Diegan Coastal Sage Scrub and several individuals of coast desert-thorn. Additionally, several sensitive plants were identified to have moderate potential to occur. The Project would permanently impact 0.03 acres of Diegan Coastal Sage Scrub and 0.02 acres of Maritime Succulent Scrub and temporarily impact 0.10 acres of Diegan Coastal Sage Scrub and 0.02 acres of Maritime Succulent Scrub. Potential impacts to sensitive vegetation communities as identified in Mitigation Measures BIO-7, and BIO-8, would be compensated by a combination of onsite restoration, which would ensure no net loss of sensitive vegetation communities. The implementation of avoidance measures and mitigation measures would reduce potential direct and indirect impacts to a less than significant level.

With the incorporation of mitigation measures, the Project would reduce potential impacts to biological resources to less than significant. Therefore, the proposed Project would not considerably contribute to impacts that would result in cumulative impacts to biological resources. Related cumulative projects would be required to comply with state and federal laws that provide for the protection of biological resources and, where needed, would need to implement measures to minimize impacts to biological resources. Compliance with local, state, and federal laws would reduce the potential impacts to less than significant. Therefore, the proposed Project considered with the related projects would not result in significant cumulative impacts to biological resources.

CULTURAL/PALEONTOLOGICAL RESOURCES

The context for assessing cumulative impacts to local archeological and paleontological resources is to determine whether the Project would result in a loss of these resources that could diminish or eliminate important information relevant to the history of the Project area. The proposed Project would be required to comply with Mitigation Measure CR-3, which requires the City of Carlsbad shall notify the County Coroner in the event cultural resources and/or burial remains are identified. To avoid potential significant impacts to cultural resources, a qualified archaeological monitor and a qualified Native American/cultural monitor will be present on site during all ground disturbing activities. In the event that potential archaeological resources are discovered during ground-disturbing activities, the qualified archaeologist on site will notify the Associate State Archaeologist and City of Carlsbad immediately and all work shall stop and/or be diverted in that area and within 30’ of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures.

Additionally, Mitigation Measure GEO-2 would be required, which would require a paleontologist to observe earth disturbing activities and take appropriate steps to preserve or curate the artifact and halt or redirect work in the event paleontological resources are encountered. This would eliminate any potential loss of important archaeological or paleontological information that may be buried under the Project site. With regard to a potential discovery of human remains during construction, the Project would be required to comply with Mitigation Measure CR-2, which requires grading and construction activities to cease pursuant to State Health and Safety Code Section 7050.5 until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Section 5097.98 of the California Public Resource Code. Therefore, the proposed Project would not result in a cumulatively considerable contribution to impacts related to a cumulative loss of important archaeological or paleontological resources, and/or disturbed human remains. Related cumulative projects in the Project area would be evaluated for potential impacts to cultural resources and would be required to implement measures to reduce impacts to cultural resources. Therefore, the proposed Project considered with the related cumulative projects would not result in significant cumulative impacts to cultural resources.

GEOLOGY AND SOILS

Like other areas in southern California, the proposed Project could be subject to seismic shaking impacts. The proposed improvements would be required to be designed to meet the City's construction development standards and the seismic design parameters of the California Uniform Building Code. The proposed Project would be required to implement Mitigation Measure GEO-1, which requires compliance with the geotechnical design measures recommended in the Project geotechnical report to ensure the stability of the Project. To minimize erosion, the Project would be required to obtain a General Construction Permit, prepare and implement a SWPPP, and implement erosion control measures. With compliance of the California Uniform Building Code, geotechnical design measures, and erosion control measures, potential geologic impacts would be less than significant. Therefore, the proposed Project would not contribute to a cumulatively considerable impact with regards to geologic impacts. Related cumulative projects would be required to comply with California Building Code requirements to minimize potential geologic and seismic impacts and would be required to implement erosion control plans to minimize potential erosion and sedimentation impacts. Therefore, the proposed Project considered with the related projects would not result in significant cumulative geologic impacts.

HAZARDS AND HAZARDOUS MATERIALS

The proposed Project would involve the use of incidental amounts of hazardous substances, such as fuel, oil, and solvents. To ensure hazardous substances are not inadvertently released into the environment, the Project would be required to comply with local, state, and federal laws regarding the handling, storage and transporting of hazardous substances and would be required to spill prevention and clean-up BMPs during construction. With compliance with local, state, and federal laws and implementation of BMPs, the potential handling of hazardous materials would be less than significant. Therefore, the proposed Project would not contribute to a cumulatively considerable impact with regards to the release of hazardous materials into the environment. Related cumulative projects would be evaluated for potential hazards and potential release of hazardous substances into the environment. The related projects would be required to comply with local, state, and federal laws and regulations regarding the handling, storage, and transporting of hazardous materials. Compliance with local, state, and federal laws would reduce the potential impacts to less than significant. Therefore, the proposed Project considered with the related projects would not result in significant cumulative hazard or hazardous material impacts.

HYDROLOGY AND WATER QUALITY

Construction activities associated with the proposed Project could have the potential to generate degraded surface water impacts which could adversely affect downstream receiving water bodies. The proposed Project would be required to adhere to the NPDES MS4 Storm Water Permit requirement, which would be to obtain a State General Construction Permit, filing an NOI to the Storm Water Report Tracking System and obtain a waste discharger identification number from the SWRCB. Additionally, the General Construction Permit would require the development and implementation of a SWPPP. The SWPPP would identify BMPs to minimize degraded surface water runoff impacts. Therefore, the proposed Project would not contribute to a cumulatively considerable impact with regards to hydrology and water quality. Related cumulative projects would be evaluated for potential hydrology impacts and would be required to ensure they are not within a flood hazard area or would impede flood flows. Additionally, related projects would be required to comply with the City's NPDES MS4 Storm Water Permit requirements to maintain water quality. Therefore, the proposed Project considered with the related cumulative projects would not result in significant cumulative hydrology or water quality impacts.

NOISE

The proposed Project would result in a temporary increase in noise levels during construction activities. The proposed Project is recommended to implement BMPs to minimize nuisance noise during construction, which would ensure construction noise impacts would be less than significant. The proposed Project's short-term noise contribution would not be considerable. Related cumulative projects would be required to comply with applicable noise and vibration standards and regulations to minimize noise and vibration impacts. Therefore, the proposed Project considered with the related cumulative projects would not result in significant cumulative noise impacts.

TRANSPORTATION

The Project was evaluated based on the City of Carlsbad's VMT Analysis Guidelines and does not meet any of the criteria to conduct a detailed VMT Analysis. The proposed Project is considered a local-serving public facility, which is exempt as it will promotes increased walkability for the public in the coastal zone and improved access to the beach, an important public resource. The proposed Project would not generate additional traffic trips or additional vehicle miles within the Project area. Therefore, the proposed Project would not contribute considerably to significant cumulative traffic impacts. During construction, traffic control measures would be implemented to maintain safe vehicle and pedestrian access within the Project area. Related cumulative projects would be required to prepare traffic studies to evaluate potential traffic impacts and would be required to comply with the applicable traffic design standards, regulations, and mitigation measures on a project-by-project basis to ensure significant cumulative traffic impacts do not occur. Therefore, the proposed Project considered with the related cumulative projects would not result in significant cumulative traffic impacts.

TRIBAL CULTURAL RESOURCES

To avoid significant impacts to unknown tribal cultural resources that could be present on the Project site, the proposed Project would be required to comply with Mitigation Measure CR-2, which requires that construction activities halt in the event tribal cultural resources are encountered. To avoid potential significant impacts to cultural resources, a qualified archaeological monitor and a qualified Native American/cultural monitor will be present on site during all ground disturbing activities. In the event that potential archaeological resources are discovered during ground-disturbing activities, the qualified archaeologist on site will notify the Associate State Archaeologist and City of Carlsbad immediately and all work shall stop and/or be diverted in that area and within 30' of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. This would eliminate any potential loss of important tribal cultural resources that may be discovered at the Project site. Compliance with Mitigation Measure CR-2 would ensure that a cumulative loss of tribal cultural resources from the Project construction activities would not occur. In the event unknown burial remains are encountered during construction, the Project would be required to comply with Mitigation Measure CR-3, which requires grading and construction activities to cease pursuant to State Health and Safety Code Section 7050.5 until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Section 5097.98 of the California Public Resource Code. Therefore, the proposed Project would not result in a cumulatively considerable contribution to impacts related to tribal cultural resources, and impacts would be less than significant. Related cumulative projects in the area would be required to comply with the provisions of AB52, which would reduce cumulative impacts regarding impact to tribal cultural resources. Therefore, the proposed Project considered with the related cumulative projects would not result in significant cumulative impacts to cultural tribal resources.

c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant with Mitigation Incorporated: Potential impacts that could cause substantial adverse effects on human beings were analyzed in this IS/MND include, but are not limited to air quality, GHG emissions, geology hazards, hazardous materials, seismic hazards, hydrology/water quality, noise, and wildfire. Each issue area found that there would be either no impacts, impacts would be less than significant, or impacts would be less than significant with mitigation incorporated. The proposed Project would comply with local and regional planning programs, applicable codes, and ordinances, federal and state laws and regulations, and mitigation measures to ensure that long-term operation activities and short-term construction activities associated with the proposed Project would not result in direct, or indirect adverse impacts to human beings.

20. LIST OF MITIGATION MEASURES (if applicable)

BIOLOGICAL RESOURCES

BIO-1: Prior to the start of construction activities, including vegetation removal, demolition, and grading activities, a qualified biologist shall conduct a survey for sensitive plants within the Project footprint and immediately adjacent habitat. To the extent practicable, the plant survey shall occur within the blooming period for those sensitive species previously observed onsite and/or those species with a high potential to occur onsite. To the extent practicable, sensitive plant species shall be avoided by Project activities. If sensitive plant avoidance is not practicable, then it is recommended that the impacted species be either (a) transplanted outside of the Project impact footprint prior to Project implementation, or (b) replanted onsite (1:1 ratio) following Project implementation, if feasible.

BIO-2: Bat Protection. Prior to the start of construction, including demolition and grading activities, all suitable areas within the Project site and an appropriate survey buffer shall be surveyed for the presence of bat roosts by a qualified bat biologist. Surveys are required as follows:

(1) Initial surveys are recommended to be conducted at least six (6) months prior to the initiation of vegetation removal and ground disturbing activities, ideally during the maternity season (typically March 1 to August 31), to allow time to prepare mitigation and/or exclusion plans if needed, and

(2) Pre-construction surveys shall be conducted by a qualified bat biologist no more than two (2) weeks prior to the initiation of vegetation removal and ground disturbing activities. Surveys may entail direct inspection of the trees, stairways, and/or other suitable habitat or nighttime surveys.

BIO-2(a): If active bat roosts are present, a qualified bat biologist shall determine the species of bats present and the type of roost (i.e., day roost, night roost, maternity roost). If the biologist determines that the roosting bats are not a special-status species and the roost is not being used as a maternity roost, then the bats may be evicted from the roost by a qualified bat biologist experienced in developing and implementing bat mitigation and exclusion plans.

BIO-2(a)(i): If special-status bat species or a maternity roost of any bat species is present, but no direct removal of active roosts will occur, a qualified bat biologist shall determine appropriate avoidance measures, which may include implementation of a construction-free buffer around the active roost.

BIO-2(a)(ii): If special-status bat species or a maternity roost of any bat species is present and direct removal of habitat (roost location) will occur, then a qualified bat biologist experienced in developing bat mitigation and exclusion plans shall develop a mitigation plan to compensate for the lost roost site. Removal of the roost shall only occur when the mitigation plan has been approved by the City and only when bats are not present in the roost. The mitigation plan shall detail the methods of excluding bats from the roost and the plans for a replacement roost in the vicinity of the Project site. The mitigation plan shall be submitted to the City for approval prior to implementation. The plan shall include: (1) a description of the species targeted for mitigation; (2) a description of the existing roost or roost sites; (3) methods to be used to exclude the bats if necessary; (4) methods to be used to secure the existing roost site to prevent its reuse prior to removal; (5) the location for a replacement roost structure; (6) design details for the construction of the replacement roost; (7) monitoring protocols for assessing replacement roost use; (8) a schedule for excluding bats, demolishing of the existing roost, and

construction of the replacement roost; and (9) contingency measures to be implemented if the replacement roosts do not function as designed.

BIO-2(b): If the pre-construction survey determines that no active roosts are present, then trees/stairways/suitable habitat shall be removed within two (2) weeks following the pre-construction survey.

BIO-2(c): All potential roost trees shall be removed in a manner approved by a qualified bat biologist, which may include presence of a biological monitor.

BIO-2(d): All construction activity in the vicinity of an active roost shall be limited to daylight hours.

BIO-3: Construction activities, including vegetation removal, demolition, and grading activities, shall occur outside of the gnatcatcher breeding season (February 15 - August 31). If breeding season avoidance is not practicable, then BIO-4 shall be implemented.

BIO-4: If construction activities, including vegetation removal, demolition, and grading activities, will occur within gnatcatcher breeding season (February 15 - August 31), the following will be implemented:

a. A permitted biologist shall conduct a pre-construction survey within the Project site and adjacent suitable habitat prior to the start of work. The survey will be conducted no more than three (3) days prior to construction.

b. If an active gnatcatcher nest (nest containing eggs or an empty or partial nest with gnatcatchers actively exhibiting breeding behaviors) occurs within the Project site or adjacent habitat, the biologist shall establish a 500' no work buffer around the active gnatcatcher nest and consultation with USFWS shall occur.

c. If no active gnatcatcher nests are observed during the pre-construction survey, no further action is required.

BIO-5: A nesting bird survey shall be conducted within three (3) days prior to start of construction, including demolition, grading, and vegetation removal, if construction and/or vegetation removal occur during the nesting bird season identified in the HMP (February 15 - September 15). If vegetation removal occurs outside of nesting season or if no nesting birds are found, no further action is required. If active nests are identified, the biologist will establish appropriate buffers around the area (typically 500' for raptors and sensitive species, 200' for non-raptors/non-sensitive species). All work within these buffers will be halted until the nesting effort is finished (i.e., the juveniles are surviving independent from the nest). The onsite biologist will review and verify compliance with these nesting boundaries and will verify the nesting effort has finished. Work can resume within the buffer area when no other active nests are found. Alternatively, a qualified biologist may determine that certain work can be permitted within the buffer areas and would develop a monitoring plan to prevent any impacts while the nest continues to be active (eggs, chicks, etc.). If vegetation clearing is not initiated within 72 hours of a negative survey during nesting season, the nesting survey must be repeated to confirm the absence of nesting birds.

BIO-6: Implementation of general BMPs is required to the extent practical. Key aspects of the BMPs are to clearly delineate the limits of disturbance, use properly maintained equipment, properly implement and monitor water quality BMPs, avoid use of chemicals near sensitive areas, develop procedures for minimizing the likelihood of spills and to control sediment, ensure worker safety, and minimize impacts to wildlife.

BIO-7: Permanent impacts to native vegetation communities shall be mitigated in accordance with the City's HMP for areas within the coastal zone as shown in Table 13, *HMP Mitigation for Impacts to Vegetation Communities*, with the following methods:

- Establishment of habitat onsite where non-native vegetation currently exists or where there is a lack of vegetative cover.

BIO-8: Areas where temporary impacts occur to native vegetation communities from the Project construction activities shall be revegetated with appropriate native vegetation following Project implementation. Habitat establishment onsite shall follow the recommendations outlined in the *Guidelines for Habitat Creation and Restoration* (TAIC, 2009) prepared for the City of Carlsbad. Plant material for revegetation efforts shall also be consistent with State Parks Statement of Policy for plant genetic integrity (Policies 11.4 and 11.5) to ensure preservation and diversity of vegetative entities within the State Park System.

BIO-9: Approved landscape specialist (appointed by the City of Carlsbad) to monitor and maintain the vegetated communities that were impacts by construction activities as well as the areas that were revegetated in compliance with the required mitigation ratios. One (1) year after the completion of the Project, monitoring activities shall continue for an additional five (5) years. Plant maintenance activities would include pruning as needed, shrubbery to be checked monthly for breakage/damage and operation and maintenance of irrigation systems.

Watering Requirements for Native Plants:

- Water plants once a week, for the first month or until the rainy season begins.
- After the rain begins, only water through April and only if it has not rained in three (3) consecutive weeks.
- Do not water in direct sun or on an unseasonably warm day.
- Infrequent deep watering is more desirable that frequent shallow watering.

CULTURAL RESOURCES

CR-1: Alterations needed to comply with the ADA would be consistent with both the Secretary of the Interior's Standards and Guidelines for Rehabilitation, and the California Historical Building Code. A description of specific improvements proposed for rehabilitation would be submitted to State Parks for review and approval in advance of construction to ensure that the comfort station retains its historic integrity.

A qualified archaeological monitor shall be present during all work taking place within 20' of the CRHR eligible Comfort Station. Photo documentation of the stairs, ramp, and comfort station surrounding features (including the retaining walls and concrete slab/cantilevered deck) prior to demolition is required. The qualified archaeologist will attend all pre-construction meetings to consult with the grading and excavation contractors concerning excavation schedules, archaeological field techniques, and safety issues. The qualified archaeologist will consult with the qualified State Historian and Associate State Archaeologist regarding any impacts that have the potential to affect the historic Comfort Station. The archaeologist shall retain the option to reduce monitoring, with concurrence from the City and qualified historian, if it is determined that work will not be impacting the resource.

CR-2: A qualified archaeological monitor and a qualified Native American/cultural monitor shall be present during all ground disturbing activities related to this project as well as during any work

taking place within 20 feet of the CRHR eligible Comfort Station. The qualified archaeologist and qualified Native American/cultural monitor will attend all pre-construction meetings to consult with the grading and excavation contractors concerning excavation schedules, archaeological field techniques, and safety issues. In the event that potential cultural resources are discovered during ground-disturbing activities, the qualified archaeologist on site will notify the Associate State Archaeologist from State Parks and City of Carlsbad immediately and all work shall stop and/or be diverted in that area and within 30 feet of the find until the significance of the resource can be assessed, and appropriate treatment measures developed and implemented, if necessary. The Associate State Archaeologist from State Parks, an appropriate representative from the City of Carlsbad, and a tribal representative shall assess the significance of the cultural resource. The archaeologist and the tribal representative shall make recommendations to the Lead Agency on the measures that will be implemented to protect the cultural resource(s), including but not limited to, avoidance in place, excavation, relocation, and further evaluation of the discoveries in accordance with California Environmental Quality Act (CEQA). If the resource is determined to be culturally significant, the City of Carlsbad shall engage with the consulting Tribes to confer regarding the appropriate treatment for the cultural resource. Pursuant to Calif. Pub. Res. Code § 21083.2(b), avoidance is the preferred method of preservation.

Artifacts/cultural materials encountered during project work should be left *in situ*, if possible. If project work or other planned future disturbance of that specific location requires the cultural material to be relocated, it should be reburied as close to the original location as possible, on State Parks property, in a location that will be free from future disturbance. If any such artifacts are collected, they shall be prepared to a point of identification and permanent preservation. Any/all collected items that have thoroughly been evaluated by a Luiseño Native American monitor shall be repatriated to the consulting Tribes for reburial on project site. No photographs shall be taken, and no invasive or non-invasive testing shall be conducted unless prior written permission has been given by all the consulting Tribes. Materials of non-Native American origin and as agreed upon by the tribal monitor may be collected for curation. Curation must include obtaining an accession number and cataloging collections in the Excel format approved for use with TMS. A monitoring report containing photograph documentation and monitoring forms as well as an appended catalog of artifacts (if any are collected) shall be prepared and shall signify completion of the mitigation. The archaeologist shall retain the option to reduce monitoring, with concurrence from the State and City, if it is determined that the sediments were previously disturbed or previously monitored.

CR-3: If human remains are encountered during excavation activities, all work shall halt in the vicinity of the remains and the City of Carlsbad shall notify the County Coroner (*California Public Resources Code,* Section 5097.98). In addition to the County Coroner, State Parks Associate State Archaeologist/Tribal Liaison shall be notified. The County Coroner will determine whether the remains are of forensic interest. If the Coroner, with the aid of a qualified archaeologist and a qualified Native American/cultural monitor, determines that the remains are prehistoric, he/she will contact the NAHC. The NAHC will be responsible for designating the most likely descendant, who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the *California Health and Safety Code*. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. If feasible, the MLD's recommendation should be followed and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (*California Health and Safety Code,* Section 7050.5). If the landowner rejects the MLD's

recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (*California Public Resource Code,* Section 5097.98).

GEOLOGY AND SOILS

GEO-1: The final design of the Project shall consider and where feasible, implement the coast bluff stability enhancement recommendations and the design and construction recommendations provided in the Geotechnical Basis of Design prepared by Terra Cota Consultants, and presented in Appendix F. Geotechnical recommendations focus on design and structural considerations as well as materials and fill type to be used during construction. The Geotechnical recommendations are listed below:

- Foundation Design for Sidewalk Support/Retaining Walls
- Slab Design for On-Grade Sidewalk Slabs
- Retaining Walls
- Structural Fill Placement

GEO-2: A qualified paleontologist should observe earth disturbing activities occurring at Maple Avenue and Hemlock Avenue stairways. The paleontologist should attend the pre-construction meeting to consult with the grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues. In the event that potential paleontological resources are discovered during ground-disturbing activities, work shall stop in that area and within 30' of the find until a qualified paleontologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Specimens shall be curated into a professional, accredited museum repository with permanent retrievable storage such as the SDNHM. A report of findings, with an appended itemized inventory of specimens, shall be prepared and shall signify completion of the mitigation. The paleontologist shall retain the option to reduce monitoring, with concurrence from the City, if it is determined that the sediments were previously disturbed. Monitoring may also be reduced with concurrence from the City if potentially fossiliferous units are not present or, if present, are determined to have a low potential to contain fossil resources.

NOISE

NOI-1: It is recommended that construction activities for the Project include the following noise construction BMPs to minimize nuisance noise to the extent possible:

- Construction Equipment. Electrical power shall be used to run air compressors and similar power tools where feasible. Internal combustion engines should be equipped with a muffler of a type recommended by the manufacturer and in good repair. All diesel equipment should be operated with closed engine doors and should be equipped with factory-recommended mufflers. Construction equipment that continues to generate substantial noise at the Project boundaries should be shielded with temporary noise barriers, such as barriers that meet an STC rating of 25, sound absorptive panels, or sound blankets on individual pieces of construction equipment. Stationary noise-generating equipment, such as generators and compressors, should be located as far as practically possible from the nearest residential property lines.

- Neighbor Notification. Provide notification to residential occupants adjacent to the Project site at least 24 hours prior to initiation of construction activities that could result in substantial noise levels at outdoor or indoor living areas. This notification should include the anticipated hours and duration of construction and a description of noise reduction measures being implemented at the Project site. The notification should include a telephone number for local residents to call to submit complaints associated with construction noise.
- Noise Control Plan. Construction contractors shall develop and implement a noise control plan that includes a noise control monitoring program to ensure sustained construction noise levels do not exceed 75 decibels over a 12-hour period at the nearest sensitive receivers. The plan may include the following requirements:
  - Contractor shall turn off idling equipment while not being used for operations after idling for five (5) minutes.
  - Contractor shall perform noisier operation during the times least sensitive to receptors.
  - All diesel equipment shall be operated with closed engine doors and shall be equipped with factory-recommended mufflers.
  - Electrical power shall be used to run air compressors and similar power tools and to power any temporary structures, such as construction trailers or security staff facilities, where practical.

TRANSPORTATION

T-1: Prior to the start of construction activities, a Traffic Control Management Plan will be prepared and implemented.

Tribal Cultural Resources

TCR-1: Tribal Cultural Resources Monitoring

Prior to the commencement of any ground-disturbing activities, the project developer shall:

a. Retain the services of a qualified archaeologist who shall be on-site for ground-disturbing activities. In the event cultural material is encountered, the archaeologist is empowered to temporarily divert or halt grading to allow for coordination with the Luiseño Native American monitor, or other Traditionally and Culturally Affiliated Luiseño tribe ("TCA Tribe"), and to determine the significance of the discovery. The archaeologist shall follow all standard procedures for cultural materials that are not tribal cultural resources.

b. Enter into a Pre-Excavation Agreement, otherwise known as a Tribal Cultural Resources Treatment and Tribal Monitoring Agreement, with the San Luis Rey Band of Mission Indians or other Luiseño tribe that meets all standard requirements of the tribe for such agreements. This Agreement will address provision of a Luiseño Native American monitor and contain provisions to address the proper treatment of any tribal cultural resources and/or Luiseño Native American human remains inadvertently discovered during the course of the project. The Agreement will outline the roles and powers of the Luiseño Native American monitors and the archaeologist and may include the following provisions. In some cases, the language below may be modified in consultation with San Luis Rey Band of Mission Indians if special conditions warrant.

c. A Luiseño Native American monitor shall be present during all ground-disturbing activities. Ground disturbing activities may include, but are not limited to archaeological studies, geotechnical investigations, clearing, grubbing, trenching, excavation, preparation for utilities and other infrastructure, and grading activities.

d. Any and all uncovered artifacts of Luiseño Native American cultural importance shall be returned to the San Luis Rey Band of Mission Indians, and/or the Most Likely Descendant, if applicable, and not be curated, unless ordered to do so by a federal agency or a court of competent jurisdiction.

e. The Luiseño Native American monitor shall be present at the Project's pre-construction meeting to consult with grading and excavation contractors concerning excavation schedules and safety issues, as well as to consult with the archaeologist PI concerning the proposed archaeologist techniques and/or strategies for the Project.

f. Luiseño Native American monitors and archaeological monitors shall have joint authority to temporarily divert and/or halt construction activities. If tribal cultural resources are discovered during construction, all earth-moving activity within and around the immediate discovery area must be diverted until the Luiseño Native American monitor and the archaeologist can assess the nature and significance of the find.

g. If a significant tribal cultural resource(s) and/or unique archaeological resource(s) are discovered during ground-disturbing activities for this project, the San Luis Rey Band of Mission Indians or other Luiseño tribe shall be notified and consulted regarding the respectful and dignified treatment of those resources. Pursuant to California Public Resource Code Section 21083.2(b) avoidance is the preferred method of preservation for archaeological and tribal cultural resources. If, however, the Applicant is able to demonstrate that avoidance of a significant and/or unique cultural resource is infeasible and a data recovery plan is authorized by the City of Carlsbad as the lead agency, the San Luis Rey Band of Mission Indians shall be consulted regarding the drafting and finalization of any such recovery plan.

h. When tribal cultural resources are discovered during the project, if the archaeologist collects such resources, a Luiseño Native American monitor must be present during any testing or cataloging of those resources. If the archaeologist does not collect the tribal cultural resources that are unearthed during the ground-disturbing activities, the Luiseño Native American monitor may, at their discretion, collect said resources and provide them to the San Luis Rey Band of Mission Indians for dignified and respectful treatment in accordance with their cultural and spiritual traditions.

i. If suspected Native American human remains are encountered, California Health and Safety Code Section 7050.5(b) states that no further disturbance shall occur until the San Diego County Medical Examiner has made the necessary findings as to origin. Further, pursuant to California Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. Suspected Native American remains shall be examined in the field and kept in a secure location at the site. A Luiseño Native American monitor shall be present during the examination of the remains. If the San Diego County Medical Examiner determines the remains to be Native American, the NAHC must be contacted by the Medical Examiner within 24 hours. The NAHC must then immediately notify the "Most Likely Descendant" about the discovery. The Most Likely Descendant shall then make recommendations within 48 hours and engage in consultation concerning treatment of remains as provided in Public Resource Code 5097.98.

j. In the event that fill material is imported into the project area, the fill shall be clean of tribal cultural resources and documented as such. Commercial sources of fill material are already permitted as

appropriate and will be culturally sterile. If fill material is to be utilized and/or exported from areas within the project site, then that fill material shall be analyzed and confirmed by an archaeologist and Luiseño Native American monitor that such fill material does not contain tribal cultural resources.

k. No testing, invasive or non-invasive, shall be permitted on any recovered tribal cultural resources without the written permission of the SLRBMI or any other Luiseño Native American consulting tribe.

TCR-2: Tribal Cultural Resources Monitoring and/or Evaluation Report

Prior to the completion of Project construction, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis, and conclusions of the monitoring program shall be submitted by the Project Archaeologist, along with the Luiseño Native American monitor's notes and comments, to the City of Carlsbad for approval, and shall be submitted to the South Coastal Information Center. Said report shall be subject to confidentiality as an exception to the Public Records Act and will not be available for public distribution.

21. EARLIER ANALYSIS USED AND SUPPORTING INFORMATION SOURCES

The following documents were used in the analysis of this Project and are on file in the City of Carlsbad Planning Division located at 1635 Faraday Avenue, Carlsbad, California 92008.

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