100-132 North Catalina Avenue Project

Draft
Environmental Impact Report

prepared by

City of Redondo Beach
Community Development Department
415 Diamond Street
Redondo Beach, California 90277
Contact: Antonio Gardea, AICP, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012

December 2021

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

100-132 North Catalina Avenue Project

Draft
Environmental Impact Report

prepared by

City of Redondo Beach
Community Development Department
415 Diamond Street
Redondo Beach, California 90277
Contact: Antonio Gardea, AICP, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012

December 2021

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

This report prepared on 50% recycled paper with 50% post-consumer content.

Table of Contents

Tables

Figures

Appendices

This page intentionally left blank

Executive Summary

This document is an Environmental Impact Report (EIR) analyzing the environmental effects of the proposed 100-132 North Catalina Avenue Project (proposed project). This section summarizes the characteristics of the proposed project, alternatives to the proposed project, and the environmental impacts and mitigation measures associated with the proposed project.

Project Synopsis

Project Applicant

Catalina Fund, LLC
1221 Hermosa Avenue, Suite 101
Hermosa Beach, California 90254

Lead Agency Contact Person

Antonio Gardea, AICP, Senior Planner
Community Development Department
City of Redondo Beach
415 Diamond Street
Redondo Beach, California 90277
(310) 318-0637 x2248

Site Description

This EIR has been prepared to examine the potential environmental effects of the 100-132 North Catalina Avenue Project. The following is a summary of the full project description, which can be found in Section 2.0, *Project Description*.

The project site is located at 100, 112, 116, 124, 126, and 132 North Catalina Avenue in the City of Redondo Beach (City). The project site is relatively flat with an area of 54,739 square feet (sf), or approximately 1.26 acres. The project site consists of six adjacent parcels, which are identified as Assessor Parcel Numbers (APNs) 7505-005-012, 7505-005-019, 7505-005-021, 7505-005-008, 7505-005-007, and 7505-005-006. The site is zoned R-3A (Low-Density Multifamily Housing), with a General Plan Land Use designation of Low-Density Multi-Family Residential, which allows residential development with a maximum height of 30 feet. The project site is currently developed with five buildings that front onto Catalina Avenue, including four one-story structures (116, 124, 126, and 132 North Catalina Avenue) and one two-story structure (112 North Catalina Avenue) as well as associated surface parking lots. Two of the buildings are vacant and the other buildings currently serve commercial uses. There is also a shed on the east side of the project site (rear end of 116 North Catalina Avenue). The buildings are served by existing access driveways on North Catalina Avenue and Emerald Street.

Former uses on the project site were a restaurant and dry cleaner, and the 132 North Catalina structure was historically used as a blacksmith and ironworks shop that was associated with the Redondo Railway. The former Masonic Lodge building is presently used for commercial/office uses.

Project Characteristics

The project would involve the demolition of approximately 8,929 sf of existing commercial development located between 112 and 132 North Catalina Avenue (includes full demolition of the building at 116 North Catalina Avenue); rehabilitation and reuse of three commercial buildings at 124, 126, and 132 North Catalina Avenue for further commercial use (i.e., coffee shop and tasting room); rehabilitation and reuse of the building at 112 North Catalina Avenue for residential use; and demolition of the shed located at the rear end of 116 North Catalina Avenue. The project also involves the construction of 22 three-story townhomes, four apartment units in the former Masonic Lodge building (i.e., 112 North Catalina Avenue), and four apartment units in a new three-story apartment building, for a combined total of 30 residential units on the project site. The proposed density bonus project uses State-mandated concessions and development standard waivers and thereby would not require amendments to the City's General Plan, Local Coastal Program, or the Redondo Beach Municipal Code (RBMC) – Coastal Land Use Plan Implementation Ordinance.

The 22 townhomes would be situated east of the commercial buildings fronting North Catalina Avenue, whereas the residential apartment building would be adjacent to (south of) the commercial buildings and would front both North Catalina Avenue and Emerald Street. The proposed townhomes would consist of three 2-bedroom units, fifteen 5-bedroom units, one 6-bedroom unit, and three 7-bedroom units ranging from approximately 1,022 to 3,148 sf each. The proposed apartment building would consist of five 2-bedroom units ranging from 892 to 1,479 sf and three 4-bedroom units ranging between 1,312 and 1,318 sf each. Of the 30 proposed residential units, four units would be affordable units and would consist of two townhome units and two apartment units. Overall, the proposed project would consist of 48,666 sf in total gross residential floor area. The project would also include 12,295 sf of open space, consisting of 9,196 sf of private space (i.e., roof decks and balconies), a 1,350-sf deck, 525 sf roof lounge, and 1,214 sf of common space (i.e., courtyard). In addition, rehabilitation and reusage of the existing commercial buildings would retain 3,063 sf of commercial/retail space in the form of a 1,279-sf tasting room and a 1,784-sf coffee shop.

Parking and Site Access

Vehicles would be able to access the proposed townhome buildings and associated at-grade parking via North Catalina Avenue and the proposed interior driveway. Vehicles would also be able to access at-grade parking associated with the proposed residential apartment building via Emerald Street to North Catalina Avenue. The proposed project would provide a total of 72 on-site parking stalls including 66 residential parking spaces (i.e., 44 private garage and 22 at-grade spaces) and six commercial parking spaces (i.e., all standard spaces). As a result of reconfiguration of the curb cuts, an additional seven on-street parking spaces would be retained in front of the proposed commercial development. Parking garages would be equipped with electric vehicle (EV) charging stations, which would provide approximately 10 percent of total residential parking. The proposed project would provide 22 bicycle parking spaces for residents and an additional 15 bicycle racks for guests. Pedestrians would be able to access the commercial and residential buildings on the project site via sidewalks along Emerald Street and North Catalina Avenue and via the proposed internal pathways within the project site. Table ES-1 on the following page summarizes the project characteristics.

Table ES-1 Project Characteristics

Address	100-132 North Catalina Avenue
APN	7505-005-012, -019, -021, -008, -007, and -006
Height/Stories	Tasting Room: 18 feet, 11 inches; single story Coffee Shop: 15 feet, 2 inches; single story Townhomes: 33 feet; three stories Apartment buildings: 34 feet, 8 inches; three stories
Lot Area	54,739 sf (1.26 acres)
Project Summary (Gross Floor Area)	
Residential	48,666 sf
Commercial (Coffee Shop)	1,784 sf
Commercial (Tasting Room)	1,279 sf
Total	**51,729 sf**
Parking Summary	
On-site Parking	72 stalls
Residential	66 stalls
Commercial	6 stalls
Public Spaces/Street Parking	7 stalls[1]
Total	**79 stalls**
Site Summary	
Gross Lot Area	54,739 sf
Covered Lot Area	22,821 sf
Lot Coverage	41.69%
Residential Unit Summary	
2-bedroom units	8 units
4-bedroom units	3 units
5-bedroom units	15 units
6-bedroom units	1 unit
7-bedroom units	3 units
Total	**30 units**[2]
Open Space Summary	
Private	9,196 sf
Deck	1,350 sf
Roof Lounge	535 sf
Common	1,214 sf
Total	**12,295 sf**

[1] Additional seven public street parking spaces available in front of the proposed retail/commercial uses.

[2] Includes four affordable units

sf = square feet

Table ES-2 compares the existing building footprint, maximum building height, and parking currently at the site to the same characteristics associated with the proposed project.

Table ES-2 Summary of Proposed Changes

	Existing Development	Proposed Project	Change
Building Footprint	15,682 sf	22,821 sf	+7,139 sf
Maximum Building Height	30 feet	34 feet, 8 inches	+4 feet, 8 inches feet
Parking	49 spaces	79 spaces	+30 spaces

Green Building Features

The project would be subject to the energy conservation requirements of the 2019 California Energy Code (Title 24, Part 6, of the California Code of Regulations, *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*) and the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations). The California Energy Code and Green Building Standards Code provide sustainability standards for all new and renovated commercial and residential buildings constructed in California. The proposed project would include sustainability features to reduce energy, water, and fuel consumption on the site. The project would include cool roofs, EnergyStar appliances in the residential units, high-efficiency lighting, and passive solar to reduce energy consumption within the buildings. In addition, the project would include high-efficiency indoor water fixtures (e.g., toilets, sinks, showers) and landscape irrigation system, as well as drought-tolerant landscaping, to reduce water consumption. Furthermore, the project would encourage fuel-efficient methods of transportation to and from the site by equipping 10 percent of all parking spaces with EV chargers, providing a common bicycle rack with 15 spaces for short-term bicycle parking, and 22 private, secured bicycle parking spaces for residents.

Design and Landscaping

The tasting room would be designed with vertical wood siding on all four sides of the building, with floor to ceiling glass windows along the west and south elevations and a graphic mural on the north side of the building. The coffee shop would be characterized by blue and yellow stucco with large windows along the west, north, and south elevations. The apartment building would be characterized by white siding, metal railings along the private patios, wood trellises with vine plantings, decorative shutters along the vinyl windows and with bay windows on the east elevation.

Drought-tolerant landscape such as succulents including agave, aeonium, Dudleya, and Senecio, matched with flowering shrubs and perennials such as blue-eyed grass, purple sage, and California fuchsia would be integrated in the courtyard between the two commercial buildings. The courtyard entry would be anchored by two flowering trees and additional canopy trees over the booth seating at the rear of the space. Medium shade trees would be planted along the east corridor where a series of residential patio spaces connect to the perimeter walkway. The existing east perimeter wall with vines would remain. The northeast and southeast corners would contain a variety of medium and large canopy trees. Landscaping around the townhomes would include local native species such as yarrow, manzanita, buckwheat, and Matija poppy. The corridors between the townhomes would include Island alum root, camellia, hydrangea, and schefflera species. The streetscape frontage would include large specimen planting of Mexican fan palms, with existing palms to be protected

when possible. All the landscaping installed on the proposed project would be used in part of the effort to comply with the state mandated Model Water Efficient Landscape Ordinance.

Infrastructure Improvements

Associated improvements to the project site would include, but are not limited to, surface parking areas, an internal vehicle alleyway, internal pathways, landscaping (includes native plants), cool roofing, a courtyard, utility infrastructure, and exterior lighting. The proposed project would include new curb, gutter, sidewalks, bicycle parking, planting, fencing, and landscaping to the project site's frontages along North Catalina Avenue and Emerald Street and would add a pedestrian path and planting along a private residential corridor on the easternmost portion of the project site.

In addition, the project would comply with Chapter 7.113 of the RBMC which regulates the implementation of low impact development (LID) strategies for projects in the City of Redondo Beach.

Utilities

The City of Redondo Beach receives its water service from the California Water Service Company (Cal Water). The project site is in the Hermosa-Redondo Subdistrict of the Dominguez District of Cal Water. The applicant received a will serve letter for the proposed project from Cal Water (see Appendix IS-5 of the Initial Study, which is included as Appendix B) on September 18,2020 indicating that Cal Water would provide adequate water supplies to the project. Furthermore, the local wastewater collection system is managed, operated, and maintained by the City's Public Works Department. In addition, the project's electricity demand would be served by Southern California Edison and the Southern California Gas Company provides gas to the City of Redondo Beach.

Construction and Grading

Construction phasing would include demolition of approximately 8,929 sf of existing commercial development, demolition of the shed located at the rear end of 116 North Catalina Avenue, site preparation, grading, building construction, asphalt paving, and architectural coating. The grading phase would include an estimated 1,625 cubic yards (cy) of cut soil, 2,534 cy of fill soil, and 6,235 cy of over-excavation and re-compaction. Construction of the project is anticipated to occur over an approximately 21-month period, which would begin in January 2022 and end in October 2023. The project would open for operation by 2024. Construction hours would comply with Section 4-24.503 of the RBMC and limits imposed on days/hours as a condition of approval.

Applicant Proposed Project Design Features (PDFs)

The following are project design features (PDFs) proposed by the applicant which would reduce or negate impacts concerning associated with the existing contamination conditions.

HAZARDS PDF 1 – SHALLOW SOIL REMEDIATION

To remediate elevated arsenic concentrations in soils onsite, soil will be excavated to a depth of five feet below ground surface within the railroad spur footprint at the site. E_2C has estimated that approximately 2,200 cubic yards of arsenic-impacted soil located beneath the railroad spur footprint of the project site will require excavation. Excavation of arsenic-impacted soils in this area will further reduce threats to groundwater and potential risk to human health.

The cleanup goal for arsenic in soil will be 12 milligrams per kilogram (mg/kg), established by the California Department of Toxic Substances Control (DTSC) in *Determination of a Southern California Regional Background Arsenic Concentration in Soil* (2008). Confirmation samples will be collected from the sidewalls and floor of the excavation. The sampling frequency will depend on the size of the excavation. In general, at least two soil samples from each side of the excavation walls and floor will be collected. Samples will be analyzed for arsenic and compared to natural background concentrations. If arsenic concentrations in the walls and floor of the excavation pit exceed 12 mg/kg, remedial excavation may be extended.

Excavated soil will be treated by mixing Portland cement with the impacted soil. A treatability study, which will include mixing ratios, will be reviewed and approved by Los Angeles County Fire Department (LACoFD) prior to implementation of soil treatment. The treated soil will be replaced in the excavation area and compacted to meet specifications based on site soil strength requirements.

It is estimated that soil mixing will result in an excess soil volume due to the addition of Portland cement and water. It is assumed that treatment of soil will reduce arsenic concentrations such that soil will be characterized as federal and California non-hazardous waste. The excess soil will be disposed of offsite as non-hazardous waste in a waste disposal facility or re-used in a portion of the site where additional fill is required.

HAZARDS PDF 2 – SOIL VAPOR

A Soil Vapor Extraction (SVE) system will be operated to remove VOCs in soil and soil vapor to the extent feasible and practicable. SVE will be implemented for the remediation of soil and soil vapor to remove mass and reduce the potential for migration of VOCs to underlying groundwater to protect current and potential beneficial uses, as well as to reduce the potential for migration of VOCs to shallow soils and into proposed residential buildings at the project site.

Components of the SVE system will be installed following excavation and rough grading at the project site. The system will consist of ten nested SVE wells connected to a skid mounted SVE package system equipment with granular activated carbon vessels. The SVE system will be installed across the project site. Soil vapor probes will be installed at various locations throughout the project site, as detailed in Figure 3 of the Soil Vapor Extraction and Soil Treatment Workplan. Existing soil vapor probes will be utilized for soil vapor monitoring.

Further details regarding location, installation, operation, and monitoring of the SVE system are provided in Section 3 of the *Soil Vapor Extraction and Soil Treatment Workplan*. Detailed design plans for the remediation system were not provided in the *Soil Vapor Extraction and Soil Treatment Workplan*. Once design plans are finalized, they will be submitted to LACoFD for review and approval.

HAZARDS PDF 3 – VAPOR INTRUSION

Engineering controls will be installed beneath the building foundation to prevent the migration of VOCs in shallow soil vapor into the proposed buildings. Engineering controls proposed in E2C's Soil Vapor Extraction and Soil Treatment Workplan include the following:

Vapor Barrier and Venting System – A vapor barrier and sub-slab venting system will be installed as an engineering control beneath the foundation of the proposed residential units. The location of the vapor barrier is illustrated in Figure 1 of the Addendum to the *Soil Vapor Extraction and Soil Treatment Workplan*, dated July 21, 2020. The vapor barrier system beneath the foundation will consist of, from top to bottom, a concrete slab underlain by a 2-inch layer of sand, followed by

geotextile, followed by a minimum 30-mil high density polyethylene (HDPE) membrane, followed by a vapor collection layer consisting of aggregate or geocomposite. Two-inch perforated schedule 40 PVC venting pipes will be installed within the aggregate. The sub-slab venting system will operate passively.

Operation, Maintenance, and Monitoring

The primary maintenance concern regarding the integrity of the vapor barrier is post-construction modifications to the residential ground concrete floor. Modifications such as drilling, saw-cutting, or any other penetration of the concrete floor must not be allowed to puncture the liner system. If penetration of the concrete slab occurs, a qualified vapor barrier contractor will be retained to reseal the vapor barrier liner and reset the integrity of the vapor barrier. Any penetration and repair of the vapor barrier liner will be documented by the property owner.

Exposed riser piping will be periodically inspected for incidental damage. The passive ventilation discharge locations will be inspected for weather-related damage after each winter season. Periodic inspection of exposed riser pipe and piping discharge locations will be documented in the building records. Any damage to riser piping, including discharge locations, will be fully documented. Any repairs made to riser or discharge piping will be documented by the property owners.

Project Objectives

The proposed project would achieve the following objectives:

1. To create a high-quality designed townhome and apartment complex that enhances the value of an existing underutilized site through the development of a project that is responsive to market demands that includes at least 26 market-rate units.
2. To realize the City of Redondo Beach's General Plan and the Coastal Plan by recognizing the sites underlying R-3 zoning and incorporating multi-family housing into the master plan and near the harbor with access to outdoor recreational opportunities.
3. To further the City of Redondo Beach Housing Element policies to support the City's future housing needs by developing new quality multi-family, transit-oriented living options at different income levels including affordable housing units per California State Density Bonus law.
4. To realize the utilitarian benefit of the existing non-conforming commercial buildings with respect to the overall site programming and to ensure economic vitality of the Project through offsetting the costs of construction for the affordable housing units through programming of the commercial spaces as revenue generating, high impact uses.
5. To preserve and reuse portions of three existing commercial buildings of local historic significance by designing the master plan, commercial open space, and vehicular and pedestrian circulation around the buildings' placement.
6. To provide neighborhood serving uses and amenities that cater to City of Redondo Beach residents and encourages pedestrian and bicycle activity through re-programming and reactivating the facades of the existing commercial buildings and providing access to a new shared courtyard and public bike racks.
7. To limit points of ingress/ egress to the site and remove surplus driveway curb cuts to create new on-street public parking spaces available for public access and within walking distance to the marina.

8. To remediate the existing site with little disturbance to historic buildings.
9. To design new residential structures to comply with City of Redondo Beach parking and open space requirements and to contain parking and open space within each town home envelope to limit opportunities for large gatherings.
10. To limit construction impact on surrounding uses and existing historic buildings and to control construction costs to maintain project viability though designing new structures with focused construction methods comprised of wood framed buildings at grade which eliminates costly and invasive shoring and structural concrete work.

Alternatives

As required by the California Environmental Quality Act (CEQA), this EIR examines alternatives to the proposed project. Studied alternatives include the following three alternatives. Based on the alternatives analysis, Alternative 3 was determined to be the environmentally superior alternative.

- Alternative 1: No Project
- Alternative 2: By-Right Residential
- Alternative 3: Increased Affordable Housing

Alternative 1 (No Project) assumes that the existing commercial buildings (i.e., total of 15,682 square feet) and associated surface parking lots would remain under this alternative, and construction of the proposed project would not occur. Two of the existing buildings are vacant and the other buildings currently serve commercial uses. Under the No Project Alternative, the existing commercial uses in two buildings would be maintained, and no building modifications would occur at the project site.

The No Project Alternative would not fulfill Objectives 1 through 4 and 9 since it would not result in the construction of multi-family residential units, including affordable housing units, near the harbor and with access to commercial and recreational opportunities. Furthermore, because the proposed project would rehabilitate existing commercial buildings (including those with historic significance) and introduce new commercial uses, the No Project Alternative would not fulfil Objectives 5, 6, and 8, which aim to provide neighborhood-serving commercial uses while simultaneously encouraging pedestrian and bicycle activity at the project's facade and preserving existing historic buildings.

Alternative 2 (By-Right Residential) would involve the same rehabilitation work of the existing commercial buildings and retention of 3,063 sf of commercial/retail space for a tasting room and coffee shop as the proposed project. However, this alternative would involve the buildout of the number of residential units allowed at the project site by-right, which would be 22 units consisting of townhome and apartment units. This alternative would not include any affordable units.

Alternative 2 would fulfill the same objectives as the proposed project, but not to the same extent. Due to the reduction in eight residential units, this alternative would not include at least 26 market-rate units or assist the City's housing needs with units for different income levels to the same extent as the proposed project per Objectives 1 and 3.

Alternative 3 (Increased Affordable Housing) would involve the same rehabilitation work of the existing commercial buildings, retention of 3,063 sf of commercial/retail space for a tasting room and coffee shop, and development of 30 residential units. However, this alternative would increase the percentage of affordable housing units from 13 percent to 57 percent of the total number of

units. As such, Alternative 3 would include 17 below-market rate units, which would be 13 more units compared to the proposed project.

Alternative 3 would maintain the same uses and total number of units as the proposed project, but would not fulfill the same objectives. Alternative 3 would not include at least 26 market-rate units and would not meet Objective 1 due to the increase in affordable housing units.

Refer to Section 6.0, *Alternatives*, for the complete alternatives analysis.

Areas of Known Controversy

The EIR scoping process did not identify any areas of known controversy for the proposed project. Responses to the Notice of Preparation of a Draft EIR and input received at the EIR Scoping Meeting held by the City are summarized in Section 1.0, *Introduction*.

Issues to be Resolved

Discretionary approvals from various agencies are required for implementation of the proposed project. Approval of the remediation plan is required from the LACoFD. The project requires Preservation Commission consideration of local historic district designation and Certificate of Appropriateness and Planning Commission consideration of Coastal Development, Planning Commission Design Review, Variance and Conditional Use Permits. The applicant requests designation of four commercial buildings as contributors to a potential local landmark district and a parking variance to allow for less parking than required for adaptive reuse of commercial structures. The project would also use the State Density Bonus and approval of an Affordable Housing Agreement. As part of the Density Bonus application, a waiver of the maximum height limit (development standard) and the following concessions and incentives are requested:

- Mixed Use Zoning for adaptive reuse of non-residential structures
- Lot Consolidation of conforming lots
- Three-story residential structure(s)

Issues Not Studied in Detail in the EIR

Table 1-2 in Section 1.4 summarizes issues from the environmental checklist that were addressed in the Initial Study (Appendix B). As indicated in the Initial Study, there is no substantial evidence that significant impacts would occur to the following issue areas: Aesthetics, Agricultural Resources, Energy, Greenhouse Gas Emissions, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, Utilities, and Wildfire. Impacts to Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Noise, Transportation, and Tribal Cultural Resources were found to be potentially significant and are addressed in this EIR.

Summary of Impacts and Mitigation Measures

Table ES-3 summarizes the environmental impacts of the proposed project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if required). Although distinct from mitigation measures, project design features (PDFs) are also listed because they will be included as conditions of approval by the City to avoid potential biological and geological impacts. Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per Section 15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the CEQA Guidelines.
- **Less than Significant.** An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact:** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table ES-3 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure (s)	Residual Impact
Air Quality		
Impact AQ-1. The proposed project would generate temporary emissions of criteria air pollutants during construction. Construction-related emissions associated with the proposed project would not exceed the South Coast Air Quality Management District's (SCAQMD) regional thresholds or Localized Significance Thresholds. In addition, operation of the proposed project would not result in emissions of criteria pollutants that would exceed SCAQMD regional thresholds. Therefore, the project would not result in a cumulatively considerable increase of any criteria pollutants, and impacts would be less than significant.	No mitigation required.	Less than significant
Impact AQ-2. Construction and operation of the proposed project would not expose sensitive receptors to substantial concentrations of carbon monoxide or toxic air contaminants (TACs). Additionally, the project would not site new sensitive receptors near sources of substantial TAC emissions. Impacts would be less than significant.	No mitigation required.	Less than significant
Biological Resources		
Impact BIO-1. The project could result in direct or indirect impacts to nesting birds through vegetation removal and construction during nesting season. Impacts would be less	**BIO-1 Nesting Bird Avoidance.** Prior to issuance of grading permits, the following measures shall be implemented: ▪ To avoid disturbance of nesting birds, including	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
than significant with mitigation incorporated.	raptorial species protected by the MBTA and CFGC, activities related to the project, including, but not limited to, vegetation removal, ground disturbance, and construction and demolition shall occur outside of the bird breeding season (February 1 through August 31). If construction must begin during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of construction activities. The nesting bird pre-construction survey shall be conducted on foot inside the project site, including a 100-foot buffer, and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practical. The survey shall be conducted by a qualified biologist familiar with the identification of avian species known to occur in southern California. ▪ If nests are found, an avoidance buffer shall be demarcated by a qualified biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No parking, storage of materials, or construction activities shall occur within this buffer until the biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist. ▪ A survey report by the qualified biologist documenting and verifying compliance with the mitigation and with applicable State and federal regulations protecting birds shall be submitted to the City. The qualified biologist shall serve as a construction monitor during those periods when construction activities would occur near active nest areas to ensure that no inadvertent impacts on these nests would occur.	
Cultural Resources		
Impact CUL-1. The proposed project would potentially adversely affect historical resources through physical changes to historical resources and adjacent new construction within an eligible historic district. Following mitigation, impacts would be less than significant through the ongoing application of the *Secretary's Standards* and construction monitoring.	**CUL-1 Preservation Input and Secretary's Standards Project Review.** As the proposed project evolves through the schematic and design development phases, the City shall require ongoing historic preservation project review and documentation, to ensure ongoing compliance with the *Secretary's Standards*. The City shall ensure that the project design team includes an architectural historian or preservation architect who meets the Secretary of the Interior's Professional Qualifications Standards to provide ongoing review and comment of project plans for conformance with the *Secretary's Standards*. The architectural historian or preservation architect shall provide input to the design team through the schematic and design development phases to facilitate ongoing project compliance with the *Secretary's Standards*. *Secretary's Standards* project review shall include all	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	project components that could result in a physical change to character-defining features, insofar as these project details are available. This may include the identification and retention of additional features, such as the machinery and pulleys at 112 N. Catalina Avenue. The preservation professional shall document the results of the *Secretary's Standards* project review in a memorandum to be reviewed and approved by the City. The memo shall include design recommendations drawn from the *Secretary's Standards* that, if needed, would facilitate compliance with the Standards and avoid, lessen, or mitigate significant adverse impacts to historical resources.	
Impact CUL-2. Construction of the proposed project would involve ground-disturbing activities such as grading, which have the potential to unearth or adversely impact previously unidentified archaeological resources. Impacts would be less than significant with mitigation incorporated.	**CUL-2a Cultural Resources Management Plan (CRMP).** Prior to project construction, a qualified archaeologist shall prepare a project-specific Cultural Resources Management Plan (CRMP) to ensure the proper treatment and long-term protection of unanticipated discoveries during project construction. The CRMP shall be submitted to the City of Redondo Beach and to the tribal monitor/consultant retained under Mitigation Measure TCR-1 for review and approval. The CRMP shall provide a description of the methods to be undertaken during monitoring and the steps to be taken in the event of an archaeological discovery during construction, including, at minimum: ▪ Development of research questions and goals to be addressed by the investigation in the event of a find ▪ Detailed field strategy used to record, recover, or avoid the finds and address research goals ▪ Analytical methods to be employed for identified resources ▪ Requirements for report structure and outline of document contents ▪ Disposition of the artifacts **CUL-2b Cultural Resources Monitoring.** Archaeological monitoring shall be conducted for all project-related ground disturbing activities by a qualified archaeologist. Principal personnel shall meet Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) and have a minimum of 10 years of experience as a principal investigator working with Native American archaeological sites in southern California. The Qualified Archaeologist shall ensure that all other personnel are appropriately trained and qualified. Monitor(s) will have the authority to halt and redirect work should any archaeological resources be identified during monitoring. If archaeological resources are encountered during ground-disturbing activities, work in the immediate area must halt and the find evaluated for listing in the CRHR and NRHP according to the steps outlined in the Cultural Resources Management Plan required by Mitigation Measure CUL-2a. Archaeological monitoring efforts shall be coordinated with Native American monitoring efforts required by Mitigation	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	Measure TCR-1. Archaeological monitoring may be reduced to spot-checking or eliminated at the discretion of the monitors, in consultation with the lead agency, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbance moves to a new location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock). **CUL-2c Unanticipated Archaeological Resources.** If archaeological resources are encountered during ground-disturbing activities, work in the immediate area should be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find in accordance with the steps and methods outlined in the Cultural Resources Management Plan (Mitigation Measure CUL-2a). If the resource is of Native American origin, all treatment shall be determined through consultation with the tribal monitor/consultant required by Mitigation Measure TCR-1 in accordance with the requirements of Mitigation Measure TCR-2. If the discovery proves to be CRHR eligible, preservation in place (i.e., avoidance) is the preferred manner of treatment. If the resource cannot be avoided by the project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts.	
Impact CUL-3. Construction of the proposed project would involve ground-disturbing activities such as grading, which have the potential to unearth or adversely impact previously unidentified human remains. Impacts would be less than significant with mitigation incorporated.	**CUL-3 Unanticipated Discovery of Human Remains.** If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner shall be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. Upon discovery of human remains and associated funerary objects, the tribal and/or archaeological monitor/consultant will immediately divert work at minimum of 150 feet and place an exclusion zone around the discovery location. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. The MLD shall complete the inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	granted access. The discovery is to be kept confidential and secure to prevent any further disturbance. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard shall be posted outside of working hours. There shall be no publicity regarding any cultural materials recovered.	
Geology and Soils		
Impact GEO-1. The project site contains moderately compressible soils which could potentially pose direct or indirect risks to life or property. Mitigation provided by the Geotechnical Engineering Investigation implements reinforcement for building foundations and floor slab design in order to reduce potential impacts. This is a potentially significant impact that can be reduced to less than significant with mitigation.	**GEO-1 Geotechnical Engineering Investigation Recommendations.** The developer and all contractors shall follow all recommendations related to building foundations and floor slab design included in the 2019 Geotechnical Engineering Investigation prepared by Geotechnologies Inc. in April 2019. Prior to the issuance of grading and building permits, the Building and Safety Division shall review and approve the detailed construction plans to ensure such plans implement the following measures: ▪ A structural engineer shall be retained to determine the floor slab reinforcement required for the proposed buildings based on the imposed slab loading and the potential settlements. ▪ The minimum floor slab reinforcement shall consist of No. 3 steel bars at 24-inches on center in both directions to account for the presence of low expansive soils. Structural floor slab supported on the deep foundation system shall be at minimum four inches thick. All existing fill materials and upper native soils shall be removed and recompacted to a minimum depth of five feet below the proposed grade, or three feet below the bottom of the proposed foundation, whichever is deeper. Materials with high expansion potential, low strength, poor gradation or containing organic materials may require removal from the site or proper compaction to the satisfaction of the Geotechnical Engineer (i.e., approximately 90 percent relative compaction). Additional expansion index testing shall be conducted at the completion of rough grading to verify the expansion potential of the as-graded building pad. All soils shall be evaluated and tested by the Geotechnical Engineer. ▪ A report documenting compliance with the implemented building foundation and floor slab design measures shall be submitted to the City for subsequent review and approval.	Less than significant
Impact GEO-2. While shallow excavations on the project site are unlikely to uncover fossils, deeper excavations of geological units mapped within the project have potential to contain significant vertebrate fossils. Mitigation	**GEO-2a Paleontological Resources Impact Mitigation Plan (PRIMP).** Prior to the commencement of ground disturbing activities, a qualified professional paleontologist shall be retained to prepare and implement a Paleontological Resources Impact Mitigation Plan (PRIMP) for the project. A Qualified Paleontologist is an individual who meets the education and professional	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
Measures have been identified to reduce impacts in the event of an unanticipated discovery of paleontological resources. This is a potentially significant impact that can be reduced to less than significant with mitigation.	experience standards as set forth by the SVP (2010), which recommends the paleontologist shall have at least a master's degree or equivalent work experience in paleontology, shall have knowledge of the local paleontology, and shall be familiar with paleontological procedures and techniques. The PRIMP shall consist of the following components, which include paleontological monitoring procedures; communication protocols to be followed in the event that an unanticipated fossil discovery is made during project development; and preparation, curation, and reporting requirements. **GEO-2b Paleontological Monitoring.** Prior to the start of construction, the following mitigation measures shall be required to avoid potential impacts to significant paleontological resources if they are encountered during construction activities: ▪ A trained and qualified paleontological monitor shall perform full-time monitoring of any excavations on the project that have the potential to impact paleontological resources in undisturbed native sediments below ten feet in depth. The monitor shall have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources. ▪ The project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from Lead Agency and Client representatives. ▪ Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and Society of Vertebrate Paleontology (SVP) professional standards. ▪ Any fossils recovered during mitigation shall be deposited in an accredited and permanent scientific institution for the benefit of current and future generations. ▪ A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate personnel.	
Hazards and Hazardous Materials		
Impact HAZ-1. The project site has contaminated soil and soil vapor. With Implementation of the proposed Soil Vapor Extraction and Soil Treatment Workplan, as well as implementation of mitigation measures, potential impacts related to contaminated soils and soil vapor would be less than significant.	**HAZ-1a Shallow Soil Remediation.** The applicant shall implement the following measures prior to soil disturbance at the project site: 1. The applicant shall further evaluate applicability of SCAQMD Rule 1466 to proposed site Workplan and soil grading activities. If applicable, the applicant shall implement all monitoring and reporting requirements as defined in SCAQMD Rule 1466. 2. The applicant shall submit a soil management plan (SMP) that can be implemented at the site to address the monitoring, characterization, assessment, delineation, and/or remediation of known on-site environmental impacts and potential "unknown" on-	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	site impacts. In addition, the SMP shall evaluate potential human health risk/hazards posed to future construction workers. **HAZ-1b Soil and Soil Vapor.** The applicant shall incorporate all requirements in the design of the project as set forth in the design of the project as set forth by the LACoFD for issuance of building permits, which include the following measures: 1. The boundary of the vapor barrier and sub-slab ventilation shall extend beneath the entire building footprint. 2. VOCs in shallow soil vapor shall be mitigated to levels that are protective of human health for the proposed residential and commercial uses. 3. Mass removal of VOCs in deep soil shall continue until influent concentrations from the proposed SVE treatment reach low and sustainable asymptotic levels that are protective of groundwater. 4. Vapor barrier design will include horizontal pipes that shall be connected to vertical solid vent pipes extending through the building to a minimum of 10 feet above grade and a minimum of 10 feet from any air inlet or operable door or window. **HAZ-1c Operation Maintenance and Monitoring.** The applicant shall conduct operation, maintenance, and monitoring of the vapor barrier and sub-slab ventilation system, which will include the following measures: 1. Following the completion of construction and before the buildings are occupied, indoor air monitoring shall be conducted. The monitoring shall be limited to the COPCs and results shall be compared to the DTSC SL for PCE and EPA RSLs for TCE, or the applicable health risk-based screening levels in effect at the time of the indoor air assessment. 2. An OMM plan shall be developed for the vapor barrier system and approved by the LACoFD. The plan shall include indoor air monitoring that would be conducted on a routine basis. **HAZ-1d Lead and Asbestos.** Prior to demolition of any on-site structure, an asbestos survey shall be conducted and all identified lead-based paint (LBP) or asbestos containing materials (ACMs) shall be removed from site structures in accordance with applicable regulations. In the event that any suspected LBP is discovered during construction activities, the materials shall be sampled and analyzed for lead content prior to any disturbance. 8 CCR Section 1532.1 *California Construction Safety Orders for Lead* shall be followed for the demolition of all existing structures requiring exposure assessment and compliance measures to keep worker exposure below action levels. The proposed project is also subject to Title 22 requirements for the disposal of solid waste containing concentrations of lead in exceedance of State and federal hazardous waste requirements. Testing, monitoring, containment, and disposal of lead-based materials shall	

Impact	Mitigation Measure (s)	Residual Impact
	comply with all Cal/OSHA standards and regulations under California Construction Safety Orders for Lead Section 1532. Impacts due to lead exposure and contamination would be less than significant with adherence to 8 CCR Section 1532.1 and Title 22 requirements. In the event that any suspected ACMs are discovered during construction activities, the materials shall be sampled and analyzed for asbestos content prior to any disturbance. Prior to the issuance of the demolition permit, the applicant shall provide a letter from a qualified asbestos abatement consultant that no ACMs are present in any on-site structures. If additional ACMs are found to be present, a qualified asbestos abatement consultant shall abate ACMs in compliance with the SCAQMD Rule 1403 as well as all other State and federal rules and regulations.	
Noise		
Impact N-1. Temporary construction activities would be restricted to the hours specified by the City's Noise Ordinance and would not exceed the FTA nighttime noise limit; however, construction noise levels would exceed the FTA daytime noise limit for construction noise at the nearest receivers adjacent to the project site. However, temporary construction-related noise impacts would be less than significant with mitigation.	**N-1 Construction Noise Reduction.** The project contractor shall be required to reduce construction noise below the FTA daytime noise criterion of 80 dBA L_{eq} for residential uses and 85 dBA L_{eq} for commercial uses. This shall be accomplished through the following required measures: ▪ Installation of temporary sound barriers/blankets along the north and eastern project boundary line adjacent to the commercial and multi-family receivers. The temporary barriers/blankets shall have a minimum sound transmission loss of 21 and noise reduction coefficient of 0.75. The temporary barriers/blankets shall be of sufficient height to extend from the top of the temporary construction fence and drape on the ground or be sealed at the ground. The temporary barriers/blankets shall have grommets along the top edge with exterior grade hooks, and loop fasteners along the vertical edges with overlapping seams, with a minimum overlap of two inches. ▪ Provide a sign at the yard entrance, or other conspicuous location, that includes a 24-hour telephone number for project information, and a procedure where a field engineer/construction manager shall respond to and investigate noise complaints and take corrective action if necessary, in a timely manner. The sign shall have a minimum dimension of 48 inches wide by 24 inches high. The sign shall be placed five feet above ground level. ▪ If a noise complaint(s) is registered, the contractor shall retain a City-approved noise consultant to conduct noise measurements at the use(s) that registered the complaint. The noise measurements shall be conducted for a minimum of one hour and will include one-minute intervals. The approved noise consultant shall prepare a letter report for code enforcement summarizing the measurements, calculation data used in determining impacts, and potential measures to reduce noise levels to the	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	maximum extent feasible. The following measures may also be used to reduce noise levels: ▪ The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only. ▪ Noise-reducing enclosures shall be used around stationary noise-generating equipment (e.g., compressors and generators) or located as far from sensitive receivers, as feasible.	
Impact N-2. Operation of the project would generate on-site noise (e.g., delivery trucks, trash-hauling trucks, and conservation in outdoor areas) that may periodically be audible to existing noise-sensitive receivers in the vicinity. However, operational noise sources would not exceed the noise standards identified in the City's Noise Ordinance and impacts would be less than significant.	No mitigation required.	Less than significant
Impact N-3. Operation of the project would not generate a doubling in traffic volumes on area roadways and, therefore, would not increase existing traffic noise by 3 dBA or more. Therefore, the increase in noise would be imperceptible and less than significant.	No mitigation required.	Less than significant
Impact N-4. Operation of the project would expose on-site development to ambient noise levels, which are predominantly characterized by vehicular traffic on adjacent roadways. The project would be exposed to noise levels within the City's "normally acceptable" range for multi-family residences. In addition, on-site development would not be exposed to noise levels in excess of the noise standards specified by the California Code of Regulations.	No mitigation required.	Less than significant
Impact N-5. Operation of the project would not include significant sources of vibration. Construction vibration generated by the project development would create vibration levels that would cause physical damage to on-site buildings with potential historic significance. However, temporary construction-related vibration impacts would be less than significant with mitigation.	**N-5 Construction Equipment Operations Near Historic Buildings.** Large dozers, loaded trucks, and other construction equipment with similar vibration levels shall not operate within 20 feet of on-site buildings with potential historic significance located at 112, 124, 126, and 132 North Catalina Avenue.	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
Transportation		
Impact T-1. The proposed project would not conflict with any programs, plans, ordinances or policies or involve any significant disruptions to the local public transit, active transportation, and roadway systems. In addition, the project would not result in a substantial traffic operational impact related to LOS during AM or PM peak hours. Impacts would be less than significant.	No mitigation required.	Less than significant
Impact T-2. The proposed project would generate Vehicle Miles Traveled (VMT) exceeding the City's VMT per Capita and VMT per Employee thresholds of 11.1 and 15.3, respectively. Implementation of TDM measures would reduce VMT for both the residential and commercial components of the project. However, implementation of TDMs would not be sufficient in mitigating the project's Home-Based VMT per Capita. Therefore, this impact would be significant and unavoidable.	Mitigation for VMT impacts consists of TDM measures that result in shorter average trip lengths and/or reduce the demand for automobile trips altogether. In order to mitigate the project's residential VMT impact, Home-Based VMT per Capita would need to be reduced by approximately 24 percent. To mitigate the project's work VMT impact, Home-Based Work VMT per Employee would need to be reduced by approximately 1.3 percent. In order to achieve these reductions, a range of TDM measures was considered for the project, including the following: ▪ Transit subsidies for project residents ▪ Pedestrian-oriented project design (affects residential and commercial VMT) ▪ Commuter Incentives for project employees valued at $150 per month ▪ Commute marketing program (affects residential and commercial VMT) ▪ Bikeshare System and subsidies (affects residential and commercial VMT) ▪ Local hire considerations	Significant and Unavoidable
Impact T-3. The proposed project driveways would provide adequate site access and would not create hazardous traffic conditions due to site circulation design or incompatible uses. Impacts would be less than significant.	No mitigation required.	Less than significant
Impact T-4. The proposed project would have a negligible effect on response times and would provide two points of ingress and egress for emergency vehicles. Impacts would be less than significant.	No mitigation required.	Less than significant
Tribal Cultural Resources		
Impact TCR-1. Ground disturbing activities related to project construction has the potential to unearth and adversely impact tribal cultural resources. Impacts would be less than significant with mitigation	**TCR-1a Native American Monitoring.** The City of Redondo Beach shall retain a Native American monitor/consultant locally affiliated with the project area for all project-related ground disturbing activities. The monitor/consultant will only be present on-site during the construction phases that involve ground disturbing	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
incorporated.	activities. Ground disturbing activities are defined as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor/consultant will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Tribal Representatives and monitor/consultant have indicated that the site has a low potential for impacting Tribal Cultural Resources. **TCR-1b Unanticipated Discovery of Tribal Cultural Resources.** Upon discovery of any potential tribal cultural or archaeological resources of Native American origin, construction activities within a 100-foot radius of the find shall cease until the find can be assessed. All tribal cultural and archaeological resources of Native American origin unearthed by project construction activities shall be evaluated by the qualified archaeologist and tribal monitor/consultant. If the resources are Native American in origin, the tribal monitor/consultant shall coordinate with the landowner regarding treatment and curation of these resources. Work may continue on other parts of the project while evaluation and, if necessary, recommended treatment measures take place. As appropriate and based on consultation with the tribal monitor/consultant, treatment of any unanticipated tribal cultural resources shall occur consistent with the Cultural Resources Monitoring Plan required under Mitigation Measure CUL-1. The tribal monitor/consultant may request preservation in place or recovery for educational purposes. The disposition of any artifacts of Native American origin shall be determined in consultation with the tribal monitor/consultant.	
Project Design Features (PDFs)		
Hazards PDF 1 – Shallow Soil Remediation. To remediate elevated arsenic concentrations in soils onsite, soil will be excavated to a depth of five feet below ground surface within the railroad spur footprint at the site. E_2C has estimated that approximately 2,200 cubic yards of arsenic-impacted soil located beneath the railroad spur footprint of the project site will require excavation. Excavation of arsenic-impacted soils in this area will further reduce threats to groundwater and potential risk to human health. The cleanup goal for arsenic in soil will be 12 milligrams per kilogram (mg/kg), established by the California Department of Toxic Substances Control (DTSC) in *Determination of a Southern California Regional Background Arsenic Concentration in Soil* (2008). Confirmation samples will be collected from the sidewalls and floor of the excavation. The sampling frequency will depend on the size of the excavation. In general, at least two soil samples from each side of the excavation walls and floor will be collected. Samples will be analyzed for arsenic and compared to natural background concentrations. If arsenic concentrations in the walls and floor of the excavation pit exceed 12 mg/kg, remedial excavation may be extended. Excavated soil will be treated by mixing Portland cement with the impacted soil. A treatability study, which will include mixing ratios, will be reviewed and approved by Los Angeles County Fire Department (LACoFD) prior to implementation of soil treatment. The treated soil will be replaced in the excavation area and compacted to meet specifications based on site soil strength requirements. It is estimated that soil mixing will result in an excess soil volume due to the addition of Portland cement and water. It is		

Impact	Mitigation Measure (s)	Residual Impact
assumed that treatment of soil will reduce arsenic concentrations such that soil will be characterized as federal and California non-hazardous waste. The excess soil will be disposed of offsite as non-hazardous waste in a waste disposal facility or re-used in a portion of the site where additional fill is required.		
Hazards PDF 2 – Soil Vapor. A Soil Vapor Extraction (SVE) system will be operated to remove VOCs in soil and soil vapor to the extent feasible and practicable. SVE will be implemented for the remediation of soil and soil vapor to remove mass and reduce the potential for migration of VOCs to underlying groundwater to protect current and potential beneficial uses, as well as to reduce the potential for migration of VOCs to shallow soils and into proposed residential buildings at the project site. Components of the SVE system will be installed following excavation and rough grading at the project site. The system will consist of ten nested SVE wells connected to a skid mounted SVE package system equipment with granular activated carbon vessels. The SVE system will be installed across the project site. Soil vapor probes will be installed at various locations throughout the project site, as detailed in Figure 3 of the Soil Vapor Extraction and Soil Treatment Workplan. Existing soil vapor probes will be utilized for soil vapor monitoring. Further details regarding location, installation, operation, and monitoring of the SVE system are provided in Section 3 of the *Soil Vapor Extraction and Soil Treatment Workplan*. Detailed design plans for the remediation system were not provided in the *Soil Vapor Extraction and Soil Treatment Workplan*. Once design plans are finalized, they will be submitted to LACoFD for review and approval.		
Hazards PDF 3 – Vapor Intrusion. Engineering controls will be installed beneath the building foundation to prevent the migration of VOCs in shallow soil vapor into the proposed buildings. Engineering controls proposed in E2C's Soil Vapor Extraction and Soil Treatment Workplan include the following: Vapor Barrier and Venting System – A vapor barrier and sub-slab venting system will be installed as an engineering control beneath the foundation of the proposed residential units. The location of the vapor barrier is illustrated in Figure 1 of the Addendum to the *Soil Vapor Extraction and Soil Treatment Workplan*, dated July 21, 2020. The vapor barrier system beneath the foundation will consist of, from top to bottom, a concrete slab underlain by a 2-inch layer of sand, followed by geotextile, followed by a minimum 30-mil high density polyethylene (HDPE) membrane, followed by a vapor collection layer consisting of aggregate or geocomposite. Two-inch perforated schedule 40 PVC venting pipes will be installed within the aggregate. The sub-slab venting system will operate passively.		

This page intentionally left blank.

1 Introduction

This document is an Environmental Impact Report (EIR) for a proposed mixed-use development located at 100, 112, 116, 124, 126, and 132 North Catalina Avenue, Redondo Beach, California. The proposed 100-132 North Catalina Avenue Project (hereafter referred to as the "proposed project" or "project") would be constructed on a site currently occupied by five buildings that front onto North Catalina Avenue as well as associated surface parking lots. The project would involve demolition of approximately 8,929 square-feet of existing commercial development, rehabilitation and reuse of the commercial buildings at 124, 126 and 132 North Catalina Avenue for further commercial use, adaptive reuse of the building at 112 North Catalina Avenue for residential use, and demolition of a shed located at the rear end of 116 North Catalina Avenue. The project also involves the construction of 22 three-story townhomes and eight apartment units (four apartment units would be located in the 112 North Catalina Avenue building and four apartment units would be located in a new three-story apartment building) for a combined total of 30 units on the 54,739-square feet (sf), or 1.26-acre, project site. Other components of the project include bike racks, private roof decks and balconies, roof lounge, courtyard, commercial space in the form of a tasting room and coffee shop, and a total of 79 parking stalls for residential, commercial, and public use.

This section discusses (1) the project and EIR background; (2) the legal basis for preparing an EIR; (3) the scope and content of the EIR; (4) issue areas found not to be significant by the Initial Study; (5) the lead, responsible, and trustee agencies; and (6) the environmental review process required under the California Environmental Quality Act (CEQA). The proposed project is described in detail in Section 2, *Project Description*.

1.1 Environmental Impact Report Background

The City of Redondo Beach (City) distributed a Notice of Preparation (NOP) of the EIR for a 33-day agency and public review period starting on March 25, 2021 and ending on April 26, 2021. In addition, the City held a virtual EIR Scoping Meeting on April 8, 2021. The meeting, held from 6:30 PM to 7:30 PM, was aimed at providing information about the proposed project to members of public agencies, interested stakeholders and residents/community members. The City received letters from three agencies in response to the NOP during the public review period, as well as various verbal comments during the EIR Scoping Meeting. The NOP is presented in Appendix A of this EIR, along the public comment received for the NOP, and Appendix B includes the Initial Study that was prepared for the project. Table 1-1 on the following page summarizes the content of the letters and verbal comments and where the issues raised are addressed in the EIR.

1.2 Purpose and Legal Authority

The proposed project requires the discretionary approval of the City of Redondo Beach Community Development Department; therefore, the project is subject to the environmental review requirements of CEQA. In accordance with Section 15121 of the *CEQA Guidelines* (California Code of Regulations, Title 14), the purpose of this EIR is to serve as an informational document that:

> [...] will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

This EIR has been prepared as a project EIR pursuant to Section 15161 of the *CEQA Guidelines*. A Project EIR is appropriate for a specific development project. As stated in the *CEQA Guidelines*:

> This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project, including planning, construction, and operation.

This EIR is to serve as an informational document for the public and City of Redondo Beach decision makers. The process will include public hearings before the Community Development Department to consider certification of a Final EIR and approval of the proposed project.

Table 1-1 NOP Comments and EIR Response

Commenter/Topic	Comment/Request	How and Where It Was Addressed
Agency Comments		
California Department of Transportation (Caltrans)	Recommendations for vehicle miles traveled (VMT) analysis.	Comments are addressed in Section 4.7, *Transportation*, to the extent they are relevant to the environmental analysis, applicable threshold of significance, and/or the requirement to consider feasible mitigation measures and alternatives.
Native American Heritage Commission (NAHC)	Recommendations for tribal and cultural resource impacts, including Senate Bill 18 and Assembly Bill (AB) 52 requirements and mitigation measures.	Comments are addressed in Section 4.3, *Cultural Resources* and Section 4.8, *Tribal Cultural Resources*, to the extent they are relevant to the environmental analysis, applicable threshold of significance, and/or the requirement to consider feasible mitigation measures and alternatives.
South Coast Air Quality Management District (SCAQMD)	Recommends use of CEQA Air Quality Handbook and SCAQMD resources for guidance in preparing air quality and greenhouse gas analyses. Also recommends using the California Emissions Estimator Model (CalEEMod) for analysis.	Comments are addressed in Section 4.1, *Air Quality* to the extent they are relevant to the environmental analysis, applicable threshold of significance, and/or the requirement to consider feasible mitigation measures and alternatives.
	Recommendations for air quality impacts and mitigation measures.	
Public Comments		
Proposed Project Scope and Description	Requests the name of the project developer and architectural drawings of the proposed project.	These comments are addressed in Section 2, *Project Description*, of the EIR.
	Inquires how long the physical construction of the proposed project will take.	
	Inquires whether the proposed tasting room and/or coffee shop will include live entertainment, outdoor dining or lounge space.	
	Inquires whether a ballot measure would have to be presented to City voters at a municipal election to change zoning in areas of the City to allow for mixed-use development.	

Commenter/Topic	Comment/Request	How and Where It Was Addressed
	Requests the addition of open space and trees on the project site.	
	Inquires whether the new units will have a backyard.	
	Inquires about the distance between the new units and existing neighboring units.	
	Inquires why an EIR is being conducted since the project is poorly thought out.	This comment is noted for the record but does not constitute a comment under CEQA. The comment has not provided substantial evidence to support the need for reconsideration of the project based on a potential significant impact.
	Appreciation that the existing coffee shop will be preserved and expanded.	This comment is noted for the record and additional information regarding the coffee shop is provided in Section 2, *Project Description*, of the EIR.
	Inquires whether the initial steps for the proposed project considered over-development for the site size given the proposed architecture and development.	The project requires approval to use the State Density Bonus under SB 1818. The intent of this EIR is to analyze the potential impacts associated with the discretionary actions that are being requested by the project applicant, including the Density Bonus.
	Inquires whether the proposed project includes accessible units for the disabled and seniors.	This comment is noted for the record but does not constitute a comment under CEQA.
	Inquires whether the project will include 60 or more parking spots	As addressed in Section 2, *Project Description,* of the EIR, the project would include 72 parking stalls.
Aesthetics	Prefers that balconies face toward Catalina Avenue to ensure surrounding homes retain their privacy and mitigate light pollution.	This comment is addressed in Section 2, *Project Description*, of the EIR.
	Requests to have downward facing, low wattage lighting that does not illuminate surrounding homes.	This comment is addressed in Section 1, *Aesthetics*, of the Initial Study.
Hazards and Hazardous Materials	Requests that the EIR address possible soil contamination on the project site from previous operations.	These comments (i.e., project site history, current conditions, and relevant studies) are addressed in Section 4.5, *Hazards and Hazardous Materials*, of the EIR to the extent they are relevant to the environmental analysis, applicable threshold of significance, and/or the requirement to consider feasible mitigation measures and alternatives.
	Requests that the EIR address the removal of asbestos and lead paint from several of the existing buildings on the project site.	

Commenter/Topic	Comment/Request	How and Where It Was Addressed
	Inquires whether there are any hazard studies on the Catalina Dry Cleaners which was previously located on the project site. Also notes that stone, tile fabrication, and wood working operations have previously occurred on the project site.	
Land Use and Planning	Inquires why the proposed project location has had commercial locations for years if the site is zoned R-3A (Low Density Multi-family).	These comments are addressed in Section 11, *Land Use and Planning*, of the Initial Study.
	Inquires whether the requested Density Bonus allows for added density, a mixture of commercial and residential uses, and a three-story development. Other recent mixed-use projects in the City are located in the MU-3A zones.	
Noise	Requests that the proposed project utilize noise control baffles similar to those at the Sketchers project in Manhattan Beach during project construction to mitigate noise and dust.	These comments are addressed in Section 4.6, *Noise*, of the EIR to the extent they are relevant to the environmental analysis, applicable threshold of significance, and/or the requirement to consider feasible mitigation measures and alternatives.
	Requests that the EIR address the potentially significant noise impacts resulting from the proposed residential and commercial uses under the project (e.g., delivery trucks, moving vans, trash hauling trucks).	
	Requests a local neighborhood environmental plan for impacts relating to noise and dirt during project construction.	These comments are noted for the record and have been considered for Section 4.6, *Noise*, of the EIR to the extent they are relevant to the environmental analysis, applicable threshold of significance, and/or the requirement to consider feasible mitigation measures and alternatives.
	The proposed project will bring noise to a currently quiet neighborhood.	

Commenter/Topic	Comment/Request	How and Where It Was Addressed
Population and Housing	The proposed project disregards impacts to the surrounding neighborhood.	These comments are noted for the record and have been considered in the preparation of the EIR. However, it was determined that impacts regarding population and housing would be less than significant in Section 14, *Population and Housing*, of the Initial Study. Refer to Appendix B of this EIR.
	Strongly opposes the proposed project as the area is already densely populated.	
	Inquires about the target rent cost. Concern that the proposed project will lower the value of surrounding homes.	
	Concern that the five- to seven-bedroom units will attract college students to an area that is currently family residential. Inquires if there is a study/analysis to prove the assumption that these units are intended for multi-generational families and work-from-home tenants.	
	Concern that a rooftop deck will infringe on the privacy of surrounding homes.	
	Prefers no smoking units as they will be very close to existing housing.	
Transportation	Parking is already a huge issue and not having an underground parking lot for the proposed project will further exacerbate this issue.	These comments are noted for the record; however, analysis of parking impacts are not required under CEQA.
	Concern that the parking variance allowed by the Density Bonus will have a significant impact on the surrounding Catalina Avenue area.	
	Concern that parking will spill over into the residential neighborhoods, limiting parking for guests and church patrons.	
	Parking needs to be provided on the project site- not on public streets.	
Utilities and Service Systems	Inquires whether the addition of sewer lines will be required for construction of the proposed project.	These comments are addressed in Section 19, *Utilities and Service Systems*, of the Initial Study.
	Inquires whether new Southern California Edison utility lines will be installed underground to service the proposed project.	

1.3 Scope and Content

This EIR addresses impacts identified by the Initial Study to be potentially significant. The following issues were found to include potentially significant impacts and have been studied in the EIR:

- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials

- Noise
- Transportation
- Tribal Cultural Resources

In preparing the EIR, use was made of pertinent City policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents. A full reference list is contained in Section 7, *References and Preparers*.

Section 6, *Alternatives*, was prepared in accordance with Section 15126.6 of the *CEQA Guidelines* and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the project while feasibly attaining most of the basic project objectives. In addition, the alternatives section identifies the "environmentally superior" alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required "No Project" alternative and two alternative development scenarios for the project area.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. Section 15151 of the *CEQA Guidelines* provides the standard of adequacy on which this document is based. The *Guidelines* state:

> An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure.

1.4 Issues Not Studied in Detail in the EIR

Table 1-2 summarizes issues from the environmental checklist that were addressed in the Initial Study (Appendix B). As indicated in the Initial Study, there is no substantial evidence that significant impacts would occur in any of these issue areas.

Table 1-2 Issues Not Studied in the EIR

Issue Area	Initial Study Findings
Aesthetics	The project site would not substantially hinder views of scenic resources from public areas, nor is it located on a State Scenic Highway. Although there are ocean views along Catalina Avenue, there are no views of scenic resources on the project site. Impacts to scenic vistas would be less than significant.
	The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings, nor would it create significant impacts with respect to increased lighting or glare. Impacts to these resources would be less than significant.
Agricultural Resources	The project site is within an urban area of Redondo Beach that lacks agricultural or forest lands. No impact to these resources would occur.
Energy	Construction of the project would be temporary and would not result in wasteful consumption of energy. Operation of the project would conform to the latest version of California's Green Building Standards Code and Building Energy Efficiency Standards. The project would not create energy demand that would result in a significant environmental impact.

Issue Area	Initial Study Findings
	The proposed project would be required to comply with the residential and nonresidential mandatory measures in the 2019 California Green Building Standards Code, Title 24, Part 11 and the energy standards in the California Energy Code, Part 6 of the California Building Standards Code (Title 24). Impacts would be less than significant.
Greenhouse Gas Emissions	Greenhouse gas (GHG) emissions associated with the proposed project were estimated using CalEEMod. Based on output results from CalEEMod, the proposed project would not generate GHG emissions that would conflict with plans and policies aimed at reducing GHG emissions. Impacts would be less than significant.
Hydrology and Water Quality	Conformance with established regulations under the National Pollution Discharge Elimination System permitting program and the Redondo Beach Municipal Code (RBMC) would ensure that the proposed project does not violate any water quality standards or waste discharge requirements, or substantially degrade surface or groundwater quality. Impacts would be less than significant.
	The proposed project would be served by existing water supplies and would not result in a significant depletion of groundwater supplies. Impacts would be less than significant.
	The project would increase permeable surfaces on-site and comply with the City's urban runoff requirements in the RBMC that require compliance with the site-specific Low Impact Development (LID) Plan, which would reduce the quantity and level of pollutants leaving the project site. Impacts related to erosion and siltation would be less than significant.
	The project includes landscaping to increase pervious surfaces and any runoff from the site would be conveyed into the existing drainage system, and therefore, would not alter a stream, river or other drainage course in a manner that would result in flooding or redirect flood flows. In addition, the project would be required to comply with the RBMC and LID Plan, which would reduce runoff leaving the site. The proposed project would not increase runoff such that flooding would occur, and impacts would be less than significant.
	The project site does not contain any streams, rivers, or other drainage features. The project would be required to comply with the site-specific LID standards and the City's urban runoff requirements found in the RBMC. The proposed project would not create runoff that would exceed the capacity of the storm drain system and would not provide a substantial additional source of polluted runoff. Impacts would be less than significant.
	The project is not located near any dams, levees, or other major bodies of water that could produce seiche impacts to the project site. The project is not within the boundaries of any regional tsunami impact areas. No impact would occur.
	The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.
Land Use and Planning	The project site is currently developed, and the proposed project is consistent with the buildings and land uses in the vicinity. The project does not include any new roads, development, or infrastructure that has the potential to divide any established communities. No impact would occur.
	The project site is zoned and designated R-3A (Low-Density Multi-Family Residential). The R-3A zone and land use designation permit low-density multi-family residential land uses, including townhomes and apartment buildings. In addition, the proposed project has applied for a Density Bonus concession/incentive to adaptively reuse the existing commercial buildings currently on-site. Therefore, the proposed project would not conflict with any land use plan, policy, or regulation. No impact would occur.
Mineral Resources	The project involves redevelopment of land that is already developed and is located in an urbanized area of Redondo Beach. Mineral resources of unknown significance may exist on at the project site, but extensive excavations that may impact mineral resources at moderate depths is not proposed and the project would not result in an impact related to the loss of availability of a known mineral resource. No impact would occur.

Issue Area	Initial Study Findings
Population and Housing	Given that the proposed project would not exceed the Southern California Association of Government's 2040 housing units forecast, the project would not cause a substantial increase in population or induce unplanned population growth. Impacts would be less than significant.
	Because no existing housing is located on the project site, the proposed project would not displace existing housing or people and would not necessitate the construction of replacement housing elsewhere. No impact would occur.
Public Services	Fire protection, rescue services, and emergency medical (paramedic services) are provided by the City of Redondo Beach Fire Department. With continued implementation of existing practices of the City, including compliance with the California Fire Code and the Uniform Building Code, the proposed project would not substantially affect community fire protection services and would not result in the need for construction of fire protection facilities. Impacts would be less than significant.
	Police protection is provided by the City of Redondo Beach Police Department. The proposed project would generate a population increase of approximately 299 residents; however, the project would not cause substantially delayed response times, degraded service ratios or necessitate construction of new facilities, due to the site location within an already developed and well-served area with a low response time of four minutes. Impacts would be less than significant.
	The project site is served by the Redondo Beach Unified School District. The proposed project would generate approximately 92 new students, which would incrementally increase existing student enrollment by approximately one percent. The project applicant would be required to pay state-mandated school impact fees that would contribute to the funds available for development of new school facilities. Therefore, the project would not substantially increase the number of students at local public school or lead to the need for new or physically altered school facilities. Impacts would be less than significant.
	The proposed project would generate 30 housing units and approximately 299 residents. The addition of 299 residents would increase the City's population from 66,994 to 67,293. Therefore, the project would not change the City's ratio of parkland to residents, which would remain at approximately 2.3 acres per 1,000 residents. The proposed project would therefore not create the need for new or expanded park facilities and impacts would be less than significant.
	The project site is in an urban area already served by other commonly used public facilities, such as public libraries and medical facilities. The proposed project would not induce substantial growth and would therefore not adversely affect existing governmental facilities or require the need for new or altered governmental facilities and would generally follow the same use patterns of similar existing residential uses in terms of demand for public services. Impacts would be less than significant.
Recreation	The proposed project would generate 30 housing units and approximately 299 residents. The addition of 299 residents would increase the City's population from 66,994 to 67,293. Therefore, the project would not change the City's ratio of parkland to residents, which would remain at approximately 2.3 acres per 1,000 residents. In addition, the project applicant would be required to dedicate land, pay a fee in lieu thereof, or a combination of both, for neighborhood and community park or recreational purposes according to the RBMC Section 10-1.1408. The proposed project would not increase the demand for parks nor cause substantial deterioration of existing parks such that new park facilities would be needed. Impacts would be less than significant.

Issue Area	Initial Study Findings
Utilities	The City of Redondo Beach receives its water service from Cal Water, which according to the 2015 UWMP, would be able to provide reliable water supplies and the proposed project would not result in the need for new or expanded water facilities. Wastewater associated with the proposed project was estimated using CalEEMod. The project's estimated wastewater generation accounts for less than 0.01 percent of the City's wastewater plant, Joint Water Pollution Control Plant (JWPCP)'s, remaining daily capacity of approximately 140 million gallons. Therefore, the JWPCP has sufficient capacity to accommodate additional wastewater flows generated by the proposed project, and the construction of new or expanded treatment facilities would not be required. Potential impacts would be less than significant. The project site would continue to connect to the existing storm drain system operated and maintained by the City. In addition, runoff leaving the project site would be reduced compared to existing conditions and the project would not necessitate the construction of new stormwater drainage facilities or expansion of existing facilities. The project would not result in the wasteful, inefficient or unnecessary consumption of energy and would not require the construction of new electric power, natural gas or telecommunications facilities. The project would not result in significant environmental impacts due to the construction of new utility facilities and the project would be served by a wastewater treatment plant with adequate capacity. Impacts would be less than significant.
	The Dominguez District of Cal Water is the local supplier of domestic water and would provide potable water to the proposed project. The applicant received a Will Serve letter for the proposed project from Cal Water (see Appendix IS-5 of the Initial Study, which is included as Appendix B). The project would generate a population increase of approximately 299 residents, which would account for approximately three percent of the service area population increase between the years 2015 and 2040. According to the CalEEMod outputs, the project would demand a net increase of an estimated 4,123 gallons of water per day (4.6 acre-feet per year [AFY]) of water. This increase is within the forecasted increase in water demand for Cal Water and impacts related to water supply would be less than significant.
	Solid waste from Redondo Beach is collected by Athens Services and taken to their recycling facilities, which currently consist of the City of Industry Materials Recovery Facility (MRF) and the Sun Valley MRF. According to the CalEEMod outputs, the project site would generate approximately 50 tons of solid waste per year, an increase of an estimated nine tons of solid waste from the existing use of the project site. This increase would not exceed the current estimated remaining daily capacity of the landfills used by Athens. Additionally, the project would be required to submit a Waste Management Plan for demolition activities in accordance with RBMC Section 5-2.704. The project would comply with federal, State, and local statues and regulations related to solid waste, such as AB 939 and the City's recycling programs for residences. Therefore, impacts would be less than significant.
Wildfire	According to CalFire, the project site is not located in a "Fire Hazard Severity Zone" or "Very High Hazard Severity Zone" for wildland fires. Therefore, the project site is not located near a state responsibility area or classified as having a high fire hazard. The proposed project would comply with applicable policies and ordinances for fire prevention, protection and safety as required by the RBMC, which include development with modern materials, and in accordance with current standards, inclusive of fire-resistant materials, automatic fire sprinklers, and provision of fire alarms and detection systems. Construction of the proposed project would be required to maintain emergency access to the site and on area roadways and would not interfere with an emergency response plan or evacuation route. Impacts would be less than significant.

Issue Area	Initial Study Findings
	There are no streams or rivers located on or adjacent to the project site, and the project site and surrounding areas are not at high risk of downslope or downstream flooding or landslides. Therefore, the project would not exacerbate wildfire risks, and risks to people or structures due to runoff, post-fire slope instability, or drainage changes would not occur. Residents and visitors of the project site would not be exposed to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. No impact would occur.
	The project site is in an urban area and is not located in or near a state responsibility area or land classified as a very high fire hazard severity zone (CalFire 2007). The project site would be adequately served by existing facilities and utilities. Therefore, the proposed project would not require additional roads, fuel breaks, emergency water sources, power lines or other utilities that would exacerbate fire risk and no temporary or ongoing impacts to the environment would occur.

1.5 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* define lead, responsible and trustee agencies. The City of Redondo Beach is the lead agency for the project because it holds principal responsibility for approving the project.

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. Responsible agencies include the Los Angeles Regional Water Quality Control Board (LARWQCB), which regulates water quality in the region, the South Coast Air Quality Management District (SCAQMD), which regulates air quality in the region, and the Los Angeles County Fire Department (LACFD), which reviews remediation plans for on-site contamination. The SCAQMD submitted comments in the Initial Study, which is included as Appendix B. The EIR will also be submitted to these agencies for review and comment.

A trustee agency refers to a state agency having jurisdiction by law over natural resources affected by a project. There are no trustee agencies for the proposed project.

1.6 Environmental Review Process

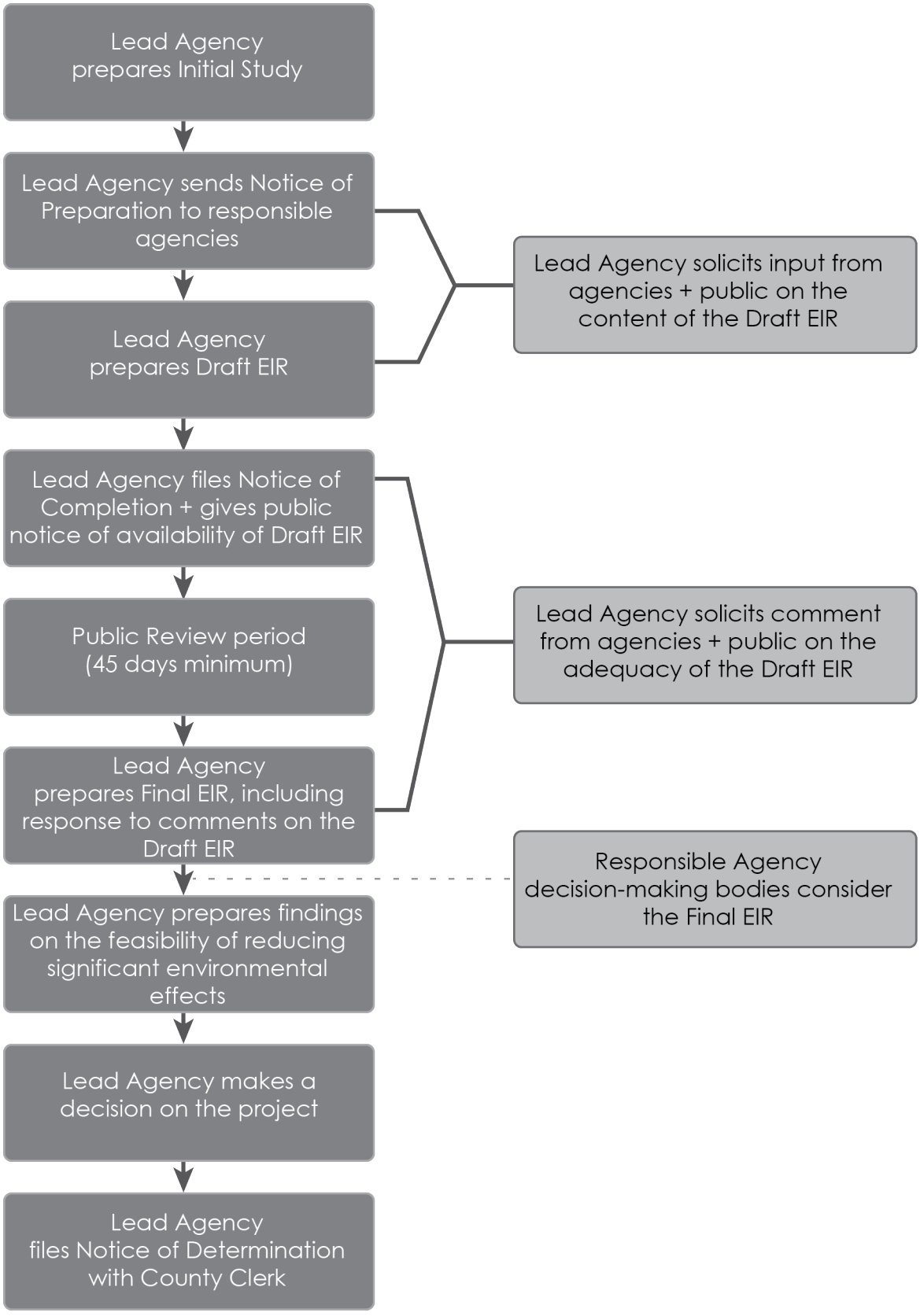
The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP) and Initial Study**. After deciding that an EIR is required, the lead agency (City of Redondo Beach) must file a NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code [PRC] Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. The NOP may be accompanied by an Initial Study that identifies the issue areas for which the project could create significant environmental impacts.
2. **Draft EIR Prepared.** The Draft EIR must contain a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion (NOC).** The lead agency must file a NOC with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the NOC in the County Clerk's office for 30 days (PRC Section 21092) and send a copy of the NOC to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally,

public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (PRC Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (PRC 21091).

4. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of Final EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).
6. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations**. For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination (NOD).** The lead agency must file a NOD after deciding to approve a project for which an EIR is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (PRC Section 21167[c]).

Figure 1-1 Environmental Review Process



2 Project Description

This section describes the 100-132 North Catalina Avenue Project (hereafter referred to as the "proposed project" or "project"), including the project applicant, the project site and surrounding land uses, major project characteristics, project objectives, and discretionary actions needed for approval.

2.1 Project Applicant

Catalina Fund, LLC
1221 Hermosa Avenue, Suite 101
Hermosa Beach, California 90254

2.2 Lead Agency Contact Person

Antonio Gardea, AICP, Senior Planner
Community Development Department
City of Redondo Beach
415 Diamond Street
Redondo Beach, California 90277
(310) 318-0637 x2248

2.3 Project Location

The project site is located at 100, 112, 116, 124, 126, and 132 North Catalina Avenue in the City of Redondo Beach (City). The project site is relatively flat with an area of 54,739 square feet (sf), or approximately 1.26 acres. The project site consists of six adjacent parcels, which are identified as Assessor Parcel Numbers (APNs) 7505-005-012, 7505-005-019, 7505-005-021, 7505-005-008, 7505-005-007, and 7505-005-006. The project site is surrounded by commercial/retail buildings, residences, and Diamond Street to the north; a church, commercial/retail buildings, residences, and North Broadway to the east; Emerald Street and residences to the south; and North Catalina Avenue and residences to the west. The site is regionally accessible from Pacific Coast Highway (State Route 1, or SR-1) and the San Diego Freeway (Interstate 405, or I-405) and locally accessible from Catalina Avenue and Torrance Boulevard.

Figure 2-1 shows the regional location of the project site and Figure 2-2 shows the location of the site in its neighborhood context. The site has been previously graded and developed and is located in an urban area surrounded by roads and urban structures (i.e., residences, commercial/retail buildings, and a church).

Figure 2-1 Regional Location

Imagery provided by Esri and its licensors © 2020.

★ Project Location

N

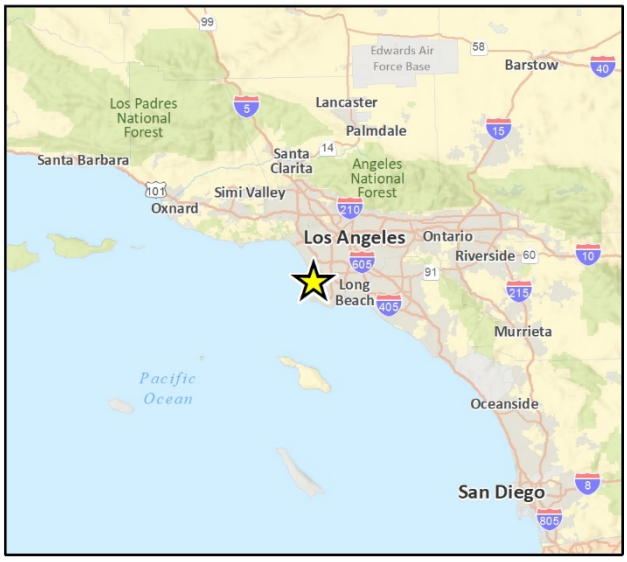


Figure 2-2 Project Site Location

Imagery provided by Microsoft Bing and its licensors © 2020.

2.4 Existing Site Characteristics

2.4.1 Current Land Use Designation and Zoning

The project site has a General Plan land use designation of Low-Density Multi-Family Residential. The site is zoned R-3A (Low-Density Multifamily Housing), as defined by the City's Zoning Ordinance and the Land Use Element of the General Plan. Uses permitted in the R-3A Zone include single- or multi-family residential. Uses in the R-3A zone may also include senior housing, parking lots, childcare centers, convalescent facilities, and public utility facilities subject to approval of a Conditional Use Permit.

2.4.2 Existing Land Uses

The project site is currently developed with five buildings that front onto Catalina Avenue, including four one-story structures (116, 124, 126, and 132 North Catalina Avenue) and one two-story structure (112 North Catalina Avenue) as well as associated surface parking lots. Existing buildings on the project site total 15,682 sf. Two of the buildings are vacant and the other buildings currently serve commercial uses. Former uses on the project site were a restaurant and dry cleaner, and the 132 North Catalina structure was historically used as a blacksmith and ironworks shop that was associated with the Redondo Railway. The former Masonic Lodge building is presently used for commercial/office uses. There is also a shed on the east side of the project site (rear end of 116 North Catalina Avenue). The buildings are served by existing access driveways on North Catalina Avenue and Emerald Street.

2.4.3 Surrounding Land Uses

The project site is in an urban area and is surrounded by one-story commercial/retail buildings and two-story multi-family residences to the north; a church (i.e., Breakwater Church), one-story commercial/retail buildings, and two-story multi-family residences to the east; two-story multi-family residences to the south across Emerald Street; and three- to four-story multi-family residences, three- to four-story condominiums, King Harbor, and the Redondo Beach Pier area to the west across North Catalina Avenue.

2.5 Project Characteristics

The project would involve the demolition of approximately 8,929 sf of existing commercial development located between 112 and 132 North Catalina Avenue (includes full demolition of the building at 116 North Catalina Avenue) and the following development plans: (1) the buildings at 124, 126 and 132 North Catalina Avenue would be rehabilitated and re-used for commercial uses (i.e., coffee shop and tasting room); (2) the building at 112 North Catalina Avenue would be adaptively reused for residential use; and (3) the shed located at the rear end of 116 North Catalina Avenue would be demolished. The project also involves the construction of 22 three-story townhomes, four apartment units in the former Masonic Lodge building (i.e., 112 North Catalina Avenue), and four apartment units in a new three-story apartment building, for a combined total of 30 residential units on the project site. The proposed density bonus project uses State-mandated concessions and development standard waivers and thereby would not require amendments to the City's General Plan, Local Coastal Program, or the Redondo Beach Municipal Code (RBMC) – Coastal Land Use Plan Implementation Ordinance.

The 22 townhomes would be situated east of the commercial buildings fronting North Catalina Avenue, whereas the residential apartment building would be adjacent to (south of) the commercial buildings and would front both North Catalina Avenue and Emerald Street. The proposed townhomes would consist of three 2-bedroom units, fifteen 5-bedroom units, one 6-bedroom unit, and three 7-bedroom units ranging from approximately 1,022 to 3,148 sf each. The proposed apartment building would consist of five 2-bedroom units ranging from 892 to 1,479 sf and three 4-bedroom units ranging between 1,312 and 1,318 sf each. Of the 30 proposed residential units, four units would be affordable units and would consist of two townhome units and two apartment units. Overall, the project would consist of 48,666 sf in total gross residential floor area. The project would also include 12,295 sf of open space, consisting of 9,196 sf of private space (i.e., roof decks and balconies), a 1,350-sf deck, 525 sf roof lounge, and 1,214 sf of common space (i.e., courtyard). In addition, rehabilitation and reusage of the existing commercial buildings would retain 3,063 sf of commercial/retail space in the form of a 1,279-sf tasting room and a 1,784-sf coffee shop.

2.5.1 Parking and Site Access

Vehicles would be able to access the proposed townhome buildings and associated at-grade parking via North Catalina Avenue and the proposed interior driveway. Vehicles would also be able to access at-grade parking associated with the proposed residential apartment building via Emerald Street to North Catalina Avenue. The proposed project would provide a total of 72 on-site parking stalls including 66 residential parking spaces (i.e., 44 private garage and 22 at-grade spaces) and six commercial parking spaces (i.e., all standard spaces). As a result of reconfiguration of the curb cuts, an additional seven on-street parking spaces would be retained in front of the proposed commercial development. Parking garages would be equipped with electric vehicle (EV) charging stations, which would provide approximately 10 percent of total residential parking. The project would provide 22 bicycle parking spaces for residents and an additional 15 bicycle racks for guests. Pedestrians would be able to access the commercial and residential buildings on the project site via sidewalks along Emerald Street and North Catalina Avenue and via the proposed internal pathways within the site.

2.5.2 Green Building Features

The project would be subject to the energy conservation requirements of the 2019 California Energy Code (Title 24, Part 6, of the California Code of Regulations, *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*) and the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations). The California Energy Code and Green Building Standards Code provide sustainability standards for all new and renovated commercial and residential buildings constructed in California. The proposed project would include sustainability features to reduce energy, water, and fuel consumption on the site. The project would include cool roofs, EnergyStar appliances in the residential units, high-efficiency lighting, and passive solar to reduce energy consumption within the buildings. In addition, the project would include high-efficiency indoor water fixtures (e.g., toilets, sinks, showers) and landscape irrigation system, as well as drought-tolerant landscaping, to reduce water consumption. Furthermore, the project would encourage fuel-efficient methods of transportation to and from the site by equipping 10 percent of all parking spaces with EV chargers, providing a common bicycle rack with 15 spaces for short-term bicycle parking, and 22 private, secured bicycle parking spaces for residents.

Table 2-1 provides project details while Figure 2-3a through Figure 2-3d show building plans. Figure 2-4a through Figure 2-4i show building elevations; Figure 2-5a and Figure 2-5b show project renderings; and Figures 2-6a through 2-6d show photos of the project site and surroundings.

Table 2-1 Project Characteristics

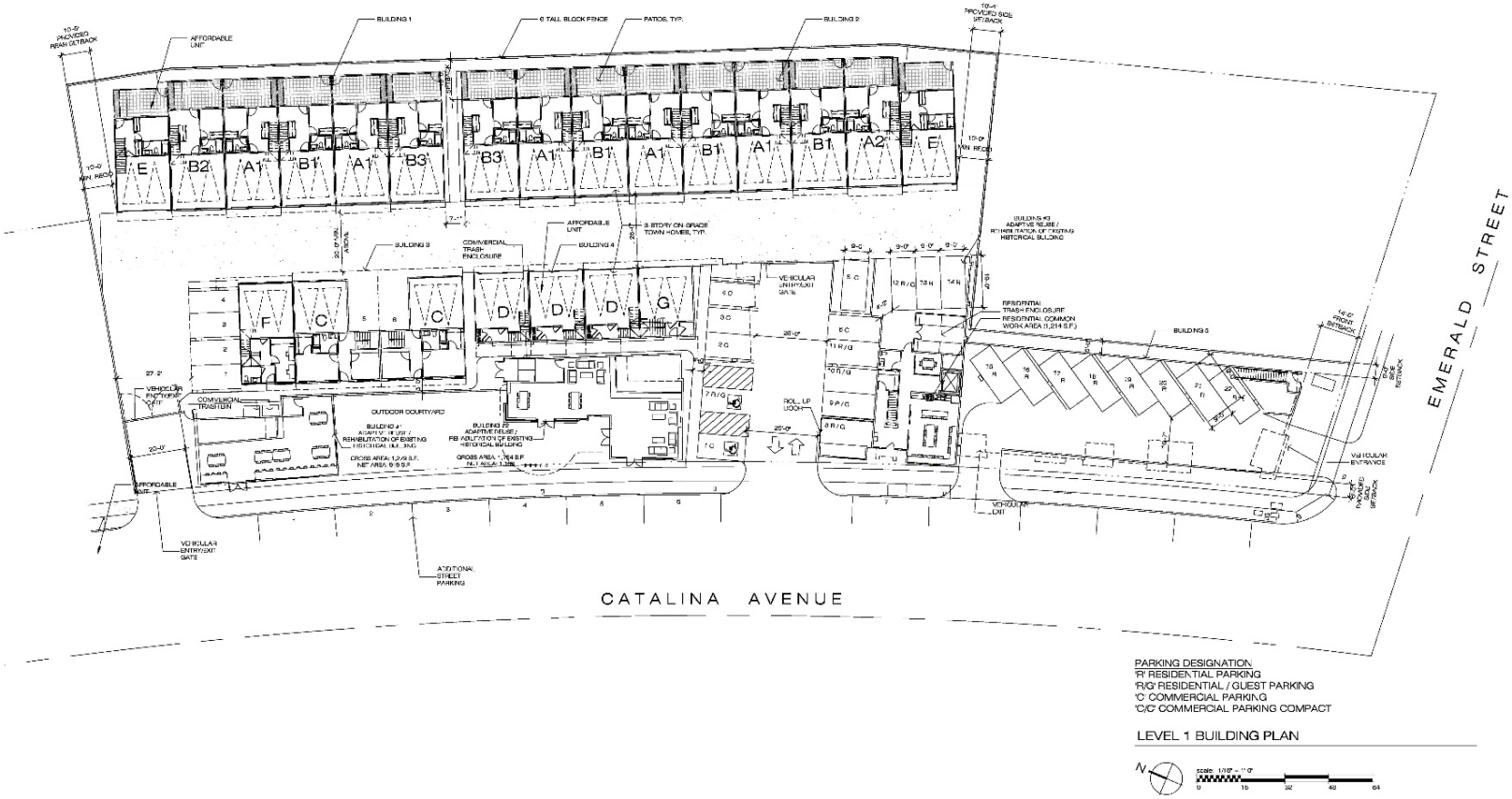
Address	100-132 North Catalina Avenue
APN	7505-005-012, -019, -021, -008, -007, and -006
Height/Stories	Tasting Room: 18 feet, 11 inches; single story Coffee Shop: 15 feet, 2 inches; single story Townhomes: 33 feet; three stories Apartments: 34 feet, 8 inches; three stories
Lot Area	54,739 sf (1.26 acres)
Project Summary (Gross Floor Area)	
Residential	48,666 sf
Commercial (Coffee Shop)	1,784 sf
Commercial (Tasting Room)	1,279 sf
Total	**51,729 sf**
Parking Summary	
On-Site Parking	72 stalls
Residential	66 stalls
Commercial	6 stalls
Public Spaces/Street Parking	7 stalls[1]
Total	**79 stalls**
Site Summary	
Gross Lot Area	54,739 sf
Covered Lot Area	22,821 sf
Lot Coverage	41.69%
Residential Unit Summary	
2-bedroom units	8 units
4-bedroom units	3 units
5-bedroom units	15 units
6-bedroom units	1 unit
7-bedroom units	3 units
Total	**30 units**[2]
Open Space Summary	
Private	9,196 sf
Deck	1,350 sf
Roof Lounge	535 sf
Common	1,214 sf
Total	**12,295 sf**

[1] Additional seven public street parking spaces available in front of the proposed retail/commercial uses.

[2] Includes four affordable units

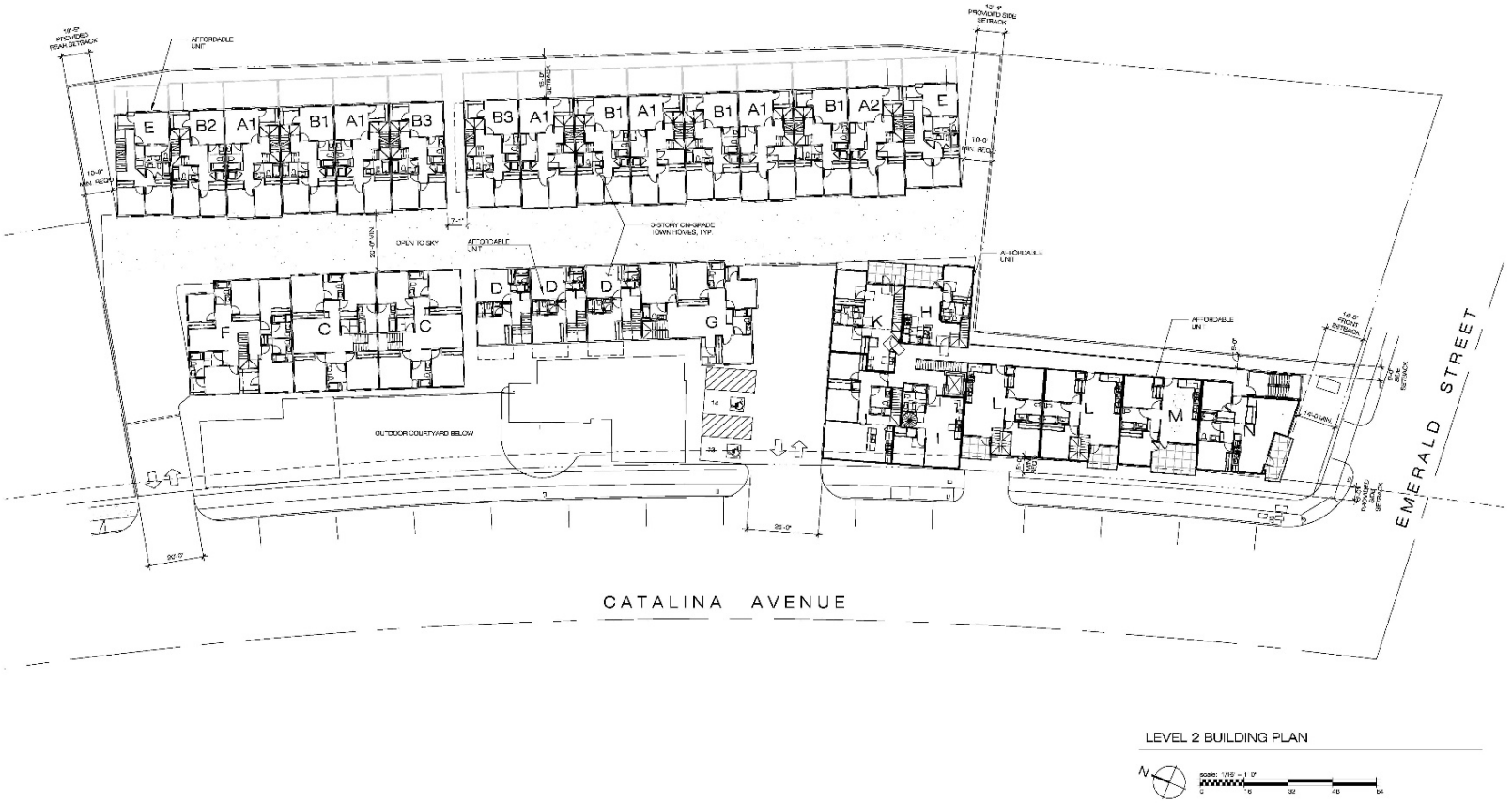
sf = square feet

Figure 2-3a Building Plan – Level 1



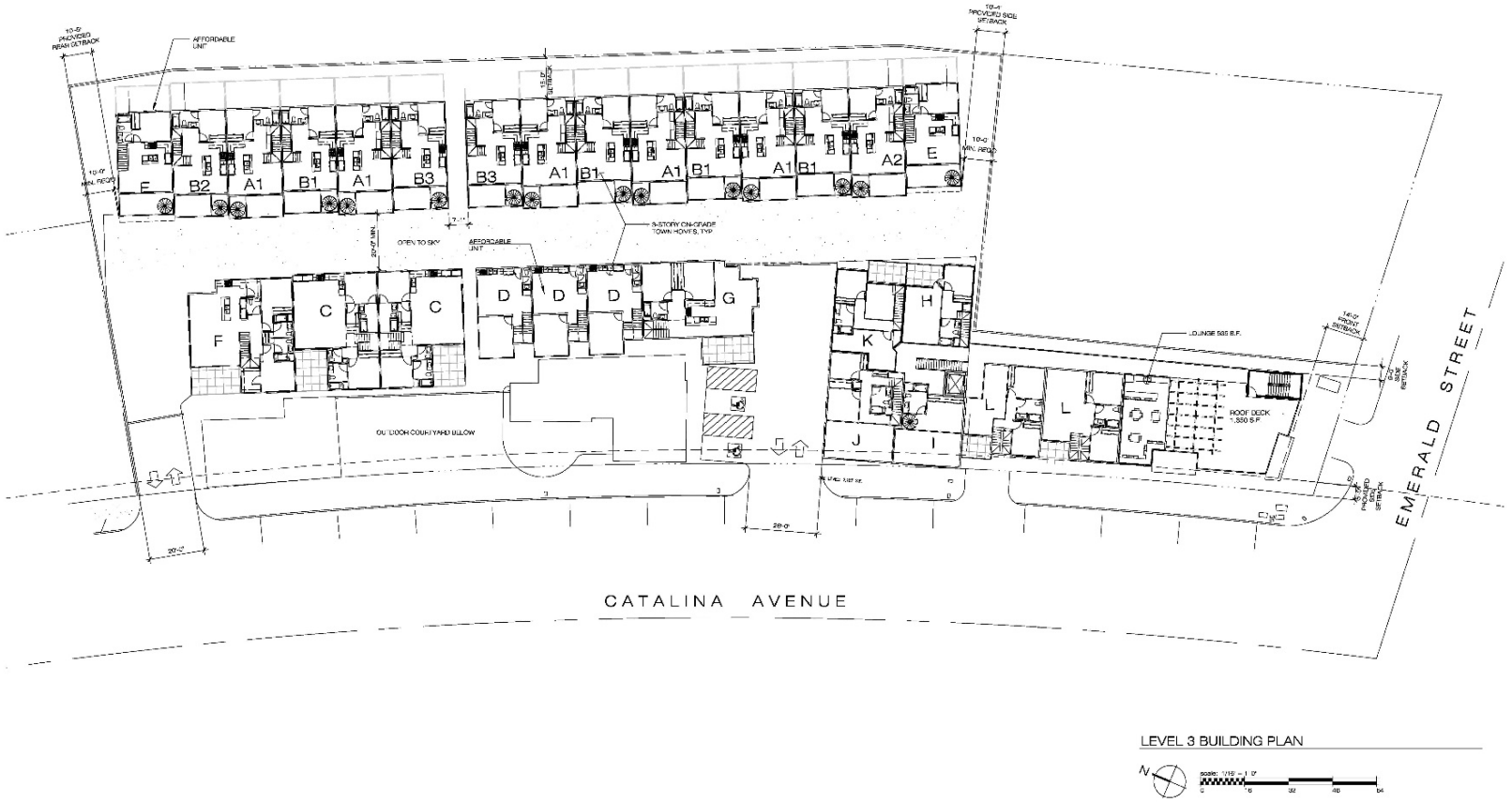
Source: Withee Malcolm Architects, 2021.

Figure 2-3b Building Plan – Level 2



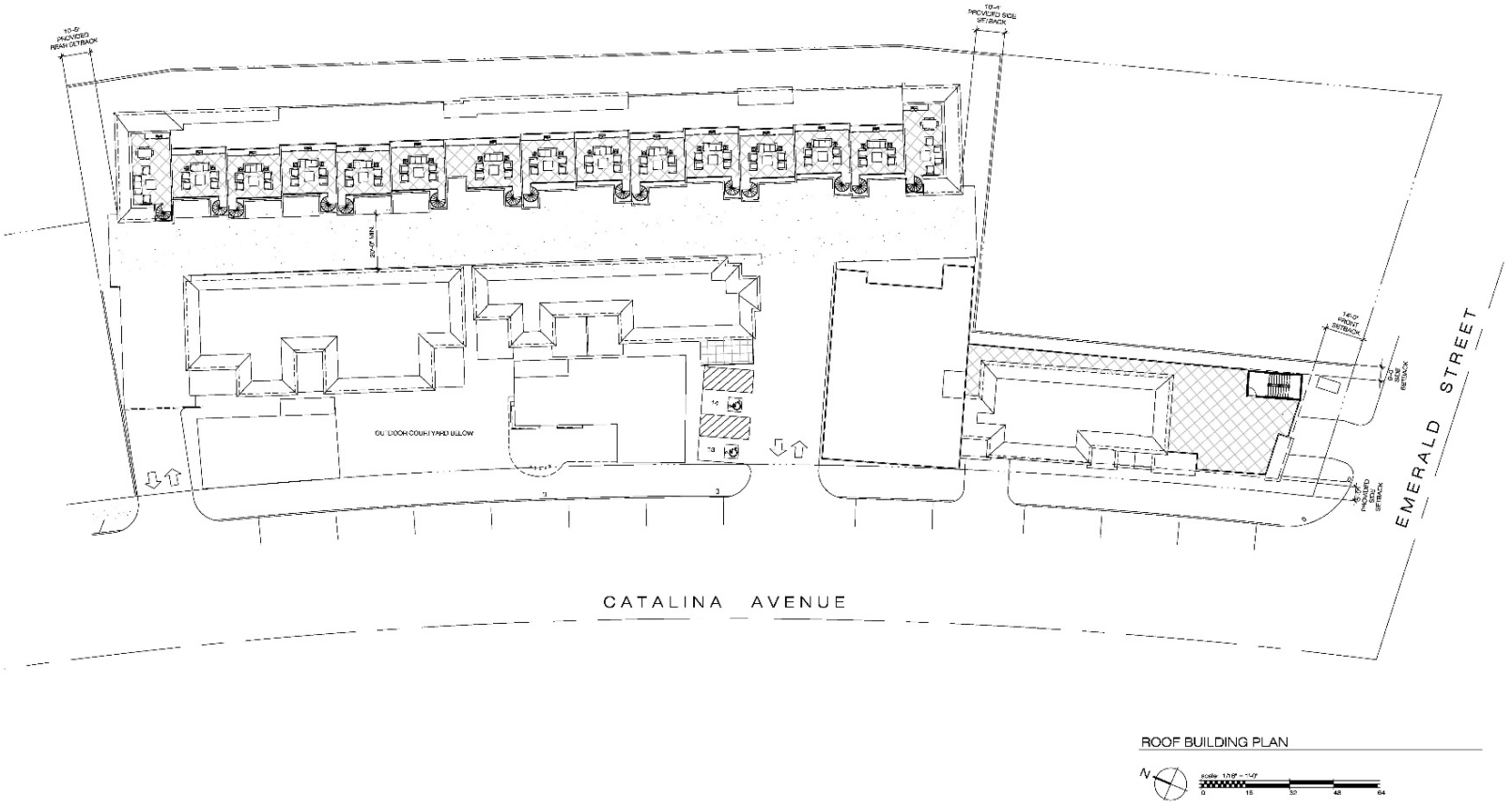
Source: Withee Malcolm Architects, 2021.

Figure 2-3c Building Plan – Level 3



Source: Withee Malcolm Architects, 2021.

Figure 2-3d Building Plan – Roof Level



Source: Withee Malcolm Architects, 2021.

Figure 2-4a Project Elevations – Tasting Room

Source: Withee Malcolm Architects, 2021.

Figure 2-4b Project Elevations – Coffee Shop

Source: Withee Malcolm Architects, 2021.

Figure 2-4c Project Elevations – Apartment Building

Source: Withee Malcolm Architects, 2021.

Figure 2-4d Project Elevations – Apartment Building

Source: Withee Malcolm Architects, 2021

Figure 2-4e Project Elevations – Townhomes

Source: Withee Malcolm Architects, 2021

Figure 2-4f Project Elevations – Townhomes

Source: Withee Malcolm Architects, 2021

Figure 2-4g Project Elevations – Townhomes

Source: Withee Malcolm Architects, 2021

Figure 2-4h Project Elevations – Townhomes

Source: Withee Malcolm Architects, 2021

Figure 2-4i Project Elevations – Townhomes

Source: Withee Malcolm Architects, 2021

Figure 2-5a Project Rendering – View of Tasting Room, Coffee Shop, and Townhomes (looking northeast)

Source: Withee Malcolm Architects, 2021.

Figure 2-5b Project Rendering - View of Apartment Building (looking northeast)

Source: Withee Malcolm Architects, 2021.

Figure 2-6a View of northern project site frontage along North Catalina Avenue, looking northeast

Source: Withee Malcolm Architects 2020

Figure 2-6b View of commercial use on parcels along North Catalina Avenue, looking southeast

Source: Withee Malcolm Architects 2020

Figure 2-6c View of existing commercial use on parcels along North Catalina Avenue, looking northeast

Source: Withee Malcolm Architects 2020

Figure 2-6d View of southern project site frontage at the North Catalina Avenue and Emerald Street intersection, looking east

Source: Withee Malcolm Architects 2020

Table 2-2 compares existing conditions to the proposed project with respect to building footprint and height.

Table 2-2 Summary of Proposed Changes

	Existing Development	Proposed Project	Change
Building Footprint	15,682 sf	22,821 sf	+7,139 sf
Maximum Building Height	30 feet	34 feet, 8 inches	+4 feet, 8 inches
Parking	49 spaces	79 spaces	+30 spaces

2.5.3 Design and Landscaping

The tasting room would be designed with vertical wood siding on all four sides of the building, with floor to ceiling glass windows along the west and south elevations and a graphic mural on the north side of the building. The coffee shop would be characterized by blue and yellow stucco with large windows along the west, north, and south elevations. The apartment building would be characterized by white siding, metal railings along the private patios, wood trellises with vine plantings, decorative shutters along the vinyl windows and with bay windows on the east elevation.

Drought-tolerant landscape such as succulents including agave, aeonium, Dudleya, and Senecio, matched with flowering shrubs and perennials such as blue-eyed grass, purple sage, and California fuchsia would be integrated in the courtyard between the two commercial buildings. The courtyard entry would be anchored by two flowering trees and additional canopy trees over the booth seating at the rear of the space. Medium shade trees would be planted along the east corridor where a series of residential patio spaces connect to the perimeter walkway. The existing east perimeter wall with vines would remain. The northeast and southeast corners would contain a variety of medium and large canopy trees. Landscaping around the townhomes would include local native species such as yarrow, manzanita, buckwheat, and Matija poppy. The corridors between the townhomes would include Island alum root, camellia, hydrangea, and schefflera species. The streetscape frontage would include large specimen planting of Mexican fan palms, with existing palms to be protected when possible. All the landscaping installed on the proposed project would be used in part of the effort to comply with the state mandated Model Water Efficient Landscape Ordinance.

2.5.4 Infrastructure Improvements

Associated improvements to the project site would include, but are not limited to, surface parking areas, an internal vehicle alleyway, internal pathways, landscaping (includes native plants), cool roofing, a courtyard, utility infrastructure, and exterior lighting. The proposed project would include new curb, gutter, sidewalks, bicycle parking, planting, fencing, and landscaping to the project site's frontages along North Catalina Avenue and Emerald Street and would add a pedestrian path and planting along a private residential corridor on the easternmost portion of the project site.

In addition, the project would comply with Chapter 7.113 of the RBMC which regulates the implementation of low impact development (LID) strategies for projects in the City of Redondo Beach.

2.5.5 Utilities

The City of Redondo Beach receives its water service from the California Water Service Company (Cal Water). The project site is in the Hermosa-Redondo Subdistrict of the Dominguez District of Cal Water. The applicant received a will serve letter for the proposed project from Cal Water (see Appendix IS-5 of the Initial Study, which is included as Appendix B) on September 18,2020 indicating that Cal Water would provide adequate water supplies to the project. Furthermore, the local wastewater collection system is managed, operated, and maintained by the City's Public Works Department. In addition, the project's electricity demand would be served by Southern California Edison and the Southern California Gas Company provides natural gas to the City of Redondo Beach.

2.5.6 Construction and Grading

Construction phasing would include demolition of approximately 8,929 sf of existing commercial development, demolition of the shed located at the rear end of 116 North Catalina Avenue, site preparation, grading, building construction, asphalt paving, and architectural coating. The grading phase would include an estimated 1,625 cubic yards of cut soil, 2,534 cubic yards of fill soil, and 6,235 cubic yards of over-excavation and re-compaction. Construction of the project is anticipated to occur over an approximately 21-month period, which would begin in January 2022 and end in October 2023. The project would open for operation by 2024. Construction hours would comply with Section 4-24.503 of the RBMC and limits imposed on days/hours as a condition of approval.

2.6 Applicant-Proposed Project Design Features (PDFs)

The following are project design features (PDFs) proposed by the applicant which would reduce or negate impacts concerning associated with the existing contamination conditions.

Hazards PDF 1 – Shallow Soil Remediation

To remediate elevated arsenic concentrations in soils onsite, soil will be excavated to a depth of five feet below ground surface within the railroad spur footprint at the site. E_2C has estimated that approximately 2,200 cubic yards of arsenic-impacted soil located beneath the railroad spur footprint of the project site will require excavation. Excavation of arsenic-impacted soils in this area will further reduce threats to groundwater and potential risk to human health.

The cleanup goal for arsenic in soil will be 12 milligrams per kilogram (mg/kg), established by the California Department of Toxic Substances Control (DTSC) in *Determination of a Southern California Regional Background Arsenic Concentration in Soil* (2008). Confirmation samples will be collected from the sidewalls and floor of the excavation. The sampling frequency will depend on the size of the excavation. In general, at least two soil samples from each side of the excavation walls and floor will be collected. Samples will be analyzed for arsenic and compared to natural background concentrations. If arsenic concentrations in the walls and floor of the excavation pit exceed 12 mg/kg, remedial excavation may be extended.

Excavated soil will be treated by mixing Portland cement with the impacted soil. A treatability study, which will include mixing ratios, will be reviewed and approved by Los Angeles County Fire Department (LACoFD) prior to implementation of soil treatment. The treated soil will be replaced in the excavation area and compacted to meet specifications based on site soil strength requirements.

It is estimated that soil mixing will result in an excess soil volume due to the addition of Portland cement and water. It is assumed that treatment of soil will reduce arsenic concentrations such that soil will be characterized as federal and California non-hazardous waste. The excess soil will be disposed of offsite as non-hazardous waste in a waste disposal facility or re-used in a portion of the site where additional fill is required.

Hazards PDF 2 – Soil Vapor

A Soil Vapor Extraction (SVE) system will be operated to remove VOCs in soil and soil vapor to the extent feasible and practicable. SVE will be implemented for the remediation of soil and soil vapor to remove mass and reduce the potential for migration of VOCs to underlying groundwater to protect current and potential beneficial uses, as well as to reduce the potential for migration of VOCs to shallow soils and into proposed residential buildings at the project site.

Components of the SVE system will be installed following excavation and rough grading at the project site. The system will consist of ten nested SVE wells connected to a skid mounted SVE package system equipment with granular activated carbon vessels. The SVE system will be installed across the project site. Soil vapor probes will be installed at various locations throughout the project site, as detailed in Figure 3 of the Soil Vapor Extraction and Soil Treatment Workplan. Existing soil vapor probes will be utilized for soil vapor monitoring.

Further details regarding location, installation, operation, and monitoring of the SVE system are provided in Section 3 of the *Soil Vapor Extraction and Soil Treatment Workplan*. Detailed design plans for the remediation system were not provided in the *Soil Vapor Extraction and Soil Treatment Workplan*. Once design plans are finalized, they will be submitted to LACoFD for review and approval.

Hazards PDF 3 – Vapor Intrusion

Engineering controls will be installed beneath the building foundation to prevent the migration of VOCs in shallow soil vapor into the proposed buildings. Engineering controls proposed in E2C's Soil Vapor Extraction and Soil Treatment Workplan include the following:

Vapor Barrier and Venting System – A vapor barrier and sub-slab venting system will be installed as an engineering control beneath the foundation of the proposed residential units. The location of the vapor barrier is illustrated in Figure 1 of the Addendum to the *Soil Vapor Extraction and Soil Treatment Workplan*, dated July 21, 2020. The vapor barrier system beneath the foundation will consist of, from top to bottom, a concrete slab underlain by a 2-inch layer of sand, followed by geotextile, followed by a minimum 30-mil high density polyethylene (HDPE) membrane, followed by a vapor collection layer consisting of aggregate or geocomposite. Two-inch perforated schedule 40 PVC venting pipes will be installed within the aggregate. The sub-slab venting system will operate passively.

Operation, Maintenance, and Monitoring

The primary maintenance concern regarding the integrity of the vapor barrier is post-construction modifications to the residential ground concrete floor. Modifications such as drilling, saw-cutting, or any other penetration of the concrete floor must not be allowed to puncture the liner system. If penetration of the concrete slab occurs, a qualified vapor barrier contractor will be retained to reseal the vapor barrier liner and reset the integrity of the vapor barrier. Any penetration and repair of the vapor barrier liner will be documented by the property owner.

Exposed riser piping will be periodically inspected for incidental damage. The passive ventilation discharge locations will be inspected for weather-related damage after each winter season. Periodic inspection of exposed riser pipe and piping discharge locations will be documented in the building records. Any damage to riser piping, including discharge locations, will be fully documented. Any repairs made to riser or discharge piping will be documented by the property owners.

2.7 Project Objectives

The proposed project would achieve the following objectives:

1. To create a high-quality designed townhome and apartment complex that enhances the value of an existing underutilized site through the development of a project that is responsive to market demands that includes at least 26 market-rate units.
2. To realize the City of Redondo Beach's General Plan and the Coastal Plan by recognizing the sites underlying R-3 zoning and incorporating multi-family housing into the master plan and near the harbor with access to outdoor recreational opportunities.
3. To further the City of Redondo Beach Housing Element policies to support the City's future housing needs by developing new quality multi-family, transit-oriented living options at different income levels including affordable housing units per California State Density Bonus law.
4. To realize the utilitarian benefit of the existing non-conforming commercial buildings with respect to the overall site programming and to ensure economic vitality of the Project through offsetting the costs of construction for the affordable housing units through programming of the commercial spaces as revenue generating, high impact uses.
5. To preserve and reuse portions of three existing commercial buildings of local historic significance by designing the master plan, commercial open space, and vehicular and pedestrian circulation around the buildings' placement.
6. To provide neighborhood serving uses and amenities that cater to City of Redondo Beach residents and encourages pedestrian and bicycle activity through re-programming and reactivating the facades of the existing commercial buildings and providing access to a new shared courtyard and public bike racks.
7. To limit points of ingress/ egress to the site and remove surplus driveway curb cuts to create new on-street public parking spaces available for public access and within walking distance to the marina.
8. To remediate the existing site with little disturbance to historic buildings.
9. To design new residential structures to comply with City of Redondo Beach parking and open space requirements and to contain parking and open space within each town home envelope to limit opportunities for large gatherings.
10. To limit construction impact on surrounding uses and existing historic buildings and to control construction costs to maintain project viability though designing new structures with focused construction methods comprised of wood framed buildings at grade which eliminates costly and invasive shoring and structural concrete work.

2.8 Required Approvals

Discretionary approvals from various agencies are required for implementation of the proposed project. Approval of the remediation plan is required from the LACoFD. The project requires Preservation Commission consideration of local historic district designation and Certificate of Appropriateness and Planning Commission consideration of Coastal Development, Planning Commission Design Review, Variance, and Conditional Use Permits. The applicant requests designation of four commercial buildings as contributors to a potential local landmark district and a parking variance to allow for less parking than required for adaptive reuse of commercial structures.

The project would also use the State Density Bonus and approval of an Affordable Housing Agreement. As part of the Density Bonus application a waiver of the maximum height limit (development standard) and the following concessions and incentives are requested:

- Mixed Use Zoning for adaptive reuse of non-residential structures
- Lot Consolidation of conforming lots
- Three-story residential structure(s)

3 Environmental Setting

This section provides a general overview of the environmental setting for the proposed project. More detailed descriptions of the environmental setting for each environmental issue area can be found in Section 4, *Environmental Impact Analysis*.

3.1 Regional Setting

The project site is located in the City of Redondo Beach along North Catalina Avenue, between Diamond Street to the north and Emerald Street to the south. The approximately 54,739-sf site has been previously graded and developed and is currently occupied by five buildings, surface parking lots, and a shed at the rear on 116 North Catalina. Figure 2-1 in Section 2, *Project Description*, shows the location of the project site in the region. Figure 2-2 shows the location of the project site in relationship to the surrounding neighborhood.

A grid system of east-west and north-south roadways, including arterials, collectors, and local streets, provide vehicular access throughout the City. The site is regionally accessible from Pacific Coast Highway (State Route 1 or SR-1) and the San Diego Freeway (Interstate 405 or I-405) and locally accessible from Catalina Avenue and Torrance Boulevard.

The Mediterranean climate of the region and the coastal influence produce moderate temperatures year-round, with rainfall concentrated in the winter months. Although air quality in the area has steadily improved in recent years, the Los Angeles region remains a nonattainment area for ozone (urban smog). The City of Redondo Beach is located approximately 900 feet from the coastline of the Pacific Ocean.

3.2 Project Site Setting

As shown in Figure 2-2 in Section 2, *Project Description,* the project site is in an urban area and is surrounded by residential, institutional, and retail/commercial uses. Land uses surrounding the project site consist of one-story commercial/retail buildings and two-story multi-family residences to the north; a church (i.e., Breakwater church) one-story commercial/retail buildings, and two-story multi-family residences to the east; two-story multi-family residences to the south across Emerald Street; and three- to four-story multi-family residences, three- to four-story condominiums, King Harbor, and the Redondo Beach Pier area to the west across North Catalina Avenue.

The project site is currently occupied by five commercial buildings (two of which are currently vacant) and has a General Plan land use designation of Low Density Multi-Family Residential. The site is zoned R-3A (Low-Density Multifamily Housing), as defined by the City's Zoning Ordinance and the Land Use Element of the General Plan Uses permitted in the R-3A designation include single- or multi-family residential. Uses in the R-3A zone may also include senior housing, parking lots, childcare centers, convalescent facilities, and public utility facilities subject to approval of a Conditional Use Permit. The proposed project would not require amendments to the City's General Plan or the Redondo Beach Municipal Code.

3.3 Cumulative Development

In addition to the specific impacts of individual projects, the California Environmental Quality Act (CEQA) requires environmental impact reports (EIR) to consider potential cumulative impacts of the proposed project. CEQA defines "cumulative impacts" as two or more individual impacts that, when considered together, are substantial or will compound other environmental impacts. Cumulative impacts are the combined changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, traffic impacts of two nearby projects may be less than significant when analyzed separately but could have a significant impact when analyzed together. Cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects.

CEQA requires cumulative impact analysis in EIRs to consider either a list of planned and pending projects that may contribute to cumulative effects or a forecast of future development potential. Currently planned and pending projects in the vicinity of the proposed project includes The Foundry project located approximately 2.2 miles northeast of the project site, which involves demolition of all existing industrial and retail/commercial buildings on the 2.37-acre project site for construction of 36 two-story condominium homes.

4 Environmental Impact Analysis

This section discusses the possible environmental effects of the proposed project for the specific issue areas that were identified through the scoping process as having the potential to experience significant effects. A "significant effect" as defined by the *CEQA Guidelines* §15382:

> […] means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The assessment of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the "significance thresholds," which are those criteria adopted by the City and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

- **Significant and Unavoidable**. An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the *CEQA Guidelines*.
- **Less than Significant with Mitigation Incorporated**. An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the *CEQA Guidelines*.
- **Less than Significant**. An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other planned and pending developments in the area listed in Section 3, *Environmental Setting*.

The Executive Summary of this Environmental Impact Report (EIR) summarizes all impacts and mitigation measures that apply to the proposed project.

This page intentionally left blank

4.1 Air Quality

This section discusses the regulatory and environmental setting and analyzes the potential regional and local air quality impacts of the proposed project during both construction and operational phases, respectively. The trip generation estimates used to calculate emissions are based on information included in Section 4.7, *Transportation,* of this EIR.

4.1.1 Setting

Climate and Topography

The project site is located in the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County.[1] The regional climate in the SCAB is semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality in the SCAB is primarily influenced by meteorology and a wide range of emission sources, such as dense population centers, substantial vehicular traffic, and industry.

The majority of annual rainfall in the SCAB occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the SCAB and along the coastal side of the mountains. The warmest months of the year in Redondo Beach are August and September, and the coldest months of the year are December and January. The annual average maximum temperature is 71.5 degrees Fahrenheit (°F), while the annual average minimum temperature is 56.7°F. Average monthly rainfall measured in the local area since 1985 varies from to 0.03 inch in July to 3.3 inches in February (Iowa State University 2021).

The SCAB experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific High-pressure system. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion layer (i.e., the upper layer) until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid- to late afternoons on hot summer days. Winter inversions frequently break by mid-morning.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly inland to Riverside and San Bernardino counties. In the winter, the greatest pollution problem is the accumulation of carbon monoxide and nitrogen oxides (NO_X) due to low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

[1] A map of SCAQMD jurisdiction is available at: http://www.aqmd.gov/docs/default-source/default-document-library/map-of-jurisdiction.pdf

Air pollutant emissions in the SCAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

Air Pollutants of Primary Concern

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants, which are discussed in more detail and presented in Table 4.1-2 under *Regulatory Setting*. Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere and include carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),[2] NO_X, particulate matter, sulfur dioxide, and lead. Secondary criteria pollutants are created by atmospheric chemical and photochemical reactions primarily between VOC and NO_X. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog). The characteristics, sources and effects of criteria pollutants are discussed in the following subsections.

Ozone

Ozone is produced by a photochemical reaction (triggered by sunlight) between NO_X and VOC. VOCs are composed of non-methane hydrocarbons (with some specific exclusions), and NO_X are composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide and nitrogen dioxide. NO_X are formed during the combustion of fuels, while VOC are formed during combustion and evaporation of organic solvents. As a highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high VOC and NO_X levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant. In addition, because ozone requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans, including changes in breathing patterns, reduction of breathing capacity, increased susceptibility to infections, inflammation of lung tissue, and some immunological changes (SCAQMD 2005; USEPA 2021a). Groups most sensitive to ozone include children, the elderly, persons with respiratory disorders, and people who exercise strenuously outdoors.

[2] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this EIR.

Carbon Monoxide

Carbon monoxide is a localized pollutant that is found in high concentrations only near its source. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is the incomplete combustion of petroleum fuels by automobile traffic. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. Other sources of carbon monoxide include the incomplete combustion of petroleum fuels at power plants and fuel combustion from wood stoves and fireplaces during the winter. The health effects of carbon monoxide are related to its affinity for hemoglobin in the blood. Carbon monoxide causes a number of health problems, including aggravation of some heart diseases (e.g., angina), reduced tolerance for exercise, impaired mental function, and impaired fetal development. At high levels of exposure, carbon monoxide reduces the amount of oxygen in the blood, leading to mortality (SCAQMD 2005; USEPA 2021a). Carbon monoxide tends to dissipate rapidly into the atmosphere; consequently, violations of ambient air quality standards for carbon monoxide are generally associated with localized carbon monoxide "hotspots" that can occur at major roadway intersections during heavy peak-hour traffic conditions.

Nitrogen Dioxide

Nitrogen dioxide is a by-product of fuel combustion; the primary sources are motor vehicles and industrial boilers and furnaces. The principal form of NO_X produced by combustion is nitric oxide, but nitric oxide reacts rapidly to form nitrogen dioxide, creating the mixture of nitric oxide and nitrogen dioxide commonly called NO_X. Nitrogen dioxide is an acute irritant that can aggravate respiratory illnesses and symptoms, particularly in sensitive groups (SCAQMD 1993 and 2005; USEPA 2021a). A relationship between nitrogen dioxide and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light, gives a reddish-brown cast to the atmosphere, and reduces visibility (SCAQMD 1993 and 2005; USEPA 2021a). It can also contribute to the formation of PM_{10} and acid rain.

Particulate Matter

Small particulate matter measuring 10 microns or less in diameter is PM_{10}, while fine particulate matter measuring 2.5 microns or less in diameter is $PM_{2.5}$. Both PM_{10} and $PM_{2.5}$ are directly emitted into the atmosphere as by-products of fuel combustion and wind erosion of soil and unpaved roads. Particulate matter is also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with PM_{10} and $PM_{2.5}$ can be very different. PM_{10} is generally associated with dust mobilized by wind and vehicles while $PM_{2.5}$ is generally associated with combustion processes as well as formation in the atmosphere as a secondary pollutant through chemical reactions. $PM_{2.5}$ is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems (CARB 2021a). More than half of the small and fine particulate matter that is inhaled into the lungs remains there. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance. Suspended particulates can also reduce lung function, aggravate respiratory and cardiovascular diseases, increase mortality rates, and reduce lung function growth in children (SCAQMD 2005; USEPA 2021a).

Sulfur Dioxide

Sulfur dioxide is included in a group of highly reactive gases known as "oxides of sulfur." The largest sources of sulfur dioxide emissions are from fossil fuel combustion at power plants (73 percent) and

other industrial facilities (20 percent). Smaller sources of sulfur dioxide emissions include industrial processes such as extracting metal from ore and the burning of fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Sulfur dioxide is linked to a number of adverse effects on the respiratory system, including aggravation of respiratory diseases, such as asthma and emphysema, and reduced lung function (SCAQMD 2005; USEPA 2021a).

Lead

Lead is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial sources. However, as a result of the USEPA's regulatory efforts to remove lead from gasoline, atmospheric lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred prior to 1990 due to the removal of lead from gasoline sold for most highway vehicles. Lead emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least in part as a result of national emissions standards for hazardous air pollutants (USEPA 2013). As a result of phasing out leaded gasoline, metal processing currently is the primary source of lead emissions. The highest level of lead in the air is generally found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. The health impacts of lead include behavioral and hearing disabilities in children and nervous system impairment (SCAQMD 2005; USEPA 2021a).

Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about 1/70th the diameter of a human hair) and thus is a subset of $PM_{2.5}$. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2021b). Particulate matter emitted from diesel engines contributes more than 70 percent of the air emission cancer risk associated with the on-road heavy-duty sector within the SCAB (SCAQMD 2017a).

TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

Current Air Quality

Table 4.1-1 summarizes the representative annual air quality data for all criteria pollutants for the local airshed from the nearest monitoring stations with available data for 2017 through 2019. As shown therein, the PM_{10} CAAQS was exceeded in 2019 and the $PM_{2.5}$ NAAQS were exceeded every year from 2017 to 2019. More information about the NAAQS and CAAQS is provided below in Section 4.1.2, *Regulatory Setting*.

Table 4.1-1 Representative Annual Ambient Air Quality Data

Pollutant	2017	2018	2019
Ozone (ppm), Highest 1-Hour[1]	0.086	0.074	0.082
Number of days above CAAQS (>0.09 ppm)	0	0	0
Ozone (ppm), Highest 8-Hour Average[1]	0.070	0.065	0.067
Number of days above NAAQS and CAAQS (>0.070 ppm)	0	0	0
Carbon Monoxide (ppm), Highest 8-Hour Average[2]	1.6	1.5	1.3
Number of days above CAAQS or NAAQS (>9 ppm)	0	0	0
Nitrogen Dioxide (ppm), Highest 1 Hour[1]	0.072	0.060	0.057
Number of days above CAAQS (>0.180 ppm)	0	0	0
Number of days above NAAQS (>0.100 ppm)	0	0	0
Sulfur Dioxide (ppm), Highest 1-Hour[2]	0.095	0.012	0.008
Number of days above CAAQS (>0.25 ppm)	0	0	0
Number of days above NAAQS (>0.075 ppm)	0	0	0
PM_{10}- Particulate Matter ≤10 microns (μg/m^3), Highest 24-Hour Average[1]	46.5	45.3	62.1
Number of days above CAAQS (>50 μg/m^3)	0	0	2
Number of days above NAAQS (>150 μg/m^3)	0	0	0
$PM_{2.5}$- Particulate Matter ≤2.5 microns (μg/m^3), Highest 24 Hour Average[3]	85.4	103.8	36.7
Number of days above NAAQS (>35 μg/m^3)	8	9	1
Lead (μg/m^3), Highest 3-Month Average[2]	0	0	0
Number of days above NAAQS (>0.15 μg/m^3)	0	0	0

ppm = parts per million; μg/m^3 = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard

Note: The ambient air quality data presented in this table is intended to be representative of existing conditions and is not a comprehensive summary of all monitoring efforts for all the CAAQS and NAAQS. Additional ambient air quality data can be accessed at https://www.epa.gov/outdoor-air-quality-data/monitor-values-report.

[1] Data from CARB at the nearest monitoring station with available data, the Westchester Parkway Station approximately 7.9 miles north of the project site.

[2] Data from USEPA at the nearest monitoring station with available data, the Westchester Parkway Station approximately 7.9 miles north of the project site.

[3] Data from CARB at the nearest monitoring station with available data, the Long Beach-Route 710 Station approximately 11 miles northeast of the project site.

Source: CARB 2021c and USEPA 2020

Sensitive Receptors

The NAAQS and CAAQS were established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare (see additional discussion of the NAAQS and CAAQS in Section 4.1.2, *Regulatory Setting*). They are designed to protect that segment of the public most susceptible to respiratory distress as a result of poor air quality, such as children under 14, persons over 65, persons engaged in strenuous work or exercise, and people with pre-existing cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, long-term health care facilities, rehabilitation centers, convalescent

centers, hospitals, retirement homes, schools, playgrounds, and childcare centers (SCAQMD 2005). Sensitive receptors closest to the project site consist of multi-family residences immediately to the north and east, multi-family residences to the south across Emerald Street, and multi-family residences to the west across North Catalina Avenue. In addition, the St. James Catholic Preschool and South Bay Faith Academy are located approximately 600 feet to the east and 680 feet to the southeast of the project site, respectively. Furthermore, the proposed project would include construction of residential units, which would add new sensitive receptors to the project site.

4.1.2 Regulatory Setting

Federal and State Regulations

Federal and California Clean Air Acts

The federal CAA governs air quality in the United States and is administered by USEPA at the federal level. Air quality in California is also governed by regulations under the California CAA, which is administered by CARB at the state level. At the regional and local levels, local air districts such as the SCAQMD typically administer the federal and California CAA. As part of implementing the federal and California CAA, USEPA and CARB have established ambient air quality standards for major pollutants at thresholds intended to protect public health. Table 4.1-2 summarizes the CAAQS and the NAAQS. The CAAQS are more restrictive than the NAAQS for several pollutants, including the one-hour standard for carbon monoxide, the 24-hour standard for sulfur dioxide, and the 24-hour standard for PM_{10}. Depending on whether the standards are met or exceeded, the local air basin is classified as in "attainment" or "non-attainment." Some areas are unclassified, which means insufficient monitoring data are available; unclassified areas are considered to be in attainment. Table 4.1-2 also presents the attainment status of the SCAB for each of the CAAQS and NAAQS. As shown therein, the Los Angeles County portion of the SCAB is designated nonattainment for the NAAQS for ozone, $PM_{2.5}$, and lead, as well as the CAAQS for ozone, PM_{10}, and $PM_{2.5}$.

Table 4.1-2 Ambient Air Quality Standards and Basin Attainment Status

		California Ambient Air Quality Standards		National Ambient Air Quality Standards	
Pollutant	**Averaging Time**	**Concentration**	**Attainment Status**	**Concentration**	**Attainment Status**
Ozone	8-Hour	0.070 ppm	N	0.070 ppm	N
	1-Hour	0.09 ppm	N	--	--
Carbon Monoxide	8-Hour	9 ppm	A	9 ppm	A
	1-Hour	20 ppm	A	35 ppm	A
Nitrogen Dioxide	1-Hour	0.18 ppm	A	0.100 ppm	U/A
	Annual Arithmetic Mean	0.030 ppm		0.053 ppm	A
Sulfur Dioxide	24-Hour	0.04 ppm	A	0.14 ppm	U/A
	1-Hour	0.25 ppm	A	0.075 ppm	U/A
	Annual Arithmetic Mean	--	--	0.030 ppm	U/A
Particulate Matter – Small (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	N	--	--
	24-Hour	50 µg/m^3	N	150 µg/m^3	A
Particulate Matter - Fine ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	N	12 µg/m^3	N
	24-Hour	--	--	35 µg/m^3	N
Sulfates	24-Hour	25 µg/m^3	A	--	--
Lead	Rolling 3-Month Average	--		0.15 µg/m^3	N[1]
	30-Day Average	1.5 µg/m^3	A	--	--
Hydrogen Sulfide[2]	1-Hour	0.03 ppm (42 µg/m^3)	A	--	
Vinyl Chloride (Chloroethene)[2]	24-Hour	0.010 ppm (26 µg/m^3)	A	--	--
Visibility Reducing Particles[2]	8-Hour (10:00 to 18:00 PST)	--	No information available	--	--

A = attainment; N = nonattainment; U = unclassified; ppm=parts per million; µg/m^3=micrograms per cubic meter; PST = Pacific Standard Time

[1] Partial Nonattainment designation – Los Angeles County portion of the SCAB only for near-source monitors. Expect re-designation to attainment based on current monitoring data.

[2] The project does not include substantial sources of hydrogen sulfide, vinyl chloride, or visibility reducing particles. Ambient air quality standards for these pollutants is provided for informational purposes only; however, these pollutants are not evaluated for the purposes of CEQA.

Source: SCAQMD 2016; CARB 2021d; USEPA 2021b

Safer Affordable Fuel-Efficient Vehicles Rule

On September 27, 2019, the USEPA and the National Highway Safety Administration (NHSTA) published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. The Part One Rule revokes California's authority to set its own GHG emissions standards and zero-emission vehicle mandates in California. On April 30, 2020, the USEPA and the National Highway Safety Administration published Part Two of the SAFE Vehicles Rule, which revised corporate average fuel economy and carbon dioxide emissions standards for passenger cars and trucks of model years 2021-2026 such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the approximately five percent annual increase required under the 2012 standards (NHSTA 2021). To account for the effects of the SAFE Vehicles Rule, CARB released off-model adjustment factors to adjust criteria air pollutant emissions outputs from the EMFAC model.

Construction Equipment Fuel Efficiency Standard

The USEPA sets emission standards for construction equipment. The first federal standards (Tier 1) were adopted in 1994 for all off-road engines over 50 horsepower (hp) and were phased in by 2000. A new standard was adopted in 1998 that introduced Tier 1 for all equipment below 50 hp and established the Tier 2 and Tier 3 standards. The Tier 2 and Tier 3 standards were phased in by 2008 for all equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements, which are contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068 (originally adopted in 69 Federal Register 38958 [June 29, 2004], and most recently updated in 2014 [79 Federal Register 46356]). Emissions requirements for new off-road Tier 4 vehicles were completely phased in by the end of 2015.

California Building Standards Code

The California Code of Regulations (CCR) Title 24 is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The California Building Standards Code's energy-efficiency and green building standards are outlined below. The 2019 California Buildings Standards Code (the most recent iteration of the code) was adopted by reference with applicable local amendments in Redondo Beach Municipal Code Title 9. These standards are updated every three years.

PART 6 – BUILDING ENERGY EFFICIENCY STANDARDS/ENERGY CODE

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). The 2019 Title 24 standards are the applicable building energy efficiency standards for the project because they became effective on January 1, 2020.

PART 11 – CALIFORNIA GREEN BUILDING STANDARDS

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The 2019 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers (Tiers I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;[3]
- 65 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant-emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Dedicated circuitry to facilitate installation of electric vehicle (EV) charging stations in newly constructed attached garages for single-family and duplex dwellings; and
- Designation of at least ten percent of parking spaces for multi-family residential developments and six percent of parking spaces for hotel development with more than 201 parking spaces as electric vehicle charging spaces capable of supporting future electric vehicle supply equipment.

The voluntary standards require:

- **Tier I:** stricter energy efficiency requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste with third-party verification, 10 percent recycled content for building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof; and
- **Tier II:** stricter energy efficiency requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste with third-party verification, 15 percent recycled content for building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar reflective roof.

The City does not propose to require implementation of the voluntary Tier I or Tier II standards for the proposed project.

Regional and Local Regulations

South Coast Air Quality Management District 2016 Air Quality Management Plan

Under State law, the SCAQMD is required to prepare a plan for air quality improvement for pollutants for which its jurisdiction is in non-attainment. Each iteration of the SCAQMD's Air Quality Management Plan (AQMP) is an update of the previous plan and has a 20-year horizon. The latest AQMP, the 2016 AQMP, was adopted on March 3, 2017. It incorporates new scientific data and

[3] Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

notable regulatory actions that have occurred since adoption of the 2012 AQMP, including the approval of the new federal eight-hour ozone standard of 0.070 ppm that was finalized in 2015. The Final 2016 AQMP addresses several State and federal planning requirements and incorporates new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and meteorological air quality models. The Southern California Association of Governments' (SCAG) projections for socio-economic data (e.g., population, housing, and employment by industry) and transportation activities from the 2016 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) are integrated into the 2016 AQMP.[4] The 2016 AQMP builds upon the approaches taken in the 2012 AQMP for the attainment of federal PM and ozone standards and highlights the significant amount of reductions to be achieved. It emphasizes the need for interagency planning to identify additional strategies to achieve reductions within the timeframes allowed under the federal CAA, especially in the area of mobile sources. The 2016 AQMP also includes a discussion of emerging issues and opportunities, such as fugitive toxic particulate emissions, zero-emission mobile source control strategies, and the interacting dynamics among climate, energy, and air pollution. The 2016 AQMP demonstrates strategies for attainment of the new federal eight-hour ozone standard and vehicle miles travelled (VMT) emissions offsets, pursuant to recent USEPA requirements (SCAQMD 2017a). The SCAQMD is currently preparing the next iteration of the AQMP, which will be the 2022 AQMP.

South Coast Air Quality Management District Rules and Regulations

The SCAQMD implements rules and regulations for emissions that may be generated by various uses and activities. The rules and regulations detail pollution-reduction measures that must be implemented during construction and operation of projects. Rules and regulations relevant to the project include the following:

- **Rule 401 (Visible Emissions):** This rule prohibits the discharge of visible air pollutant emissions from various sources as determined by shade and opacity criteria based on the Ringelmann Chart.
- **Rule 402 (Nuisance):** This rule prohibits the discharge of quantities of air contaminants or other material that causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- **Rule 403 (Fugitive Dust Control):** This rule includes various requirements to prevent, reduce, and mitigate the amount of particulate matter entrained in the ambient air from man-made fugitive dust sources.
- **Rule 445 (Wood Burning Devices):** This rule prohibits the installation of wood-burning devices, including fireplaces and cookstoves, in new developments.
- **Rule 1108 (Cutback Asphalt):** This rule prohibits the sale of cutback asphalt containing more than 0.5 percent of VOCs that evaporate at 500°F or lower.
- **Rule 1108.1 (Emulsified Asphalt):** This rule prohibits the sale of emulsified asphalt containing VOCs that evaporate at 500°F or lower.

[4] On September 3, 2020, SCAG's Regional Council formally adopted the 2020-2045 RTP/SCS (titled Connect SoCal). However, the 2016 AQMP was adopted prior to this date and relies on the demographic and growth forecasts of the 2016-2040 RTP/SCS; therefore, these forecasts are utilized in the analysis of the project's consistency with the AQMP.

- **Rule 1113 (Architectural Coatings):** This rule establishes VOC content limits for a variety of architectural coatings, including 50 grams per liter for flat and non-flat coatings.

City of Redondo Beach Climate Action Plan

The City of Redondo Beach, in cooperation with the South Bay Cities Council of Governments, has developed a Climate Action Plan (CAP) to reduce greenhouse gas (GHG) emissions in the City (City of Redondo Beach 2017). The City's CAP serves as a guide for action by setting GHG emission reduction goals and establishing sustainability strategies and policies to achieve desired outcomes over the next 20 years. It identifies community-wide measures and sub-strategies to lower GHG emissions from a range of sources within the jurisdiction, including transportation, land use, energy generation and consumption, water, and waste. The CAP measures and sub-strategies, particularly in the land use and transportation areas, have co-benefits for air quality by incentivizing the use of zero-emissions vehicles such as electric vehicles (EVs), expanding multi-modal transportation options, improving the public and active transportation systems, and reducing VMT (City of Redondo Beach 2017).

4.1.3 Impact Analysis

Methodology and Significance Thresholds

Methodology

Construction and operational air pollutant emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0. CalEEMod uses project-specific information, including the project's land uses, square footages for different uses (e.g., multi-family residential, townhomes, retail, and parking), and location, to estimate a project's construction and operational emissions. CalEEMod was used to estimate emissions associated with development of the proposed project and with operation of the existing commercial/retail uses on the project site to determine the project's net new operational emissions.

CONSTRUCTION EMISSIONS

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker, vendor, and haul trips. As discussed in Section 2, *Project Description*, construction of the proposed project would occur in a single development phase over a period of approximately 21 months, starting in January 2022. Construction activities for the proposed project would include demolition, site preparation, grading, building construction, architectural coating, and paving. The anticipated construction schedule was provided by the project applicant and the construction equipment list was based on CalEEMod defaults. In addition, based on applicant-provided information, the proposed project would include demolition of approximately 8,929 sf of existing buildings on the project site. The project would also include import of approximately 909 cy of soil material. The CalEEMod run included compliance with SCAQMD Rule 403, which requires site watering at least twice per day and limiting vehicle speeds on unpaved roads to 15 miles per hour to control fugitive dust emissions, and Rule 1113, which limits the VOC content of architectural coatings.

OPERATIONAL EMISSIONS

Operational emissions were modeled for the year 2024 (the anticipated project opening year) and include mobile source emissions (i.e., vehicle emissions), energy emissions, and area source emissions. Mobile source emissions consist of emissions generated by resident, guest, employee, and patron trips to and from the project site. The trip generation estimates from the CEQA Transportation Impact Assessment prepared by Fehr & Peers (2021; Appendix C) were used to estimate mobile source emissions for development under the proposed project. CalEEMod defaults were used to estimate the trip generation of existing uses on the project site. The "Increase Density" and "Integrate Below Market Rate Housing" options in CalEEMod were used to account for project design features that would reduce VMT associated with the proposed project, including increased residential and employment density and the designation of 13.3 percent of the residential units as affordable housing.

Emissions attributed to energy use include emissions from natural gas consumption for space and water heating and cooking. Area source emissions are generated by landscape maintenance equipment, consumer products, and architectural coatings.

Operational emissions associated with existing on-site development anticipated to be demolished and/or replaced by the proposed project were modeled in CalEEMod and subtracted from the operational emissions of the proposed project to calculate net new operational emissions on the site. Existing on-site development anticipated to be replaced by the proposed project includes approximately 12,675 sf of operational retail uses, including custom framing, stone and tile, dry cleaner, carpentry, and party rental businesses.

Thresholds of Significance

The following thresholds are used to determine the significance of project impacts related to air quality. The proposed project would result in a significant air quality impact if the project would:

- **Threshold 4.1-1:** 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
- **Threshold 4.1-2:** Expose sensitive receptors to substantial pollutant concentrations

As discussed in the Initial Study (Appendix B), the project could result in potentially significant impacts related to the generation of criteria pollutants (Threshold 4.1-1) and the exposure of sensitive receptors to substantial air pollutant concentrations (Threshold 4.1-1), which are analyzed below. The project would not result in significant impacts related to a conflict with the applicable air quality plan and other emissions such as odors. These significance criteria are not studied further herein. Refer to Section 3, *Air Quality*, of the Initial Study in Appendix B for the impact analysis of these criteria.

REGIONAL SIGNIFICANCE THRESHOLDS

The SCAQMD recommends the use of quantitative regional significance thresholds to evaluate emissions generated by temporary construction activities and long-term project operation in the SCAB, which are shown in Table 4.1-3.

Table 4.1-3 SCAQMD Regional Significance Thresholds

Construction Thresholds	Operational Thresholds
75 pounds per day of VOC	55 pounds per day of VOC
100 pounds per day of NO_X	55 pounds per day of NO_X
550 pounds per day of CO	550 pounds per day of CO
150 pounds per day of SO_X	150 pounds per day of SO_X
150 pounds per day of PM_{10}	150 pounds per day of PM_{10}
55 pounds per day of $PM_{2.5}$	55 pounds per day of $PM_{2.5}$

VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X =sulfur oxides; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter

Source: SCAQMD 2019

LOCALIZED SIGNIFICANCE THRESHOLDS

In addition to the regional thresholds discussed above, the SCAQMD has developed Localized Significance Thresholds (LSTs) in response to the Governing Board's Environmental Justice Enhancement Initiative (1-4), which was prepared to update the *CEQA Air Quality Handbook* (1993). LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities and have been developed for NO_X, carbon monoxide, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or State ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), distance to the sensitive receptor, and project size. LSTs only apply to emissions in a fixed stationary location and are not applicable to mobile sources, such as cars on a roadway (SCAQMD 2008). As such, LSTs are typically applied only to construction emissions because the majority of operational emissions are associated with project-generated vehicle trips. The LSTs for construction activities are based on the results of air dispersion modeling that calculated NO_X and CO exhaust emissions from construction equipment and fugitive dust emissions from ground disturbance for construction sites that measure up to one, two, or five acres in size (SCAQMD 2008).

The project site is located in SRA 3 (Southwest Coastal LA County) and is approximately 1.26 acres in size. Sensitive receptors closest to the project site consist of multi-family residences immediately to the north and east, multi-family residences to the south across Emerald Street, and multi-family residences to the west across North Catalina Avenue. The SCAQMD's publication *Final Localized Significance Thresholds (LST) Methodology* (2008) provides LSTs for receptors at a distance of 82 to 1,640 feet (25 to 500 meters) from the project site boundary. According to the SCAQMD, projects with boundaries located closer than 82 feet to the nearest receptor should use the LSTs for receptors located at 82 feet. Therefore, Table 4.1-4 summarizes the LSTs for a one-acre site in SRA 3 with sensitive receptors located at a distance of 82 feet.

Table 4.1-4 SCAQMD LSTs for Construction Emissions

Pollutant	Allowable Emissions from a one-acre site in SRA-3 for a receptor 82 feet away
Gradual conversion of NO_x to NO_2	91
CO	664
PM_{10}	5
$PM_{2.5}$	3

NO_x = nitrogen oxides; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = particulate matter measuring 10 microns or less in diameter;
$PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter

Source: SCAQMD 2009

TOXIC AIR CONTAMINANTS

The USEPA considers those pollutants that could cause cancer risks between one in 10,000 (1.0×10^{4}) and one in one million (1.0×10^{-6}) for risk management. Proposition 65 (California Health and Safety Code Section 25249.6), enacted in 1986, prohibits a person in the course of doing business from knowingly and intentionally exposing any individual to a chemical that has been listed as known to the State to cause cancer or reproductive toxicity without first giving clear and reasonable warning. For a chemical that is listed as a carcinogen, the "no significant risk" level under Proposition 65 is defined as the level that is calculated to result in not more than one excess case of cancer in 100,000 individuals (1.0×10^{-5}). The SCAQMD recommends the use of this risk level (also reportable as 10 in one million) as the significance threshold for toxic air contaminants (SCAQMD 2019). The SCAQMD also recommends that the non-carcinogenic hazards of TACs should not exceed a hazard index (the summation of the hazard quotients for all chemicals to which an individual would be exposed) of 1.0 for either chronic or acute effects (SCAQMD 2019).

Project Impacts

Threshold 4.1-1:	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Impact AQ-1 THE PROPOSED PROJECT WOULD GENERATE TEMPORARY EMISSIONS OF CRITERIA AIR POLLUTANTS DURING CONSTRUCTION. CONSTRUCTION-RELATED EMISSIONS ASSOCIATED WITH THE PROPOSED PROJECT WOULD NOT EXCEED THE SCAQMD REGIONAL THRESHOLDS OR LOCALIZED SIGNIFICANCE THRESHOLDS. IN ADDITION, OPERATION OF THE PROPOSED PROJECT WOULD NOT RESULT IN EMISSIONS OF CRITERIA POLLUTANTS THAT WOULD EXCEED SCAQMD REGIONAL THRESHOLDS. THEREFORE, THE PROJECT WOULD NOT RESULT IN A CUMULATIVELY CONSIDERABLE INCREASE OF ANY CRITERIA POLLUTANTS, AND IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed in Section 4.1.2, *Regulatory Setting*, the Los Angeles County portion of the SCAB is designated nonattainment for the NAAQS for ozone, $PM_{2.5}$, and lead, as well as the CAAQS for ozone, PM_{10}, and $PM_{2.5}$. The proposed project does not include any stationary sources of lead emissions. Therefore, implementation of the project would not result in substantial emissions of lead and this pollutant is not discussed further in this analysis. The below discussion assesses potential air quality impacts related to construction and operational emissions of criteria air pollutants for which the SCAB is in non-attainment, including ozone, PM_{10}, and $PM_{2.5}$.

Construction Emissions

Construction of the proposed project would emit ozone precursors (VOC and NO_X), as well as carbon monoxide, sulfur dioxide, PM_{10}, and $PM_{2.5}$. Emissions would result from the use of heavy-duty construction equipment, fugitive dust mobilized by export of demolition debris and soil import, and the evaporation of VOC from architectural coatings (e.g., paint), among other sources. Table 4.1-5 shows the estimated maximum daily emissions for each year of construction for the proposed project. As shown therein, total maximum daily emissions generated by project construction activities would not exceed the SCAQMD regional thresholds for criteria pollutants. In addition, maximum daily on-site emissions would not exceed the SCAQMD LSTs. Therefore, project construction would not result in a cumulatively considerable increase of any criteria pollutants for which the region is in non-attainment.

Table 4.1-5 Maximum Daily Construction Emissions (pounds per day)

Year	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2022	2	18	15	< 1	4	2
2023	6	20	25	< 1	2	1
Maximum Daily Emissions	**6**	**20**	**25**	**< 1**	**4**	**2**
SCAQMD Regional Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Maximum On-site Emissions	**6**	**19**	**23**	**< 1**	**4**	**2**
Local Significance Thresholds (LSTs) (on-site only)[1]	N/A	91	664	N/A	5	3
Threshold Exceeded?	**N/A**	**No**	**No**	**N/A**	**No**	**No**

VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 =sulfur dioxide; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter; SCAQMD = South Coast Air Quality Management District; CalEEMod = California Emissions Estimator Model

Notes: All numbers have been rounded to the nearest integer. Emissions presented are the highest of the winter and summer modeled emissions. Maximum on site emissions are the highest emissions that would occur on the project site from on-site sources, such as heavy construction equipment and architectural coatings, and excludes off-site emissions from sources such as construction worker vehicle trips and haul truck trips.
Source: See Appendix D for CalEEMod results.

Operational Emissions

Development of the project would result in long-term air pollutant emissions over the course of operation. Emissions include area sources (such as consumer products, architectural coatings, and landscaping equipment), energy sources, and mobile sources (i.e., vehicles accessing the site). The proposed project would replace existing uses on the project site and therefore would eliminate operational emissions on the site generated under current conditions. As such, existing operational emissions were subtracted from the project's operational emissions to estimate net new operational emissions. Table 4.1-6 summarizes the estimated net new maximum daily emissions of pollutants associated with operation of the proposed project. As shown therein, neither total project operational emissions nor net new operational emissions would exceed the SCAQMD regional thresholds for criteria pollutants. Therefore, operation of the project would not result in a

cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment.

Table 4.1-6 Estimated Maximum Daily Operational Emissions (pounds per day)

Emission Source	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	1	< 1	2	< 1	< 1	< 1
Energy	< 1	< 1	< 1	< 1	< 1	< 1
Mobile	4	3	28	< 1	6	2
Project Emissions	**5**	**3**	**31**	**< 1**	**6**	**2**
Existing Emissions (commercial/retail buildings)	2	1	10	< 1	2	1
Net Emissions (Project – Existing)	**3**	**2**	**21**	**< 1**	**4**	**1**
SCAQMD Regional Thresholds	55	55	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 =sulfur dioxide; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter; SCAQMD = South Coast Air Quality Management District; CalEEMod = California Emissions Estimator Model

Notes: All numbers have been rounded to the nearest integer. Emissions presented are the highest of the winter and summer modeled emissions.

Source: See Appendix D for CalEEMod results

Threshold 4.1-2: Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-2 CONSTRUCTION AND OPERATION OF THE PROPOSED PROJECT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL CONCENTRATIONS OF CARBON MONOXIDE OR TACS. ADDITIONALLY, THE PROJECT WOULD NOT SITE NEW SENSITIVE RECEPTORS NEAR SOURCES OF SUBSTANTIAL TAC EMISSIONS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, long-term health care facilities, rehabilitation centers, convalescent centers, hospitals, retirement homes, and schools, playgrounds, and childcare centers (SCAQMD 2005). Sensitive receptors closest to the project site consist of multi-family residences immediately to the north and east, multi-family residences to the south across Emerald Street, and multi-family residences to the west across North Catalina Avenue. In addition, the St. James Catholic Preschool and South Bay Faith Academy are located approximately 600 feet to the east and 680 feet to the southeast of the project site, respectively.

Local Carbon Monoxide Hotspots

A carbon monoxide hotspot is a localized concentration of carbon monoxide that exceeds an ambient air quality standard for carbon monoxide. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the one-hour NAAQS of 35 ppm, the one-hour CAAQS of 20 ppm, or the eight-hour NAAQS and CAAQS of 9 ppm (CARB 2016).

The SCAQMD conducted a detailed carbon monoxide analysis for the SCAB during the preparation of the 2003 AQMP. The locations selected for microscale modeling in the 2003 AQMP included high average daily traffic (ADT) intersections in the SCAB that would be expected to experience the highest carbon monoxide concentrations. The highest carbon monoxide concentration observed was at the intersection of Wilshire Boulevard and Veteran Avenue on the west side of Los Angeles near Interstate 405 (I-405), which had an ADT of approximately 100,000 vehicles per day. The one-hour concentration of carbon monoxide at this intersection was 4.6 ppm, which is well below the one-hour NAAQS of 35 ppm and the one-hour CAAQS of 20 ppm. Furthermore, the SCAB has been in attainment of the carbon monoxide NAAQS and CAAQS since 2007 (SCAQMD 2016). The highest average 8-hour carbon monoxide concentration recorded at the Westchester Parkway Station monitoring station (the nearest monitoring station to the project site with available data) was 1.3 ppm in 2020, which is well below the 8-hour carbon monoxide NAAQS and CAAQS of 9 ppm (USEPA 2020).

Furthermore, as shown in Table 4.1-5, maximum daily construction emissions of carbon monoxide would be approximately 25 pounds and maximum on-site emissions would be approximately 23 pounds, which would not exceed the SCAQMD's regional threshold (550 lbs/day) or LST (664 lbs/day) for carbon monoxide. Likewise, as shown in Table 4.1-6, operational emissions from area, energy, and mobile sources combined would generate a net increase of approximately 21 pounds of carbon monoxide emissions compared to existing operational emissions, which is below the SCAQMD regional threshold of 550 pounds. Both the SCAQMD's regional thresholds and LSTs are designed to be protective of public health. Based on the low background level of carbon monoxide in the project area, ever-improving vehicle emissions standards for new cars in accordance with State and federal regulations, and the project's low level of operational carbon monoxide emissions, the project would not create new hotspots or contribute substantially to existing hotspots. Localized air quality impacts related to carbon monoxide hot spots would be less than significant.

Toxic Air Contaminants

TACs are defined in Section 39655 of the California Health and Safety Code as substances that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD recommends an incremental cancer risk threshold of 10 in 1 million. "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer, typically based on the use of standard Office of Environmental Health Hazard Assessment (OEHHA) risk-assessment methodology (OEHHA 2015). The project's construction activities would result in short-term DPM emissions associated with exhaust emissions from off-road, heavy-duty diesel equipment for site preparation grading, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from

the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts and is therefore the focus of this discussion (CARB 2017).

Generation of DPM from construction projects typically occurs in a single area for a short period. Based on applicant-provided information, construction of the proposed project is anticipated to take approximately 21 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period (assumed to be the approximate time that a person spends in a household). OEHHA recommends this risk be bracketed with 9-year and 70-year exposure periods. Health risk assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015).

The maximum on-site $PM_{2.5}$ emissions, which are used to represent DPM emissions for this analysis[5], would occur during grading activities. Maximum daily on-site $PM_{2.5}$ emissions during grading would be approximately two pounds per day, which would not exceed the SCAQMD LST of three pounds per day that is designed to be protective of human health. While grading emissions represent the worst-case condition, such activities would only occur for about one month, which would be less than two percent of the typical health risk calculation periods of 9 years, 30 years, and 70 years. $PM_{2.5}$ emissions would decrease for the remaining phases of the construction period because construction activities such as building construction and paving would require less construction equipment. There would be no residual emissions or corresponding individual cancer risk after project construction is complete and on-site construction activities cease. Therefore, given the aforementioned analysis, DPM generated by project construction is not expected to create conditions where the probability that the Maximally Exposed Individual would contract cancer is greater than ten in one million or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than one for the Maximally Exposed Individual. As such, project construction would not expose sensitive receptors to substantial TAC emissions, and impacts would be less than significant.

Upon completion of construction, the project does not propose routine operational activities that would generate substantial TAC emissions. Operation of the proposed project would not result in any nonpermitted direct emissions (e.g., those from a point source such as diesel generators) or result in a substantial increase in diesel vehicles (i.e., delivery trucks) over existing baseline conditions because the proposed project does not include the types of uses that generate substantial TAC emissions (e.g., distribution centers, rail yards, ports, refineries, etc.). As such, project operation would not expose sensitive receptors to substantial TAC emissions, and impacts would be less than significant.

On-Site Sensitive Receptors

The proposed project would add residential land uses to the project site that would result in new sensitive receptors on the site. A Health Risk Assessment (HRA) was prepared to assess the potential

[5] According to SCAQMD guidance, 92 percent of PM emissions from diesel off-road equipment (e.g., construction equipment) are comprised of $PM_{2.5}$ (SCAQMD 2006). Therefore, it can be conservatively assumed that DPM emissions are approximately equivalent to $PM_{2.5}$ emissions for the purposes of this analysis.

health effects associated with TAC emissions from Pacific Coast Highway (SR-1), located approximately 540 feet east of the project site (see Appendix E for the full HRA). The CARB Air Quality and Land Use Handbook: A Community Health Perspective recommends that local agencies avoid siting new, sensitive land uses within specific distances of potential sources of TACs, such as freeways and high-traffic roads, distribution centers, railroads, and ports (CARB 2005). In particular, CARB recommends that local agencies avoid siting new, sensitive land uses within 500 feet of a freeway. The primary concern is the effect of DPM, a TAC, on sensitive uses, such as residences. Near the project site, the primary source of DPM is truck traffic traveling on SR-1. Particulate matter emitted from diesel engines contributes more than 70 percent of the air emission cancer risk associated with the on-road heavy-duty sector within the SCAB (SCAQMD 2017a). In addition to DPM, this analysis also examined five other vehicle exhaust pollutants of concern that are emitted from both diesel and gasoline-fueled vehicles: acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene.

Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of one million people due to exposure to the cancer-causing substance, typically over a specific exposure duration, such as the high-end residency (95th percentile) of 30 years (SCAQMD 2017b). For example, a cancer risk of one in one million means that in a population of one million people, not more than one additional person would be expected to develop cancer as the result of the exposure to the substance causing that risk. Thirty years is the exposure duration scenario recommended by the SCAQMD for residential receptors in Risk Assessment Procedures for Rules 1401, 1401.1, and 212 (SCAQMD 2017b).

An analysis using the USEPA's AERMOD dispersion model and CARB's Hotspots Analysis and Reporting Program (HARP) risk analysis tool determined that the maximally exposed individual receptor (MEIR) on the project site would be exposed to a high end (95th percentile), 30-year excess cancer risk of approximately 1.1 in one million, which is below SCAQMD's recommended cancer risk criteria of ten excess cases of cancer in one million individuals (1.0E-05) (SCAQMD 2019). Potential acute and chronic (such as lung inflammation, immune suppression, and immune sensitization) health risks for on-site residential units were also determined to be within the SCAQMD health risk criteria, as shown in Table 4.1-7.

Table 4.1-7 Potential Health Risks at the MEIR

	Maximum Exposed Individual Resident (MEIR)[1]
Cancer Risk	
Incremental Excess Cancer Risk[2]	1.1 in one million
Threshold	*10 in one million*
Threshold Exceeded?	**No**
Chronic Risk	
Chronic Hazard Index[2]	0.002
Threshold	*1.0*
Threshold Exceeded?	**No**
Acute Risk	
Acute Hazard Index[3]	0.001
Threshold	*1.0*
Threshold Exceeded?	**No**

[1] Based on 30-year resident exposure.

[2] The MEIR for cancer and chronic risk is the second floor of the townhome located at the southeastern corner of the project site.

[3] For acute risk, the MEIR is the third floor of the townhome located at the northeastern corner of the project site.

Note: See Appendix E for the full HRA and modeling outputs.

Therefore, the results of the HRA indicate that the proposed residential use of the site would not expose future on-site residents to significant excess cancer risks associated with vehicle emissions based on SCAQMD health risk guidelines and existing vehicle travel on SR-1. Impacts would be less than significant.

Furthermore, the risk calculated using air dispersion modeling is based on constant exposure to outdoor air during time spent at the project site, but the USEPA *Exposure Factors Handbook* indicates that the recommended daily activity pattern includes 16.6 hours per day spent inside and 2.3 hours per day outside (USEPA 2011). As a conservative simplifying assumption, this analysis presumes that residents would have the windows open sufficiently to equalize the concentration of pollutants between the indoor and outdoor environment. In particular, a likely mitigating factor is that the diesel particulates would settle out to some unknown extent on window screens and other surfaces as outdoor air enters into the indoor air environment, though at least a portion of this settled material would become re-suspended during cleaning and other activities.

In addition, the proposed project would be required to include minimum efficiency reporting value (MERV) 13 filters in the building ventilation systems, pursuant to the 2019 California Energy Code Subchapter 7, Section 150(m). The analysis in the HRA does not account for the inclusion of MERV 13 filters, which remove approximately 90 percent of DPM from the intake air (Singer *et al*. 2016). Therefore, by using the simplifying assumption that outdoor air pollutant concentrations would be equal to indoor air concentrations and by excluding the use of MERV 13 filters in the model, the calculated risk presented in this analysis is likely to be nearly an order of magnitude higher than actual indoor risk. Subsequently, the model provides a conservative estimate of health risk for future residents at the project site. Even so, as stated previously, the modeling indicates that the proposed residential use of the site would not expose future on-site residents to significant excess

cancer risks associated with vehicle emissions based on SCAQMD health risk guidelines and existing vehicle travel on SR-1. Impacts would be less than significant.

4.1.4 Cumulative Impacts

As stated under *Federal and State Regulations*, the Los Angeles County portion of the SCAB is designated nonattainment for the NAAQS for ozone, $PM_{2.5}$, and lead and the CAAQS for ozone, PM_{10}, and $PM_{2.5}$ (SCAQMD 2017a; CARB 2021d). Any growth within the Los Angeles metropolitan area would contribute to existing exceedances of ambient air quality standards. As discussed in Appendix D of the SCAQMD's *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (SCAQMD 2003), the SCAQMD's approach to determining cumulative air quality impacts for criteria air pollutants is to first determine whether the proposed project would result in a significant project-level impact to regional air quality based on the SCAQMD significance thresholds. If the project would not generate emissions exceeding the SCAQMD thresholds, the lead agency needs to consider the additive effects of related projects only if the proposed project is part of an ongoing regulatory program or is contemplated in a Program EIR, and the related projects are located within approximately one mile of the project site. If there are related projects in the vicinity (one-mile radius) of the project site that are part of an ongoing regulatory program or are contemplated in a Program EIR, the additive effect of the related projects should be considered.

As described in Section 3, *Environmental Setting*, there is one project currently under development within the vicinity of the project site, the Foundry Project. The Foundry Project is located at the intersection of 190th Street and Fisk Lane in Redondo Beach, approximately 2.2 miles northeast of the project site, and involves the demolition of existing industrial and retail/commercial buildings and construction of 36 two-story condominium homes. According to the Final Initial Study-Mitigated Negative Declaration (IS-MND) for the Foundry Project, construction of the project would take place between September 2020 and September 2021, and the project would become operational in 2021 (City of Redondo Beach 2020). The Foundry Project would generate air pollutant emissions during construction and operation; however, the Foundry Project's IS-MND determined that no significant air quality impacts would occur. As discussed in Section 3, *Air Quality*, of the Initial Study (Appendix B) and under Section 4.1.3, *Impact Analysis*, the proposed project would be consistent with the SCAQMD 2016 AQMP and would not result in significant impacts to air quality during construction and operation. Although multiple construction projects, including the Foundry Project, could be occurring simultaneously in the project site vicinity, the proposed project would not combine with other projects to result in a significant cumulative air quality impact because maximum daily emissions generated by construction of the proposed project would not exceed SCAQMD thresholds. Therefore, per SCAQMD guidance, the project would not result in a cumulatively considerable contribution to cumulative air quality impacts.

This page intentionally left blank.

4.2 Biological Resources

This section addresses the regulatory setting, and existing environmental setting, and analyzes the potential impacts to biological resources. Specifically, this analysis focuses on potential impacts to nesting birds. A mitigation measure is proposed in an effort to reduce significant impacts, as needed.

4.2.1 Setting

Regional Setting

The City of Redondo Beach encompasses approximately 6.2 square miles in the South Bay region of the Santa Monica Bay in the Greater Los Angeles area. The South Bay region covers approximately 105.11 square miles and is bounded by the Pacific Ocean on the south and west, and generally by the City of Los Angeles on the north and east. Various waterways drain into the Santa Monica Bay including Ballona Creek, Malibu Creek, Topanga Creek, and Santa Monica Creek. Redondo Beach is located 20 miles from downtown Los Angeles and seven miles south of Los Angeles International Airport.

Project Site Setting

The project site is approximately one-quarter mile east of the Pacific Ocean, located in an urban area, and is currently developed with commercial and parking uses. Vegetation on-site is limited to ornamental trees, primarily Mexican fan palm (*Washingtonia robusta*), and other landscaping contained in small areas within parking lots and store fronts. The site is separated from any open space areas in the vicinity by existing development and roadways.

Soils in the vicinity of the project site include Urban land-Abaft-Marina complex, 0 to 10 percent slopes and Urban land-Abaft, loamy surface complex, 5 to 30 percent slopes, terraced (United States Department of Agriculture [USDA] 2020). Neither soil type is included on the Natural Resources Conservation Service (NRCS) Hydric Soils List.

4.2.2 Regulatory Setting

Federal Regulations

Federal Endangered Species Act (16 U.S. Code Sections 1531 - 1544)

The Federal Endangered Species Act (FESA) of 1973, as amended (16 U.S Code 1531 et seq.), provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has four major components: (1) provisions for listing species; (2) requirements for consultation with the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service; (3) prohibitions against "taking" of listed species; and (4) provisions for permits that allow an incidental "take." The FESA also discusses recovery plans and the designation of critical habitat for listed species. Both the USFWS and the National Marine Fisheries Service share the responsibility for administration of the FESA. During the CEQA review process, each agency is given the opportunity to comment on the potential of a project to affect listed plants and animals.

FESA (16 U.S. Code 1531 et seq.) is implemented by USFWS through a program that identifies and provides for protection of various species of fish, wildlife, and plants deemed to be in danger of or threatened with extinction. As part of this regulatory act, FESA provides for designation of critical habitat, defined in FESA Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and that "may require special management considerations or protection." Critical habitat may also include areas outside the current geographical area occupied by the species that are nonetheless "essential for the conservation of the species."

The FESA also discusses recovery plans and the designation of critical habitat for listed species. Both the USFWS and the National Marine Fisheries Service share the responsibility for administration of the FESA. During the CEQA review process, each agency is given the opportunity to comment on the potential of a project's impacts to listed plants and animals and to ensure adequate protection of listed species that may be affected by the project.

Migratory Bird Treaty Act (16 U.S. Code Sections 703 - 711)

All migratory bird species that are native to the United States or its territories are protected under the federal Migratory Bird Treaty Act (MBTA). The federal Migratory Bird Treaty Act (MBTA) prohibits any person unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention…for the protection of migratory birds…or any part, nest, or egg of any such bird" (16 U.S. Code 703).

The list of migratory birds protected by the MBTA includes nearly all bird species native to the United States. The statute was extended in 1974 to include parts of birds, as well as eggs and nests. Thus, it is illegal under the MBTA to take (including killing, capturing, selling, trading, and transport) protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) would violate the MBTA. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs, is illegal and fully prosecutable under the MBTA.

With respect to nesting birds, although the MBTA does not itself provide specific take avoidance measures, the USFWS and California Department of Fish and Wildlife, over time, have developed a set of measures sufficient to demonstrate take avoidance, included during construction activities, which include conducting brush removal, tree trimming, building demolition and/or construction, or grading activities outside of the nesting season. California Department of Fish and Wildlife (CDFW) biologists have defined the nesting season is February 15 through August 31 (January 15 to August 31 for raptors). If other timing restrictions make it impossible to avoid the nesting season, prior to issuance of a grading, construction or building permit including demolition permit, the following measures are required as described below:

1. Vegetation removal activities shall be scheduled outside the nesting season (September 1 to February 14 for songbirds; September 1 to January 14 for raptors) to avoid potential impacts to nesting birds. This includes vegetation removal associated with on-going fuel modification activities.

2. Any construction activities or fuel modification activities that occur during the nesting season (February 15 to August 31 for songbirds; January 15 to August 31 for raptors) shall require that all suitable habitat be thoroughly surveyed for the presence or absence of nesting birds by a qualified biologist monitor (i.e., a professional biologist with a minimum of two years of avian survey experience or equivalent) before the commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors), or as determined appropriate by the qualified biologist monitor, shall be delineated, flagged, and avoided until the nesting cycle is complete as determined by the qualified biologist monitor.

Bald and Golden Eagle Protection Act (16 U.S. Code Sections 668 – 668d)

The Bald and Golden Eagle Protection Act (BGEPA), enacted in 140, makes it illegal to possess, sell, or hunt bald and golden eagles, including their feathers, nests, eggs, or body parts.

Federal Clean Water Act (33 U.S. Code Sections 1251 - 1376)

The United States Army Corps of Engineers (USACE), under provisions of Section 404 of the Clean Water Act (CWA) and USACE implementing regulations, has jurisdiction over the placement of dredged or fill material into "waters of the United States." Congress enacted the CWA "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." In practice, the boundaries of certain waters subject to USACE jurisdiction under Section 404 have not been fully defined. Previous regulations codified in 1986 defined "waters of the United States" as traditional navigable waters, interstate waters, all other waters that could affect interstate or foreign commerce, impoundments of waters of the United States, tributaries, the territorial seas, and adjacent wetlands.

On April 21, 2020, the USACE and U.S. Environmental Protection Agency published the Navigable Waters Protection Rule to define "Waters of the United States." This rule, effective on June 22, 2020, defines four categories of jurisdictional waters, documents certain types of waters that are excluded from jurisdiction, and clarifies some regulatory terms. Under the Navigable Waters Protection Rule, "waters of the United States" include:

(1) Territorial seas and traditional navigable waters;

(2) Perennial and intermittent tributaries that contribute surface flow to those waters;

(3) Certain Lakes and ponds, and impoundments of jurisdictional waters, and;

(4) Wetlands adjacent to jurisdictional waters.

State Regulations

California Porter-Cologne Water Quality Control Act (Porter-Cologne)

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected

- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine Regional Water Quality Control Boards (RWQCB) (based on hydrogeologic barriers) and the State Water Resources Control Board (SWRCB), which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCB have numerous nonpoint source related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Contaminated groundwater that is proposed to be discharged to surface waters or to a publicly owned treatment works would be subject to the applicable provisions of the Clean Water Act, including permitting and possibly pretreatment requirements. A National Pollutant Discharge Elimination System permit is required to discharge pumped groundwater to surface waters, including local storm drains, in accordance with California Water Code Section 13260.

California Endangered Species Act (California Fish and Game Code Section 2050 et seq.)

Under the California Endangered Species Act (CESA) (California Fish and Game Code [CFGC], §§ 2050–2085), the term endangered species is defined as a species of plant, fish, or wildlife that is "in serious danger of becoming extinct throughout all, or a significant portion of, its range," and is limited to species or subspecies native to California. The CESA prohibits the take (hunt, pursuit, catch, capture, kill, or attempt to hunt, pursue, catch, capture, or kill) of listed species except as otherwise provided in state law. Unlike its federal counterpart, the CESA also applies the take prohibitions to species petitioned for listing (state candidates). The CDFW is responsible for administration of the CESA. For projects that affect both a State and federal listed species, compliance with the FESA will satisfy the CESA if the CDFW determines that the federal incidental take authorization is consistent with the CESA. Projects that result in a take of a California listed species require a take permit under the CESA. The federal and State acts lend protection to species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or den locations, communal roosts, and other essential habitat. Unlike the FESA, the CESA prohibits the take of not just listed endangered or threatened, but also candidate species (species petitioned for listing).

Fully Protected Species (CFGC Sections 3511, 4700, 5050, 5515)

California Fish and Game Code Sections 3511, 4700, 5050 and 5515 designate 37 species of wildlife as Fully Protected in California. The classification of Fully Protected provides additional protection to those animals that are rare or face possible extinction. Most Fully Protected Species have also been listed as threatened or endangered species under CESA. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting

these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Raptors, migratory birds, and non-game birds (CFGC Sections 3503, 3503.5, 3513, 3800)

CFGC Sections 3503, 3503.5, 3513, and 3800 describe unlawful take, possession, or destruction of native birds, birds of prey, nests, and eggs. CFGC Section 3800 states that all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds are nongame birds.

Native Plant Protection Act (CFGC Sections 1900 – 1913)

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. The NPPA prohibits take of endangered or rare native plants but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA permitting procedures (CFGC Section 2081) would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Local Regulations

Redondo Beach Municipal Code (RBMC) Chapter 10-2.1900

Chapter 10-2.1900 of the RBMC establishes standards for installation of landscaping in order to enhance the aesthetic appearance of properties within the City, ensure the quality, quantity, and appropriateness of landscape materials, effect a functional and attractive design, improve compatibility between land uses, conserve water, control soil erosion, and preserve the character of existing neighborhoods.

4.2.3 Impact Analysis

Significance Thresholds and Methodology

Thresholds of Significance

Thresholds of significance are based on the questions in Appendix G of the *CEQA Guidelines*. Biological resources impacts that may result from project implementation would be significant if the project would:

- **Threshold 4.2-1:** 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 Wildlife or U.S. Fish and Wildlife Service

The Initial Study (Appendix B) determined that the project could result in potentially significant impacts related to nesting birds (Threshold 4.2-1). As such, an analysis of this issue is included in this section of the EIR. The Initial Study found no potentially significant impacts related to other

biological resource topics, such as special status species; wetlands, streams, rivers, and riparian habitat; wildlife movement; Habitat Conservation Plans; and other applicable plans, policies, and ordinances related to biological resources. These issues are not studied further herein. Refer to Section 4, *Biological Resources*, of the Initial Study in Appendix B for the impact analysis of these criteria.

Methodology

This section outlines the methodology for evaluating impacts to nesting birds protected under the CFGC and MBTA. The Initial Study (Appendix B) concludes that the proposed project does not have the potential to result in significant effects for special status species.

The analysis of biological resource impacts was based on review of applicable plans and policies, as provided in Section 4.2.2, *Regulatory Setting*, as well as review of aerial photography and other available literature regarding the existing biological resources in and around the project area.

Project Impacts

Threshold 4.2-1:	Would the project 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 Wildlife or U.S. Fish and Wildlife Service?

Impact BIO-1 THE PROJECT COULD RESULT IN DIRECT OR INDIRECT IMPACTS TO NESTING BIRDS THROUGH VEGETATION REMOVAL AND CONSTRUCTION DURING NESTING SEASON. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

The vegetation present on the project site could provide nesting habitat for common resident birds, whose eggs, nests, and nestlings are protected by federal and State law. Several large ornamental trees on-site could provide low-quality potential habitat for nesting raptors. The bird nesting season is generally from February 1 through August 31. The project could directly (e.g., vegetation removal) and indirectly (e.g., construction noise and motion) affect nesting of these species. Nesting birds are protected under CFGC Sections 3503, 3503.5, and 3513 as well as the MBTA. Violation of these provisions would be considered a potentially significant impact.

Mitigation Measure

The following mitigation measure would address potential impacts to nesting birds.

BIO-1 Nesting Bird Avoidance

Prior to issuance of grading permits, the following measures shall be implemented:

- To avoid disturbance of nesting birds, including raptorial species protected by the MBTA and CFGC, activities related to the project, including, but not limited to, vegetation removal, ground disturbance, and construction and demolition shall occur outside of the bird breeding season (February 1 through August 31). If construction must begin during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of construction activities. The nesting bird pre-construction survey shall be conducted on foot inside the project site, including a 100-foot buffer, and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practical. The survey shall be conducted by a

qualified biologist familiar with the identification of avian species known to occur in southern California.

- If nests are found, an avoidance buffer shall be demarcated by a qualified biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No parking, storage of materials, or construction activities shall occur within this buffer until the biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.
- A survey report by the qualified biologist documenting and verifying compliance with the mitigation and with applicable State and federal regulations protecting birds shall be submitted to the City. The qualified biologist shall serve as a construction monitor during those periods when construction activities would occur near active nest areas to ensure that no inadvertent impacts on these nests would occur.

Implementation of Mitigation Measure BIO-1 would avoid direct and indirect impacts to nesting birds. Furthermore, during operation of the project, the site would include trees as part of the project's landscaping and continue to provide nesting sites in an urban residential neighborhood, consistent with existing conditions.

Significance After Mitigation

Implementation of Mitigation Measure BIO-1 would reduce potential impacts to nesting birds to a less than significant level by ensuring that active nests are identified and, as necessary, avoided.

4.2.4 Cumulative Impacts

The area to analyze cumulative biological resource impacts includes the project site and immediately adjacent areas that could be indirectly affected. Vegetation, including trees, located on the project site could potentially support nesting migratory birds. As discussed previously, the CFGC and MBTA protect migratory avian species when they are nesting. Compliance with the CFGC and MBTA throughout the project would ensure that cumulative impacts to migratory birds would not be significant. Mitigation Measure BIO-1 would ensure that the implementation of the project would not contribute to cumulatively considerable impacts related to nesting bird disturbance.

This page intentionally left blank.

4.3 Cultural Resources

This section assesses potential impacts to cultural resources. The setting and analysis presented in this section are based on *100-132 Catalina Avenue, Redondo Beach, California Historic Resource Evaluation* prepared for the City of Redondo Beach by Kaplan Chen Kaplan (KCK 2020a; see Appendix F), and *Cultural and Paleontological Phase I Assessment: Catalina Village Project, Redondo Beach, Los Angeles County, California* prepared by Material Culture Consulting, Inc. (MCC 2021; see Appendix G) in support of the proposed project. In addition, the *North Catalina Avenue Historic District: Rehabilitation and Adaptive Reuse—Historic Preservation Plan, 100-132 N. Catalina Avenue, Redondo Beach, California* (KCK 2020b; see Appendix F) was prepared in support of the proposed project. All three documents have been peer-reviewed by Rincon Consultants.

4.3.1 Setting

Prehistory

The project site is located within the City of Redondo Beach. The prehistoric chronological sequence that is applicable to near-coastal and many inland areas within southern California is generally divided into four periods: Early Man, Milling Stone, Intermediate, and Late Prehistoric. The Early Man - Horizon I period (ca. 10,000 to 6,000 B.C.) is represented by numerous pre-8,000 B.C. sites identified along the mainland coast and Channel Islands (Erlandson 1991; Johnson et. al. 2002; Moratto 1984; Rick et. al. 2001). Early Man - Horizon I sites are generally associated with a greater emphasis on hunting than in later periods, though recent data indicates that the economy was a diverse mixture of hunting and gathering, including a significant focus on aquatic resources (Wallace 1978; Jones et. al. 2002; Moratto 1984). The Milling Stone – Horizon II period (ca. 6,000 to 3,000 B.C.) is characterized by subsistence strategies centered on collecting plant foods and taking small animals, including seed processing, as suggested by the appearance and abundance of stone grinding implements, namely milling stones and handstones (Kowta 1969; Byrd and Raab 2007). The Intermediate – Horizon III period (ca. 3,000 B.C. to A.D. 500) is characterized by a shift toward a hunting and littoral gathering strategy, along with a wider use of plant foods. A pronounced trend occurred toward greater adaptation to regional or local resources including an increased variety and abundance of fish, land mammals, and sea mammals along the coast (Warren 1968; Moriarty 1966; Rogers, M. 1939, 1945). Tool kits for hunting, fishing, and processing food and other resources reflect this increased diversity, with larger knives, flake scrapers, shell fishhooks, drill-like implements, and various projectile points being more common than in the preceding period. Mortars and pestles also became more common, indicating an increasing reliance on acorns (Koerper and Drover 1983; Glassow et. al. 1988; True 1993; Glassow 1997). The Late Prehistoric – Horizon IV period (ca. A.D. 500 to Historic Contact) exhibited a further increase in the diversity of food resources demonstrated by more classes of artifacts, including finely sharpened projectile points associated with usage of the bow and arrow. Other items include steatite cooking vessels and containers, a variety of bone tools, and personal ornaments made from shell, bone, and stone. This period experienced an increase in population size accompanied by the advent of larger, more permanent villages (Wallace 1955, 1978; Drover 1971, 1975; Meighan 1954).

Historic Period

Post-Contact history for the State of California is generally divided into three periods: the Spanish Period (1769 to 1822), the Mexican Period (1822 to 1848), and the American Period (1848 to present).

Spanish exploration of California began when Juan Rodriguez Cabrillo led the first European expedition into the region in 1542. For more than 200 years after Cabrillo's initial expedition, Spanish, Portuguese, British, and Russian explorers sailed the California coast and made sporadic inland expeditions, but they did not establish permanent settlements. In 1769, Captain Gaspar de Portolá led an expedition of soldiers, missionaries, Native Americans from Baja California, and Mexican civilians into what was then known as Alta California.

The Spanish Period in California begins in 1769 with the establishment of first Spanish settlements at the presidio of San Diego (a military outpost) and Mission San Diego Alcalá, the first of 21 missions constructed between 1769 and 1823. The expedition proceeded north and reached the present-day boundaries of Los Angeles two months later. On September 8, 1771, Fathers Pedro Benito Cambón and Angel Fernandez Somera y Balbuena established the Mission San Gabriel Arcángel east of present-day downtown Los Angeles (Kyle 2002). Native populations were typically negatively affected by the mission system, which was put in place to govern them as well as convert them to Christianity. The increased European presence during this period led to the spread of diseases foreign to the Native Americans, contributing to the devastation of their population.

In addition to Mission San Gabriel, the Spanish also established a pueblo (town) known as El Pueblo de la Reina de los Angeles de la Porciúncula in the Los Angeles Basin in 1781 (Rice et al. 2012). This was one of only three pueblos established in Alta California by the Spanish government and eventually became the City of Los Angeles (the others being San José established in 1777 and Branciforte established in 1797). The Spanish crown also began issuing land grants permitting soldiers and other prominent citizens to establish ranchos during this period. To manage and expand their herds of cattle on these large ranchos, colonists exploited the labor of the surrounding Native American population. The land within which the project site is located was once part of the first Spanish land grant, Rancho San Pedro, granted to Juan Jose Domiguez in 1784.

The Mexican Period commenced when news of the success of the Mexican War of Independence (1810 to 1821) against the Spanish crown reached California in 1822. The federalization and distribution of mission lands in California occurred during this period with the passage of the Secularization Act of 1833, which enabled Mexican governors in California to distribute grants of former mission lands to individuals. Successive Mexican governors made more than 700 land grants between 1834 and 1846, putting most of the state's lands into private ownership for the first time (Rice et al. 2012). During the height of the rancho period, landowners largely focused on the cattle industry and devoted large tracts to grazing.

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, which ended the Mexican-American War and made California a territory of the United States. The Gold Rush began in 1848, resulting in an influx of people to California seeking gold; California was made a state with the Compromise of 1850 (Waugh 2003). Cattle were no longer desired mainly for their hides but were also important for their meat and other by-products. Eventually, the cattle boom ended, and severe drought years reduced the productivity of the ranchos (Cleland 2005); many in Los Angeles County were sold or otherwise acquired by Americans in the mid-1800s, and most were subdivided into agricultural parcels or towns. The County of Los Angeles was established on February 18, 1850, and the City of Los Angeles incorporated two months later. As a result of the

gold rush and desirable location of Los Angeles, there was a rush to buy and sell land as well as a huge influx of immigrants and tourists. By 1876, the County had a population of 30,000, and by 1887, the population boomed to 80,000 (Dumke 1994).

City of Redondo Beach

The City of Redondo Beach occupies the former rancho lands of the Dominquez Ranch, which was formed in 1854. By the 1860s, sections of the ranch had been divided and sold, and industry development had begun. Within a few decades, a centralized urban hub had begun to form, as town developers sought to create a centralized urban hub. The Santa Fe Railroad reached the community by 1889, providing transportation from the nascent town to nearby cities. The City was incorporated in 1892.

During the founding years of Redondo Beach, early developers sought to capitalize on the area's oceanside location and proximity to emerging transportation lines to create a resort and commercial center. In the early years, as noted in Kaplan Chen Kaplan (2020a):

> Development of piers, ship and pleasure boat landings as well as beach and beachfront amusements began to take place [in the 1880s]. The large Redondo Hotel with park-like grounds was to the south while railroad yards and industrial functions lay to the north. Development of an industrialized port required robust ground transportation infrastructure. The Redondo Beach Improvement Company (successor to the Redondo Beach Company) was established by J.C. Ainsworth and R. R. Thompson and focused on developing the harbor and townsite area (pg. 8).

Through the late nineteenth century in Redondo Beach, as throughout Southern California, development was catalyzed through advancements in transportation, in particular through the expansion of railway lines and interurban transport. As noted in Kaplan Chen Kaplan:

> The evolution of rail transportation was important to the development of Redondo Beach. In 1888 the Santa Fe Railroad selected Redondo Beach as its terminus and incorporated the Redondo Beach Railway to connect with Los Angeles. The rail line provided freight service to the industrial areas of the City including the wharf as well as passenger services to Redondo's beach and resort facilities. In 1889 the company consolidated with the Southern California Railway, a subsidiary of the Santa Fe Railroad. In 1889 the Ainsworth and Thompson's Redondo Beach Improvement Company purchased the Rosecrans Rapid Transit Company, a narrow gauge steam railroad. They renamed it the Redondo Railway with a route starting from a depot behind the Redondo Hotel going through Inglewood into downtown Los Angeles. Several years later Ainsworth and Thompson formed another company, the Los Angeles and Redondo Railway to operate the rail line as well as the wharf. In 1896 the trains carried over 15,000 passengers.
>
> At the turn of the 20th Century, in 1902, the steam railway was converted to electric propulsion and service was expanded and a railroad yard was constructed. By 1904 over 111,000 passengers were served annually. In 1905 Henry E. Huntington purchased the Los Angeles and Redondo Railway and the railroad was converted from narrow gauge to standard gauge and double tracks. Along with Huntington's established Pacific Electric, service continued to provide interurban lines connecting Redondo Beach to the regional network. In 1910, Huntington sold the Pacific Electric network to the Southern Pacific Railroad. The rail lines provided important passenger and freight connections to Redondo Beach into the 1940s. Henry E. Huntington spurred a significant period of development with his 1905 purchase of the Redondo Beach Improvement company and the Los Angeles and Redondo Railway. Buoyed by Huntington's confidence in the area, others followed (pgs. 8-10).

Adjacent to these early transportation corridors and centers, Redondo Beach's early commercial core started to take shape, with a rapid expansion in the first quarter of the twentieth century. As with other Southern Californian communities, Redondo Beach experienced a period of rapid growth then a period of decline during the Great Depression. As noted in Kaplan Chen Kaplan, in the vicinity of the project site:

> Commercial development occurred both around the Redondo Hotel, where a train depot was located as well as farther north adjacent to the beachfront and pier facilities. A range of services to support the growing City were located on these blocks. Civic boosters contributed to the City's growth in the early 20th century and established organizations including fraternal orders and the Chamber of Commerce. …[T]he population continued to grow with 4,913 residents in 1920 and almost doubling by 1930. Population growth pace slowed during the decade following the Great Depression growing to 13,092 in 1940 and picked up after World War II with 25,226 in 1950 and 46,984 by 1960 (pg. 17).

Following World War II, Redondo Beach experienced a period of rapid population growth and new construction, in response to the postwar housing boom and expansion of employment centers through new aerospace industrial centers. This era of growth also meant redevelopment by the 1950s and 1960s, as noted in Kaplan Chen Kaplan:

> At mid-Century, the post-war growth of Southern California spurred housing development. Residential development was encouraged, and industrial areas of the City were redeveloped with housing in the 1950s and 1960s. At the same time wide swaths of the city, including much of the commercial areas, were redeveloped and many of the early 20th Century buildings were demolished.
>
> Commercial areas of the City running along the 400 block of N. Catalina Avenue and 200 block of Broadway show redevelopment of that area took place in the 1960s and 1970s. Across from the subject buildings on the west side of the 100 block of N. Catalina Avenue are large multi-family residential buildings of "The Village" which were constructed in the late 1970s.
>
> While a few early 20th Century buildings remain, including the landmark Redondo Van and Storage Diamond Apartment Building (321 Diamond Avenue), many of those remaining have been substantially altered. Commercial areas on the 200-400 South blocks of Catalina Avenue show the majority of buildings were constructed in the 1970s and 1980s (pgs. 17-19).

Development History of 100 Block of N. Catalina Avenue

The 100 block of N. Catalina Avenue forms part of the City's Original Townsite, with Catalina Avenue serving as a curved connection point for two open areas. Adjacent to the project site, the Hotel Redondo occupied a large parcel with open space to the south. The following brief overview of Catalina Avenue's development history is drawn from available Sanborn Fire Insurance Maps and aerial photographs, dating from 1895 to 1964, as presented in Kaplan Chen Kaplan; in the original tract:

> [Catalina Avenue] was sub-divided into two larger corner parcels and 12 long, narrow parcels; these parcels were later reconfigured and consolidated to create the eight parcels that exist today. In 1895 the developments on the block were at both the north and south end parcels and consisted of dwellings and a grocery store.

The main track of the Redondo Railroad traversed the subject properties on the northern one-third of the block on an angle as the rail alignment moved from Broadway onto Catalina Avenue south towards the depot that was located on the 100 S. block of Catalina Avenue.

Aerial map images show that alignment existed throughout the first four decades of the 20th Century. Later aerial images show how the northern area of the block transitioned starting in the 1940s from industrial railroad operations and maintenance functions into land uses that included commercial services along Catalina Avenue (pgs. 21-23).

Historic Resources Description and Project Setting

The project site spans six parcels, with a total of five properties: 100 N. Catalina Avenue, 112 N. Catalina Avenue, 116 N. Catalina Avenue, 124 N. Catalina Avenue, 126 N. Catalina Avenue, and 132 N. Catalina Avenue. The following includes brief descriptions of the construction chronology and use over time of each property, with information drawn from Kaplan Chen Kaplan (2020a).

100 N. CATALINA AVENUE

The parcel at 100 N. Catalina Avenue consists of a paved surface parking lot. According to the 1904 Sanborn Fire Insurance Map, the corner parcel was originally occupied by a commercial property with a grocery store and restaurant. The parcel included three buildings until the 1960s, when they were all demolished and removed. Currently, the parcel includes no buildings or structures.

112 N. CATALINA AVENUE

Architectural Description

Two stories in height and rectangular in plan, 112 N. Catalina Avenue exhibits the volume, mass, and symmetrical design composition typical for early twentieth century commercial properties. The building is capped with a flat roof framed by a parapet and is sheathed in plaster. The building occupies a mid-block parcel, with no side setbacks.

The building has undergone a number of alterations since its construction in 1904. The general symmetrical design composition, original form, scale, and mass of the building remain intact. The division of the front façade into three bays also continues to reflect the original design.

In 1993, the building underwent a seismic retrofit upgrade, including insertion of new steel frames across the building and a frame behind the front façade. These seismic upgrades included a remodeling of the façade. The original building exterior was re-plastered, and original windows were removed and replaced. A 1993 photograph of the building, prior to the remodeling, shows a defined horizontal cornice panel at the top of the building. The photograph also shows an original window centered on the upper elevation, which has since been enclosed; the other window openings and sizes reflect the original design.

Other 1993 alterations to the façade include addition of new applied decorative elements. These include the incorporation of decorative tile along the parapet and on the façade. In addition, the 1993 remodel included decorative scoring, capped with geometric patterning, on the façade corners. The upper story displays two nonoriginal, aluminum-frame, multi-pane windows. A rectangular tile detail marks the division between the upper and lower stories along the façade.

Openings along the ground floor consist of three street-level entrances with a single, glazed aluminum-frame doors with transom windows. None of the windows or doors are original.

The elongated side elevations of the building are broken up by a series of vertical, partial height pilasters. Fenestration on the side elevations consists of one large and one small window. Arched brick headers, as well as in-filled openings, are displayed on each side elevation.

The rear elevation displays three arched openings on the upper floor and an exterior metal staircase. The rear of the parcel includes ancillary storage sheds and a surface parking lot.

Figure 4.3-1 Photograph, 112 N. Catalina Avenue

Source: Kaplan Chen Kaplan, 2020

Ownership History

The property at 112 N. Catalina Avenue was home to Redondo Beach's Masonic Hall. The building served as the headquarters for the Redondo Beach Chapter of the Masons, housing its facilities and assembly space on the building's upper level. The first level was rented to business tenants as commercial and retail space.

The Redondo Beach Masonic Hall was the first lodge constructed by and dedicated to the use of a fraternal organization in the City. The building served as a Masonic Lodge until 1927, when the Masons constructed a new "Masonic Temple" a few blocks south at 501 S. Catalina Avenue. Apart from its use as a Masonic hall, the assembly space at 112 N. Catalina Avenue also hosted events and gatherings by a variety of other organizations in Redondo Beach. Through the first quarter of the twentieth century, the building served a majority of social clubs (fraternal orders and lodges) active in Redondo Beach.

After the Masons moved to the new Masonic Temple in the late 1920s, 112 S. Catalina Avenue was used by the Independent Order of Odd Fellows (IOOF), who used the property for their own gatherings and continued to loan it to other fraternal orders as well as numerous philanthropic organizations into the 1950s. In addition to serving as a meeting and event space for fraternal orders and other organizations in Redondo Beach, the property also provided ground-floor commercial space over the course of the twentieth century. By mid-century, the building's use shifted from serving as a gathering space for fraternal organizations to office space for organizations included the Salvation Army, which operated in the building from the 1940s through the 1960s. In the early 1970s, the building was adapted for use as a US Post Office. In recent years, it has once again been occupied by local businesses.

116 N. Catalina Avenue

Architectural Description

This commercial property was constructed in 1921. In 1925, a duplex dwelling was added to the building. At an unknown date, a portion of the duplex, on the north side, was demolished to create a driveway to provide vehicular access to the rear of the parcel. The remaining portion of the dwelling was converted to commercial uses.

One story in height, the building is capped with a side-gable roof and clad in nonoriginal, wide planks of wood-siding. Very limited areas of the exterior walls retain the original narrow wood siding; these areas are visible in limited areas of the rear elevation.

The rear elevation of the property exhibits a variety of additions made over the years, each with a different treatment and appearance. The front (west) elevation contains three large plate-glass, wood-frame windows. The building features and spaces comprising the 1925 residence have been removed and the area has been replaced with a large plate-glass display window.

The three large plate glass windows were installed in the 1990s and are not original. There is a single-entry door located to the north of the southernmost window creating an asymmetrically balanced front façade. A low planter runs along the west elevation. The north portion of the parcel includes a driveway leading to a paved, rear parking area, storage structure, and storage area.

Figure 4.3-2 Photograph, 116 N. Catalina Avenue

Source: Kaplan Chen Kaplan 2020a

Ownership History

The building has served as a carpentry shop and cabinet shop for several decades.

124 N. CATALINA AVENUE

Architectural Description

This vernacular commercial/industrial building was constructed in 1946. The front retail section of the one-story building is rectangular in plan with simple massing. The north side of the building is adjacent to the neighboring building. The south elevation of the building faces a driveway that leads to surface parking at the rear of the parcel. A long rear section of the building contains the industrial dry cleaning plant. Between 1946 and 1959 the rear was extended.

The building has a flat roof framed with a parapet wall and is clad in smooth stucco. The façade retains the general, original storefront design configuration and openings, including the horizontal mullions that separate the upper transom windows. The composition of the façade is asymmetrical with the entry door offset from the center of the building to the north. The original entrance consisted of two separate doors; these were changed to a single, double-door entry in circa 1995. Windows include plate glass windows with a horizontal mullion that separates the upper transom windows. The bulkheads display a decorative masonry pattern that appears original. Existing signage is not original.

The south elevation of the building is utilitarian and lacking decorative detailing. The north elevation abuts the adjacent building. The far rear of the building originally housed the industrial cleaning operations. In this area, the south elevation includes a garage-door opening. In 1949, the business operating out of the site, Wardrobe Cleaners, constructed a new building on the adjacent parcel to the north,126 N. Catalina Avenue, which featured a drive-in service for customers. Since that time, the buildings operated in tandem.

Figure 4.3-3 Photograph, 124 N. Catalina Avenue

Source: Kaplan Chen Kaplan 2020a

Ownership History

124 N. Catalina Avenue was built as a dry cleaning service, with on-site cleaning facilities. Dry cleaning businesses have operated in the building since its construction.

126 N. CATALINA AVENUE

Architectural Description

Constructed in 1949, 126 N. Catalina Avenue exhibits a Mid-Century Modern architectural style. The focal point of the design is an expressive front-entrance porch and shelter. The building permit does not specify the architect or contractor involved in the design or construction of the property.

The building occupies the south half of the parcel; the other half of the parcel and the rear are paved and serve as vehicular access and a surface parking lot. One story in height, the building is roughly rectangular in plan, with a small bump-out addition at the southern portion of the facade. The building is capped with a flat roof with parapet. Exterior walls are clad with smooth stucco.

The front elevation exhibits an asymmetrical but balanced design composition. The storefront setback within the space consists of continuous glazing with corner butt-joint glass. A large aluminum-sliding window at the south end does not appear original; other extant windows appear original. The building's entrance consists of a set of original double doors, centered in the expanse of windows. The exterior surface of the front portion of the building has a heavily textured plaster. The base of the recessed storefront exhibits a bulkhead with a decorative masonry pattern.

The southern third of the façade displays a projecting addition with a curved corner. A set of paired, aluminum-framed windows are centered on the front of this wing. There is no bulkhead on this added corner of the building. This section appears to be a nonoriginal addition.

A majority of the façade exhibits an expanse of windows and masonry bulkhead features. The pair of windows in this south corner addition are aluminum frame windows.

Along the street-facing façade, the building features a patio area. The building has a canopy that covers the patio. The canopy is a slightly projecting band along the front wing of the elevation but where the building is recessed at its north end, the canopy juts out to create a semi-circular roof and is supported by a series of tapered posts. The angles of the front windows and the tapered columns align with the curve of the canopy giving the building a dynamic aesthetic. Adding to that dynamism is the projecting sign that caps the canopy roof.

The south side of the building is not visible as it is adjacent to the building at 124 N. Catalina Avenue. The north side of the building faces the parcel's parking area. The front of the north elevation is the wrap-around of the front windows and includes the return of the curved canopy. The side elevation, which exhibits few architectural details, displays an arrangement of small windows.

Figure 4.3-4 Photograph, 126 N. Catalina Avenue

Source: Kaplan Chen Kaplan 2020

Ownership History

The building functioned as a drive-in and supplemental cleaning facility for Wardrobe Cleaners. In 1994, the building was converted to a coffee shop/bookstore; additional tenant improvements were

made in 2001, as the area under the canopy was adapted as a patio for outdoor seating. The building was vacated in 2017.

132 N. Catalina Avenue

Architectural Description

Constructed in 1905, the building's footprint evolved over time. Sanborn Fire Insurance Maps depict the building with an "L" shaped footprint in 1906, an addition to the south in 1916, and an additional southern extension by 1946. The southern extension was subsequently demolished by 1959. The building's expansion was somewhat limited by the angled railroad tracks and operations located to the south and east of the building.

The building features a stepped parapet and shallow gabled roof. The building's primary façade features wood panel cladding and metal panels stamped with a brick-like pattern. Other sections of the exterior walls feature exposed concrete masonry units and plywood cladding. Metal panels clad much of the southern addition, including the southwest corner of the building and much of the south elevation. Over the years, various doors and windows have been replaced. The primary entrance is characterized by a large central opening and a horizontal window opening to the north of the entryway. A large gate provides entry to the south addition, and a door at the southern end of the primary façade provides access to an electrical closet.

The building's interior includes both original wood cladding and unoriginal plywood cladding. Mechanical systems that relate to the building's original use as a blacksmith and metalwork shop remain extant in the interior of the building. Large pulleys hang from the ceiling in the building's rear, connecting a series of machines with a single motor.

Figure 4.3-5 Photograph, 132 N. Catalina Avenue

Source: Kaplan Chen Kaplan 2020

Ownership History

The property at 132 N. Catalina Avenue has served a number of uses since its construction in 1905; this has included serving as a blacksmith shop, ironworks, and woodworking shop. Businesses and persons operating out of the building included: Star Blacksmith (1924), H.J. Campeau Ornamental Iron and E.L. Martin, Blacksmith (1931), and E.L, Martin, Blacksmith (1947). Through the first half of the 20th century, the building was conveniently located next to the main track of the Redondo Railway and its freight yard. Aerial photographs show that the land surrounding 132 N. Catalina Avenue was utilized for Redondo Railway operations into the 1940s.

Archaeological Setting

MCC conducted a Phase I cultural resource assessment of the project site in 2020. The study consisted of a records search, informal Native American outreach, historical aerial imagery review, and a pedestrian field survey. The following summarizes the results of MCC's analysis as it pertains to archaeological cultural resources.

Records Search

MCC requested a search of the California Historical Resources Information System (CHRIS) at the South Central Coast Information Center (SCCIC), located at California State University, Fullerton. SCCIC staff conducted the search, and MCC received the results on June 8, 2020. The search was conducted to identify previously conducted cultural resource studies and previously recorded cultural resources (prehistoric or historic) within a one-mile radius of the project site. The CHRIS search also included a review of the NRHP, CRHR, listings of the National Historic Landmarks, California Historical Landmarks, California Points of Historical Interest, and the California Office of Historic Preservation's Historic Property Data File.

The records search did not identify any previously recorded cultural resources within the project site; however, 16 previously recorded cultural resources are listed within one mile of the project site. These include four archaeological sites, three of which are prehistoric and one of which is a multicomponent historic and prehistoric site. Of these resources, one contains a burial.

Native American Outreach

As part of the Phase I Cultural Resource Assessment, MCC requested a search of the Native American Heritage Commission's (NAHC) Sacred Lands File (SLF) on April 21, 2020. The NAHC responded on April 29, 2020, stating that the search results were negative for known sacred lands within a one-mile radius of the project site. The NAHC also provided a list of seven Native American tribal contacts that might have further information regarding the general project vicinity. MCC sent letters to each contact on April 30, 2020, requesting any information related to cultural resources or heritage sites within or adjacent to the project site. Additional contact attempts by letter, email, or phone were conducted on May 28, 2020, and June 18, 2020.

MCC received four responses to the outreach efforts. On May 13, 2020, Chairperson Andrew Salas of the Gabrieleño Band of Mission Indians-Kizh Nation stated that the area was sensitive, and the Tribal Council would like to provide confidential information in formal consultation. On May 28, 2020, Chairperson Robert Dorame of the Gabrieliño Tongva Indians of California stated that the area is considered highly sensitive and should be monitored by a member of the tribe. Mr. Dorame also requested formal consultation. On June 18, 2020, Chairperson Anthony Morales of Gabrieleño/Tongva San Gabriel Band of Mission Indians stated that the project site is highly sensitive and ground disturbance should be monitored by a tribal member. Mr. Morales also requested formal consultation. Finally, On June 18, 2020, Joseph Ontiveros of the Soboba Band of Luiseno Indians Cultural Resource Department indicated that the project site is outside of their tribal area and defers to other local tribes.

No further responses were received by MCC. Formal consultation efforts conducted pursuant to the requirements of Assembly Bill 52 are described in the Tribal Cultural Resources section.

Pedestrian Field Survey

MCC conducted a pedestrian field survey of the project site on May 15, 2020. All undeveloped and accessible ground surface areas within the project site were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock); ecofacts (marine shell and bone); soil discoloration that might indicate the presence of a cultural midden; soil depressions; and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations); and historic-period debris (e.g., metal, glass, ceramics). During the survey, MCC was unable to access most of the project site due to locked gates and site development; these areas were observed from the perimeter of the project site.

Results of the survey indicated that the entire project site is developed with pavement and buildings. Vegetation included seasonal grasses growing from cracks in the pavement and residential landscaping of trees and shrubs. Soil surrounding the project site consisted of a brown sandy clay loam. No archaeological resources were observed during the survey effort.

4.3.2 Regulatory Setting

This regulatory framework section identifies the federal, state, and local laws, statutes, guidelines, and regulations that govern the identification, evaluation, and treatment of cultural resources. The lead agency must consider the provisions and requirements of this regulatory framework when rendering decisions on projects that have the potential to affect cultural resources.

Federal Regulations

National Historic Preservation Act of 1966

Enacted in 1966, the National Historic Preservation Act (NHPA) instituted a multifaceted program, administered by the Secretary of the Interior, to encourage sound preservation policies of the nation's cultural resources at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the NRHP, established the position of State Historic Preservation Officer and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the goals of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP).

Cultural resources are considered during federal undertakings chiefly under Section 106 (as amended) through one of its implementing regulations, 36 CFR 800 (Protection of Historic Properties), and National Environmental Policy Act. Section 106 (16 United States Code 470f) requires federal agencies to account for the effects of their undertakings on any district, site, building, structure, or object included in or eligible for inclusion in the NRHP and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings (36 CFR 800.1).

National Register of Historic Places (NRHP)

The NRHP was established by the NHPA of 1966 as "an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment" (CFR 36 CFR 60.2). The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings,

structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion B: It is associated with the lives of persons who are significant in our past;
- Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or
- Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history. Ordinarily cemeteries, birthplaces, or graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature, are not considered eligible for the NRHP, unless they satisfy certain conditions.
- In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

In addition to meeting these criteria, a property must retain historic integrity, which is defined in National Register Bulletin 15 as the "ability of a property to convey its significance" (National Park Service 1990). In order to assess integrity, the National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity.

To retain integrity, a property must possess several, if not all, of these seven qualities, which are defined in the following manner in National Register Bulletin 15:

1. Location – the place where the historic property was constructed or the place where the historic event occurred;
2. Design – the combination of elements that create the form, plan, space, structure, and style of a property;
3. Setting – the physical environment of a historic property;
4. Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
5. Workmanship – the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
6. Feeling – a property's expression of the aesthetic or historic sense of a particular period of time;
7. Association – the direct link between an important historic event or person and a historic property.

State Regulations

The policies of the NHPA are implemented at the state level by the California Office of Historic Preservation, a division of the California Department of Parks and Recreation. The Office of Historic Preservation is also tasked with carrying out the duties described in the Public Resources Code (PRC) and maintaining the California Historic Resources Inventory and CRHR. The state-level regulatory

framework also includes CEQA, which requires the identification and mitigation of substantial adverse impacts that may affect the significance of historical and archeological resources.

California Environmental Quality Act (CEQA)

As defined in the Public Resources Code, CEQA requires a lead agency to analyze whether historic and/or archaeological resources may be adversely impacted by a proposed project. Under CEQA, a "project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC Section 21084.1). Answering this question is a two-part process: first, the determination must be made as to whether a given cultural resource qualifies as a historical or unique archaeological resource under Public Resources Code Section 21084.1 and 21083.2, respectively. Second, if cultural resources are present, the proposed project must be analyzed for a potential "substantial adverse change in the significance" of the resource.

In addition, pursuant to CEQA Guidelines Section 15378, study of a project requires consideration of "the whole of an action, which has the potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment."

CEQA DEFINITION OF HISTORICAL RESOURCES

According to CEQA Guidelines Section 15064.5, for the purposes of CEQA, historical resources are defined as:

1. A resource listed in, or formally determined eligible for listing in, the California Register of Historical Resources (CRHR) (PRC 5024.1, Title 14 CCR, Section 4850 et seq);
2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significance in a historic resources survey meeting the requirements of Section 5024.1(g) of the PRC; or
3. Any building, structure, object, site, or district that the lead agency determines eligible for national, state, or local landmark listing; generally, a resource shall be considered by the lead agency to be historically significant (and therefore a historic resource under CEQA) if the resource meets the criteria for listing on the CRHR (as defined in PRC Section 5024.1, Title 14 CCR, Section 4852).

According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude the lead agency from determining that the resource may be an historical resource (PRC Section 5024.1). Pursuant to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment (CEQA Guidelines, Section 15064.5).

CEQA Guidelines Section 15064.5 specifies that "substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." Section 15064.5 further specifies that "material impairment" occurs when a project alters in an adverse manner or demolishes "those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion" or eligibility for inclusion in the NRHP, CRHR, or local register.

CEQA Definition of Archeological Resources

In terms of archaeological resources, PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a proposed project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2[a], [b], and [c]). CEQA notes that, if an archaeological resource is neither a unique archaeological resource nor an historical resource, the effects of the project on those resources shall not be considered to be a significant effect on the environment (CEQA Guidelines, Section 15064.5(c)(4).

CEQA Provisions for Human Remains

The CEQA Guidelines Section 15064.5 also assign special importance to human remains and specifies procedures to be used when Native American remains are discovered. The disposition of human remains is governed by Health and Safety Code Section 7050.5 and PRC Sections 5097.94 and 5097.98; it falls under the jurisdiction of the Native American Heritage Association (NAHC). If human remains are discovered, the county coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the coroner is responsible to contact the NAHC within 24 hours. The NAHC, pursuant to PRC Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

California Register of Historical Resources (CRHR)

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Sections 21083.2 and 21084.1). Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR. According to PRC Section 5024.1(c), a resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

- Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Criterion 2: It is associated with the lives of persons important in our past.
- Criterion 3: It 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.
- Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to convey the reasons for their significance. Resources whose historic integrity does not meet NRHP criteria may still be eligible for listing in the CRHR.

Secretary of the Interior's Standards for the Treatment of Historic Properties

In accordance with the California Code of Regulations and CEQA Guidelines, a project that has been determined to conform with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (*Secretary's Standards*) is generally considered to be a project that will not cause a significant adverse impact to a historical resource (14 California Code of Regulations {CCR} Section 15126.4). If a project meets the *Secretary's Standards*, the project can qualify for a potential categorical exemption from CEQA (14 CCR Section 15331).

The goal of the *Secretary's Standards* is to outline treatment approaches that allow for the retention of and/or sensitive changes to the distinctive materials and features that lend a historical resource its significance. When changes are carried out according to the *Secretary's Standards*, the historical resource retains its historic integrity and thereby continues to convey the reasons for its significance. The *Secretary's Standards* and associated Guidelines (36 CFR 67) offer general recommendations for preserving, maintaining, repairing, and replacing historical materials and features, as well as designing new additions or making alterations. The *Secretary's Standards* also provide guidance on new construction adjacent to historic districts and properties, in order to ensure that there are no adverse impacts to integrity as a result of a change in setting. These standards also provide guidance on new construction adjacent to historic districts and properties, in order to ensure that there are no indirect adverse impacts to historic properties.

The ten *Secretary's Standards for Rehabilitation* are:

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

In order to determine whether a project complies with the *Secretary's Standards*, the analysis must consider the "character-defining," or historically significant, features of the historical resource. Alterations and replacement of character-defining features over time can impair a historic property's integrity and result in a loss of historic status. Therefore, to ensure that a historic property remains eligible after implementation of projects, character-defining features should be identified and preserved.

According to *Preservation Brief 17, Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character*, there is a three-step process to identifying character-defining features. Step 1 involves assessing the physical aspects of the building exterior as a whole, including its location and setting, shape and massing, orientation, roof and roof features, projections, and openings. Step 2 looks at the building more closely—at materials, trim, secondary features, and craftsmanship. Step 3 encompasses the interior, including individual spaces, relations or sequences of spaces (floor plan), surface finishes and materials, exposed structure, and interior features and details.

American Indian Religious Freedom Act of 1978 (42 United States Code Sections 1996 and 1996a)

The American Indian Religious Freedom Act of 1978 and Native American Graves and Repatriation Act of 1990 (25 United States Code Sections 3001 et seq.) establishes that traditional religious practices and beliefs, sacred sites, and the use of sacred objects shall be protected and preserved.

California Historical Landmarks and Points of Historical Interest

Two other programs are administered by the state: California Historical Landmarks and California "Points of Historical Interest." California Historical Landmarks are buildings, sites, features, or events statewide significance and that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. California Points of Historical Interest are buildings, sites, features, or events of local (city or county) significance and

that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value.

Impacts to significant cultural resources are considered a significant effect on the environment if they affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed in or eligible for listing in the CRHR. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (CEQA Guidelines, Section 15064.5 [b][1], 2000). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR (CEQA Guidelines, Section 15064.5[b][2][A]).

Local Regulations

The City's Municipal Code 10-4.201, Landmark and Historic District Designation Criteria, establishes five criteria (a-e) under which a historic resource may be designated as a landmark or historic district (§ 2, Ord. 2554 c.s., eff. August 31, 1989). The criteria for designation are as follows:

a) It exemplifies or reflects special elements of the City's cultural, social, economic, political, aesthetic, engineering, or architectural history; or
b) It is identified with persons or events significant in local, state or national history; or
c) It embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or
d) It is representative of the notable work of a builder, designer, or architect; or
e) Its unique location or singular physical characteristic(s) represents an established and familiar visual feature or landmark of a neighborhood, community, or the City.

4.3.3 Impact Analysis

Significance Thresholds and Methodology

The methods utilized in support of this analysis were developed to facilitate CEQA compliance by identifying any cultural resources, including built environment/ historical resources and archaeological resources, that could be significantly impacted by the proposed project.

Thresholds of Significance

Impacts related to cultural resources from the proposed project would be significant if the project would:

- **Threshold 4.3-1:** Cause a substantial adverse change in the significance of an historical resource pursuant to Section 15064.5
- **Threshold 4.3-2:** Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5
- **Threshold 4.3-3:** Disturb any human remains, including those interred outside of dedicated cemeteries

The significance of a cultural resource and the related significance of any impact is determined by consideration of whether that resource can increase our knowledge of the past, among other

criteria. The determining factors include site content and degree of preservation. A finding of archaeological significance follows the criteria established in the *CEQA Guidelines*.

CEQA Guidelines Section 15064.5 (Determining the Significance of Impacts to Archaeological Resources) states:

> (a)(3) […] Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC, Section 5024.1, Title 14 CCR, Section 4852).
>
> (a)(4) The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k)), or identified in an historical resources survey (meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC sections 5020.1(j) or 5024.1.
>
> (b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

A substantial adverse change in the significance of an historical resource means demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. Generally, impacts to historical resources can be mitigated to below a level of significance by following the Secretary of the Interior's (SOI) Guidelines for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the SOI's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (SOI Guidelines Section 15064.6(b)). In some circumstances, documentation of an historical resource by way of historic narrative photographs or architectural drawings will not mitigate the impact of demolition below the level of significance (Guidelines Section 15126.4(b)(2)).

Preservation in place is the preferred form of mitigation for archaeological resources as this approach preserves the relationship between artifact and context and may avoid conflicts with groups associated with the site (Guidelines Section 15126.4 (b)(3)(A)).

Project Impacts

Threshold 4.3-1:	Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Impact CUL-1 THE PROPOSED PROJECT WOULD POTENTIALLY ADVERSELY AFFECT HISTORICAL RESOURCES THROUGH PHYSICAL CHANGES TO HISTORICAL RESOURCES AND ADJACENT NEW CONSTRUCTION WITHIN AN ELIGIBLE HISTORIC DISTRICT. FOLLOWING MITIGATION, IMPACTS WOULD BE LESS THAN SIGNIFICANT THROUGH THE ONGOING APPLICATION OF THE *SECRETARY'S STANDARDS* AND CONSTRUCTION MONITORING.

As a result of an intensive-level evaluation prepared for the City of Redondo Beach for each property within the project site, four out of the five buildings were found to qualify as historical resources pursuant to CEQA. The following four buildings are contributors to a locally eligible historic district in Redondo Beach's early commercial core, eligible under Criterion A:

- 112 N. Catalina Avenue
- 124 N. Catalina Avenue

- 126 N. Catalina Avenue
- 132 N. Catalina Avenue

The four contributing properties of the historic district "exemplify and reflect special elements of the City's social, commercial, and transportation history as well as its architectural history" (KCK 2020a; see Appendix F). In addition, 126 N. Catalina Avenue appears individually eligible at the local level under Criterion C as a City landmark based on its Mid-century Modern style as applied to a commercial property, and 112 N. Catalina Avenue appears individually eligible for the National Register of Historic Places under Criterion A based on the significant role the building played in support of the early civic engagement and volunteerism in the early years of the development of the City. The property at 116 N. Catalina Avenue is not a contributor to the historic district due to extensive alterations and remodeling. As identified in the evaluation, the boundaries of the district are limited to the five properties identified above (four contributing and one non-contributing); however, the boundaries may have potential to be expanded pending further study.

In addition to the properties identified above, there are three additional historical resources which are adjacent to the project site:

- 321 Diamond Street, Diamond Apartments – Locally designated and listed in the NRHP
- 305 Emerald Street, Oklahoma Apartments – Locally designated and potentially eligible for listing in the NRHP
- 133 North Broadway, Vincent Apartments – Locally designated and eligible for listing in the NRHP

As described in Section 2, *Project Description*, the proposed project would include:

- A new mixed-use development that would incorporate the four contributors to the historic district listed above; new housing and parking would be sited along the rear elevation of the parcels as well as a new building on the empty corner lot at 100 N. Catalina Avenue;
- Demolition of 116 N. Catalina Avenue, the noncontributing property in the historic district;
- Adaptive reuse and rehabilitation of the four contributors to the historic district, 112, 124, 126, and 132 N. Catalina Avenue, described in more detail below.

The project would retain the principal street-facing character-defining features of the contributors to the historic district. Moreover, the new construction would be located behind the historic buildings, thereby ensuring that the scale and character of this grouping of properties remains intact while also accommodating the new mixed-use development. In addition, the existing setting would be retained by avoiding the construction of any new buildings between the contributing historical resources. Since the new construction is planned for the rear elevation and for an empty lot adjacent to the district's single two-story building, there would be a compatible transition between the new construction and the historic district.

The character of the proposed project (described in detail in Section 2, *Project Description*) is highly compatible with the historic district. As shown in the proposed conceptual design of the townhomes and apartment units, the three-story mass is well articulated and lightened through the ample use of varied but balanced wall planes, window styles/groupings, exterior materials and patterning, colors, front entrance details and fencing, as well as subtly differentiated roof forms. Overall, the new construction under the proposed project would be compatible with the existing historic district

and would further activate this historic commercial core through the adaptive reuse and rehabilitation of the buildings.

The adaptive reuse and rehabilitation plans are subject to review and approval by the City's Preservation Commission to ensure compliance with the City's guidelines and the *Secretary of the Interior's Standards for Historic Properties*. Adaptive reuse and rehabilitation of each contributing property would follow the specifications included in Kaplan Chen Kaplan's November 2020 Historic Preservation Plan, *North Catalina Avenue Historic District: Rehabilitation and Adaptive Reuse—Historic Preservation Plan, 100-132 N. Catalina Avenue, Redondo Beach, California*, prepared for the City by Kaplan Chen Kaplan (KCK 2020b; see Appendix F).

As presently designed, the proposed project would retain the principal character-defining features of the historical resources/contributors along Catalina Avenue, including the overall scale/massing and extant architectural details. New construction would be sited in the rear elevations of contributing properties, some of which will have noncontributing additions removed. As currently planned, the essential character-defining features of the locally eligible historic district would remain intact, and the four contributors to the district would be placed in new uses that ensure their future retention and viability.

The Historic Preservation Plan (KCK 2020b; see Appendix F) provides a conceptual roadmap for the *Secretary's Standards*-compliant approach for the adaptive reuse and rehabilitation of each historical resource in the eligible historic district. The following includes additional detail on the principal changes planned for each contributing property:

1. 112 N. Catalina: This two-story building would be reused as housing; a small portion of the rear elevation would be removed. The original cornice and horizontal banding along the upper-story windows would be reconstructed; a non-original stucco-clad panel in the center of the façade would be removed and replaced with a window based on photographic evidence; the building would be adaptively reused as housing; the Catalina Village project would add a building of similar height adjacent to and abutting the property along the south side, in the parcel that is currently empty; through the retention and restoration of the building's principal character-defining features, facing Catalina Avenue, the building would remain intact and significant adverse impacts would be avoided.
2. 124 N. Catalina: This one-story building would be reused as a café; the front elevation would remain intact, with the original windows, doors, and stacked-stone bulkhead to be retained; a new sign would be placed at the upper level of the building; two new windows would be placed on the south elevation (which currently exhibits a utilitarian character with no architectural detailing); the design of these windows would be compatible but differentiated from the original, street-facing windows; a portion of the rear elevation would be removed.
3. 126 N. Catalina: This one-story building would be reused as a coffee shop; the front elevation and character-defining features including the existing windows, doors, canopy, and distinctive blade sign and pillars, would remain intact; new, compatible but differentiated windows and a stacked-stone bulkhead would be installed on the façade; a nonoriginal rear-elevation addition with a utilitarian character and no architectural detailing would be removed.
4. 132 N. Catalina Avenue: This one-story industrial property would be adaptively reused as a tasting room; the building's one-story scale and parapet roof line would be retained; reversible horizontal wood siding would be applied to the building such that the essential

form of the building would remain intact; a small nonoriginal shed on the side of the building would be demolished.

Significant adverse impacts and material impairment to historical resources can result from physical changes to historical resources that are not in accordance with the *Secretary's Standards*. At present, plans for the proposed project are designed to avoid significant adverse impacts and material impairment to historical resources through compliance with the *Secretary's Standards.* However, given that the project remains largely conceptual in nature, project elements developed or changed through the schematic and design development phases could result in potentially significant adverse impacts to historical resources. This mitigation would also work to ensure any potential indirect impacts to the three adjacent historical resources (321 Diamond Street, 305 Emerald Street, and 133 North Broadway) remail less than significant.

Mitigation Measure

CUL-1 Preservation Input and Secretary's Standards Project Review

As the proposed project evolves through the schematic and design development phases, the City shall require ongoing historic preservation project review and documentation, to ensure ongoing compliance with the *Secretary's Standards*. The City shall ensure that the project design team includes an architectural historian or preservation architect who meets the Secretary of the Interior's Professional Qualifications Standards to provide ongoing review and comment of project plans for conformance with the *Secretary's Standards*.

The architectural historian or preservation architect shall provide input to the design team through the schematic and design development phases to facilitate ongoing project compliance with the *Secretary's Standards*. *Secretary's Standards* project review shall include all project components that could result in a physical change to character-defining features, insofar as these project details are available. This may include the identification and retention of additional features, such as the machinery and pulleys at 112 N. Catalina Avenue. The preservation professional shall document the results of the *Secretary's Standards* project review in a memorandum to be reviewed and approved by the City.

The memo shall include design recommendations drawn from the *Secretary's Standards* that, if needed, would facilitate compliance with the Standards and avoid, lessen, or mitigate significant adverse impacts to historical resources.

Significance After Mitigation

Mitigation Measure CUL-1 would require ongoing project compliance with the *Secretary's Standards* and avoidance, lessening, and mitigation of significant adverse impacts. Implementation of Mitigation Measure CUL-1 would reduce potential impacts to less than significant.

Threshold 4.3-2:	Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Impact CUL-2 CONSTRUCTION OF THE PROPOSED PROJECT WOULD INVOLVE GROUND-DISTURBING ACTIVITIES SUCH AS GRADING, WHICH HAVE THE POTENTIAL TO UNEARTH OR ADVERSELY IMPACT PREVIOUSLY UNIDENTIFIED ARCHAEOLOGICAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

As discussed in the Setting section above, while the project site has been heavily disturbed by previous development, the CHRIS records search results and Native American outreach indicate that the project site is sensitive for archaeological cultural resources. The CHRIS records search results indicate that four archaeological resources, including one containing human remains, exist within one mile of the project site. Additionally, during informal tribal outreach, Chairperson Andrew Salas of the Gabrieleño Band of Mission Indians-Kizh Nation, Chairperson Robert Dorame of the Gabrieliño Tongva Indians of California, and Chairperson Anthony Morales of the Gabrieleño/Tongva San Gabriel Band of Mission Indians all indicated that the area of the project site is highly sensitive.

While no known archaeological resources are present in the project site, the project site is highly sensitive to containing subsurface prehistoric and/or historic archaeological deposits. Therefore, impacts to archaeological resources would be potentially significant.

Mitigation Measures

CUL-2a Cultural Resources Management Plan (CRMP)

Prior to project construction, a qualified archaeologist shall prepare a project-specific Cultural Resources Management Plan (CRMP) to ensure the proper treatment and long-term protection of unanticipated discoveries during project construction. The CRMP shall be submitted to the City of Redondo Beach and to the tribal monitor/consultant retained under Mitigation Measure TCR-1 for review and approval. The CRMP shall provide a description of the methods to be undertaken during monitoring and the steps to be taken in the event of an archaeological discovery during construction, including, at minimum:

- Development of research questions and goals to be addressed by the investigation in the event of a find
- Detailed field strategy used to record, recover, or avoid the finds and address research goals
- Analytical methods to be employed for identified resources
- Requirements for report structure and outline of document contents
- Disposition of the artifacts

CUL-2b Cultural Resources Monitoring

Archaeological monitoring shall be conducted for all project-related ground disturbing activities by a qualified archaeologist. Principal personnel shall meet Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) and have a minimum of 10 years of experience as a principal investigator working with Native American archaeological sites in southern California. The Qualified Archaeologist shall ensure that all other personnel are appropriately trained and qualified. Monitor(s) will have the authority to halt and redirect work should any archaeological resources be identified during monitoring. If archaeological resources are encountered during ground-disturbing activities, work in the immediate area must halt and the find

evaluated for listing in the CRHR and NRHP according to the steps outlined in the Cultural Resources Management Plan required by Mitigation Measure CUL-2a. Archaeological monitoring efforts shall be coordinated with Native American monitoring efforts required by Mitigation Measure TCR-1. Archaeological monitoring may be reduced to spot-checking or eliminated at the discretion of the monitors, in consultation with the lead agency, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbance moves to a new location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock).

CUL-2c Unanticipated Archaeological Resources

If archaeological resources are encountered during ground-disturbing activities, work in the immediate area should be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find in accordance with the steps and methods outlined in the Cultural Resources Management Plan (Mitigation Measure CUL-2a). If the resource is of Native American origin, all treatment shall be determined through consultation with the tribal monitor/consultant required by Mitigation Measure TCR-1 in accordance with the requirements of Mitigation Measure TCR-2. If the discovery proves to be CRHR eligible, preservation in place (i.e., avoidance) is the preferred manner of treatment. If the resource cannot be avoided by the project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts.

Significance After Mitigation

Mitigation Measures CUL-2a, CUL-2b, and CUL-2c would avoid significant direct impacts to archaeological resources to the maximum extent feasible and provide for recovery of any significant resources that cannot be preserved in place. Implementation of Mitigation Measures CUL-2a, CUL-2b, and CUL-2c would reduce potential project impacts to archaeological resources to less than significant.

Threshold 4.3-3:	Would the project disturb any human remains, including those interred outside of formal cemeteries?

Impact CUL-3 CONSTRUCTION OF THE PROPOSED PROJECT WOULD INVOLVE GROUND-DISTURBING ACTIVITIES SUCH AS GRADING, WHICH HAVE THE POTENTIAL TO UNEARTH OR ADVERSELY IMPACT PREVIOUSLY UNIDENTIFIED HUMAN REMAINS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

The project site has been previously disturbed by the former development of buildings. No cemeteries or burials are known to exist within the project site; however, the CHRIS records search results indicate that one prehistoric burial is known to exist within one mile of the project site, and the area is highly sensitive for Native American remains, as discussed in Section 4.8, *Tribal Cultural Resource*s. Additionally, the discovery of human remains is always a possibility during ground disturbing activities; therefore, impacts would be potentially significant.

Mitigation Measure

CUL-3 Unanticipated Discovery of Human Remains

If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner shall be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. Upon discovery of human remains and associated funerary objects, the tribal and/or archaeological monitor/consultant will immediately divert work at minimum of 150 feet and place an exclusion zone around the discovery location. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. The MLD shall complete the inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access. The discovery is to be kept confidential and secure to prevent any further disturbance. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard shall be posted outside of working hours. There shall be no publicity regarding any cultural materials recovered.

Significance After Mitigation

Mitigation Measure CUL-3 would avoid potential impacts to previously undiscovered cultural resources to the maximum extent feasible. Implementation of Mitigation Measure CUL-3 would reduce potential project impacts to cultural resources to less than significant.

4.3.4 Cumulative Impacts

As discussed in Section 3, *Environmental Setting*, the only planned or pending project is the Foundry Project, approximately 2.2 miles northeast of the project site. The area to analyze cumulative impacts to cultural resource includes the project site and immediately adjacent areas that could be indirectly affected. The potential for uncovering significant archaeological (prehistoric and historic) and/or tribal cultural resources within the project area during earthmoving construction activities is unknown. However, the proposed project would involve redevelopment of already graded and developed sites in an urban area. The project would result in a less than significant impact to historic resources, archaeological, and tribal cultural resources, as well as human remains with mitigation identified above. As such, the proposed project would not contribute to cumulative impacts on cultural resources in the project vicinity. In addition, individual development proposals are reviewed separately by the appropriate jurisdiction and undergo environmental review when it is determined that the potential for significant impacts exist. In the event that future cumulative projects would result in impacts to known or unknown cultural resources, impacts to such resources would be addressed on a case-by-case basis. Future cumulative projects would also be required to comply with existing regulatory requirements related to the unanticipated discovery of cultural resources and human remains. Therefore, impacts related to cultural resources would not be

significant and the proposed project would not make a considerable contribution to cumulative cultural resource impacts.

4.4 Geology and Soils

This section analyzes the proposed project's potential impacts with associated with expansive soils and paleontological resources. Mitigation measures are included where potentially significant impacts were identified.

4.4.1 Setting

Existing Geologic Setting and Hazards

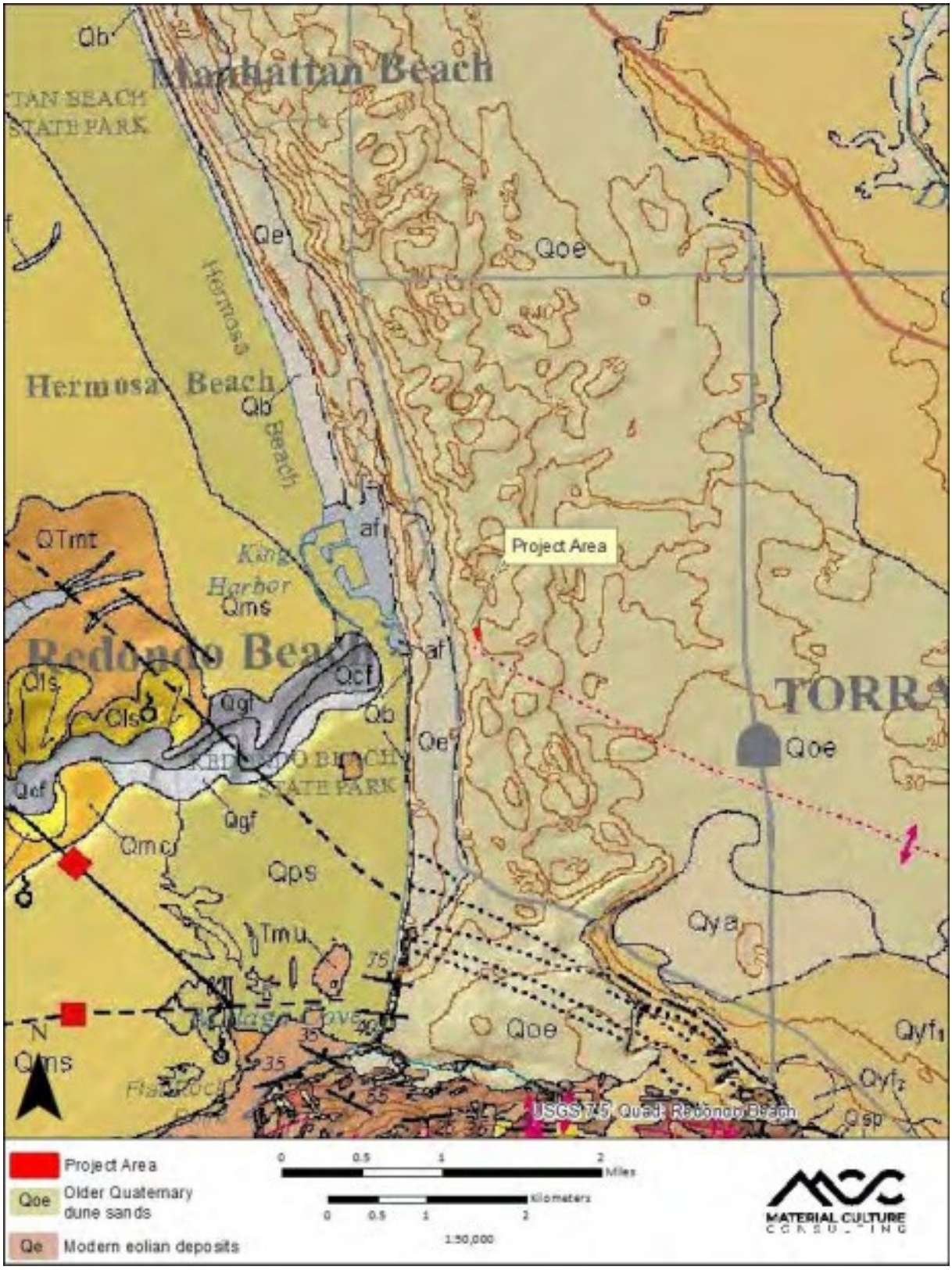
Regional Geology

The City of Redondo Beach is situated within the Los Angeles Basin. The Los Angeles Basin is located within the Peninsular Ranges geomorphic province of California, which extends into lower California and is bound on the east by the Colorado Desert. The Los Angeles Basin is composed of four structural blocks, designated the northeastern, southwestern, northwestern, and central blocks, whose boundaries are formed by major fault zones (Yerkes et al. 1965). The "petroliferous" Los Angeles Basin is approximately 60 miles long and 35 miles wide and is defined by Yerkes et al. (1965) as the region bounded by the northern foothills of the Santa Monica Mountains to the north, the San Jose Hills and the Chino fault on the east, and the Santa Ana Mountains and San Joaquin Hills in the southeast. The Los Angeles Basin is underlain by a structural depression that was the site of extensive accumulation of interstratified fluvial, alluvial, floodplain, shallow marine, and deep shelf deposits on underlying Mesozoic metamorphic and granitic plutonic basement rocks. Sediment accumulation and subsidence has occurred there since the Late Cretaceous and has reached a maximum thickness of more than 20,000 feet (McCulloh and Beyer 2004; Norris and Webb 1990; Yerkes et al. 1965). During that time, rise and fall of relative sea level, tectonic uplift and subsidence, and Pleistocene glaciation resulted in marine and terrestrial sedimentary deposition throughout the Los Angeles Basin (McCulloh and Beyer 2004).

Local Geology

Figure 4.4-1 shows the geologic units in the City of Redondo Beach, which are mapped at a scale of 1:50,000 by J. Saucedo et al. (2016). Jennings, Strand, and Rogers (1977) map the project area within Older Quaternary alluvial deposits. However, Saucedo et al. (2016) mapped the entire project area as older Quaternary dune sands (Qoe). Older Quaternary dune sands (Qoe) are defined as extensive marine and nonmarine sand deposits, generally near the coast or desert playas (Jennings, Strand, and Rogers 1977). The oldest Quaternary geologic unit mapped in the Redondo Beach Quadrangle is the Pleistocene San Pedro Formation (Qsp), a predominately marine sand and gravel deposit exposed in the Palos Verdes Peninsula (Jennings et al. 2010). The San Pedro Formation is comprised of modern eolian deposits (Qe) that form a half-mile long belt along the coastline, adjacent to the beach. This formation is a massive, poorly consolidated, light brown, marine sand deposit exposed in the Palos Verdes Hills. Lower Pleistocene San Pedro Sand is typically composed of cross-bedded to massive sand and silty sand (Woodring et al. 1946). The youngest of these deposits, located on the ground surface within most of the local area, are the El Segundo San Hills. These deposits are compromised of Late Pleistocene into Holocene age; they are moderately to poorly indurated; and are compromised of sand, silty sand, and silt.

Figure 4.4-1 Geological Map of Project Area



According to the Geotechnical Engineering Investigation prepared by Geotechnologies, Inc. in April 2019, the project site is underlain by native alluvial soils, consisting predominantly of sands and silty sands. The native alluvial soils range in color from yellowish brown to dark brown and are slightly moist to very moist, medium dense to very dense, and fine to medium grained. The Geotechnical Engineering Investigation is included as Appendix H.

Geologic Hazards

Some geotechnical hazards, such as subsidence, expansive soils, and soil erosion, occur independently of seismic events and are discussed below.

Subsidence

Subsidence refers to the sinking of a large area of ground surface in which material is displaced vertically with little or no horizontal movement. Subsidence originates at great depths below the surface when subsurface pressure is reduced by the natural loss or human withdrawal of fluids (e.g., groundwater, natural gas, or oil), or can occur due to soil compression. Subsidence may occur in unconsolidated soils during earthquake shaking as a result of more efficient rearrangement of existing individual soil particles. Subsidence of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial materials, or improperly compacted fill. None of these areas were identified within the City of Redondo Beach (Redondo Beach 1993).

Since 1953, the withdrawal of groundwater from under the City of Redondo Beach has been offset by the West Coast Basin Barrier Project. This project injects water via 106 injection wells which, in turn, prevents saltwater intrusion and replenishes the groundwater basin. Continuing the operation of the Barrier Project should prevent any regional human-induced subsidence.

Expansive Soils

Expansive soils swell with increases in moisture content and shrink with decreases in moisture content. These soils usually contain high clay content. Foundations for structures constructed on expansive soils require special design considerations. Because expansive soils can expand when wet and shrink when dry, they can cause foundations, basement walls, and floors to crack, causing substantial structural damage. As such, structural failure due to expansive soils near the ground surface is a potential hazard. Expansive clay minerals are common in the geologic units in the adjacent Palos Verdes Peninsula as well as associated with clayey soils in artificial fill.

Soil Erosion

Erosion refers to the removal of soil by water or wind. Factors that influence erosion potential include the amount of rainfall and wind, the length and steepness of the slope, and the amount and type of vegetative cover. Depending on how well protected the soil is from these forces; the erosion process can be very slow or rapid. Removal of natural or manufacture protection can result in substantial soil erosion and excessive sedimentation and pollution problems in streams, lakes, and estuaries. Construction activities represent the greatest potential cause of erosion. The project site and surrounding area are relatively flat which presents a limited erosion hazard.

Paleontological Resources

Paleontological resources (fossils) are the remains and/or traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks and the distribution of fossils is a result of the

sedimentary history of the geologic units within which they occur. Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors. Although it is not possible to determine whether a fossil will occur in any specific location, it is possible to evaluate the potential for geologic units to contain scientifically significant paleontological resources, and therefore evaluate the potential for impacts to those resources and provide mitigation for paleontological resources if they do occur during construction. Material Culture Consulting, Inc. (MCC) prepared a Cultural and Paleontological Assessment Report of the project site in January 2021 (MCC 2021). The Cultural and Paleontological Assessment Report is included as Appendix G.

The soil in the immediate vicinity of the project site is brown sandy clay loam, with well-sorted high sphericity-subrounded to subangular inclusions (MCC 2021). While shallow excavations of the uppermost few feet typically do not uncover significant vertebrate fossils, deeper excavations that extend down into the older Quaternary deposits have the potential to contain significant vertebrate fossils. According to a fossil locality search from the National History Museum of Los Angeles County (LACM) and review of online records from The University of California Museum of Paleontology's (UCMP) Miocene Mammal Mapping Project (MioMap), no vertebrate or other significant fossils have been recorded within the project site (MCC 2021). The closest vertebrate fossil locality from similar deposits is LACM 4444 located approximately 4.5 miles from the project site. LACM 4444 is situated east-northeast of the proposed project site at the Mobil Oil Refinery property located west of Crenshaw Boulevard and just south of 190th Street. This locality produced a horse fossil specimen (*Equus*) and marine whale (*Cetacea*) at a depth of 15 feet below the surface. Further southeast of the proposed project site is LACM 1839, located near the intersection of Crenshaw Boulevard and 236th Street, approximately 5.5 miles away. This locality produced a horse fossil specimen (*Equus*), at a depth of 35 feet below the surface. Northeast of the proposed project site approximately 6.7 miles away, near the intersection of Prairie Avenue and 139th Street, LACM 2035 produced fossil mammoth bones at an unrecorded depth.

In addition to the background literature and records search, a pedestrian survey of the project site was conducted on May 13, 2020. During the site visit, the majority of the project site was not accessible, due to restricted access by locked gates and by commercial property development. The areas that were surveyed had zero ground visibility due to pavement covering all open areas. The entirety of the project site is developed with asphalt/concrete portions and buildings. Although no soil was present in the project site due to pavement, a soil sample was taken from outside the immediate vicinity. The soil was brown sandy clay loam, with well-sorted high sphericity-subrounded to subangular inclusions. No paleontological resources were observed during the pedestrian survey.

4.4.2 Regulatory Setting

State Regulations

California Coastal Act of 1976

The California Coastal Commission (CCC) is a state agency tasked with overseeing the land use and public access in the California coastal zone. The California Coastal Act was implemented with basic goals (Section 30001.5) to:

- Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.

- Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people and the state.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

In addition, the commission prepared a plan for the conservation, use, and management of natural, scenic, cultural, recreational, and manmade resources of the coastal zone (Section 30002). Paleontological resources are addressed in Article 5, Section 30244. All public and federal agencies must adhere to the provisions set forth by the CCC in the California Coastal Act.

California Building Code

The California Building Code (CBC) Title 24, Part 2, provides building codes and standards for the design and construction of structures in California. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of building and structures. The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures.

The CBC is updated every three years by order of the legislature, with supplements published in intervening years. State Law mandates that local government enforce the CBC. In addition, a city and/or county may establish more restrictive building standards reasonably necessary because of local climatic, geological, or topographical conditions. The 2019 CBC is based on the 2018 International Building Code, with the addition of more extensive structural seismic provisions.

National Pollutant Discharge Elimination System

The federal government administers the National Pollutant Discharge Elimination System (NPDES) permit program, which regulates discharges into surface waters under the Clean Water Act (CWA). The primary regulatory control relevant to the protection of water quality is the NPDES permit administered by the State Water Resources Control Board (SWRCB), which establishes requirements prescribing the quality of point sources of discharge and water quality objectives. These objectives are established based on the designated beneficial uses (e.g., water supply, recreation, and habitat) for a particular surface waterbody. NPDES permits are issued to point source dischargers of pollutants to surface waters pursuant to Water Code Chapter 5.5, which implements the federal CWA. Examples include, but are not limited to, public wastewater treatment facilities, industries, power plants, and groundwater cleanup programs discharging to surface waters (SWRCB, Title 23, Chapter 9, Section 2200). The Regional Water Quality Control Board (RWQCB) establishes and regulates discharge limits under the NPDES permits.

Construction projects which disturb one or more acres of soil or are part of a larger common plan of development that disturbs one or more acres of soil must obtain coverage under the statewide NPDES General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). In order to obtain coverage under the Construction General Permit, a project-specific Stormwater Pollution Prevention Plan (SWPPP) must be prepared. The SWPPP outlines best management practices (BMPs) to reduce stormwater and non-stormwater pollutant discharges, including erosion control, minimizing contact between construction materials and precipitation, and strategies to prevent equipment leakage or spills.

California Environmental Quality Act

Paleontological resources are required to be analyzed under the California Environmental Quality Act (CEQA), which states, in part a project will "normally" have a significant effect on the environment if it, among other things, will disrupt or adversely affect a paleontological site except as part of a scientific study. Specifically, in Section VII(f) of Appendix G of the *CEQA Guidelines*, the Environmental Checklist Form, the question is posed thus: "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature." To determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged).

CEQA does not define "a unique paleontological resource or site." However, the Society of Vertebrate Paleontology (SVP) has defined a "significant paleontological resource" in the context of environmental review as follows:

> Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are typically to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA, and the CEQA lead agency is responsible for ensuring that impacts to paleontological resources are mitigated, where practicable, in compliance with CEQA and other applicable statutes.

California Penal Code Section 622.5

California Penal Code Section 622.5 provides the following: "Every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor."

California Public Resources Code Section 5097.5

Section 5097.5 of the California Public Resource Code (PRC) states "no person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface" any "vertebrate paleontological site" on public lands without the "permission of the public agency having jurisdiction over such lands". Violation of this section is a misdemeanor.

As used in this PRC section, "public lands" means lands owned by or under the jurisdiction of the State or any city, county, district, authority, or public corporation, or any agency thereof.

Consequently, public agencies are required to comply with PRC 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

Local Regulations

City of Redondo Beach General Plan – Environmental Hazards/Natural Hazards Element

The City of Redondo Beach published the General Plan Environmental and Natural Hazards Element in 1993. The document includes goals, objectives, and policies intended to reduce death, injuries, damage to property, and economic and social dislocation due to earthquakes and related geologic hazards. The City of Redondo Beach does not specifically address paleontological resources in the City of Redondo Beach General Plan.

City Ordinance 2554 (Section 10, Chapter 4)

In 1989, City Ordinance 2554 (Section 10, Chapter 4) of the Redondo Beach Municipal Code established the City Preservation Commission (currently known as the Historical Commission) and created criteria for "…the identification, protection, enhancement, perpetuation, and use of historical resources such as building, structures, sites, places and districts within the City that reflect special elements of the City's architectural, artistic, cultural, historical, political, and social heritage". The criteria formulated by the City were created in order to "safeguard the City's heritage by encouraging the protection of landmarks representing significant elements of its history" (Redondo Beach 2021).

4.4.3 Impact Analysis

Significance Thresholds and Methodology

The methods utilized in support of this analysis were developed to facilitate CEQA compliance by identifying the potential for expansive soil at the project site or paleontological resources that could be significantly impacted by the proposed project.

Thresholds of Significance

To determine whether a project would result in a significant impact to Geology and Soils, Appendix G of the *CEQA Guidelines* requires consideration of whether a project would:

- **Threshold 4.4-1:** Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property
- **Threshold 4.4-2:** Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

The Initial Study (Appendix B) determined that the project could result in potentially significant impacts related to expansive soils (Threshold 4.4-1) and paleontological resources (Threshold 4.4-2). As such, this section of the EIR includes analyzes these issues. The Initial Study found no potentially significant impacts related to other geology and soils topics, such as earthquakes, landslides, soil erosion, loss of topsoil, unstable soils, septic tanks, and other

seismic-related hazards. These issues are not studied further herein. Refer to Section 7, *Biological Resources*, of the Initial Study in Appendix B for the impact analysis of these criteria.

Methodology

To evaluate the proposed project impacts, resource conditions that could pose a risk to development of the 100-132 North Catalina Avenue Project were identified through review of documents pertaining to these topics. Sources consulted include the City of Redondo Beach General Plan, U.S. Geological Survey and California Geological Survey technical maps and guides; the Natural Resources Conservation Service Soil Survey (available through the Soil Survey Geographic Database); background reports prepared for nearby plans and projects; and published geologic literature. The information obtained from these sources was reviewed and summarized to establish the existing conditions (described above) and identify potential environmental hazards. In determining level of significance, the analysis assumes that the proposed project would comply with relevant laws, regulations, and guidelines.

PALEONTOLOGICAL RESOURCES SENSITIVITY

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. Such impacts have the potential to be significant and, under the *CEQA Guidelines*, may require mitigation. Sensitivity is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological units having the potential to contain vertebrate fossils are considered the most sensitive.

The SVP outlines in its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP 2010) guidelines for categorizing paleontological sensitivity of geologic units within a project area. The SVP (2010) describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically or stratigraphically, taxonomically, or regionally. The paleontological sensitivity of the project site has been evaluated according to the following SVP (2010) categories, which are presented below.

High Potential (Sensitivity)

Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant

non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant. Full-time monitoring is typically recommended during any project-related ground disturbance in geologic units with high sensitivity.

Low Potential (Sensitivity)

Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic (processes affecting an organism following death, burial, and removal from the ground), phylogenetic species (evolutionary relationships among organisms), and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations.

Undetermined Potential (Sensitivity)

Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.

No Potential

Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources. For geologic units with no sensitivity, a paleontological monitor is not required.

Project Impacts

Threshold 4.4-1:	Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Impact GEO-1 THE PROJECT SITE CONTAINS MODERATELY COMPRESSIBLE SOILS WHICH COULD POTENTIALLY POSE DIRECT OR INDIRECT RISKS TO LIFE OR PROPERTY. MITIGATION PROVIDED BY THE GEOTECHNICAL ENGINEERING INVESTIGATION IMPLEMENTS REINFORCEMENT FOR BUILDING FOUNDATIONS AND FLOOR SLAB DESIGN IN ORDER TO REDUCE POTENTIAL IMPACTS. THIS IS A POTENTIALLY SIGNIFICANT IMPACT THAT CAN BE REDUCED TO LESS THAN SIGNIFICANT WITH MITIGATION.

Expansive soils are highly compressible, clay-based soils that tend to expand as they absorb water and shrink as water is drawn away. According to the Geotechnical Engineering Investigation found in the Initial Study (Appendix B), artificial fill underlying the project site consists of moist, medium

dense, dark brown fine-grained silty sands to approximately three feet below ground surface. Artificial fill is underlain by native alluvial soils; consisting of moist to very moist, medium dense to very dense, yellowish-brown to dark brown, fine to medium-grained silty sands. The presence of groundwater in the project site is reported to exceed 50 feet below ground surface (Geotechnologies, Inc. 2019). In addition, laboratory testing performed on representative samples of the near surface soils indicates that the soils possess a low expansion range.

Despite the moderately compressible soils on the project site, implementation of Mitigation Measure GEO-1 would reduce impacts to a less than significant level by implementing foundation and floor slab design recommendations, which would limit the shrinking and swelling behavior caused by clay soil and preventing damage to building formations.

Furthermore, the proposed project would be required to comply with all applicable regulations set forth by the CBC, Division of the State Architect (DSA), and the California Geologic Survey (CGS), which would minimize risks to life and property in relation to expanding soils.

Mitigation Measure

GEO-1 Geotechnical Engineering Investigation Recommendations

The developer and all contractors shall follow all recommendations related to building foundations and floor slab design included in the 2019 Geotechnical Engineering Investigation prepared by Geotechnologies Inc. in April 2019. Prior to the issuance of grading and building permits, the Building and Safety Division shall review and approve the detailed construction plans to ensure such plans implement the following measures:

- A structural engineer shall be retained to determine the floor slab reinforcement required for the proposed buildings based on the imposed slab loading and the potential settlements.
- The minimum floor slab reinforcement shall consist of No. 3 steel bars at 24-inches on center in both directions to account for the presence of low expansive soils. Structural floor slab supported on the deep foundation system shall be at minimum four inches thick. All existing fill materials and upper native soils shall be removed and recompacted to a minimum depth of five feet below the proposed grade, or three feet below the bottom of the proposed foundation, whichever is deeper. Materials with high expansion potential, low strength, poor gradation or containing organic materials may require removal from the site or proper compaction to the satisfaction of the Geotechnical Engineer (i.e., approximately 90 percent relative compaction). Additional expansion index testing shall be conducted at the completion of rough grading to verify the expansion potential of the as-graded building pad. All soils shall be evaluated and tested by the Geotechnical Engineer.
- A report documenting compliance with the implemented building foundation and floor slab design measures shall be submitted to the City for subsequent review and approval.

Significance After Mitigation

Implementation of Mitigation Measure GEO-1 would reduce the direct or indirect risk of life or property by implementing foundation and floor slab design recommendations, which would limit the shrinking and swelling behavior caused by clay soil and preventing damage to foundations. Impacts would be less than significant with mitigation.

Threshold 4.4-2:	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact GEO-2 WHILE SHALLOW EXCAVATIONS ON THE PROJECT SITE ARE UNLIKELY TO UNCOVER FOSSILS, DEEPER EXCAVATIONS OF GEOLOGICAL UNITS MAPPED WITHIN THE PROJECT HAVE POTENTIAL TO CONTAIN SIGNIFICANT VERTEBRATE FOSSILS. MITIGATION MEASURES HAVE BEEN IDENTIFIED TO REDUCE IMPACTS IN THE EVENT OF AN UNANTICIPATED DISCOVERY OF PALEONTOLOGICAL RESOURCES. THIS IS A POTENTIALLY SIGNIFICANT IMPACT THAT CAN BE REDUCED TO LESS THAN SIGNIFICANT WITH MITIGATION.

Based on the literature review and records search results, the paleontological sensitivity of the geologic units underlying the project site was determined in accordance with criteria set forth by the SVP (2010). Older Quaternary dune sands (Qoe) typically do not uncover significant vertebrate fossils within the uppermost few feet; however, deeper excavations that extend down into older Quaternary deposits have the potential to contain significant fossil vertebrate fossils. Therefore, older Quaternary dune sands (Qoe) are determined to have a low paleontological sensitivity at the surface, increasing with depth.

Paleontological resources are nonrenewable and are vulnerable to impacts from development related activities. Fossils provide important information for our understanding of past environments, the history of life, past species diversity, how species respond to climate change, and many other lines of scientific inquiry. Impacts to fossils and fossil localities, and loss of fossils from looting or other destructive activity at fossil sites results in the direct loss of scientific data and directly impacts the ability to conduct scientific research on evolutionary patterns and geological processes. Construction and grading activities associated with any development that would impact previously undisturbed, paleontologically sensitive geologic deposits have the potential for the destruction of significant paleontological resources.

As described above, the older Quaternary dune sands (Qoe) has a low potential to contain paleontological resources but may be underlain at shallow to moderate depths by older, fossiliferous geologic units assigned a high paleontological sensitivity. As such, ground disturbing activities on the project site (including grading, excavation, drilling, or any other activity that disturbs intact (native) geologic units with high paleontological sensitivity) could potentially result in destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data. Such activities could therefore result in a significant impact to paleontological resources.

The following mitigation measures are recommended to reduce adverse impacts on paleontological resources to a less than significant level. These mitigation measures have been developed in accordance with CEQA requirements and may be used as a planning tool during the development of the proposed project.

Mitigation Measures

GEO-2a Paleontological Resources Impact Mitigation Plan (PRIMP)

Prior to the commencement of ground disturbing activities, a qualified professional paleontologist shall be retained to prepare and implement a Paleontological Resources Impact Mitigation Plan (PRIMP) for the project. A Qualified Paleontologist is an individual who meets the education and professional experience standards as set forth by the SVP (2010), which recommends the paleontologist shall have at least a Master's Degree or equivalent work experience in paleontology, shall have knowledge of the local paleontology, and shall be familiar with paleontological

procedures and techniques. The PRIMP shall consist of the following components, which include paleontological monitoring procedures; communication protocols to be followed in the event that an unanticipated fossil discovery is made during project development; and preparation, curation, and reporting requirements.

GEO-2b Paleontological Monitoring

Prior to the start of construction, the following mitigation measures shall be required to avoid potential impacts to significant paleontological resources if they are encountered during construction activities:

- A trained and qualified paleontological monitor shall perform full-time monitoring of any excavations on the project that have the potential to impact paleontological resources in undisturbed native sediments below ten feet in depth. The monitor shall have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources.
- The project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from Lead Agency and Client representatives.
- Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and Society of Vertebrate Paleontology (SVP) professional standards.
- Any fossils recovered during mitigation shall be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.
- A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate personnel.

Significance After Mitigation

The implementation of Mitigation Measures GEO-2a and GEO-2b would reduce impacts to paleontological resources to a less than significant level by including preparation of a Paleontological Resource Impact Mitigation Plan (PRIMP), and a full-time paleontological monitoring when excavation exceeds depths of ten feet to determine if older paleontologically sensitive sediments are present would be required.

4.4.4 Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if 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" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative geology and soils impacts is limited to development sites in close proximity to the project site.

Cumulative development in the project vicinity would gradually increase population and therefore gradually increase the number of people exposed to potential geological hazards, including effects associated with seismic events such as ground rupture, seismic shaking, liquefaction, landslides, and expansive soils. The magnitude of geologic hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Any specific geologic hazards associated with each individual site would be limited to that site without affecting other areas. Seismic and geologic hazards would be addressed on a case-by-case basis and

would not result in cumulatively considerable impacts. Additionally, cumulative development projects would be required to conform with the current CBC, DSA, CGS, and the City's General Plan, as well as other laws and regulations mentioned above, ensuring that future cumulative impacts associated with ground rupture, seismic shaking, liquefaction, and landslides would be less than significant. Potential cumulative impacts would be less than significant, and the project would not have a cumulatively considerable contribution to a significant cumulative impact related to seismic hazards.

Cumulative development would also increase ground disturbance in the vicinity of the project site, which would contribute to erosion and loss of topsoil in the area. However, cumulative development projects would be required to obtain coverage under the NPDES Construction General Permit and conform with the City's Municipal Code. In compliance with these regulations, each construction project would be required to prepare a SWPPP and implement site-specific BMPs designed to reduce erosion. These standard requirements would ensure that future cumulative impacts associated with erosion and loss of topsoil would be less than significant. Potential cumulative impacts would be less than significant, and the project would not have a cumulatively considerable contribution to a significant cumulative impact related to erosion and loss of topsoil.

The proposed project would be served by the City's existing wastewater and sewer system and would not involve the construction of septic tanks of alternative wastewater disposal systems. Cumulative development projects in the City are required to analyze and submit percolation tests that ensure soils are adequate for on-site wastewater disposal. Therefore, this cumulative impact would be less than significant, and the project would not have a cumulatively considerable contribution to a significant cumulative impact related to septic tanks or alternative wastewater disposal systems.

Cumulative projects would also increase the potential for impacts to paleontological resources through construction activities in the area. The project site has potential for buried paleontological resources, and the project would be required to implement Mitigation Measure GEO-2a to reduce impacts of the project on paleontological resources to less than significant. It can be reasonably assumed similar measures would be taken for cumulative development projects. Therefore, although cumulative projects may result in significant cumulative impacts to paleontological resources, project-specific mitigation for cumulative development would limit this impact to less than significant, and implementation of Mitigation Measure GEO-2a would ensure the project would not have a cumulatively considerable contribution to a significant cumulative impact related to paleontological resources.

This page intentionally left blank.

4.5 Hazards and Hazardous Materials

This section addresses the regulatory setting, and existing environmental setting, and analyzes the potential hazards and hazardous materials impacts of the proposed project during both construction and operational phases, respectively. Specifically, this analysis focuses on the potential for an accidental release of hazardous materials to the environment and the project site's historical use as a drycleaner. The analysis presented herein is based partially on the results of the Soil Vapor Extraction and Soil Treatment Workplan (hereafter referred to as "Workplan") and Rincon's Peer Review prepared for the proposed project (see Appendix I). Mitigation measures are proposed in an effort to reduce significant impacts, as needed.

4.5.1 Setting

Existing Conditions

The project site is currently developed with five single- and two-story commercial/industrial buildings and two sheds, which were constructed between 1904 and 1950. The subject property is currently occupied by 2 For 1 Frame Store and American International Stone & Tile Inc. (112 North Catalina Avenue), Pacifica Tile & Granite and His Life Woodworks (116 North Catalina Avenue), Catalina Cleaners (124 North Catalina Avenue), and Vintage Dirty Laundry (132 North Catalina Avenue). On-site operations consist of dry cleaning, a clothing store, granite and tile fabricating and design, woodworking, custom picture framing, and stone and tile fabrication. The second floor of 112 North Catalina Avenue as well as the former coffee shop building (126 North Catalina Avenue) are currently vacant. One shed north of 132 North Catalina Avenue is used for storage, while a second shed east of 116 North Catalina Avenue is used for painting, fabricating, and finishing of tile, granite, and wood materials. In addition to the current structures, the subject property is also improved with two asphalt-paved parking lot areas and associated landscaping.

Previous Environmental Site Assessments

A previous Environmental Site Assessment (ESA) revealed evidence of environmental issues in connection with the subject property. Dry cleaning operations occurred on a portion of the property as early as 1964 and prior to 2009 tetrachloroethylene (PCE) was used as the primary solvent. A railroad/trolley line spur running north to south was located on the subject property from as early as 1895 to at least 1924. The spur was used for trolley car repairs. Herbicides and arsenic were historically used to prevent pest infestation and control weeds along railroad tracks. As a result, soil and soil gas sampling was completed on the site in 2018.

Twelve soil borings (B1 through B12) were analyzed for total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), and volatile organic compounds (VOCs) in September 2018. None of the analyzed soil samples contained detectable concentrations of TPH or PCBs. PCE was detected in soil samples at concentrations ranging from 12.2 micrograms per kilogram (µg/kg) to 535 µg/kg. Trichloroethylene (TCE) was reported in two soil samples with concentrations of 1.1 µg/kg (B1-2) and 1.3 µg/kg (B2-2). PCE concentrations in soil were highest in the locations of the former dry-cleaning unit and the current dry-cleaning unit. Most of the reported soil PCE concentrations were below the environmental screening level (ESL) of 80 µg/kg for residential land use. However, reported PCE concentrations in soil vapor samples ranged from 1,420 µg/m^3 to 98,700 µg/m^3, which exceeded the California Department of Toxic Substances Control (DTSC) ESL of 67 µg/m^3 for commercial/industrial land use. The soil samples were also tested for antimony, arsenic, barium,

cadmium, chromium, cobalt, copper, lead, mercury, nickel, vanadium, and zinc. Arsenic was reported in four soil samples with concentrations ranging from 19.4 mg/kg to 92.6 mg/kg.

In 2019, an additional 58 soil vapor samples were collected on the project site. Reported soil vapor PCE concentrations ranged from 130 µg/m^3 to 171,900 µg/m^3. In addition, 39 soil samples were collected and analyzed for arsenic, TPH, and VOCs. The reported arsenic concentrations ranged from 0.495 mg/kg to 140 mg/kg. In addition, Soluble Threshold Limit Concentration (STLC) extraction tests for three samples with the highest arsenic Total Threshold Limit Concentration (TTLC) reported STLC concentrations of 3.0 mg/L, 6.75 mg/L, and 7.7 mg/L. In general, soil samples containing relatively higher arsenic concentrations were collected from shallow depths of 2 to 3.5 feet within the former railroad spur track footprint. Most of the reported arsenic concentrations were below the background concentration of 12 mg/kg for the Southern California region. Reported PCE concentrations in the soil samples ranged from 0.94 µg/kg to 414 µg/kg.

In addition, four groundwater samples and four sub-slab soil vapor samples were collected in 2019. The groundwater samples indicated that both TPH as gasoline and PCE were not detected at or above their respective laboratory method reporting limits. The groundwater analytical data indicated that groundwater at the site has not been impacted by the release of chlorinated solvents or by petroleum-based solvents. The depth to water at the site is approximately 60 to 63 feet below ground surface. PCE concentrations reported in the sub-slab soil vapor samples ranged from 498 µg/m^3 to 28,750 µg/m^3.

Sensitive Receptors

For the purpose of this analysis, sensitive receptors are defined as any facilities or land uses that include people who are particularly sensitive to the effects of hazardous materials. Typical sensitive receptors are residences, hospitals/long-term care facilities, and schools. Sensitive receptors in the vicinity of the project site include multi-family residences immediately to the east and south and approximately 130 feet to the west across North Catalina Avenue.

4.5.2 Regulatory Setting

Federal, State, and local government laws define hazardous materials as substances that are toxic, flammable/ignitable, reactive, or corrosive. Extremely hazardous materials are substances that show high or chronic toxicity, carcinogenic, bioaccumulative properties, persistence in the environment, or that are water reactive. Hazardous materials impacts are normally a result of project-related activities disturbing or otherwise encountering such materials in subsurface soils or groundwater during site grading or dewatering. Other means for human contact with hazardous materials are transportation accidents associated with the conveyance of hazardous materials along highways and railroads.

The management of hazardous materials and hazardous wastes is regulated at the federal, State, and local levels through programs administered by the United States Environmental Protection Agency (USEPA), agencies within the California Environmental Protection Agency (CalEPA) such as DTSC and the State Water Resources Control Board (SWRCB), federal and State occupational safety agencies such as the Occupational Safety and Health Administration (OSHA) and the Division of

Occupational Safety and Health (DOSH), and locally by the Los Angeles County Fire Department Health and Hazardous Materials Division (LACoFD HHMD).[1]

Federal

At the federal level, USEPA has primary responsibility for enforcing laws and regulations that govern the use, storage, disposal, and cleanup of hazardous materials and hazardous waste. Regulations pertaining to hazardous materials are primarily codified in Title 40 of the Code of Federal Regulations (40 CFR). The Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901 et seq.) (RCRA), as amended, defines when a hazardous substance is a hazardous waste based on a number of criteria, and regulates hazardous wastes from "cradle to grave," that is, from generation of the waste through disposal. RCRA regulates transportation through standards applicable to transporters of hazardous waste. Title 49 of the Code of Federal Regulations (CFR 49) contains lists of more than 2,400 hazardous materials and regulates the transport of those materials. In addition, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, also known as Superfund, was established to hold multiple parties, including past and present owners, operators, transporters, and generators jointly, severally, and strictly liable for the remediation costs of a hazardously contaminated site. USEPA is the primary authority for enforcing RCRA and CERCLA.

Federal law also contains worker health and safety standards in the context of work and hazardous sites. The primary federal authority for regulating worker health and safety standards is OSHA. OSHA Standard 1910.120 requires that employers evaluate the potential health hazard that hazardous materials pose in the workplace and communicate information concerning hazards and appropriate protective measures to employees. Under OSHA Standard 1910.120, a health hazard is defined as "a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees."

State and Regional

At the State level, under Title 22, Division 4.5 of the California Code of Regulations (CCR 22), DTSC regulates hazardous waste primarily under the authority of the federal RCRA and the California Health and Safety Code. DTSC is responsible for permitting, inspecting, ensuring compliance, and imposing corrective action programs to ensure that entities that generate, store, transport, treat, or dispose of potentially hazardous materials and waste comply with federal and State laws. DTSC defines hazardous waste as waste substances that can pose a substantial or potential hazard to human health or the environment when improperly managed. The regulatory definition of hazardous waste is waste that possesses at least one of four characteristics (ignitability, corrosivity, reactivity or toxicity) or waste that appears on special USEPA lists.

California Health and Safety Code Division 20, Chapter 6.7 governs the State UST program, with additional program regulations set forth in CCR Title 23, Division 3, Chapter 16. The various elements regulated by the State's Underground Storage Tank (UST) program include monitoring and closure of USTs. Oversight of the statewide UST program is assigned to the SWRCB (23 CCR Section 2610 et seq.) The SWRCB also regulates the handling, storage, and disposal of hazardous substances

[1] Los Angeles County Public Works is a Unified Program Agency and a Participating Agency (PA) to the Los Angeles County Certified Unified Program Agency (CUPA), which is managed by the Los Angeles County Fire Department Health Hazardous Materials Division. The Los Angeles County CUPA has jurisdiction in all unincorporated and incorporated areas unless the City is a PA or a CUPA. The City of Redondo Beach is not a PA or a CUPA.

for construction projects. SWRCB manages the Spills, Leaks, Investigations and Cleanup (SLIC) program, which is designed to protect and restore water quality from spills, leaks, and similar discharges. The SWRCB directs responsible parties to investigate and clean-up site contamination, and in the process, sets clean-up standards for each site. The SLIC list, which was recently integrated into the State's Geotracker database, provides information about the location of sites where hazardous materials releases have impacted groundwater.

The Regional Water Quality Control Board (RWQCB) is authorized by SWRCB to enforce provisions of the Porter-Cologne Water Quality Control Act of 1969. This act gives the RWQCB authority to require groundwater investigations when the quality of groundwater or surface waters of the State is threatened and to require remediation of the site, if necessary.

The CalEPA is directly responsible for administrating the "Unified Program," which consolidates and coordinates the administrative requirements, permits, inspections, and enforcement activities for environmental and emergency management programs. The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs and is implemented at the local government level by Certified Unified Program Agencies (CUPA). A local CUPA is responsible for administering/overseeing compliance with the following programs, as required by State and federal regulations:

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- California Accidental Release Prevention (CalARP) Program
- Underground Storage Tank Program (UST)
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control and Countermeasure (SPCC) Plans
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs
- California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements

Administration and enforcement of the major environmental programs were transferred to local agencies as CUPAs beginning in 1996. The purpose of this was to simplify environmental reporting by reducing the number of regulatory agency contacts a facility must maintain and requiring the use of more standardized forms and reports. In Redondo Beach, the local CUPA is Los Angeles County CUPA, which is managed by the LACoFD HHMD. The LACoFD HHMD regulates hazardous materials and oversees soil sampling and remediation associated with soil contamination resulting from releases.

Local

The City of Redondo Beach General Plan Environmental Hazards/Natural Hazards Element (1993) includes goals, objectives, and policies intended to reduce environmental risks posed by hazardous materials and toxic waste. The Environmental Hazards/Natural Hazards Element (1993) contains the following goal and objective related to hazardous materials:

- **Goal:** Protect the public health, safety, and welfare, and the overall environment of the City of Redondo Beach through proper planning for the management, handling, and transportation of toxic and hazardous waste and materials; ensure a coordinated and effective emergency response system; reduce the risk to the public from known contamination sites; decrease the risks to the public from the transport, handling, storage, and disposal of hazardous

uses/materials; and minimize the threat of surface and subsurface water contamination and promote restoration of healthful groundwater resources.

- **Objective:** Promote and assist in the oversight of the proper operation and upkeep of local hazardous waste facilities, as well as the safe management, handling, and transportation of toxic and hazardous materials through the enforcement of applicable state and local regulations.

Other Hazardous Materials Programs and Regulations

Soil Contamination Health Risk Assessment

Regulatory agencies such as the USEPA, DTSC, and the California Office of Environmental Health Hazard Assessment (OEHHA) set forth guidelines that list concentration thresholds over which contaminants pose a risk to human health. USEPA combines current toxicity values of contaminants with exposure factors to estimate what the maximum concentration of a contaminant can be in environmental media (e.g., soil, air, water, biota) before it is a risk to human health. These concentrations set forth by USEPA are termed Regional Screening Levels (RSL) for various pollutants in soil, air, and tap water (USEPA 2021). RSL concentrations can be used to screen pollutants in environmental media, trigger further investigation, and provide an initial cleanup goal. RSLs for soil contamination have been developed for both industrial and residential land uses. Residential RSLs are more conservative and take into account the possibility of the contaminated environmental media coming into contact with sensitive receptor sites such as nurseries and schools. RSLs consider exposure to pollutants by means of ingestion, dermal contact, and inhalation, but do not consider impacts to groundwater.

Soil Contamination Groundwater Protection

The Los Angeles RWQCB has developed an interim guidance document that contains numerical site screening levels to determine the need for remediation of gasoline and volatile organic compound (VOC) contaminated soils (RWQCB 1996). The guidance document has been used to determine when a site may require remedial action or to establish an acceptable cleanup standard for a particular constituent. The document was developed to simplify the remediation process by facilitating the selection of soil cleanup levels for gasoline and VOC impacted sites.

Groundwater Contamination

Both USEPA, California Department of Health Services (DHS), and SWRCB regulate the concentration of various chemicals in drinking water. DHS thresholds are generally stricter than those set by USEPA. Primary maximum contaminant levels (MCL) are established for a number of chemical and radioactive contaminants (Title 22, Division 4, Chapter 15, California Code of Regulations). MCLs are often used by regulatory agencies to determine cleanup standards when contaminants affect groundwater.

Lead and Asbestos

South Coast Air Quality Management District (SCAQMD) Rule 1403, Asbestos Emissions from Demolition/Renovation Activities, potentially applies to demolition activity within the project site. Compliance with SCAQMD Rule 1403 requires that the owner or operator of any demolition or renovation activity have an asbestos survey performed prior to demolition.

Lead-based materials exposure is regulated by California Occupational Safety and Health Administration (CalOSHA) regulations. California Code of Regulations, Section 1532.1, requires testing, monitoring, containment, and disposal of lead-based materials such that exposure levels do not exceed CalOSHA standards.

4.5.3 Impact Analysis

Significance Thresholds and Methodology

The methodology used in this section includes review of previous environmental reports for the project site and other readily available information to assess the potential presence of hazards and contamination sources. The following are the thresholds for determining the significance of impacts related to hazards and hazardous materials, and the proposed project's impacts are assessed to determine whether the project would:

- **Threshold 4.5-1:** 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
- **Threshold 4.5-2:** Be located on a site that is included on a list of hazardous material 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

As discussed in the Initial Study (Appendix B), the project could result in potentially significant impacts related to upset and accident conditions involving the release of hazardous materials (Threshold 4.5-1) and the project's location on a hazardous materials site (Threshold 4.5-2). The project would not result in significant impacts related to the routine transport, use, or disposal of hazardous materials; is not located within 0.25 mile of an existing or proposed school; is not located within an airport land use plan or in a wildland fire hazard zone; and the proposed project would not interfere with any existing emergency or evacuation plan. Refer to Section 9, *Hazards and Hazardous Materials*, of the Initial Study in Appendix B. Therefore, these significance criteria are not studied further herein.

Project Impacts

Threshold 4.5-1:	Would the project 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?
Threshold 4.5-2:	Be located on a site that is included on a list of hazardous material 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?

Impact HAZ-1 THE PROJECT SITE HAS CONTAMINATED SOIL AND SOIL VAPOR. WITH IMPLEMENTATION OF THE PROPOSED SOIL VAPOR EXTRACTION AND SOIL TREATMENT WORKPLAN, AS WELL AS IMPLEMENTATION OF MITIGATION MEASURES, POTENTIAL IMPACTS RELATED TO CONTAMINATED SOILS AND SOIL VAPOR WOULD BE LESS THAN SIGNIFICANT.

Hazardous material impacts are normally a result of project-related activities disturbing or otherwise encountering such materials in subsurface soils during site grading.

A Soil Vapor Extraction and Soil Treatment Workplan and Addendum to the Soil Vapor Extraction and Soil Treatment Workplan have been developed and approved by LACoFD on October 2, 2020 to address contamination in shallow soil and soil vapor at the project site. As discussed in Section 2, *Project Description*, Hazards project design features (PDF) 1 (Shallow Soil Remediation), Hazards PDF 2 (Soil Vapor), and Hazards PDF 3 (Vapor Intrusion) would be included as part of the project under the oversight of the LACoFD. Hazards PDF 1 would address impacts associated with shallow contaminated soil and associated air quality or fugitive dust emissions during excavation, grading, stockpiling, transport, or disposal of soils provided that such activities are conducted under the oversight of LACoFD and in accordance with applicable local, State, and Federal regulations, including SCAQMD Rules 402, 403, 1166, and 1466. As such, Hazards PDF 1 would address the potential for exposure to off-site commercial or residential receptors, including during transport of treated excavated soil to disposal facilities, if required. Furthermore, according to the DTSC's *Proven Technologies and Remedies Guidance – Remediation of VOCs in Vadose Zone Soil* (2010), soil vapor extraction (SVE) is the most frequently selected remedial alternative for chlorinated VOCs such as PCE and TCE in vadose zone soil. The effectiveness of SVE was determined by DTSC based on engineering and scientific analysis of performance data from past State and federal cleanups and review of the administrative records and procedures used to implement the technologies. As such, impacts associated with potential vapor migration to indoor air by residual VOCs in soil and soil vapor would be addressed with Hazards PDF 2 and Hazards PDF 3. Apart from these features included as part of the project, the project would require the following mitigation measures to further address potentially significant impacts associated with site contamination and soil vapor.

Mitigation Measures

In addition to implementation of the Soil Vapor Extraction and Soil Treatment Workplan, the following mitigation measures would be required to further address impacts to soil and soil vapor.

HAZ-1a Shallow Soil Remediation

The applicant shall implement the following measures prior to soil disturbance at the project site:

1. The applicant shall further evaluate applicability of SCAQMD Rule 1466 to proposed site Workplan and soil grading activities. If applicable, the applicant shall implement all monitoring and reporting requirements as defined in SCAQMD Rule 1466.
2. The applicant shall submit a soil management plan (SMP) that can be implemented at the site to address the monitoring, characterization, assessment, delineation, and/or remediation of known on-site environmental impacts and potential "unknown" on-site impacts. In addition, the SMP shall evaluate potential human health risk/hazards posed to future construction workers.

HAZ-1b Soil and Soil Vapor

The applicant shall incorporate all requirements in the design of the project as set forth in the design of the project as set forth by the LACoFD for issuance of building permits, which include the following measures:

1. The boundary of the vapor barrier and sub-slab ventilation shall extend beneath the entire building footprint.
2. VOCs in shallow soil vapor shall be mitigated to levels that are protective of human health for the proposed residential and commercial uses.

3. Mass removal of VOCs in deep soil shall continue until influent concentrations from the proposed SVE treatment reach low and sustainable asymptotic levels that are protective of groundwater.
4. Vapor barrier design will include horizontal pipes that shall be connected to vertical solid vent pipes extending through the building to a minimum of 10 feet above grade and a minimum of 10 feet from any air inlet or operable door or window.

HAZ-1c Operation Maintenance and Monitoring

The applicant shall conduct operation, maintenance, and monitoring of the vapor barrier and sub-slab ventilation system, which will include the following measures:

1. Following the completion of construction and before the buildings are occupied, indoor air monitoring shall be conducted. The monitoring shall be limited to the COPCs and results shall be compared to the DTSC SL for PCE and EPA RSLs for TCE, or the applicable health risk-based screening levels in effect at the time of the indoor air assessment.
2. An OMM plan shall be developed for the vapor barrier system and approved by the LACoFD. The plan shall include indoor air monitoring that would be conducted on a routine basis.

HAZ-1d Lead and Asbestos

Prior to demolition of any on-site structure, an asbestos survey shall be conducted and all identified lead-based paint (LBP) or asbestos containing materials (ACMs) shall be removed from site structures in accordance with applicable regulations.

In the event that any suspected LBP is discovered during construction activities, the materials shall be sampled and analyzed for lead content prior to any disturbance. 8 CCR Section 1532.1 *California Construction Safety Orders for Lead* shall be followed for the demolition of all existing structures requiring exposure assessment and compliance measures to keep worker exposure below action levels. The proposed project is also subject to Title 22 requirements for the disposal of solid waste containing concentrations of lead in exceedance of State and federal hazardous waste requirements. Testing, monitoring, containment, and disposal of lead-based materials shall comply with all Cal/OSHA standards and regulations under California Construction Safety Orders for Lead Section 1532. Impacts due to lead exposure and contamination would be less than significant with adherence to 8 CCR Section 1532.1 and Title 22 requirements.

In the event that any suspected ACMs are discovered during construction activities, the materials shall be sampled and analyzed for asbestos content prior to any disturbance. Prior to the issuance of the demolition permit, the applicant shall provide a letter from a qualified asbestos abatement consultant that no ACMs are present in any on-site structures. If additional ACMs are found to be present, a qualified asbestos abatement consultant shall abate ACMs in compliance with the SCAQMD Rule 1403 as well as all other State and federal rules and regulations.

Significance After Mitigation

As for the possibility of encountering “unknown” on-site contaminant sources during future development activities, the implementation of a SMP, as detail under Mitigation Measure HAZ-1a, would be beneficial because it is a pre-approved plan of action to manage, assess, and cleanup on-site environmental impacts. The proposed mitigation measures would reduce potential contamination impacts to a less than significant level.

4.5.4 Cumulative Impacts

Cumulative development in Redondo Beach could have the potential to place people in areas with risk of accidents involving hazardous materials and health hazards associated with hazardous materials by developing and/or redeveloping areas that may have previously been contaminated. However, as analyzed in this section of the EIR, implementation of the proposed project would not result in significant impacts related to human exposure to hazardous materials. Demolition activities involving structures that may contain lead or asbestos would be required to comply with mitigation measures that would ensure the proposed project would not accidentally release these hazardous materials to the environment. Likewise, the proposed project would comply with mitigation that requires proper remediation of contaminated soils on the project site and the construction of a soil vapor barrier in accordance with the recommendations of the Soil Vapor Extraction and Soil Treatment Workplan for the proposed project. In addition, operation of the proposed project would not involve the use, storage, emissions, or generation of significant quantities of hazardous materials and hazardous waste, and would not subject nearby residents, workers, and students to risk from accidents involving hazardous materials.

In addition, there are no nearby projects that would have the potential to produce significant hazards or hazardous materials impacts that would directly interact with those of the proposed project in a way that would produce a cumulatively significant impact. As discussed in Section 3, *Environmental Setting*, planned and pending projects in the vicinity of the project site consist of The Foundry project located approximately 2.2 miles northeast of the project site, which involves demolition of all existing industrial and retail/commercial buildings on the 2.37-acre project site for construction of 36 two-story condominium homes. Therefore, operation of the proposed project and other planned and pending projects in the vicinity is not anticipated to involve the use, storage, generation, and or emissions of significant quantities of hazardous materials that could impact the environment and pose a safety risk to people.

As with the proposed project, hazard evaluations for construction of other projects in the vicinity of the project site would need to be completed on a case-by-case basis. Similar to the proposed project, if soil and groundwater contamination or lead or asbestos are found to be present on sites of planned and future development, these conditions would require appropriate mitigation and compliance with existing applicable local, State, and federal regulations. Compliance with applicable regulations and implementation of appropriate project-level remedial action on contaminated sites would reduce potential cumulative impacts associated with project construction to a less than significant level.

This page intentionally left blank.

4.6 Noise

This section analyzes the potential short-term and long-term noise and groundborne vibration project impacts during construction and operation. The trip generation and traffic volume estimates used to calculate traffic noise impacts are based on the Transportation Impact Study completed by Fehr & Peers in November 2021, as discussed in Section 4.7, *Transportation,* of this EIR.

4.6.1 Setting

Fundamentals of Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs (e.g., the human ear). Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

Noise levels are commonly 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 so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz (Hz) and less sensitive to frequencies around and below 100 Hz (Kinsler et al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as a doubling of traffic volume, would increase the noise level by 3 dB; similarly, dividing the energy in half would result in a decrease of 3 dB (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive an increase (or decrease) of up to 3 dBA in noise levels (i.e., twice [or half] the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud (10.5 times the sound energy) (Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in sound level as the distance from the source increases. The manner in which noise drops with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, ventilation units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result simply from the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013). Noise levels may also be reduced by intervening structures. The amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can

substantially alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce occupants' exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs, its frequency, and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed.

One of the most frequently used noise metrics that considers both duration and intensity is the equivalent noise level (L_{eq}). The L_{eq} 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 a period of time. Typically, L_{eq} is equivalent to a one-hour period, even when measured for shorter durations as the noise level of a 10- to 30-minute period would be the same as the hour if the noise source is relatively steady. L_{max} is the highest Root Mean Squared (RMS) sound pressure level within the measurement period, and L_{min} is the lowest RMS sound pressure level within the measurement period (Crocker 2007). Normal conversational levels at three feet are in the 60 to 65-dBA L_{eq} range, and ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

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 (L_{dn} or DNL), which is a 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 +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by DNL and CNEL usually differ by about 0.5 dBA. Quiet suburban areas typically have a CNEL in the range of 40 to 50 dBA, while areas near arterial streets are typically in the 50 to 70+ CNEL range.

Propagation

Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of approximately 6 dBA for each doubling of distance.

Traffic noise is not a single, stationary point source of sound. Rather, the movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point. The drop-off rate for a line source is approximately 3 dBA for each doubling of distance.

Fundamentals of Vibration

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The vibration frequency of an object describes how rapidly it oscillates. The normal frequency

range of most groundborne vibration that can be felt by the human body is from a low of less than 1 Hz up to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise may result in adverse effects, such as building damage, when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz). Vibration may also damage infrastructure when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Descriptors

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second (in./sec.). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020).

Response to Vibration

Vibration associated with construction of the project has the potential to be an annoyance to nearby land uses. Caltrans has developed limits for the assessment of vibrations from transportation and construction sources. The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts on structures. The Caltrans *Transportation and Construction Vibration Guidance Manual* (Caltrans 2020) identifies guideline impact criteria for buildings and criteria for human annoyance from transient and continuous/frequent sources: Table 4.6-1 presents the impact criteria for buildings and Table 4.6-2 presents the criteria for humans.

Table 4.6-1 Vibration Damage Potential Criteria

	Maximum PPV (in./sec.)	
Structure and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings, ruins, ancient mountains	0.12	0.08
Fragile buildings	0.20	0.10
Historic and similar old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls (i.e., a loose steel ball that is dropped onto structures or rock to reduce them to a manageable size). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity; in./sec. = inches per second

Source: Caltrans 2020

Table 4.6-2 Vibration Annoyance Potential Criteria

	Maximum PPV (in./sec.)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.90	0.10
Severe	2.00	0.40

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls (i.e., a loose steel ball that is dropped onto structures or rock to reduce them to a manageable size). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity; in./sec. = inches per second

Source: Caltrans 2020

Propagation

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Variability in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020). When a building is exposed to vibration, a ground-to-foundation coupling loss (the loss that occurs when energy is transferred from one medium to another) will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may amplify the vibration level due to structural resonances of the floors and walls.

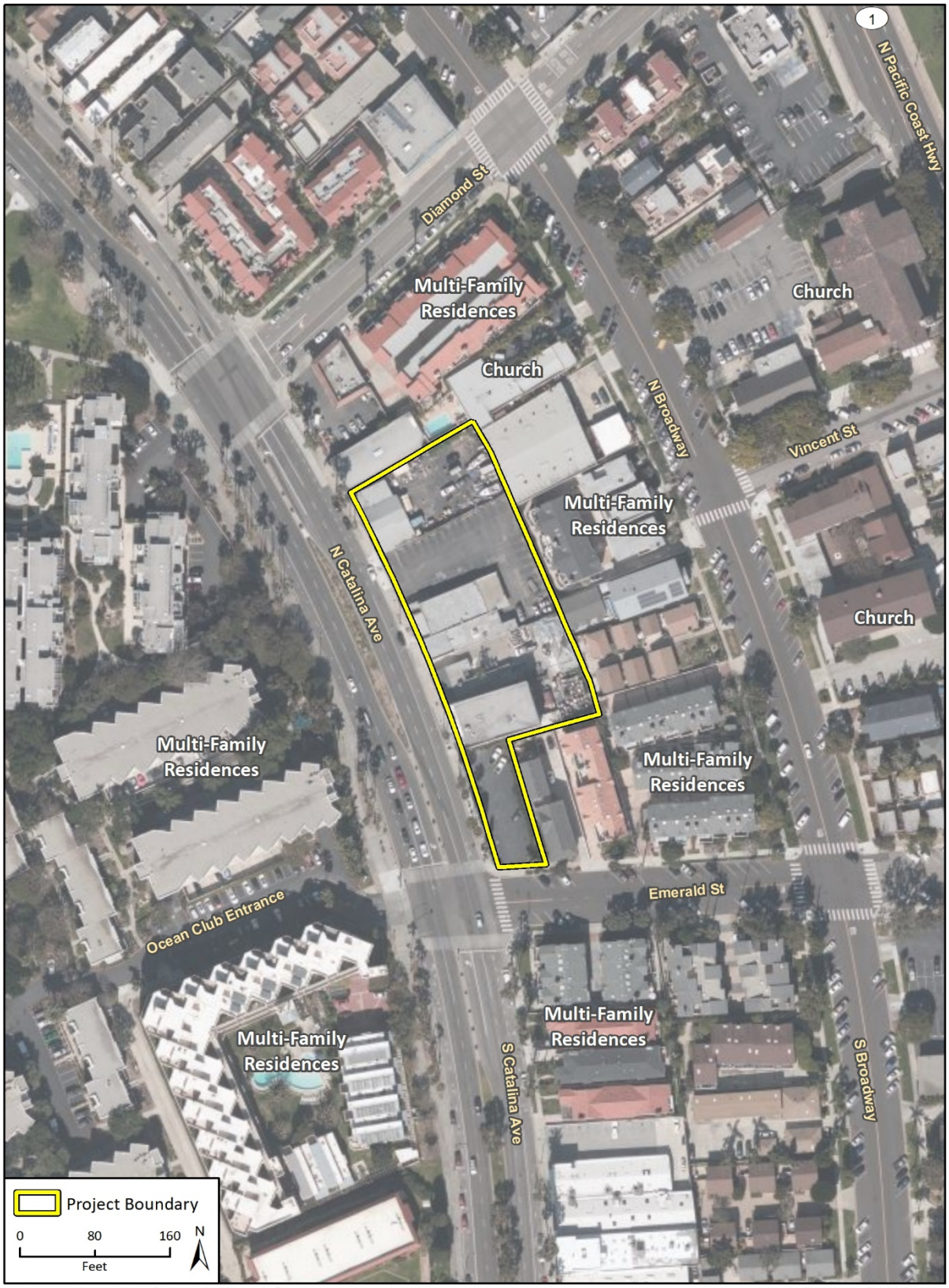
Sensitive Receivers

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. The Redondo Beach General Plan Environmental Hazards/Natural Hazards Element identifies specific land uses as sensitive to noise, which includes South Bay Hospital, local public schools, and public open space areas (Redondo Beach 1993). For the purpose of this analyses, sensitive receivers are characterized as any use where an excessive amount of noise would interfere with normal operations or activities and where a high degree of noise control may be necessary, such as schools, hospitals, residential areas, and recreational areas.

Vibration-sensitive receivers, which are similar to noise-sensitive receivers, include residences and institutional uses, such as schools, churches, and hospitals. However, vibration-sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment that is affected by vibration levels that may be well below those associated with human annoyance (e.g., recording studies or medical facilities with sensitive equipment).

The sensitive receivers nearest to the site consist of multi-family residences and a church immediately to the north; multi-family residences immediately to the east and additional churches across North Broadway; multi-family residences to the south across Emerald Street; and multi-family residences and condominiums to the west across North Catalina Avenue. Figure 4.6-1 on the following page demonstrates the locations of the sensitive receivers relative to the project site.

Figure 4.6-1 Location of Nearby Noise Sensitivie Receivers



Imagery provided by Microsoft Bing and its licensors © 2020.

Fig X Sensitive Receiver Locations

Project Noise Setting

The predominant noise source on and around the project site is the vehicular traffic on North Catalina Avenue. Ambient noise levels are generally highest during the daytime and rush hour unless congestion substantially slows speeds.

According to the noise contour maps included in the General Plan Environmental Hazards/Natural Hazards Element, land uses along Catalina Avenue are exposed to noise levels up to 65 CNEL (Redondo Beach 1993). Topography and intervening buildings or barriers would have an additional effect on the propagation of noise. However, the noise contours presented in the General Plan are based on a flat model and do not include the effects of topography and intervening buildings. The General Plan contours acts as a screening tool, for areas with high noise levels that may affect future land uses can be modeled. Due to the lack of topography and intervening buildings or barriers in the contours, they represent a reasonable worst-case estimate of noise exposure but are not necessarily representative of site-specific conditions.

4.6.2 Regulatory Setting

State Regulations

According to the 2019 California Building Code (CBC), Title 24, Part 2, Section 1206.4 (Allowable Interior Noise Levels) of the California Code of Regulations, interior noise levels attributable to exterior sources shall not exceed 45 CNEL in any habitable room. A habitable room is typically a residential room used for living, sleeping, eating, or cooking. Bathrooms, closets, hallways, utility spaces, and similar areas are not considered habitable rooms for this regulation.

The 2019 California Green Building Standards Code (CALGreen), Title 24, Part 11, Section 5.507.4 (Acoustic Control) of the California Code of Regulations requires the implementation of building assemblies and components with Sound Transmission Class (STC) values or Outdoor-Indoor Sound Transmission Class (OITC) for acoustical control in nonresidential buildings, using either the prescriptive or performance methods described in Sections 5.507.4.1 and 5.507.4.2, respectively. According to Section 5.507.4.1, acoustical control is required for nonresidential project construction located within the 65 CNEL or L_{dn} contour of an airport, freeway, expressway, railroad, industrial noise source, or other fixed source. According to Section 5.507.4.1.1, where noise contours are not readily available "buildings exposed to a noise level of 65 dB L_{eq}-1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30). Otherwise, nonresidential projects may demonstrate compliance with Section 5.507.4 through the prescriptive method (Section 5.507.4.1) or performance method (Section 5.507.4.2):

- If wall and roof-ceiling assemblies exposed to the noise source meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30, through the prescriptive method; or
- If wall and roof-ceiling assemblies exposed to the noise are constructed to provide an interior noise environment that does not exceed 50 dB L_{eq}-1-hour in occupied areas during hours of operations through the performance method.

Local Regulations

City of Redondo Beach Environmental Hazards/Natural Hazards Element

The goals, policies, and actions contained in the City's General Plan Environmental Hazards/Natural Hazards Element focus on establishing and applying criteria for acceptable noise levels for different land uses in order to minimize the negative impacts of noise, especially at sensitive receivers. In support of these goals and policies, the Environmental Hazards/Natural Hazards Element contains a noise and land use compatibility matrix, which determines the "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable" noise levels for various land uses. According to the City's noise and land use compatibility matrix, noise up to 65 CNEL is "normally acceptable" for multi-family residences while noise up to 70 CNEL is "normally acceptable" for commercial uses. In addition, the Environmental Hazards/Natural Hazards Element also identifies a 45 CNEL interior noise level for multi-family residences (Redondo Beach 1993).

City of Redondo Beach Municipal Code

Chapter 24 of Title 4, *Noise Regulations*, of the Redondo Beach Municipal Code (RBMC) establishes a series of maximum permissible exterior and interior noise levels at sensitive land uses with respect to noise generated on properties in the City. The noise limits differ between daytime and nighttime hours, which are established by Section 4-24.301 and Section 4-24.401 of the RBMC as the hours between 7:00 a.m. and 10:00 p.m. (i.e., daytime), and 10:00 p.m. and 7:00 a.m. (i.e., nighttime). RBMC Section 4-24.301 describes the City's exterior noise standards by land use category, as shown in Table 4.6-3.

Table 4.6-3 Exterior Noise Level Limits

Receiving Land Use Category	Time Period[1]	Presumed Ambient Noise Level (dBA[2])
Single- and Low-Density Residential	a.m.	50
	p.m.	45
Medium Density Residential	a.m.	55
	p.m.	50
High Density Residential	a.m.	60
	p.m.	55
Commercial/Retail	a.m.	65
	p.m.	60
Industrial (Planned Development)	a.m.	65
	p.m.	60
Industrial (Planned)	a.m.	70
	p.m.	70

[1] a.m. standard applies to the hours between 7:00 a.m. and 10:00 p.m. and p.m. standard applies to the hours between 10:00 p.m. and 7:00 a.m.

[2] A-weighted decibel (dBA) is defined as a decibel (dB) adjusted to be consistent with human response.

Source: RBMC Section 4-24.301

According to RBMC Section 4-24.301, no person shall operate, or cause to be operated, any source of sound at any location within the City or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person which causes the exterior noise level, when measured on any other property, to exceed:

(1) The noise standard of the receiving land use for a cumulative period of more than thirty (30) minutes in any hour; or

(2) The noise standard of the receiving land use plus five (5) dB for a cumulative period of more than fifteen (15) minutes in any hour; or

(3) The noise standard of the receiving land use plus ten (10) dB for a cumulative period of more than five (5) minutes in any hour; or

(4) The noise standard of the receiving land use plus fifteen (15) dB for a cumulative period of more than one minute in any hour; or

(5) The noise standard of the receiving land use plus twenty (20) dB for any period of time.

RBMC Section 4-24.401 describes the City's interior noise standards by land use category, as shown in Table 4.6-4.

Table 4.6-4 Interior Noise Level Limits

Receiving Land Use Category	Time Period[1]	Allowable Noise Level (dBA[2])
Residential	a.m.	45
	p.m.	40
School	a.m.	45
	p.m.	-
Hospital	a.m.	40
	p.m.	40

[1] a.m. standard applies to the hours between 7:00 a.m. and 10:00 p.m. and p.m. standard applies to the hours between 10:00 p.m. and 7:00 a.m.

[2] A-weighted decibel (dBA) is defined as a decibel (dB) adjusted to be consistent with human response.

Source: RBMC Section 4-24.401

According to RBMC Section 4-24.401, no person shall operate, or cause to be operated, any source of sound at any location within the City or allow the creation of any noise which causes the interior noise level, when measured inside the receiving structure, to exceed:

(1) The noise standard for that land use district category as specified for a cumulative period of more than five (5) minutes in any hour; or

(2) The noise standard plus five (5) dB for a cumulative period of more than one minute in any hour; or

(3) The noise standard plus ten (10) dB for any period of time.

For construction work, RBMC Section 4-24.503 states that all construction activity shall be prohibited except between the hours of 7:00 a.m. and 6:00 p.m. on weekdays, and between the hours of 9:00 a.m. and 5:00 p.m. on Saturdays. It also states that no construction activity shall be permitted on Sundays, or on the observed days of the following holidays: Memorial Day, the Fourth of July, Labor Day, Thanksgiving Day, Christmas Day, and New Year's Day.

The City has not adopted any standards or regulations addressing specific vibration thresholds. However, Section 4-24.504 of the RBMC includes the following provisions related to groundborne vibration:

> The operation or permitting the operation of any device which creates vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property, or at 150 feet (46 meters) from the source if on a public space or public right-of-way, shall be prohibited. For the purposes of this section, "vibration perception threshold" shall mean the minimum ground or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such direct means as, but not limited to, sensation by touch or the visual observation of moving objects.

4.6.3 Impact Analysis

Methodology and Significance Thresholds

Methodology

The proposed project involves the demolition of one commercial building and rehabilitation and reuse of four commercial buildings as well as construction of 22 townhomes and eight apartments. The immediate surrounding area, consisting of multi-family residences, a church, and commercial uses, may be subject to noise and vibration impacts generated by temporary construction and long-term operation of the project. The following discussion addresses the methodology associated with analyzing the project's construction and operational noise and vibration impacts.

CONSTRUCTION NOISE

Construction of the project would be the primary source of temporary noise associated with the project. Construction noise impacts were estimated using the FHWA's Roadway Construction Noise Model (RCNM) (2006). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at potential noise-sensitive receivers near future development. RCNM provides reference noise levels for standard construction equipment, with an attenuation of 6 dBA per doubling of distance.

Construction equipment operates in two modes: stationary and mobile. As a rule, stationary equipment operates in a single location for one or more days at a time, with either fixed-power operation (e.g., pumps, generators, and compressors) or variable-power operation (e.g., pile drivers, rock drills, and pavement breakers). Mobile equipment moves around the construction site with power applied in cyclic fashion, such as bulldozers, graders, and loaders (FTA 2018). Noise impacts from stationary equipment are assessed from the center of the equipment, while noise impacts from mobile construction equipment are assessed from the center of the equipment activity area (e.g., construction site).

Variation in power imposes additional complexity in characterizing the noise source level from construction equipment. Power variation is accounted for by describing the noise at a reference distance from the equipment operating at full power and adjusting it based on the duty cycle, or percent of operational time, of the activity to determine the L_{eq} of the operation (FTA 2018).

Each phase of construction has a specific equipment mix, depending on the work to be accomplished during that phase. Each phase also has its own noise characteristics; some will have

higher continuous noise levels than others, and some may have discontinuous high-impact noise levels. In typical construction projects, grading activities typically generate the highest noise levels because grading involves the largest equipment and covers the greatest area. Foundation excavation and construction is often the second loudest phase, followed by paving and building construction. Project construction phases would include demolition, site preparation, grading, building construction, architectural coating, and paving of the project site. It is assumed that diesel engines would power all construction equipment. Modeling is based under the conservative assumption that a dozer, an excavator, and a jackhammer would be operating simultaneously.

OPERATIONAL NOISE

The primary on-site noise sources associated with operation of the proposed project, and those discussed in this analysis, would include noise from delivery trucks; trash hauling trucks; heating, ventilation, and air conditioning (HVAC) units, and persons occupying outdoor areas such as conversation on residential balconies/patios or at street-facing seating areas along North Catalina Avenue.

Specific planning data for project HVAC systems are not available at this stage of project design; however, for a reasonable analysis, a typical to larger-sized residential condenser was used to determine project HVAC noise. The unit used for this analysis is a Carrier 38HDR060 split system condenser. Manufacturer specifications are included in Appendix J. The manufacturer's noise data lists the unit as having a sound power level of 72 dBA.

In addition to producing on-site sources of noise, the project would generate vehicle trips, thereby increasing traffic noise on nearby roadways. According to the trip generation estimates included in the Transportation Impact Study completed by Fehr & Peers, the project would generate 744 daily trips, 115 a.m. peak hour trips, and 69 p.m. peak hour trips (Fehr & Peers 2021). Vehicles would be able to access at-grade parking associated with the proposed residences via Emerald Street and North Catalina Avenue. Commercial use parking would be accessible only via North Catalina Avenue. Therefore, traffic noise impacts were analyzed for North Catalina Avenue and Emerald Street, which would receive the bulk of project-generated vehicle trips.

GROUNDBORNE VIBRATION

Operation of the project would not include any substantial vibration sources, such as heavy equipment operations. Construction activities would, however, have the greatest potential to generate groundborne vibration affecting nearby structures, particularly rehabilitated on-site older buildings during grading of the project site. As discussed in Section 4.3, *Cultural Resources*, the four on-site buildings located at 112, 124, 126, and 132 North Catalina Avenue are significant for their associations with the history of railroads, fraternal organizations, philanthropic societies, and civic engagement in the City and together meet the criteria to be designated as a City of Redondo Beach Historic District. Due to their potential historic significance, groundborne vibration impacts from project construction were also assessed at on-site buildings.

A quantitative assessment of potential vibration impacts from construction activities was conducted using the methodology and vibration levels provided by Caltrans (Caltrans 2020). The greatest vibratory sources during construction would be from operation of jackhammers, bulldozers, and loaded trucks. Table 4.6-5 shows typical vibration levels for various pieces of construction equipment used in the assessment of construction vibration.

Table 4.6-5 Typical Vibration Levels during Construction Activities

Equipment	Vibration Levels at 25 Feet (in./sec. PPV)
Large bulldozer	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: FTA 2018

Because groundborne vibration could cause physical damage to structures and is measured in an instantaneous period, vibration impacts were modeled based on the distance from the location of vibration-intensive construction activities, conservatively assumed to be at the edge of a construction site, to the edge of nearby structures. The groundborne vibration analysis differs from the construction noise analysis in that modeled distances for vibration impacts are those distances between operation of a single piece of construction equipment and nearest structures (regardless of sensitivity) whereas modeled distances for construction noise impacts are those distances between the center of all on-site construction activity and the property line of the nearest off-site sensitive receivers.

Thresholds of Significance

Pursuant to Appendix G of the *CEQA Guidelines*, the following thresholds are used to determine the significance of project impacts related to noise and groundborne vibration. The proposed project would result in a significant noise or vibration impact if the project would:

- **Threshold 4.6-1:** Generate 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, noise ordinance, or applicable standards of other agencies
- **Threshold 4.6-2:** Generate excessive groundborne vibration or groundborne noise levels

As discussed in Section 13, *Noise*, of the Initial Study (Appendix B), the project could result in potentially significant impacts related to the temporary or permanent increase in ambient noise levels and groundborne vibration in the vicinity of the project (Threshold 4.6-1 and Threshold 4.6-2, respectively). The Initial Study concluded that the project would not result in significant impacts related to exposure to excessive noise levels from aircraft. The project is not located within two miles of a private airstrip or public airport and is not located within any airport noise contours. Therefore, this issue is not studied further herein.

The following discussion identifies additional significance thresholds used to support the impact findings relative to each of the previously listed CEQA threshold.

CONSTRUCTION NOISE

While the City does not have specific noise level criteria for assessing construction impacts, the FTA has developed guidance for determining whether construction of a project would result in a substantial temporary increase in noise levels. Based on FTA guidance, for residential land uses, a significant impact would occur if construction noise exceeds an eight-hour 80 dBA L_{eq} daytime noise limit and an eight-hour 70 dBA L_{eq} nighttime noise limit. However, as discussed in Section 2, *Project Description*, construction hours would comply with Section 4-24.503 of the RBMC and would not occur during nighttime hours. Therefore, nighttime construction noise is not analyzed further

herein. In addition, for commercial land uses, a significant impact would occur if construction noise exceeds an eight-hour 85 dBA L_{eq} daytime noise limit (FTA 2018).

OPERATIONAL NOISE

The City has adopted noise standards in the RBMC that regulate operational noise sources in the City. On-site operational noise associated with the project would generate a significant impact if noise levels exceed the standards identified in Section 4-24.301 and Section 4-24.401 of the RBMC and included in Section 4.6.2, *Regulatory Setting*. Furthermore, traffic noise (i.e., roadway noise) associated with project development would result in a significant impact if it would cause the ambient noise level measured at the property line of affected uses to increase by 3 dBA, which would be a barely perceptible increase in traffic noise.

LAND USE COMPATIBILITY

According to the City's General Plan Environmental Hazards/Natural Hazards Element, noise up to 65 CNEL is "normally acceptable" for multi-family residences while noise up to 70 CNEL is "normally acceptable" for commercial uses. In addition, the Environmental Hazards/Natural Hazards Element also identifies a 45 CNEL interior noise level for habitable rooms in multi-family residences (Redondo Beach 1993).

The project would also be required to comply with State noise regulations for exposure to noise. According to the 2019 CBC, Title 24, Part 2, Section 1206.4 of the California Code of Regulations, interior noise levels attributable to exterior sources shall also not exceed 45 CNEL in any habitable room. In addition, the 2019 CALGreen, Title 24, Part 11, Section 5.507.4.1 of the California Code of Regulations requires acoustical control for nonresidential project construction located within the 65 CNEL contour of an airport, freeway, expressway, railroad, industrial noise source, or other fixed source.

GROUNDBORNE VIBRATION

The City has not adopted specific standards for vibration impacts during construction. Therefore, the Caltrans *Transportation and Construction Vibration Guidance Manual* (2020) is used to evaluate potential construction vibration impacts related to both potential building damage and human annoyance. Based on the Caltrans criteria shown in Table 4.6-1 and Table 4.6-2, construction vibration impacts would be significant if vibration levels exceed 0.5 in./sec. PPV for residential structures and 2.0 in./sec. PPV for commercial structures, which is the limit where minor cosmetic (i.e., non-structural) damage may occur to these buildings. However, project development would include rehabilitation of existing on-site older buildings with potential historic significance. Therefore, for a conservative analysis to these buildings, construction vibration impacts would be significant if vibration levels exceed 0.12 in./sec. PPV for fragile historic buildings, as shown in Table 4.6-1. In addition, construction vibration impacts would cause human annoyance at nearby receivers if vibration levels exceed 0.25 in./sec. PPV, which is the limit above which temporary vibration activities become distinctly perceptible.

Project Impacts

Threshold 4.6-1:	Would the project result in generation of a substantial temporary 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?

Impact N-1 TEMPORARY CONSTRUCTION ACTIVITIES WOULD BE RESTRICTED TO THE HOURS SPECIFIED BY THE CITY'S NOISE ORDINANCE AND WOULD NOT EXCEED THE FTA NIGHTTIME NOISE LIMIT; HOWEVER, CONSTRUCTION NOISE LEVELS WOULD EXCEED THE FTA DAYTIME NOISE LIMIT FOR CONSTRUCTION NOISE AT THE NEAREST RECEIVERS ADJACENT TO THE PROJECT SITE. HOWEVER, TEMPORARY CONSTRUCTION-RELATED NOISE IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Construction activities would result in temporary increases in ambient noise in the project area on an intermittent basis and, as such, would expose surrounding receivers to increased noise. The nearest receivers include retail/commercial uses, multi-family residences, and a church immediately to the north; multi-family residences immediately to the east; multi-family residences approximately 75 feet to the south across Emerald Street; multi-family residences approximately 125 feet to the west across North Catalina Avenue; and additional churches approximately 250 feet east across North Broadway.

Construction equipment would be continuously moving across the site, coming near and then moving further away from individual receivers. Therefore, due to the dynamic nature of construction, maximum hourly noise levels are calculated at various distances from the center of on-site construction activity to the nearest receivers. Using the FHWA's RCNM, construction noise was modeled at 25 feet from the adjacent retail/commercial uses, multi-family residences, and church to the north and east, 100 feet from multi-family residences to the south across Emerald Street, 150 feet from multi-family residences to the west across North Catalina Avenue, and 275 feet from additional churches to the east across North Broadway. Construction noise modeling does not account for potential noise reduction from existing walls between the site and off-site receivers to the north and east based on the observation that these walls are not of sufficient height that would block line-of-sight from off-site receivers to construction activities. Construction noise levels and modeled distances to the nearest receivers are shown in Table 4.6-6. RCNM calculations are included in Appendix J.

Table 4.6-6 Construction Noise Levels at Receivers

	dBA L_{eq} (8-hour)			
Construction Equipment	**Retail/Commercial Uses; Multi-Family Residences; Church 25 Feet**	**Multi-Family Residences 100 Feet**	**Multi-Family Residences 150 Feet**	**Churches 275 Feet**
Bulldozer, Excavator, Jackhammer	90	78	75	69

See Appendix J for RCNM results.

As shown in Table 4.6-6, maximum hourly noise levels during project construction, which would occur during the demolition, grading, and building phases of construction, were calculated at between 69 dBA L_{eq} (8-hour) and 90 dBA L_{eq} (8-hour) at the nearest receivers, consisting of surrounding retail/commercial uses, multi-family residences, and a church. Based on these calculations, construction noise levels would exceed the FTA daytime noise criterion of 80 dBA L_{eq}

(8-hour) for residential uses and 85 dBA L_{eq} (8-hour) for commercial uses (FTA 2018) at the adjacent uses. Therefore, Mitigation Measure N-1 would be required to implement noise-attenuation measures and reduce construction noise levels at adjacent uses to the north and east to a less than significance level. Construction noise levels would not exceed the FTA standards at other residences and noise-sensitive uses.

Mitigation Measure

N-1 Construction Noise Reduction

The project contractor shall be required to reduce construction noise below the FTA daytime noise criterion of 80 dBA L_{eq} for residential uses and 85 dBA L_{eq} for commercial uses. This shall be accomplished through the following required measures:

- Installation of temporary sound barriers/blankets along the north and eastern project boundary line adjacent to the commercial and multi-family receivers. The temporary barriers/blankets shall have a minimum sound transmission loss of 21 and noise reduction coefficient of 0.75. The temporary barriers/blankets shall be of sufficient height to extend from the top of the temporary construction fence and drape on the ground or be sealed at the ground. The temporary barriers/blankets shall have grommets along the top edge with exterior grade hooks, and loop fasteners along the vertical edges with overlapping seams, with a minimum overlap of two inches.
- Provide a sign at the yard entrance, or other conspicuous location, that includes a 24-hour telephone number for project information, and a procedure where a field engineer/construction manager shall respond to and investigate noise complaints and take corrective action if necessary, in a timely manner. The sign shall have a minimum dimension of 48 inches wide by 24 inches high. The sign shall be placed five feet above ground level.
- If a noise complaint(s) is registered, the contractor shall retain a City-approved noise consultant to conduct noise measurements at the use(s) that registered the complaint. The noise measurements shall be conducted for a minimum of one hour and will include one-minute intervals. The approved noise consultant shall prepare a letter report for code enforcement summarizing the measurements, calculation data used in determining impacts, and potential measures to reduce noise levels to the maximum extent feasible.

The following measures may also be used to reduce noise levels:

- The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only.
- Noise-reducing enclosures shall be used around stationary noise-generating equipment (e.g., compressors and generators) or located as far from sensitive receivers, as feasible.

Significance After Mitigation

With implementation of Mitigation Measure N-1, per the specifications in Appendix J, the temporary sound barriers/blankets would be able to reduce construction noise by 10 to 20 dBA L_{eq} (8-hour), which would reduce construction noise at the adjacent uses to 70 to 80 dBA L_{eq} (8-hour). These noise levels would not exceed the FTA daytime noise criteria of 80 dBA L_{eq} (8-hour) for residential uses and 85 dBA L_{eq} (8-hour) for commercial uses, and impacts would be less than significant.

Threshold 4.6-1:	Would the project result in generation of a substantial 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?

Impact N-2 OPERATION OF THE PROJECT WOULD GENERATE ON-SITE NOISE (E.G., DELIVERY TRUCKS, TRASH-HAULING TRUCKS, AND CONSERVATION IN OUTDOOR AREAS) THAT MAY PERIODICALLY BE AUDIBLE TO EXISTING NOISE-SENSITIVE RECEIVERS IN THE VICINITY. HOWEVER, OPERATIONAL NOISE SOURCES WOULD NOT EXCEED THE NOISE STANDARDS IDENTIFIED IN THE CITY'S NOISE ORDINANCE AND IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The primary on-site noise sources associated with operation of the proposed project would include noise from delivery trucks, trash hauling trucks, HVAC units, and persons associated with outdoor areas such as conversation on residential balconies/patios or at street-facing seating areas along North Catalina Avenue.

Noise associated with delivery and trash-hauling trucks would be an intermittent noise source. In addition, delivery and trash-hauling services are already typical occurrences associated with existing uses in the developed project area. Therefore, delivery and trash-hauling trucks would not result in a substantial permanent increase in ambient noise levels in excess of the when compared to ambient noise levels without the project.

Based on project plans, the nearest HVAC units to off-site receivers would be located at the townhome rooftops, typical of multi-family residential construction. Exact locations of the HVAC units are unknown at this stage of planning. However, for this analysis, it was assumed that HVAC units would be located approximately 34 feet from the adjacent property lines of the multi-family residences to the east based on a setback distance of 15 feet and building height of 30 feet for the proposed townhomes. A Carrier 38HDR060 split system with a sound power level of 72 dBA would generate a noise level of approximately 57 dBA at a distance of seven feet. Therefore, with attenuation over a 34-foot distance, a rooftop HVAC unit would result in a noise level of approximately 43 dBA at these property lines. These noise levels would be below the City's daytime (i.e., 55 dBA) and nighttime (i.e., 50 dBA) exterior noise limits for multi-family residences, as established by RBMC Section 4-24.301 and shown in Table 4.6-3.

Noise related with outdoor use areas would include noise associated with light recreation, such as conversations on residential balconies/patios or at outdoor seating areas facing North Catalina Avenue. However, conversational noise would be similar to those of existing residences in the vicinity and would result in a negligible change to existing noise levels. Furthermore, traffic noise from North Catalina Avenue would dominate conservational noise from outdoor seating areas associated with project commercial uses. Noise from outdoor conversations would be an intermittent and temporary noise source, which would typically be concentrated around less-sensitive daytime hours.

On-site operational noise generated by the project would not exceed the City's exterior noise limits and interior noise standards identified by Sections 4-24.301 and 4-24.401, respectively, of the RBMC. Impacts would be less than significant.

Mitigation Measures

Mitigation is not required.

Threshold 4.6-1:	Would the project result in generation of a substantial 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?

Impact N-3 OPERATION OF THE PROJECT WOULD NOT GENERATE A DOUBLING IN TRAFFIC VOLUMES ON AREA ROADWAYS AND, THEREFORE, WOULD NOT INCREASE EXISTING TRAFFIC NOISE BY 3 DBA OR MORE. THEREFORE, THE INCREASE IN NOISE WOULD BE IMPERCEPTIBLE AND LESS THAN SIGNIFICANT.

The project would generate new vehicle trips and incrementally increase traffic on area roadways, particularly on North Catalina Avenue and Emerald Street. According to the trip generation estimates included in the Transportation Impact Study, the project would generate 744 daily trips, 115 a.m. peak hour trips, and 69 p.m. peak hour trips (Fehr & Peers 2021). Access to the project site would be provided via North Catalina Avenue and Emerald Street, which would receive the bulk of project-generated vehicle trips particularly during the a.m. peak hour.

According to the traffic volumes for area roadways included in the Transportation Impact Study, the segment of North Catalina Avenue between Diamond Street and Emerald Street carries 1,315 vehicles during the a.m. peak hour while the segment of Emerald Street east of North Catalina Avenue carries 107 vehicles during the a.m. peak hour. Based on the project's trip distribution, Fehr & Peers determined that operation of the project would add 66 a.m. peak hour trips to North Catalina Avenue (increasing the existing volume by approximately five percent) and 44 a.m. peak hour trips to Emerald Street (increasing the existing volume by approximately 41 percent). These respective trip additions would increase traffic noise by less than 0.5 dBA along North Catalina Avenue and by 1.5 dBA along Emerald Street. Therefore, the project would not create a perceptible increase in traffic noise.[1] Noise impacts associated with off-site traffic generated by the project would be less than significant.

Mitigation Measures

Mitigation is not required.

Threshold 4.6-1:	Would the project result in generation of a substantial 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?

Impact N-4 OPERATION OF THE PROJECT WOULD EXPOSE ON-SITE DEVELOPMENT TO AMBIENT NOISE LEVELS, WHICH ARE PREDOMINANTLY CHARACTERIZED BY VEHICULAR TRAFFIC ON ADJACENT ROADWAYS. THE PROJECT WOULD BE EXPOSED TO NOISE LEVELS WITHIN THE CITY'S "NORMALLY ACCEPTABLE" RANGE FOR MULTI-FAMILY RESIDENCES. IN ADDITION, ON-SITE DEVELOPMENT WOULD NOT BE EXPOSED TO NOISE LEVELS IN EXCESS OF THE NOISE STANDARDS SPECIFIED BY THE CALIFORNIA CODE OF REGULATIONS.

Analysis of impacts of the environment on a project is not required for CEQA compliance (*Ballona Wetlands Land Trust et al. v. City of Los Angeles*). Therefore, noise exposure to new noise-sensitive land uses has been analyzed for informational purposes only.

[1] A doubling of traffic is required for a barely perceptible 3 dBA increase in traffic noise levels.

Implementation and operation of the project would expose future nonresidential and residential on-site development to ambient noise levels that characterize the project site area, predominantly vehicular traffic on North Catalina Avenue. According to the noise contour maps included in the City's General Plan Environmental Hazards/Natural Hazards Element (1993), land uses along Catalina Avenue are exposed to noise levels up to 65 CNEL. Based on the City's noise and land use compatibility matrix, on-site project development would be exposed to noise levels within the "normally acceptable" range for multi-family residences and commercial uses (Redondo Beach 1993).

The City also has an interior noise standard of 45 CNEL for habitable room in multi-family residences, which is consistent with the State's interior noise standard (Redondo Beach 1993). According to the 2019 CBC, Title 24, Part 2, Section 1206.4 of the California Code of Regulations, the proposed multi-family residences must be constructed and designed such that interior noise levels do not exceed 45 CNEL. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (FHWA 2011). Structures can substantially reduce occupants' exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows (FHWA 2011). Modern residential buildings in California are typically constructed with storm windows, single- or double-glazed, that achieve the required energy saving on heating and cooling, which also provide an exterior-to-interior noise level reduction of at least 20 dBA. Based on a noise exposure level of up to 65 CNEL and a noise attenuation of at least 20 dBA, the interior noise level within proposed multi-family residences would be up to 45 CNEL and in compliance with the City and State interior noise standard.

The 2019 CALGreen, Title 24, Part 11, Section 5.507.4 of the California Code of Regulations also requires acoustical control for proposed nonresidential development located within the 65 CNEL contour of an airport, freeway, expressway, railroad, industrial noise source, or other fixed source. As previously discussed, on-site commercial development along North Catalina Avenue would be exposed to noise levels up to 65 CNEL and would therefore not require additional acoustical control measures beyond typical construction to demonstrate compliance with Section 5.507.4.

Mitigation Measures

Mitigation is not required.

Threshold 4.6-2:	Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Impact N-5 OPERATION OF THE PROJECT WOULD NOT INCLUDE SIGNIFICANT SOURCES OF VIBRATION. CONSTRUCTION VIBRATION GENERATED BY THE PROJECT DEVELOPMENT WOULD CREATE VIBRATION LEVELS THAT WOULD CAUSE PHYSICAL DAMAGE TO ON-SITE BUILDINGS WITH POTENTIAL HISTORIC SIGNIFICANCE. HOWEVER, TEMPORARY CONSTRUCTION-RELATED VIBRATION IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Operation of the project would not include stationary sources of significant vibration, such as heavy equipment operations. Rather, construction activities have the greatest potential to generate groundborne vibration affecting nearby structures, particularly rehabilitated on-site older buildings during grading of the project site. Construction of the project would potentially utilize loaded trucks, jackhammers, and/or bulldozers during most construction phases.

Because groundborne vibration could cause physical damage to structures, vibration impacts were modeled based on the location of operating vibration-intensive construction equipment. For off-site structures, this distance was conservatively assumed to be at edge of the project site to the edge of each nearby off-site structure. Based on the distance from the project site to nearby off-site structures, equipment was modeled at 15 feet from the adjacent commercial building, church, multi-family residences to the north and east; 75 feet from multi-family residences to the south across Emerald Street; and 125 feet from multi-family residences to the west across North Catalina Avenue. For on-site older buildings with potential sensitivity to groundborne vibration, construction equipment was also modeled at 15 feet. Table 4.6-7 shows estimated groundborne vibration levels from project equipment. Vibration calculations are included in Appendix J.

Table 4.6-7 Vibration Levels at Receivers

	in./sec. PPV				
Equipment	**Church and Commercial Building 15 Feet**	**On-Site Buildings 15 Feet**	**Multi-Family Residences 15 Feet**	**Multi-Family Residences 75 Feet**	**Multi-Family Residences 125 Feet**
Large Bulldozer	0.156	**0.156**	0.156	0.027	0.015
Loaded Truck	0.133	**0.133**	0.133	0.023	0.013
Jack hammer	0.061	0.061	0.061	0.011	0.001
Small Bulldozer	0.005	0.005	0.005	0.001	0.001
Threshold for Building Damage[1]	**2.0**	**0.12**	**0.5**	**0.5**	**0.5**
Threshold for Human Annoyance[2]	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**
Thresholds Exceeded?	No	Yes	No	No	No

Note: Construction equipment vibration levels outlined in **bold text** identify those levels that exceed the respective threshold for building damage.

See Appendix J for vibration analysis worksheets.

[1] Caltrans 2020. See Table 1

[2] Caltrans 2020. See Table 2.

As shown in Table 4.6-7, construction activities would generate peak vibration levels of approximately 0.16 in./sec. PPV at the nearest off-site buildings to the north and east as well as at on-site older buildings with potential historic significance. Therefore, according to the Caltrans vibration criteria, groundborne vibration from typical construction equipment would exceed the applicable threshold of 0.12 in./sec. PPV for building damage at fragile historic buildings. Groundborne vibration would not exceed the applicable threshold of 2.0 in./sec. PPV for building damage at the nearby commercial buildings nor would it exceed the applicable threshold of 0.5 in./sec. PPV for building damage at off-site residences. Furthermore, groundborne vibration would not exceed the threshold of 0.24 in./sec. PPV for human annoyance at any of the modeled distances. Nonetheless, since project construction could result in groundborne vibration that may cause building damage to historic buildings, implementation of Mitigation Measure N-5 would be required to reduce impacts to on-site buildings to a less than significant level.

Mitigation Measure

N-5 Construction Equipment Operations Near Historic Buildings

Large dozers, loaded trucks, and other construction equipment with similar vibration levels shall not operate within 20 feet of on-site buildings with potential historic significance located at 112, 124, 126, and 132 North Catalina Avenue.

Significance After Mitigation

With implementation of Mitigation Measure N-5, on-site vibration levels would not exceed the Caltrans vibration criterion of 0.12 in./sec. PPV for building damage at fragile historic buildings and impacts to on-site buildings would be less than significant.

4.6.4 Cumulative Impacts

As discussed in Section 3.3, *Cumulative Development*, currently planned and pending projects in the vicinity of the project includes The Foundry project located approximately 2.2 miles northeast of the site, which involves demolition of all existing industrial and retail/commercial buildings on the 2.37-acre project site for construction of 36 two-story condominium homes.

Cumulative construction impacts would consist of combined noise and vibration impacts from the construction under the proposed project and The Foundry project. As determined under Impact N-1 and Impact N-5, construction noise and vibration associated with the project would be less than significant with mitigation. Furthermore, all development in the City would be required to comply with the construction hours permitted by the RBMC. Construction noise and vibration would not disturb receivers during sensitive nighttime hours of sleep. In addition, construction noise attenuates greatly with distance, and is considered a localized impact. Unless construction of cumulative projects occur in close proximity to each other (i.e., less than a couple hundred feet), and simultaneously, noise and vibration from individual construction projects have a small chance of combining to create significant cumulative impacts. Therefore, with the distance of The Foundry project, the proposed project would not contribute to temporary cumulative construction noise and vibration impacts.

Cumulative operational noise impacts would consist of combined operational noise of the proposed project in conjunction with planned projects in the vicinity. As discussed under Impact N-2, operation of the proposed project would not generate on-site noise that exceeds ambient noise in the existing urban area. On-site operational noise generated by the project would not exceed the City's exterior noise limits and interior noise standards identified by Sections 4-24.301 and 4-24.401, respectively, of the RBMC, and impacts would be less than significant. Furthermore, as discussed under Impact N-3, the project would not double existing traffic volumes on area roadways and traffic noise impacts would be less than significant. Therefore, with the distance to The Foundry project, the proposed project would not contribute considerably to cumulative noise increases in the project vicinity above ambient noise levels.

This page intentionally left blank.

4.7 Transportation

This section analyzes the potential transportation and traffic impacts of the project during both construction and operational phases, respectively. The analysis in this section is based on a CEQA Transportation Impact Assessment (Fehr & Peers 2021a) (hereafter referred to as "TIA") and Local Transportation Assessment (Fehr & Peers 2021b) (hereafter referred to as "LTA") prepared for the proposed project by Fehr & Peers in August 2021. The full TIA and LTA are provided in Appendix C of this EIR.

4.7.1 Setting

Existing Street System

Arterial streets in the project site vicinity generally provide two- to three-vehicle travel lanes in each direction, with left-turn pockets at most intersections and right-turn pockets at some intersections. Posted travel speeds in the project area range from 35 to 50 miles per hour (mph), with the majority of streets allowing travel up to 35 mph. Regional access to the project site is provided by Pacific Coast Highway (PCH) and a network of arterial and collector streets. The arterial street network that serves the project site vicinity includes Anita Street, Beryl Street, Catalina Avenue, Herondo Street, and Torrance Boulevard. The local streets include Diamond Street, Emerald Street, and Garnet Street. The following key roadway facilities serve the project site (Fehr & Peers 2021a):

- **Pacific Coast Highway (State Route 1)** – PCH is a four-lane north/south major arterial. Left-turn lanes are provided at major intersections. A raised median is provided south of Avenue H. On-street parking is prohibited along sections of PCH at Torrance Boulevard, Catalina Avenue, and Diamond Street, and generally permitted elsewhere. As a State route, PCH is under the jurisdiction of the California Department of Transportation (Caltrans).
- **Anita Street** – Anita Street is an east/west major arterial that runs east of PCH with two lanes in each direction. Between Maria Avenue and Prospect Avenue, it has a center turning lane. East of Prospect Avenue, there are left-turn pockets at most intersections, with a raised median. On-street parking is generally permitted on both sides of Anita Street.
- **Beryl Street** – Beryl Street is an east-west secondary arterial that runs from Harbor Drive to 190th Street. Between Prospect Street and Catalina Avenue, Beryl Street has one lane in each direction with a center turning lane. Beryl Street narrows to two lanes east of Flagler Lane. On-street parking is permitted between Catalina Avenue and Flagler Lane.
- **Catalina Avenue** – Catalina Avenue is a four-lane north/south secondary arterial that runs from PCH near the northern city boundary to Palos Verdes Boulevard at the southern city boundary. On street parking is metered on the west side from Carnelian Street to Torrance Boulevard and on the east side from Emerald Street to Pearl Street. On-street parking is metered on both the west and east side from Avenue I to Palos Verdes Boulevard. It has a raised median between Beryl Street and Torrance Boulevard.
- **Herondo Street** – Herondo Street is an east/west secondary arterial that runs from PCH to Harbor Drive with one lane in each direction. It has a raised median, and left-turn pockets are provided at most intersections. Diagonal on-street parking is generally provided on both sides of Herondo Street. On-street striped bike lanes are also provided.

- **Torrance Boulevard** – Torrance Boulevard is a four-lane east/west major arterial that ends in a cul-de-sac west of Catalina Avenue. On-street parking is permitted along most of its length in the project area.
- **Diamond Street** – Diamond Street is a two-lane east/west collector with a shared left-turn lane that runs from Catalina Avenue to Prospect Avenue. On-street parking is provided on both sides of the street.
- **Emerald Street** – Emerald Street is a two-lane east/west local street that runs from Catalina Avenue to Edgemere Drive. East of Edgemere Drive, it continues as Wayne Avenue. On-street parking is provided on both sides of the street.
- **Garnet Street** – Garnet Street is a four-lane east/west collector between Catalina Avenue and PCH. East of PCH, it continues as local street with one lane in each direction, ending at Prospect Avenue. On-street parking is provided on both sides of the street in the project area.

Existing Transit Routes

The project site vicinity is served by several bus routes operated by four transit operators, including the Los Angeles County Metropolitan Transportation Authority (Metro), Los Angeles Department of Transportation Commuter Express (LADOT CE), Beach Cities Transit (BCT), and Torrance Transit (TT). Figure 4 depicts transit routes in the project area. The following transit lines serve the project site vicinity (Fehr & Peers 2021a):

- **Metro Line 130** – Metro Line 130 provides local service between the Los Cerritos Center in Cerritos and Redondo Beach. In the project site vicinity, Line 130 travels north and south along Harbor Boulevard and Catalina Avenue. Service is provided seven days per week, with weekday peak period headways of approximately 20 to 30 minutes.
- **Metro Line 232** – Metro Line 232 provides local service between the Los Angeles International Airport (LAX) Bus Center and Downtown Long Beach. In the project site vicinity, Line 232 travels north and south along PCH. Service is provided seven days per week with weekday peak period headways of approximately 10 to 20 minutes.
- **CE Line 438** – CE Line 438 (operated by LADOT) provides express service between Downtown Los Angeles and the City of Redondo Beach. In the project site vicinity, Line 438 travels north and south along Harbor Drive and Catalina Avenue. Service is provided Monday through Friday, with peak period headways of approximately 15 minutes.
- **BCT Line 102** – BCT Line 102 provides local service between the Metro Green Line, the South Bay Galleria, and the Redondo Beach Pier. In the project site vicinity, Line 102 travels north and south along Catalina Avenue and northeast and southwest along Diamond Street. Service is provided seven days per week, with weekday peak period headways of approximately 30 to 45 minutes.
- **BCT Line 109** – BCT Line 109 provides local service between the LAX Bus Center, Redondo Beach Pier, and Riviera Village. In the project site vicinity, Line 109 travels north and south along Catalina Avenue. Service is provided seven days per week, with weekday peak period headways of approximately 40 to 50 minutes.
- **TT Line 3** – TT Line 3 provides local service between Downtown Long Beach and the Redondo Beach Pier. In the project site vicinity, Line 3 travels east and west along Torrance Boulevard. Service is provided seven days per week, with weekday peak period headways of approximately 10 to 15 minutes.

- **TT Line 7** – Line 7 provides local service between Carson and the Redondo Beach Pier. In the project site vicinity, Line 7 travels east and west along Torrance Boulevard. Service is provided Monday through Saturday, with weekday peak period headways of approximately 15 minutes.

Existing Bicycle and Pedestrian Facilities

Sidewalks are generally present throughout the project area and project site, and marked crosswalks are provided at all major arterial intersections. Most signalized intersections of major arterials and collector streets in the project area provide marked crossings on all four legs of the intersection, while some do not provide crossing facilities on all four legs of the intersection. Pedestrian access to the project site is provided via a sidewalk on Catalina Avenue, with marked crosswalks provided at the intersection of Catalina Avenue and Emerald Street and Catalina Avenue and Diamond Street (Fehr & Peers 2021a).

Class I bicycle facilities in the project site vicinity include the bicycle path/cycle track connecting the Hermosa Beach Strand to the Redondo Beach Pier. Class II bicycle lanes are located on Herondo Street west of PCH, Catalina Avenue north of Torrance Boulevard and south of Pacific Avenue, and Diamond Street. A Class III bicycle route is located on Catalina Avenue south of Torrance Boulevard. The South Bay Bicycle Master Plan indicates that additional Class I, II, and III facilities are planned throughout the project area, including a planned bike route along Emerald Street (Fehr & Peers 2021a; Los Angeles County Bicycle Coalition and South Bay Bicycle Coalition 2011). Bicycle access to the project site is provided via a Class II bicycle lane on the east side of Catalina Avenue (Fehr & Peers 2021a).

Existing Operating Conditions for Study Intersections

The LTA presents existing operating conditions for 11 intersections in the project site vicinity likely to be affected by traffic generated by the project. For each of the study intersections, the LTA identifies their peak hour turning movement traffic volumes, volume-to-capacity (V/C) ratios, and the corresponding level of service (LOS). The V/C ratio represents that portion of the total hourly capacity required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. LOS is a qualitative measure used to describe the condition of traffic flow on the street system, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. Each of the 11 study intersections operates under signal control (Fehr & Peers 2021b).

Due to the COVID-19 pandemic, the characterization of existing conditions for most intersections relies on traffic counts that were collected in Spring 2017, while the traffic counts for the remaining intersections were collected in Spring 2014. An annual growth rate was applied to estimate Year 2020 conditions. Because of the disruption to businesses and schools caused by COVID-19 and the resulting shelter-in-place orders throughout the region, new traffic counts would show lower traffic volumes than what would typically be observed under normal conditions. Therefore, using historical traffic counts and applying a growth rate results in a more conservative view of existing conditions and subsequent analysis (Fehr & Peers 2021b). Figure 4.7-1 shows the location of the 11 study intersections in the project area. Table 4.7-1 summarizes the results of the AM and PM peak hour intersection analysis.

Figure 4.7-1 Study Area Intersections

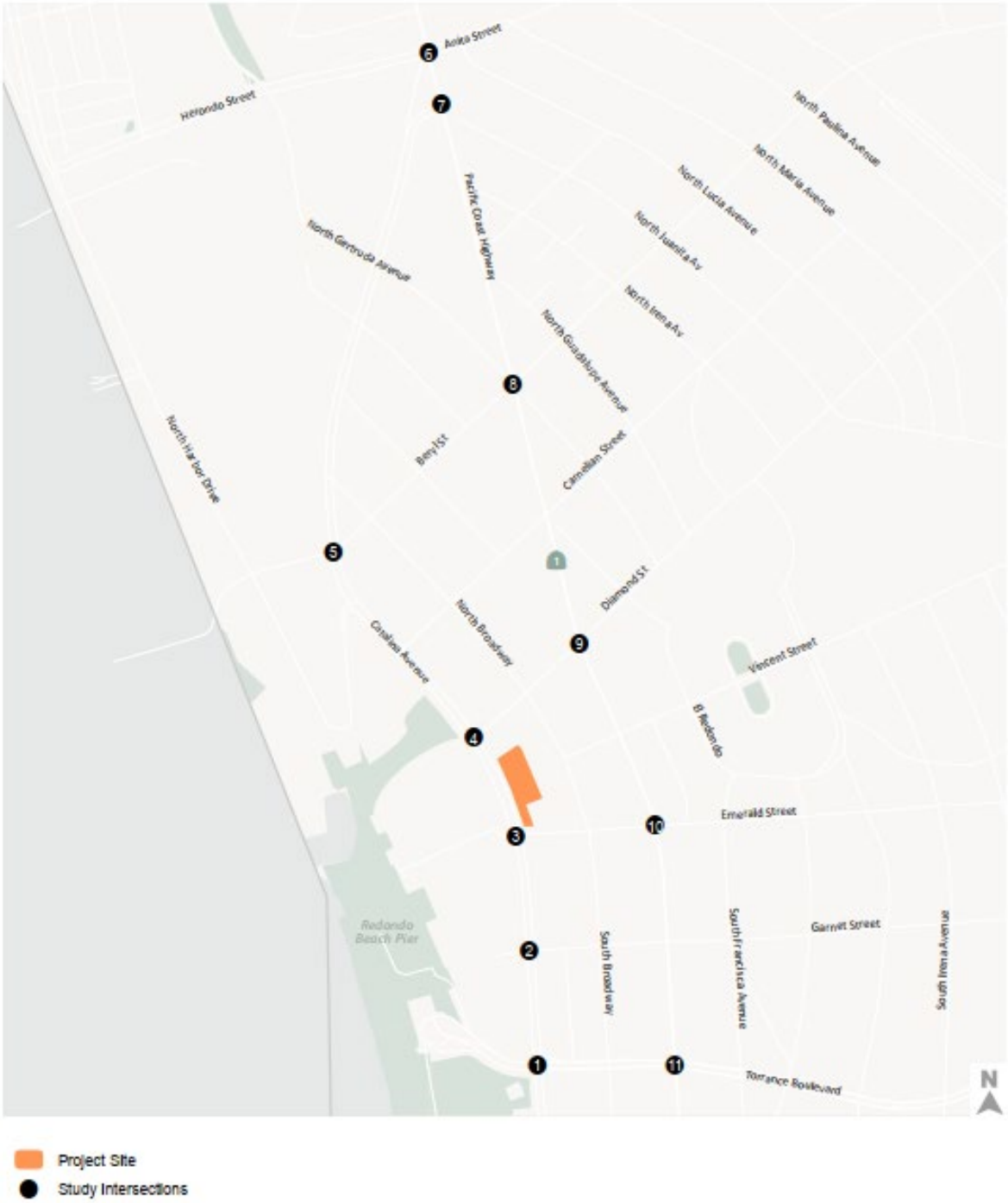


Table 4.7-1 Existing Operating Conditions for Study Intersections

Intersection	North/South Street Name	East/West Street Name	Peak Hour	Level of Service (LOS)[1]	Volume to Capacity (V/C)
1	South Catalina Avenue	Torrance Boulevard	AM	A	0.448
			PM	A	0.503
2	South Catalina Avenue[1]	Garnet Street[1]	AM	-	-
			PM	-	-
3	South Catalina Avenue	Emerald Street	AM	A	0.459
			PM	A	0.449
4	South Catalina Avenue	Diamond Street	AM	A	0.439
			PM	A	0.458
5	South Catalina Avenue	Beryl Street	AM	A	0.444
			PM	B	0.666
6	Pacific Coast Highway	Herondo/Anita Street	AM	E	0.972
			PM	E	0.948
7	Pacific Coast Highway	North Catalina Avenue	AM	D	0.840
			PM	D	0.817
8	Pacific Coast Highway	Beryl Street	AM	C	0.734
			PM	D	0.884
9	Pacific Coast Highway	Diamond Street	AM	C	0.793
			PM	C	0.733
10	Pacific Coast Highway	Emerald Street	AM	C	0.747
			PM	B	0.676
11	Pacific Coast Highway	Torrance Boulevard	AM	D	0.844
			PM	D	0.818

[1] Intersection 2 was not analyzed using the Intersection Capacity Utilization methodology, discussed further under *Methodology and Significance Thresholds* in Section 4.7.3, *Impact Analysis*, because existing counts were not available to inform the analysis, requiring a qualitative analysis to be performed for this intersection instead. All other intersections were analyzed using the ICU methodology.

Source: Local Transportation Assessment, Fehr & Peers 2021b (Appendix C)

As shown in Table 4.7-1, Intersection 6 (PCH and Herondo/Anita Street) operates at LOS E during the AM and PM peak hour under existing conditions. All other intersections currently operate at LOS D or better during both peak hours. Intersection 2 (Catalina Avenue and Garnet Street) is located directly north of Intersection 1 (Catalina Avenue and Torrance Boulevard) and directly south of Intersection 3 (Catalina Avenue and Emerald Street) and likely has peak hour traffic volumes that are comparable to the peak hour traffic volumes at those intersections, particularly in the north-south directions of travel. Given that Intersections 1 and 3 operate at LOS A during both peak hours under existing conditions, it is estimated that Intersection 2 also operates at LOS A (Fehr & Peers 2021b).

4.7.2 Regulatory Setting

a. Federal Regulations

Americans with Disabilities Act (ADA) of 1990

Titles I, II, III, and V of the ADA have been codified in Title 42 of the United States Code, beginning at Section 12101. Title III prohibits discrimination based on disability in "places of public accommodation" (businesses and non-profit agencies that serve the public) and "commercial facilities" (other businesses). The regulation includes Appendix A through Part 36 (Standards for Accessible Design), establishing minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility. Examples of key guidelines include detectable warnings for pedestrians entering traffic where there is no curb, a clear zone of 48 inches for the pedestrian travel way, and a vibration-free zone for pedestrians.

b. State Regulations

California Environmental Quality Act

CEQA generally requires state and local government agencies to inform decision makers and the public about the potential environmental impacts of proposed projects, and to reduce those environmental impacts to the extent feasible. CEQA Section 15064.3 describes specific considerations for determining a project's transportation impacts. Generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. The criteria used to analyze transportation impacts are included in Section 4.7.3, *Impact Analysis*.

California Assembly Bill 32 and Senate Bill 375

The "California Global Warming Solutions Act of 2006," (Assembly Bill [AB] 32), outlines California's major legislative initiative for reducing greenhouse gas (GHG) emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020, a reduction of approximately 15 percent below emissions expected under a "business as usual" scenario. On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged).

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to reach AB 32 goals by directing the California Air Resources Board (CARB) to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as "transit priority projects") can receive incentives to streamline CEQA processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Southern California Association of Governments (SCAG) was assigned targets of an 8 percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a 19 percent reduction in per capita GHG emissions from passenger vehicles by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements. On September 3, 2020, the SCAG's Regional Council formally adopted the 2020-2045 RTP/SCS titled Connect SoCal, which meets the requirements of SB 375.

c. Regional and Local Regulations

SCAG 2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy

On September 3, 2020, the SCAG's Regional Council formally adopted the 2020-2045 RTP/SCS titled Connect SoCal. The 2020-2045 RTP/SCS builds upon the progress made through implementation of the 2016-2040 RTP/SCS and includes 10 goals focused on promoting economic prosperity, improving mobility, protecting the environment, and supporting healthy/complete communities. The SCS implementation strategies include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, and supporting implementation of sustainability policies. The SCS establishes a land use vision of center-focused placemaking, concentrating growth in and near Priority Growth Areas, transferring of development rights, urban greening, creating greenbelts and community separators, and implementing regional advance mitigation (SCAG 2020).

As part of the transportation modeling and analysis for the RTP/SCS, SCAG prepares population and employment growth projections by Transportation Analysis Zone (TAZ) and creates a future transportation network that represents the changes to the existing network based on the regional project list. TAZs are geographic polygons representing communities and neighborhoods at a sub-city level of detail.

City of Redondo Beach Circulation Element

The City's General Plan Circulation Element includes goals to reduce trip generation, promote bicycle and pedestrian modes and link existing and proposed bicycle facilities, create opportunities for physical activity, manage public parking effectively, and expand Transportation Demand Management (TDM) measures. The Circulation Element includes a number of goals related to active transportation and alternative modes, including the promotion of alternative modes, the pursuit of bicycle and pedestrian priorities, the enhancement of bicycle infrastructure, and the creation of opportunities for physical activity. The Circulation Element also includes a policy to maintain LOS D at City intersections, where feasible (Redondo Beach 2021).

South Bay Bicycle Master Plan (SBBMP)

The SBBMP is a multi-city bicycle master plan developed in 2011 by the Los Angeles County Bicycle Coalition and the South Bay Bicycle Coalition with the common goal of improving the safety and convenience of bicycling in the South Bay Region. Seven member cities of the South Bays City Council of Governments (SBCCOG), including Redondo Beach, were involved in the development of the SBBMP.

City of Redondo Beach Harbor/Civic Center Specific Plan

The project site is located within the City of Redondo Beach Harbor/Civic Center Specific Plan. The Redondo Beach Harbor/Civic Center Specific Plan was adopted in 2008 and is the fundamental community development policy document that governs and determines the future development and character of the Harbor/Pier and Civic Center areas of the City (Redondo Beach 2008). The plan provides goals, objectives, and policies for the Harbor/Civic Center area, with respect to and in the context of the rights and overall expectations of the local resident and business community, local private property owners, and general public.

4.7.3 Impact Analysis

Methodology and Significance Thresholds

Methodology

PROJECT TRIP GENERATION

The mixed-use trip generation (MXD+) model was used in combination with trip rates from Institute of Transportation Engineer's (ITE) Trip Generation 10th Edition to estimate project trip generation. The MXD+ model starts with ITE trip generation rates for each individual land use but, through the statistical processes of the model, calibrates the ITE rates to reflect the site specific and area contexts of the project, including its mixture of uses, site and area demographics, accessibility to other land uses, such as adjacent residential development, availability of transit service, pedestrian connectivity, and other factors. The model calibrates ITE rates based on these factors to provide a more accurate estimate of external project trip generation than the application of ITE trip rates alone. Based on the outputs from the MXD+ model, internal capture and walk/bike credits were applied to the trip generation estimates derived from the ITE rates (Fehr & Peers 2021b).

INTERSECTION CAPACITY UTILIZATION

Analysis of signalized intersections in Redondo Beach is based on the Intersection Capacity Utilization (ICU) methodology. The ICU methodology compares traffic volumes to intersection capacity. The resulting V/C ratio represents that portion of the total hourly capacity required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. The ICU value is determined by summing the V/C ratio sum of the critical movements, plus a factor for yellow signal time and is then correlated to a performance measure known as LOS, ranging from LOS A (free-flow conditions) to LOS F (extreme congestion and system failure), based on the thresholds shown in Table 4.7-2 on the following page (Fehr & Peers 2021b).

Table 4.7-2 Level of Service Definitions for Signalized Intersections – ICU Methodology

Level of Service (LOS)	Intersection Capacity Utilization (ICU)	Definition
A	≤0.600	**Excellent.** No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 to 0.700	**Very Good.** An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 to 0.800	**Good.** Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.

Level of Service (LOS)	Intersection Capacity Utilization (ICU)	Definition
D	0.801 to 0.900	**Fair.** Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 to 1.000	**Poor.** Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	>1.000	**Failure.** Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: Local Transportation Assessment, Fehr & Peers 2021b (Appendix C)

Although an LOS analysis is not required under CEQA, the City intends to retain the metric for use outside of the CEQA process to measure access, safety, and circulation functionality in the vicinity of the project site. To determine the project's operational effects, baseline scenarios, consisting of the Existing (Year 2020) Conditions and Cumulative (Year 2023) without Project Conditions were compared to Existing plus Project Conditions and Cumulative plus Project Conditions. The results of the LOS analysis conducted for the project are included in this analysis and detailed further in the LTA (see Appendix C).

PROJECT VMT – COMMERCIAL AND RESIDENTIAL

The City updated its transportation analysis guidelines based primarily on the recommendations detailed in the Governor's Office of Planning and Research (OPR) *Technical Advisory* to comply with SB 743. As discussed in the TIA, the residential component of the project was analyzed using the metric of Home-based VMT per Capita, and the commercial component of the project was analyzed using the metric of Home-based Work VMT per Employee. While the TIA determined that the project's Home-Based Work VMT per Employee was equivalent to Work VMT for the project TAZ, the TIA outlined the separate methodology followed to develop the Home-Based VMT per Capita associated with the project's residential component. The 2016 SCAG RTP model was used as the foundation for the VMT analysis for the residential component[1], with supplemental data derived from the 2010 California Household Travel Survey (CHTS) and the United States (U.S.) Census Bureau's 2014-2018 American Community Survey (ACS) Five-Year Estimates. As detailed in the TIA, the project's Home-Based VMT per Capita was determined by 1) developing a bedrooms per unit equivalency factor, 2) determining average person trip rates from the 2016 SCAG RTP model, 3) converting average person trips to vehicle trips, 4) determining trip lengths from the 2016 SCAG RTP model, and 5) calculating VMT by multiplying the number of vehicle trips by the average trip length of those trips. See Section 4.1 of the TIA included in Appendix C for additional details regarding the methodology undertaken to develop the project-generated Home-Based VMT per Capita (Fehr & Peers 2021a).

[1] The 2016 SCAG RTP model is the most recently available model, as the 2020 SCAG RTP model has not yet been released.

Thresholds of Significance

Pursuant to Appendix G of the *CEQA Guidelines*, the following thresholds are used to determine the significance of project impacts related to transportation. The proposed project would result in a significant transportation impact if it would:

- **Threshold 4.7-1:** Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities
- **Threshold 4.7-2:** Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)
- **Threshold 4.7-3**: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)
- **Threshold 4.7-4:** Result in inadequate emergency access

As discussed in Section 17, *Transportation*, of the Initial Study (Appendix B), the project could result in potentially significant impacts related to all transportation-related thresholds. The following discussion identifies the applicable VMT screening criteria and significance thresholds relative to Threshold 4.7-2.

PROJECT VMT

The VMT methodology implemented in this analysis is consistent with the screening methodologies and impact criteria adopted by the Redondo Beach City Council on July 13, 2021. The adopted transportation analysis guidelines indicate the following:

- The South Bay Cities Council of Governments (SBCCOG) area is the geographic baseline used to compare project related VMT performance in the determination of the potential for a significant VMT impact.
- The threshold of significance is 16.8 percent below the baseline. The California Air Resources Board (CARB) developed a scenario-based modeling system (called Vision) that was used to identify foreseeable emission reductions associated with existing mobile-source regulations and to explore different combinations of further advancements in technologies, fuels, and transportation system efficiencies. The results of CARB's modeling show that a 16.8 percent reduction from existing levels in VMT per capita for light-duty vehicles is needed to achieve the state required target of 80 percent reduction in GHGs by 2050.
- If a project meets the adopted screening criteria, a VMT impact analysis is not required. The screening options adopted by the City Council include:
    - Project size screening (less than 110 net daily trips)
    - Locally serving retail (10,000 square feet or less)
    - Low VMT area (based on data from the SCAG travel demand forecasting model). The City of Redondo Beach has defined a Low VMT area in accordance with CARB's recommendation of 16.8 percent below the SBCCOG Baseline VMT.

Table 4.7-3 shows the estimated average VMT per capita and per employee for the SBCCOG region. Consistent with the City's adopted transportation analysis guidelines, a significant project-related VMT impact would occur if a project's Home-Based VMT per Capita is greater than 11.1, or a project's Home-Based Work VMT per Employee is greater than 15.3. These same thresholds are used to determine areas in the city that would be considered to have low VMT and could be

screened out from requiring VMT analysis and could be presumed to have a less than significant transportation impact.

Table 4.7-3 VMT Impact Thresholds of Significance

VMT Metrics	SBCCOG Average VMT 2016 Baseline
Home-Based VMT per Capita	13.3
Threshold of Significance (16.8 percent below)	11.1
Home-Based Work VMT per Employee	18.4
Threshold of Significance (16.8 percent below)	15.3

Source: Transportation Impact Assessment, Fehr & Peers 2021a (Appendix C)

Project Impacts

Threshold 4.7-1:	Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Impact T-1 THE PROPOSED PROJECT WOULD NOT CONFLICT WITH ANY PROGRAMS, PLANS, ORDINANCES OR POLICIES OR INVOLVE ANY SIGNIFICANT DISRUPTIONS TO THE LOCAL PUBLIC TRANSIT, ACTIVE TRANSPORTATION, AND ROADWAY SYSTEMS. IN ADDITION, THE PROJECT WOULD NOT RESULT IN A SUBSTANTIAL TRAFFIC OPERATIONAL IMPACT RELATED TO LOS DURING AM OR PM PEAK HOURS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The project was evaluated against relevant regional and local plans, goals, policies and/or objectives that affect transportation and mobility in Redondo Beach to determine consistency. The findings of this evaluation are summarized in Table 4.7-4.

Table 4.7-4 Programs, Plans, Ordinances, and Policies Consistency Review

Plan	Relevant Goals, Policies and/or Objectives	Consistency
SCAG 2020-2045 RTP/SCS	**Goal 2:** Improve mobility, accessibility, reliability, and travel safety for people and goods. **Goal 3:** Enhance the preservation, security, and resilience of the regional transportation system. **Goal 4:** Increase person and goods movement and travel choices within the transportation system. **Goal 7:** Adapt to a changing climate and support an integrated regional development pattern and transportation network.	The proposed project was compared against the RTP/SCS forecasts and network changes included in the 2016 SCAG RTP model. The project would not substantially reduce LOS and would not affect the security or resilience of the transportation system. Given that the proposed project would not result in any significant changes to the existing transportation network, it is consistent with the RTP/SCS.

Plan	Relevant Goals, Policies and/or Objectives	Consistency
South Bay Bicycle Master Plan (SBBMP)	**Policy 1.1.4:** Review and encourage implementation of policies and facilities proposed in the SBBMP whenever planning new bicycle facilities or capital improvement projects that may be related to bicycle improvements	The proposed project is consistent with the SBBMP because the project would not make any changes to the existing bicycle infrastructure surrounding the project site. It would not preclude the installation of any planned bicycle facilities in the SBBMP. Appropriate striping and/or signage would be installed at driveway approaches to meet Manual on Uniform Traffic Control Devices and City design standards and in accordance with roadway safety best practices. In addition, the proposed project supports this policy by providing bicycle amenities and parking on-site for residents, visitors, and employees.
City of Redondo Beach General Plan Circulation Element	**Goal G1:** Address the root causes of trip generation rather than simply reacting to the consequences. **Goal G4:** Allow for same and convenient walking, biking, or taking transit. **Goal G5:** Expand TDM programs that decrease the number of single-occupant vehicles on the road. **Goal G11:** Maintain the existing supply of public parking. **Goal G12:** Encourage all employers to pursue successful TDM measures. **Goal G14:** Increase the provision of bike lockers, bike racks, and lighting for bicycle facilities.	The proposed project's increased land use intensity compared to existing conditions will result in a net increase of 744 daily vehicle trips per day. However, the project's mix of uses and location immediately adjacent to and within walking or bicycling distance of existing residential uses reduce the project's trip generation compared to a comparable project in another location. Therefore, the project is consistent with the Circulation Element goal to address the root causes of trip generation. The proposed project's location near the waterfront, where existing bicycle and pedestrian volumes are high, will expand recreational and retail opportunities for bicyclists and pedestrians, particularly for residents of adjacent residential developments surrounding the project site. Bicycle access to the proposed project would be available on Catalina Avenue to the north and south, with connections to additional bicycle facilities provided from Catalina Avenue. Additionally, a sidewalk network is available throughout the project site vicinity, providing ease of access to the project site for pedestrians from the surrounding neighborhood and nearby destinations at the waterfront. Thus, the proposed project is consistent with Circulation Element goals related to active transportation.

Plan	Relevant Goals, Policies and/or Objectives	Consistency
City of Redondo Beach Harbor/Civic Center Specific Plan	Goals for the Catalina Avenue Corridor Sub-Area include: 1) Establish a distinctive district of the City which accommodates a mix of light industrial, automobile related, coastal/harbor related and supporting commercial uses. 2) Ensure that the scale and mix of the various land uses, building densities, and design styles permitted and encouraged within the corridor are appropriate and compatible, both internally (i.e., within the corridor itself) and externally (i.e., to other areas in the Specific Plan area which are adjacent to the corridor), and promote effective use and patronage. 3) Ensure that the physical and environmental (relative to noise, light and glare, and traffic) integrity of the larger, intact, and established lower-density residential areas along the corridor (particularly on the eastern side of the Avenue between Beryl Street and Garnet Street) are respected, maintained, and protected. Parcels on the east side of Catalina Avenue between Diamond Street and Garnet Street currently occupied by a mix of commercial and residential structures will be encouraged to redevelop to medium-density multi-family residential units.	The proposed project is consistent with the Redondo Beach Harbor/Civic Center Specific Plan because it would provide employment-generating commercial uses that are supportive of the establishment of a distinctive coastal/harbor district, would maintain consistency, both internally and externally, with the scale and mix of existing land uses in the area, and would contribute to the redevelopment of parcels on the east side of Catalina Avenue between Diamond Street and Garnet Street into medium-density multi-family residential units.

Source: Transportation Impact Assessment, Fehr & Peers 2021a (Appendix C)

The proposed project is consistent with the goals and policies of SCAG's 2020 RTP/SCS, SBBMP, the Circulation Element of the City's General Plan, and the City's Harbor/Civic Center Specific Plan. In addition, the LTA concludes that the project is not expected to significantly degrade transit operations and facilities or pedestrian and bicycle modes (Fehr & Peers 2021b). Therefore, impacts would be less than significant.

Furthermore, as discussed in the LTA, to determine how the project would affect operational LOS under existing conditions, the Existing (Year 2020) plus Project Conditions scenario is compared to the Existing Conditions scenario using the ICU methodology, as shown in Table 4.7-5.

Table 4.7-5 Existing Plus Project Level of Service

Intersection	N/S Street Name	E/W Street Name	Peak Hour	Existing Conditions (2020)		Existing (2020) plus Project Conditions		Change in V/C
				LOS	V/C	LOS	V/C	
1	South Catalina Avenue	Torrance Boulevard	AM	A	0.448	A	0.454	0.006
			PM	A	0.503	A	0.509	0.006
2	South Catalina Avenue[1]	Garnet Street[1]	AM	-	-	-	-	-
			PM	-	-	-	-	-
3	South Catalina Avenue	Emerald Street	AM	A	0.459	A	0.491	0.032
			PM	A	0.449	A	0.469	0.020
4	South Catalina Avenue	Diamond Street	AM	A	0.439	A	0.459	0.020
			PM	A	0.458	A	0.459	0.001
5	South Catalina Avenue	Beryl Street	AM	A	0.444	A	0.451	0.007
			PM	B	0.666	B	0.672	0.006
6	Pacific Coast Highway	Herondo/Anita Street	AM	E	0.972	E	0.974	0.002
			PM	E	0.948	E	0.953	0.005
7	Pacific Coast Highway	North Catalina Avenue	AM	D	0.840	D	0.852	0.012
			PM	D	0.817	D	0.826	0.009
8	Pacific Coast Highway	Beryl Street	AM	C	0.734	C	0.739	0.005
			PM	D	0.884	D	0.889	0.005
9	Pacific Coast Highway	Diamond Street	AM	C	0.793	C	0.798	0.005
			PM	C	0.733	C	0.739	0.006
10	Pacific Coast Highway	Emerald Street	AM	C	0.747	C	0.750	0.003
			PM	B	0.676	B	0.682	0.006
11	Pacific Coast Highway	Torrance Boulevard	AM	D	0.844	D	0.850	0.006
			PM	D	0.818	D	0.821	0.003

[1] Intersection 2 was not analyzed using the ICU methodology because existing counts were not available to inform the analysis, requiring a qualitative analysis to be performed for this intersection instead.

Source: Local Transportation Assessment, Fehr & Peers 2021b (Appendix C)

As shown in Table 4.7-5, project traffic would only incrementally increase V/C ratio at all study intersections during both peak hours. Given that Intersections 1 and 3 operate at LOS A during both peak hours under Existing (Year 2020) plus Project Conditions, it is estimated that Intersection 2 also operates at LOS A under this scenario (Fehr & Peers 2021b).

To determine how the project would affect LOS under cumulative conditions, the City compared the Cumulative (Year 2023) plus Project Conditions scenario against the Cumulative Conditions without Project scenario using the ICU methodology, as shown in Table 4.7-6.

Table 4.7-6 Cumulative Plus Project Conditions Level of Service

Intersection	N/S Street Name	E/W Street Name	Peak Hour	Cumulative Conditions (2023) Without Project		Cumulative plus Project Conditions (2023)		Change in V/C
				LOS	V/C	LOS	V/C	
1	South Catalina Avenue	Torrance Boulevard	AM	A	0.452	A	0.458	0.006
			PM	A	0.508	A	0.514	0.006
2	South Catalina Avenue[1]	Garnet Street[1]	AM	-	-	-	-	-
			PM	-	-	-	-	-
3	South Catalina Avenue	Emerald Street	AM	A	0.463	A	0.494	0.031
			PM	A	0.452	A	0.471	0.019
4	South Catalina Avenue	Diamond Street	AM	A	0.442	A	0.461	0.019
			PM	A	0.462	A	0.463	0.001
5	South Catalina Avenue	Beryl Street	AM	A	0.448	A	0.455	0.007
			PM	B	0.672	B	0.677	0.005
6	Pacific Coast Highway	Herondo/Anita Street	AM	E	0.981	E	0.984	0.003
			PM	E	0.957	E	0.961	0.004
7	Pacific Coast Highway	North Catalina Avenue	AM	D	0.849	D	0.858	0.009
			PM	D	0.825	D	0.834	0.009
8	Pacific Coast Highway	Beryl Street	AM	C	0.741	C	0.744	0.003
			PM	D	0.893	D	0.898	0.005
9	Pacific Coast Highway	Diamond Street	AM	C	0.802	C	0.804	0.002
			PM	C	0.740	C	0.745	0.005
10	Pacific Coast Highway	Emerald Street	AM	C	0.754	C	0.756	0.002
			PM	B	0.683	B	0.688	0.005
11	Pacific Coast Highway	Torrance Boulevard	AM	D	0.853	D	0.858	0.005
			PM	D	0.826	D	0.831	0.005

[1] Intersection 2 was not analyzed using the ICU methodology because existing counts were not available to inform the analysis, requiring a qualitative analysis to be performed for this intersection instead.

Source: Local Transportation Assessment, Fehr & Peers 2021b (Appendix C)

As shown in Table 4.7-6, cumulative traffic increases would only incrementally increase the V/C ratio at all study intersections during both peak hours. Given that Intersections 1 and 3 operate at LOS A during both peak hours under Cumulative (Year 2023) plus Project Conditions, it is estimated that Intersection 2 also operates at LOS A under this scenario (Fehr & Peers 2021b).

Based on the LOS analyses, the Project is not expected to have any operational effects under the cumulative scenario. Under baseline and plus project conditions, all intersections operate at LOS D or better, with the exception of Intersection 6 (Pacific Coast Highway & Herondo Street/Anita Street), which operates at LOS E under all scenarios.

Mitigation Measures

Mitigation is not required.

Threshold 4.7-2:	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Impact T-2 THE PROPOSED PROJECT WOULD GENERATE VMT EXCEEDING THE CITY'S VMT PER CAPITA AND VMT PER EMPLOYEE THRESHOLDS OF 11.1 AND 15.3, RESPECTIVELY. IMPLEMENTATION OF TDM MEASURES WOULD REDUCE VMT FOR BOTH THE RESIDENTIAL AND COMMERCIAL COMPONENTS OF THE PROJECT. HOWEVER, IMPLEMENTATION OF TDMS WOULD NOT BE SUFFICIENT IN MITIGATING THE PROJECT'S HOME-BASED VMT PER CAPITA. THEREFORE, THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

As discussed in the TIA, project size screening, locally serving retail screening, and Low VMT Area screening were conducted to determine whether a full VMT impact analysis was required for the proposed project. To determine whether the project meets the screening criteria, the number of daily trips that would be generated by the project was estimated. Reflecting the mixed-use nature of the project, the MXD+ model was used to determine the project's trip generation. As described under *Methodology*, the MXD+ model starts with ITE trip generation rates for each individual land use but, through the statistical processes of the model, calibrates the ITE rates to reflect the site specific and area contexts of the project. As calculated in the TIA, the project would generate more than 110 net new daily trips, meaning it cannot be screened from requiring a VMT analysis based on the 'Project Size' screening criterion. See Table 5 of the TIA included in Appendix C for detailed calculations associated with the project's trip generation (Fehr & Peers 2021a).

While ITE trip generation rates are used for the VMT screening analysis per the City's requirements, these rates are not used to analyze VMT generated by the project since they would result in an overestimation of VMT. Rather, the approach utilized by the City to estimate VMT Citywide and per project TAZ relies on the 2016 SCAG RTP model. Therefore, the trip generation rates for the VMT impact analysis uses trip generation rates associated with the 2016 SCAG RTP model for internal consistency.

With regard to the 'Locally Serving Retail' screening criterion, the project's commercial components meet the definition of locally serving retail and total less than 10,000 square feet; thus, the commercial component of the project may potentially be screened from VMT analysis. However, based on Fehr & Peers' estimation of existing VMT for the SBCCOG, the City of Redondo Beach, and the TAZ in which the project is located (as described under *Methodology*), the project TAZ's Home-Based VMT per Capita and Home-Based Work VMT per Employee are not 16.8 percent or more below the SBCCOG baseline VMT, as shown in Table 4.7-7; thus, the 'Low VMT Area' screening criterion is not met. Because the residential component of the project does not meet any of the screening criteria, the entire project must undergo a VMT analysis.

Table 4.7-7 Low VMT Screening Analysis Results

Efficiency Metric	Project TAZ (2016)	SBCCOG (2016)	Percent Difference	Screened?
Home-Based VMT per Capita	11.5	13.3	-13.5%	No
Home-Based Work VMT per Employee	15.5	18.4	-15.7%	No

Source: Transportation Impact Assessment, Fehr & Peers 2021a (Appendix C)

The residential component of the project was analyzed using the metric of Home-Based VMT per Capita. Table 4.7-8 presents the Home-Based VMT per Capita for comparison to the SBCCOG significance threshold of 11.1.

Table 4.7-8 Home-Based VMT per Capita Calculation

Dwelling Unit Type	Population	Mode Split (SOV)	Mode Split (HOV)	Average Vehicle Occupancy (HOV)	Trip Length (Miles)	Person Trip Rate	VMT per Capita	Impact Threshold	Significant Impact
Market Rate	89	43%	40%	2.5	10.0	2.60			
Affordable	12					1.48	-	-	-
Total	101					-	**14.6**	**11.1**	**Yes**

Source: Transportation Impact Assessment, Fehr & Peers 2021a (Appendix C)

The commercial components of the project were analyzed using the metric of Home-Based Work VMT per Employee. The project's commercial uses total approximately 3,000 square feet in size, and the project applicant expects that a total of three full-time employees would be employed by the project's commercial facilities. Considering this, it was determined that Home-Based Work VMT per Employee for the project's commercial facilities is not likely to differ substantially from the average Home-Based Work VMT per Employee for the TAZ in which the project is located. As such, the project's Home-Based Work VMT per Employee was estimated to be equivalent to Work VMT for the project TAZ. Table 4.7-9 compares the average Home-Based Work VMT per Employee for the project TAZ to the City's significance threshold.

Table 4.7-9 Project Home-Based Work VMT per Employee

Efficiency Metric	Project TAZ (2016)	Impact Threshold	Significant Impact?
Home-Based Work VMT per Employee	15.5	15.3	**Yes**

Source: Transportation Impact Assessment, Fehr & Peers 2021a (Appendix C)

As shown in Table 4.7-8 and Table 4.7-9 above, the project would exceed the City's VMT/Capita and VMT/Employee thresholds of 11.1 and 15.3, respectively. Therefore, the project would have a potentially significant impact related to VMT.

Mitigation Measures

Mitigation for VMT impacts consists of TDM measures that result in shorter average trip lengths and/or reduce the demand for automobile trips altogether. In order to mitigate the project's residential VMT impact, Home-Based VMT per Capita would need to be reduced by approximately 24 percent. To mitigate the project's work VMT impact, Home-Based Work VMT per Employee would need to be reduced by approximately 1.3 percent. In order to achieve these reductions, a range of TDM measures was considered for the project, including the following:

- Transit subsidies for project residents
- Pedestrian-oriented project design (affects residential and commercial VMT)
- Commuter Incentives for project employees valued at $150 per month
- Commute marketing program (affects residential and commercial VMT)
- Bikeshare System and subsidies (affects residential and commercial VMT)
- Local hire considerations

Significance After Mitigation

The effect of combining these TDM measures would result in a reduction of VMT for both the residential and commercial components of the project. However, no combination of the aforementioned measures would be sufficient to mitigate the project's Home-Based VMT per Capita impact; therefore, this impact is significant and unavoidable. With respect to the project's Home-Based Work VMT per Employee impact, the inclusion of local hire considerations coupled with incentives, monitoring, and enforcement for the hiring of individuals living within approximately 14 miles of the project site would be sufficient to mitigate the work VMT impact, which means that commuter incentives would not be required if local hire considerations are implemented. While the details and structure of this approach are to be finalized, the underlying approach would include developing a framework for determining the site's average Home-Based Work VMT per Employee, as well as a combination of incentives for local hiring and conditions of approval requiring regular monitoring of the site's average Home-Based Work VMT per Employee based on employee residential location and commute distance. By monitoring the residential location of residents to understand the length of employee commutes and the proportion of employees residing within certain distances from the project, it is possible to calculate the average employee commute trip length and determine whether it is within the identified employee VMT trip threshold of 15.3 VMT per employee trip (Fehr & Peers 2021a).

The average trip length for home-based work trips in the TAZ in which the site is located is 14.4 miles. By restricting hiring to include only residents who live within 14 miles of the site or less, the work VMT impact can be fully mitigated, as detailed in Table 4.7-10.

Table 4.7-10 Mitigation for Project Home-Based Work VMT per Employee

Scenario	Daily Vehicle Trips	Average Trip Length (Miles)	Total VMT	Total Employees	Home-Based Work VMT/Employee	Impact Threshold	Significant Impact?
Unmitigated	4,653	14.4	66,853	4,325	15.5	15.3	**Yes**
Mitigated	4,653	14.0	65,142	4,328	15.1	15.3	**No**

Source: SCAG 2016 RTP/SCS Travel Demand Forecasting Model

In addition to the TDM strategies listed above, strategies pertaining to parking, including reducing the project's residential parking supply, and unbundling the residential parking and charging residents a separate fee to utilize the off-street parking provided by the project were also evaluated. Reducing the project's residential parking supply could result in up to an 11 percent reduction in residential VMT if the project were to provide no parking. Unbundling the residential parking and charging residents a separate fee for its use could reduce residential VMT by up to 5.5 percent. While the combination of these strategies with the others that were evaluated would still not fully mitigate the project's residential VMT impact, it should be noted that the City of Redondo Beach has concerns about the potential secondary effects of these strategies on neighborhood quality of life, as disincentivizing parking on-site may increase demand for scarce on-street parking, which may increase neighborhood traffic congestion. In addition, the City has determined that reducing the project's residential parking supply is infeasible as it may compromise the project's financial viability (Fehr & Peers 2021a). Because there are no feasible mitigation measures to reduce the identified impacts, this impact would remain significant and unavoidable.

Threshold 4.7-3:	Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

Impact T-3 THE PROPOSED PROJECT DRIVEWAYS WOULD PROVIDE ADEQUATE SITE ACCESS AND WOULD NOT CREATE HAZARDOUS TRAFFIC CONDITIONS DUE TO SITE CIRCULATION DESIGN OR INCOMPATIBLE USES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the project site. Impacts can be related to vehicle/vehicle, vehicle/bicycle, or vehicle/pedestrian conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site. These conflicts may be created by the driveway configuration or through the placement of project driveway(s) in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to busy or congested intersections. These impacts are typically evaluated for permanent conditions after project completion but can also be evaluated for temporary conditions during project construction.

As shown in the project building plan in Figure 2-3a, the project is not adding any additional driveways or curb cuts, and the driveways are perpendicular to the public right-of-way and adequately spaced from existing signalized intersections. In addition, the project does not introduce incompatible uses with the surrounding community. Furthermore, using data collected from the Statewide Integrated Traffic Records System (SWITRS), a collision analysis was conducted for the intersections Catalina Avenue and Emerald Street and Catalina Avenue and Diamond Street, which are the primary intersections used for site access. Based on the most recently available five-year

collision data set, reported collisions that occurred between 2014 and 2018 were analyzed. Table 4.7-11 summarizes the number, type, and severity of collisions in the project site vicinity.

Table 4.7-11 Total Collisions at Primary Site Access Intersections

Collision Type	Total	Fatal and Significant Injury Collisions
Vehicle-Vehicle	3	0
Vehicle-Pedestrian	1	0
Vehicle-Bicyclist	0	0
Total	**4**	**0**

Source: Transportation Impact Assessment, Fehr & Peers 2021a (Appendix C)

Over the five-year period of collision data evaluated, four collisions occurred in the immediate vicinity of the project site on streets used to access the project site, including people driving and walking. Of the total number of collisions, none resulted in serious injury or fatality. All four collisions occurred at an intersection, with no reported collisions occurring outside of an intersection. The primary collision factors associated with collisions near the project site were vehicle right of way violation (50 percent), improper turning (25 percent), and pedestrian violation (25 percent). Based on the collision history detailed above, collisions are relatively infrequent adjacent to the project site. Therefore, the project would not result in significant impacts related to hazards due to a geometric design feature or incompatible use.

Mitigation Measures

Mitigation is not required.

Threshold 4.7-4: Would the project result in inadequate emergency access?

Impact T-4 THE PROPOSED PROJECT WOULD HAVE A NEGLIGIBLE EFFECT ON RESPONSE TIMES AND WOULD PROVIDE TWO POINTS OF INGRESS AND EGRESS FOR EMERGENCY VEHICLES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The project is expected to increase the number of vehicles on the road during the AM and PM peak hours compared with existing conditions, as detailed above and shown in Table 4.7-5. While these typical commute periods are when traffic congestion is at its highest within the city, the project's effect on response times would largely depend on the congestion level where the project would be adding the most trips. The project would add the most trips to the intersections along Catalina Avenue, which generally operate with less congestion, and thus, the project is expected to have a negligible effect on response times. The project would retain the existing driveways on Catalina Avenue and would widen the southernmost driveway, which would effectively provide two points of ingress and egress for emergency vehicles should they need to access the site. In addition, the project is located approximately 0.25 mile from Redondo Beach Fire Station 2. Therefore, the project would have a less than significant impact related to emergency access.

Mitigation Measures

Mitigation is not required.

4.7.4 Cumulative Impacts

As discussed in Section 3.3, *Cumulative Development*, currently planned and pending projects in the vicinity of the project includes The Foundry project located approximately 2.2 miles northeast of the site, which involves demolition of all existing industrial and retail/commercial buildings on the 2.37-acre project site for construction of 36 two-story condominium homes.

Cumulative transportation impacts would consist of increased vehicle trips on the analyzed study intersections from the proposed project and The Foundry project. As determined under Impact T-3 and Impact T-4, the project would not create hazardous traffic conditions or result in inadequate emergency access due to project design and existing traffic conditions. Therefore, with the distance of The Foundry project, the proposed project would not contribute to cumulative hazardous traffic conditions or inadequate emergency access impacts. However, as determined under Impact T-2, despite implementation of applicable TDM measures, VMT impacts would remain significant and unavoidable as the project would exceed the City's Home-Based VMT per Capita even with mitigation. Nonetheless, while the project would have a project-specific impact related to VMT, the project would not contribute to a cumulative VMT impact.

This page intentionally left blank

4.8 Tribal Cultural Resources

This section evaluates potential effects on tribal cultural resources related to project. The setting and analysis presented in this section are based on the *Cultural and Paleontological Phase I Assessment: Catalina Village Project, Redondo Beach, Los Angeles County, California* prepared by Material Culture Consulting, Inc. (MCC 2021; see Appendix G) in support of the proposed project.

4.8.1 Setting

The project site is located within a heavily developed area and is surrounded by existing residential neighborhoods and commercial properties in all cardinal directions. The project lies within an area traditionally occupied by the Native American group known as the Gabrieleño. The name Gabrieleño was applied by the Spanish to those natives that were attached to Mission San Gabriel (Bean and Smith 1978; Kroeber 1925). Today, most contemporary Gabrieleño prefer to identify themselves as Tongva (King 1994); however, one contemporary group, the Gabrieleño Band of Mission Indians – Kizh Nation, prefer the term "Kizh." Tongva territory included the Los Angeles basin and southern Channel Islands as well as the coast from Aliso Creek in the south to Topanga Creek in the north. The Tongva language belongs to the Takic branch of the Uto-Aztecan language family, which can be traced to the Great Basin region (Heizer 1978; Shipley 1978).

The Tongva established large permanent villages and smaller satellite camps throughout their territory. Society was organized along patrilineal non-localized clans, a common Takic pattern. Tongva subsistence was oriented around acorns supplemented by roots, leaves, seeds, and fruits from a wide variety of plants. Meat sources included large and small mammals, freshwater and saltwater fish, shellfish, birds, reptiles, and insects. Tongva employed a wide variety of tools and implements to gather and hunt food (Blackburn 1963; Kroeber 1925; McCawley 1996). The digging stick, bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks were common tools. Like the Chumash, the Tongva made oceangoing plank canoes (known as ti'at) capable of holding 6 to 14 people that they used for fishing, travel, and trade between the mainland and the Channel Islands.

Records Search

MCC requested a search of the California Historical Resources Information System (CHRIS) at the South Central Coast Information Center (SCCIC), located at California State University, Fullerton. SCCIC staff conducted the search, and MCC received the results on June 8, 2020 (MCC 2021). The search was conducted to identify previously conducted cultural resource studies and previously recorded cultural resources (prehistoric or historic) within a one-mile radius of the project site. The CHRIS search also included a review of the National Register of Historic Places, California Register of Historical Resources, listings of the National Historic Landmarks, California Historical Landmarks, California Points of Historical Interest, and the California Office of Historic Preservation's Historic Property Data File.

The records search did not identify any previously recorded cultural resources within the project site; however, 17 previously recorded cultural resources are listed within one mile of the project site. These include four archaeological sites, three of which are prehistoric and one of which is a multicomponent historic and prehistoric site. Of these resources, one contains a burial (MCC 2021).

Native American Outreach

As part of the Phase I Cultural Resource Assessment, MCC requested a search of the Native American Heritage Commission's (NAHC) Sacred Lands File (SLF) on April 21, 2020. The NAHC responded on April 29, 2020, stating that the search results were negative for known sacred lands within a one-mile radius of the project site (MCC 2021). The NAHC also provided a list of seven Native American tribal contacts that might have further information regarding the general project vicinity:

- Soboba Band of Luiseno Indians
- Gabrieliño-Tongva Indians of California Tribal Council
- San Gabriel Band of Mission Indians
- Gabrieliño-Tongva Tribe
- Torres Martinez Desert Cahuilla Indians
- Tongva Nation
- Gabrieleño Band of Mission Indians – Kizh Nation

MCC sent letters to each contact on April 30, 2020, requesting any information related to cultural resources or heritage sites within or adjacent to the project site. Additional contact attempts by letter, email, or phone were conducted on May 28, 2020, and June 18, 2020 (MCC 2021).

MCC received four responses to the outreach efforts. On May 13, 2020, Chairperson Andrew Salas of the Gabrieleño Band of Mission Indians-Kizh Nation stated that the area was sensitive, and the Tribal Council would like to provide confidential information in formal consultation. On May 28, 2020, Chairperson Robert Dorame of the Gabrieliño Tongva Indians of California stated that the area is considered highly sensitive and should be monitored by a member of the tribe. Mr. Dorame also requested formal consultation. On June 18, 2020, Chairperson Anthony Morales of Gabrieleño/Tongva San Gabriel Band of Mission Indians stated that the project site is highly sensitive and ground disturbance should be monitored by a tribal member. Mr. Morales also requested formal consultation. Finally, On June 18, 2020, Joseph Ontiveros of the Soboba Band of Luiseno Indians Cultural Resource Department indicated that the project site is outside of their tribal area and defers to other local tribes (MCC 2021).

During consultation, the Kizh Nation stated that the project site is located within a known prehistoric sacred village site affiliated with the Kizh Nation and exists within the Kizh Nation traditional ancestral territory. In addition, the project site is located adjacent to important areas to the Kizh Nation, including a sacred water course, salt ponds, and major traditional trade routes.

Pedestrian Field Survey

MCC conducted a pedestrian field survey of the project site on May 15, 2020. All undeveloped and accessible ground surface areas within the project site were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock); ecofacts (marine shell and bone); soil discoloration that might indicate the presence of a cultural midden; soil depressions; and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations); and historic-period debris (e.g., metal, glass, ceramics). During the survey, MCC was unable to access most of the project site due to locked gates and site development; these areas were observed from the perimeter of the project site (MCC 2021).

Results of the survey indicated that the entire project site is developed with pavement and buildings. Vegetation included seasonal grasses growing from cracks in the pavement and residential landscaping of trees and shrubs. Soil surrounding the project site consisted of a brown sandy clay loam (MCC 2021). No archaeological resources were observed during the survey effort.

4.8.2 Regulatory Setting

Assembly Bill 52

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." Assembly Bill 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code [PRC] Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and meets either of the following criteria:

a) Listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in PRC Section 5020.1(k), 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires that lead agencies "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

4.8.3 Impact Analysis

Significance Thresholds

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether a project's impacts would have a significant impact to tribal cultural resources:

- **Threshold 4.8-1:** Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), 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 PRC Section

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

The EIR associated with the 2016 RTP/SCS did not specifically address tribal cultural resources, as projects for which a Notice of Preparation was published prior to July 1, 2016, were not required to address this issue pursuant to AB 52.

Project Impacts

Threshold 4.8-1a:	Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k)?
Threshold 4.8-1b:	Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1?

Impact TCR-1 GROUND DISTURBING ACTIVITIES RELATED TO PROJECT CONSTRUCTION HAS THE POTENTIAL TO UNEARTH AND ADVERSELY IMPACT TRIBAL CULTURAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

As discussed in Section 4.8.1, *Setting,* while the project site has been heavily disturbed by previous development, the CHRIS records search results and Native American outreach indicate that the project site is sensitive for archaeological cultural resources. The CHRIS records search results indicate that four archaeological resources, including one containing human remains, exist within one mile of the project site.

During informal tribal outreach, Chairperson Andrew Salas of the Gabrieleño Band of Mission Indians-Kizh Nation, Chairperson Robert Dorame of the Gabrieliño Tongva Indians of California, and Chairperson Anthony Morales of the Gabrieleño/Tongva San Gabriel Band of Mission Indians all indicated that the area of the project site is highly sensitive. In addition, during consultation, the Kizh Nation stated that the project has a high potential to impact undiscovered tribal cultural resources as the project site is located within a known prehistoric sacred village site affiliated with the Kizh Nation, exists within the Kizh Nation traditional ancestral territory, and is adjacent to important areas to the Kizh Nation, including a sacred water course, salt ponds, and major traditional trade routes. Project ground disturbance, such as grading or excavation, has the potential to damage or destroy tribal cultural resources, thereby resulting in potentially significant impacts.

Mitigation Measures

TCR-1a Native American Monitoring

The City of Redondo Beach shall retain a Native American monitor/consultant locally affiliated with the project area for all project-related ground disturbing activities. The monitor/consultant will only be present on-site during the construction phases that involve ground disturbing activities. Ground disturbing activities are defined as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and

trenching, within the project area. The Tribal Monitor/consultant will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Tribal Representatives and monitor/consultant have indicated that the site has a low potential for impacting Tribal Cultural Resources.

TCR-1b Unanticipated Discovery of Tribal Cultural Resources

Upon discovery of any potential tribal cultural or archaeological resources of Native American origin, construction activities within a 100-foot radius of the find shall cease until the find can be assessed. All tribal cultural and archaeological resources of Native American origin unearthed by project construction activities shall be evaluated by the qualified archaeologist and tribal monitor/consultant. If the resources are Native American in origin, the tribal monitor/consultant shall coordinate with the landowner regarding treatment and curation of these resources. Work may continue on other parts of the project while evaluation and, if necessary, recommended treatment measures take place. As appropriate and based on consultation with the tribal monitor/consultant, treatment of any unanticipated tribal cultural resources shall occur consistent with the Cultural Resources Monitoring Plan required under Mitigation Measure CUL-1. The tribal monitor/consultant may request preservation in place or recovery for educational purposes. The disposition of any artifacts of Native American origin shall be determined in consultation with the tribal monitor/consultant.

Significance After Mitigation

Implementation of Mitigation Measures TCR-1a and TCR-1b would ensure potential impacts to previously undiscovered tribal cultural resources are less than significant.

4.8.4 Cumulative Impacts

As discussed in Section 3, *Environmental Setting*, the only planned or pending project is the Foundry Project, approximately 2.2 miles northeast of the project site. The area to analyze cumulative impacts to tribal cultural resources includes the project site and immediately adjacent areas that could be indirectly affected. As discussed in Section 4.3, *Cultural Resources*, the potential for uncovering significant archaeological (prehistoric and historic) and/or tribal cultural resources within the project area during earthmoving construction activities is unknown. However, the proposed project would involve redevelopment of already graded and developed sites in an urban area. The project would result in a less than significant impact to tribal cultural resources, as well as human remains with mitigation identified above. As such, the proposed project would not contribute to cumulative impacts on cultural resources in the project vicinity. In addition, individual development proposals are reviewed separately by the appropriate jurisdiction and undergo environmental review when it is determined that the potential for significant impacts exist. In the event that future cumulative projects would result in impacts to known or unknown tribal cultural resources, impacts to such resources would be addressed on a case-by-case basis. Future cumulative projects would also be required to comply with existing regulatory requirements related to the unanticipated discovery of tribal cultural resources and human remains. Therefore, impacts related to tribal cultural resources would not be significant and the proposed project would not make a considerable contribution to cumulative tribal cultural resource impacts.

This page intentionally left blank.

5 Other CEQA Required Discussions

This section discusses growth-inducing impacts and irreversible environmental impacts that would be caused by the proposed project.

5.1 Growth Inducement

Section 15126(d) of the CEQA Guidelines requires a discussion of a proposed project's growth-inducing impact. Pursuant to Section 15126.2(e) of the CEQA Guidelines, this includes ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment, including ways in which a project could remove an obstacle to population growth. Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place without the implementation of the proposed project. Typically, the growth-inducing potential of a project would be considered significant if it results in growth or population concentration that exceeds those assumptions included in pertinent master plans, land use plans, or projections made by regional planning authorities. However, the creation of growth-inducing potentials does not automatically lead to growth, whether it would be below or in exceedance of a projected level.

Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The environmental effects of induced growth are secondary or indirect impacts of the proposed project. Secondary effects of growth could include increased demand on community public services, increased traffic and noise, degradation of air and water quality, and conversion of agricultural land and open space to developed uses. The proposed project's growth inducing potential is, therefore, considered significant if project-induced growth could result in significant physical effects in one or more environmental issue areas.

5.1.1 Population Growth

The proposed project includes 30 residential units with a total of 130 bedrooms, which would generate direct population growth. As discussed in Section 14, *Population and Housing*, of the Initial Study (Appendix B), the city has an estimated population of 66,994 with an average household size of 2.3 persons (California Department of Finance [DOF] 2020). Conservatively applying the City's average household size to the 130 bedrooms proposed by the project, the proposed project would be anticipated to result in up to 299 new residents in the city. The Southern California Association of Governments (SCAG) estimates that the city's population will increase to 72,900 by 2045, an increase of approximately 8.8 percent or 5,906 persons (SCAG 2020). The proposed project would directly increase the city's population to 67,293, which would be within the anticipated population growth even with the conservative assumption of 299 residents under the proposed project. In addition, the city has an existing housing stock of 30,892 units, which SCAG forecasts will increase by 208 units (an approximately one percent increase) to 31,100 units by 2045 (DOF 2020; SCAG 2020). The project would generate 30 housing units, which would be within the projected increase in housing units in Redondo Beach.

Moreover, as discussed in Section 4.1, *Air Quality*, of this EIR and Section 7, *Greenhouse Gas Emissions*, of the Initial Study (Appendix B), development and operation of the project would not

generate air quality or greenhouse gas (GHG) emissions that would result in a significant impact provided the applicable mitigation measures are implemented during project construction. Additionally, the project involves redevelopment within a fully urbanized area that lacks significant scenic resources, native biological habitats, known cultural resource remains, surface water, or other environmental resources. Therefore, any population growth associated with the project would not result in significant long-term physical environmental effects.

5.1.2 Economic Growth

The proposed project would generate temporary employment opportunities during construction. Because construction workers would be expected to be drawn from the existing regional work force, construction of the project would not be growth-inducing from a temporary employment standpoint. The proposed project would involve demolition of an existing commercial building and rehabilitation and reuse of four existing commercial buildings containing a custom frame store, dry cleaners, clothing store, granite and tile store, and woodworking shop to create 30 new housing units, a 1,279-square foot tasting room, and a 1,784-square foot coffee shop. Therefore, the proposed project would both eliminate existing employment on the project site associated with the current land uses and would create new long-term employment opportunities associated with operation of the coffee shop and tasting room. The proposed project would reduce commercial/retail uses on the project site by 12,619 square feet compared to existing uses. Therefore, the proposed project would not be anticipated to generate a net increase in jobs or induce substantial economic expansion to the extent that direct physical environmental effects would result. Moreover, the environmental effects associated with any future development in or around Redondo Beach would be addressed as part of the CEQA environmental review for such development projects.

5.1.3 Removal of Obstacles to Growth

The proposed project is located in a fully urbanized area that is well served by existing infrastructure. As discussed in Section 19, *Utilities and Serviced Systems*, of the Initial Study (Appendix B) and Section 4.7, *Transportation and Traffic*, of this EIR, existing utilities and roadway infrastructure in Redondo Beach would be adequate to serve the project. Minor improvements to water, sewer, and drainage connection infrastructure may be needed, but would be sized to specifically serve the proposed project. The project would include new internal driveways to connect the proposed townhomes and apartment building with North Catalina Avenue and Emerald Street and to provide for safe circulation of vehicles on the site. However, no new or expanded roads would be required. Because the project constitutes redevelopment within an urbanized area and does not require the extension of new infrastructure through undeveloped areas, project implementation would not remove an obstacle to growth.

5.2 Irreversible Environmental Effects

The CEQA Guidelines require that EIRs contain a discussion of significant irreversible environmental changes. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the proposed project.

The proposed project involves infill development on a currently developed lot in the City of Redondo Beach. Construction and operation of the project would involve an irreversible commitment of construction materials and non-renewable energy resources. The project would

involve the use of building materials and energy, some of which are non-renewable resources, to construct the proposed townhomes and apartments. However, the project includes rehabilitation and reuse of four of the five buildings on the project site, which would reduce the amount of materials and energy use required during project construction. Furthermore, project construction would utilize environmentally preferable materials such as concrete containing fly ash and sustainably sourced wood. Though project construction would require construction materials and fuels power construction equipment, consumption of these resources would occur with any development in the region and are not unique to the proposed project.

The proposed project would also irreversibly increase local demand for non-renewable energy resources such as petroleum products and natural gas. However, increasingly efficient building design would offset this demand to some degree by reducing energy demands of the project. As discussed in Section 2, *Project Description*, and Section 6, *Energy*, of the Initial Study (Appendix B) the proposed project's design features would include sustainability features such as EnergyStar appliances in the residential units, dedicated EV charging spaces equipped with chargers (10 percent of all parking spaces), cool roofs, passive solar, and high-efficiency lighting. In addition, the project would be subject to the energy conservation requirements of the California Energy Code (Title 24, Part 6, of the California Code of Regulations, *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*) and the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations). The California Energy Code provides energy conservation standards for all new and renovated commercial and residential buildings constructed in California, and the Green Building Standards Code requires solar access, natural ventilation, and stormwater capture. Consequently, the project would not use unusual amounts of energy or construction materials and impacts related to consumption of non-renewable and slowly renewable resources would be less than significant. Again, consumption of these resources would occur with any development in the region and is not unique to the proposed project.

Additional vehicle trips associated with the proposed project would incrementally increase local traffic and regional air pollutant and GHG emissions. However, as discussed in Section 4.1, *Air Quality* of this EIR, and Section 8, *Greenhouse Gas Emissions*, of the Initial Study (Appendix B), development and operation of the project would not generate air quality or GHG emissions that would result in a significant impact.

The project would also require a commitment of law enforcement, fire protection, water supply, wastewater treatment, and solid waste disposal services. However, as discussed in Section 15, *Public Services*, and Section 19, *Utilities and Service Systems*, of the Initial Study (Appendix B), impacts to these service systems would not be significant.

CEQA requires decision makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. The analysis contained in this EIR concludes that the proposed project would result in a significant and unavoidable impact related to residential vehicle miles traveled (VMT). As discussed in Section 4.7, *Transportation*, the Home-Based VMT per Capita would result in a significant residential VMT impact requiring a VMT reduction of approximately 24 percent to reduce impacts to below a level of significance. However, no combination of the transportation demand management measures that were identified for the proposed project would be sufficient to mitigate the Home-Based VMT per Capita impact and therefore, this impact would remain significant and unavoidable.

This page intentionally left blank.

6 Alternatives

As required by Section 15126.6 of the CEQA Guidelines, this EIR examines a range of reasonable alternatives to the proposed project that would attain most of the basic project objectives (stated in Section 2 of this EIR) but would avoid or substantially lessen the significant adverse impacts.

As discussed in Section 2, *Project Description*, the objectives for the proposed project, are as follows:

1. To create a high-quality designed townhome and apartment complex that enhances the value of an existing underutilized site through the development of a project that is responsive to market demands that includes at least 26 market-rate units.
2. To realize the City of Redondo Beach's General Plan and the Coastal Plan by recognizing the site's underlying R-3 zoning and incorporating multi-family housing into the master plan and near the harbor with access to outdoor recreational opportunities.
3. To further the City of Redondo Beach Housing Element policies to support the City's future housing needs by developing new quality multi-family, transit-oriented living options at different income levels including affordable housing units per California State Senate Bill (SB) 1818.
4. To realize the utilitarian benefit of the existing non-conforming commercial buildings with respect to the overall site programming and to ensure economic vitality of the project through offsetting the costs of construction for the affordable housing units through programming of the commercial spaces as revenue generating, high impact uses.
5. To preserve and reuse portions of two existing commercial buildings of local historic significance by designing the master plan, commercial open space, and vehicular and pedestrian circulation around the buildings' placement.
6. To provide neighborhood serving uses and amenities that cater to City of Redondo Beach residents and encourages pedestrian and bicycle activity through re-programming and reactivating the facades of the existing commercial buildings and providing access to a new shared courtyard and public bike racks.
7. To limit points of ingress/egress to the site and remove surplus driveway curb cuts to create new on-street public parking spaces available for public access and within walking distance to the marina.
8. To remediate the existing site with little disturbance to historic buildings.
9. To design new residential structures to comply with City of Redondo Beach parking and open space requirements and to contain parking and open space within each town home envelope to limit opportunities for large gatherings.
10. To limit construction impact on surrounding uses and existing historic buildings and to control construction costs to maintain project viability though designing new structures with focused construction methods comprised of wood framed buildings at grade which eliminates costly and invasive shoring and structural concrete work.

Included in this analysis are three alternatives, including the CEQA-required "no project" alternative, that involve changes to the project that may reduce the project-related environmental impacts as identified in this EIR. Alternatives have been developed to provide a reasonable range of options to

consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed project.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project
- Alternative 2: By-Right Residential
- Alternative 3: Increased Affordable Housing

Table 6-1 provides a summary comparison of the development characteristics of the proposed project and each of the alternatives considered. Detailed descriptions of the alternatives are included in the impact analysis for each alternative. The potential environmental impacts of each alternative are analyzed in Sections 6.1 through 6.3.

Table 6-1 Comparison of Project Alternatives' Buildout Characteristics

Feature	Proposed Project	Alternative 1: No Project	Alternative 2: By-Right Residential	Alternative 3: Increased Affordable Housing
Residential Units	30	0	22	30
Affordable Units[1]	4	0	0	17
Commercial Area	3,063 sf	15,682 sf	3,063 sf	3,063 sf

Notes: sf = square feet

[1] The number of affordable housing units presented in this table are included as part of the total number of residential units in each project scenario. Under the proposed, a total of four percent of units would be designated affordable. No affordable units under Alternatives 1 and 2, and 57 percent of units would be designated affordable under Alternative 3.

6.1 Alternative 1: No Project

6.1.1 Description

The No Project Alternative assumes that the existing commercial buildings (i.e., total of 15,682 square feet) and associated surface parking lots would remain under this alternative, and construction of the proposed project would not occur. Two of the existing buildings are vacant and the other buildings currently serve commercial uses. Under the No Project Alternative, the existing commercial uses in two buildings would be maintained, and no building modifications would occur at the project site.

The No Project Alternative would not fulfill Objectives 1 through 4 and 9 since it would not result in the construction of multi-family residential units, including affordable housing units, near the harbor and with access to commercial and recreational opportunities. Furthermore, because the proposed project would rehabilitate existing commercial buildings (including those with historic significance) and introduce new commercial uses, the No Project Alternative would not fulfil Objectives 5, 6, and 8, which aim to provide neighborhood-serving commercial uses while simultaneously encouraging pedestrian and bicycle activity at the project's facade and preserving existing historic buildings.

6.1.2 Impact Analysis

a. Air Quality

Under the No Project Alternative, the existing five buildings would remain, and no new development would be constructed on-site. Air quality impacts associated with construction of new development would not occur while operational impacts associated with existing development would be the same. Overall, air quality impacts under the No Project Alternative would be less than those impacts under the project.

b. Biological Resources

Under the No Project Alternative, no new development would be constructed on-site. Therefore, potential impacts to nesting birds associated with vegetation removal during nesting season would not occur. While the proposed project would require implementation of Mitigation Measure BIO-1 to address such impacts to nesting birds, similar mitigation under the No Project Alternative would not be required. Because there would be no change to existing conditions, impacts to biological resources would be less under the No Project Alternative than what would occur under the project.

c. Cultural Resources

As described in Section 4.3, *Cultural Resources*, four out of the five buildings present on-site were determined to be eligible as historical resources pursuant to CEQA. Under the No Project Alternative, the existing five buildings would remain and no new development would be constructed on-site. Therefore, potential impacts to historic buildings would not occur and implementation of Mitigation Measure CUL-1 to reduce impacts to historic resources would not be required. Furthermore, previously unidentified archaeological resources or human remains would not be impacted as no ground disturbing activities would occur. As such, implementation of Mitigation Measures CUL-2a through CUL-2c and CUL-3 to reduce impacts to unanticipated discoveries of archaeological resources or human remains would not be required under this alternative. Impacts to cultural resources would be less under the No Project Alternative than those under the proposed project.

d. Geology and Soils

Under the No Project Alternative, the existing five buildings would remain, and no new development would be constructed on-site. Therefore, while the proposed project would require implementation of Mitigation Measure GEO-1 to address impacts upon new construction from moderately compressible soils found on-site, similar mitigation under the No Project Alternative would not be applied. Furthermore, the No Project Alternative would not impact previously unidentified paleontological resources or require implementation of Mitigation Measures GEO-2a and GEO-2b as ground disturbing activities would not occur. Therefore, geology and soils impacts would be less under this alternative than the proposed project.

e. Hazards and Hazardous Materials

As described in Section 4.5, *Hazards and Hazardous Materials*, the site contains contaminated soil and soil vapor. Hazardous material impacts are normally a result of project-related activities disturbing or otherwise encountering such materials in subsurface soils during site grading. Under the No Project Alternative, no new development would be constructed on-site and existing

conditions would remain. Therefore, there would be no potential for an accidental release of these hazardous materials which could pose a hazard to the public and environment and implementation of Project Design Features (PDF) 1 through 3 or Mitigation Measures HAZ-1a through HAZ-1d to address on-site contamination would not be required. Impacts would be less under this alternative than those under the proposed project.

f. Noise

Under the No Project Alternative, no new development would be constructed on-site and existing conditions would remain. Therefore, this alternative would not generate temporary or permanent noise sources associated with development construction and operation, respectively. Furthermore, the No Project Alternative would not generate construction noise or vibration above applicable standards and implementation of Mitigation Measures N-1 and N-5 would not be required. Therefore, noise impacts under the No Project Alternative would be less than those under the proposed project.

g. Transportation

Under the No Project Alternative, no new development would be constructed on-site. As such, the existing residential and work vehicle miles traveled (VMT) in the transportation analysis zone in which the proposed project would be located would not change. While the proposed project would result in a significant and unavoidable VMT impact even with implementation of mitigation, the No Project Alternative would maintain existing conditions and would not result in any significant impacts. Therefore, impacts to transportation would be less under this alternative than those under the proposed project.

h. Tribal Cultural Resources

As described in Section 4.8, *Tribal Cultural Resources*, the site is sensitive for archaeological cultural resources. Under the No Project Alternative, the existing five buildings would remain and no new development would be constructed on-site. Therefore, since this alternative would not result in ground disturbance, potential impacts to previously unidentified tribal cultural resources would not occur and implementation of Mitigation Measures TCR-1a and TCR-1b would not be required. Therefore, impacts to tribal cultural resources under the No Project Alternative would be less than those under the proposed project.

6.2 Alternative 2: By-Right Residential

6.2.1 Description

Alternative 2 (By-Right Residential) would involve the same rehabilitation work of the existing commercial buildings and retention of 3,063 square feet of commercial/retail space for a tasting room and coffee shop as the proposed project. However, this alternative would involve the buildout of the number of residential units allowed at the project site by-right, which would be 22 units consisting of townhome and apartment units. This alternative would not include any affordable units.

Alternative 2 would fulfill the same objectives as the proposed project, but not to the same extent. Due to the reduction in eight residential units, this alternative would not include at least 26 market-

rate units or assist the City's housing needs with units for different income levels to the same extent as the proposed project per Objectives 1 and 3.

6.2.2 Impact Analysis

a. Air Quality

Under the By-Right Residential Alternative, fewer total residential units would be developed, which would result in a smaller anticipated population increase. Construction and operational air quality impacts would be less than those of the proposed project as less development would occur. Similar to the proposed project, construction and operation emissions would not exceed the SCAQMD regional thresholds or localized significance thresholds; however, these emissions would be less than under the proposed project. Overall, air quality impacts under the By-Right Residential Alternative would be less than those under the proposed project.

b. Biological Resources

Development under the By-Right Residential Alternative would be less than that under the proposed project. Although this alternative would develop fewer total residential units, impacts associated with vegetation removal during nesting season could occur to nesting birds during construction of the anticipated residential units; therefore, Mitigation Measure BIO-1 of the proposed project would be required. Impacts would be less than significant with mitigation incorporated and would be similar to the proposed project.

c. Cultural Resources

As described in Section 4.3, *Cultural Resources*, four out of the five buildings present on-site were determined to be eligible as historical resources pursuant to CEQA. Under the By-Right Residential Alternative, there would be eight fewer residential units than under the proposed project; however, the four buildings qualified as historical resources on-site would be impacted by this alternative. Therefore, Mitigation Measure CUL-1 would be required to reduce impacts to historic resources. Additionally, similar to the proposed project, construction would involve ground-disturbing activities, such as grading, which could potentially unearth or adversely impact previously unidentified archaeological resources or human remains and therefore, Mitigation Measures CUL-2a through CUL-2c and CUL-3 would be required to reduce impacts to unanticipated discoveries of archaeological resources or human remains. Impacts would be less than significant with mitigation incorporated and would be similar to the proposed project.

d. Geology and Soils

As described in Section 4.4, *Geology and Soils*, the site contains moderately compressible soils which could potentially pose direct or indirect risks to life or property. Similar to the proposed project, under the By-Right Residential Alternative, Mitigation Measure GEO-1 would be required and would reduce the direct or indirect risk of life or property by implementing foundation and floor slab design recommendations, which would limit the shrinking and swelling behavior caused by clay soil and preventing damage to foundations. Impacts would be less than significant with mitigation incorporated.

While the By-Right Residential Alternative would result in eight fewer residential units than the proposed project, construction would involve ground-disturbing activities, such as grading, which could directly or indirectly destroy previously unidentified paleontological resources, including

significant vertebrate fossils. Therefore, Mitigation Measures GEO-2a and GEO-2b would be required to reduce impacts to a less than significant level. Geology and soils impacts would be similar to the proposed project.

e. Hazards and Hazardous Materials

As described in Section 4.5, *Hazards and Hazardous Materials*, the site contains contaminated soil and soil vapor. The By-Right Residential Alternative would result in eight fewer residential units than the proposed project; however, construction of this alternative has the potential to result in an accidental release of these hazardous materials, which could pose a hazard to the public and environment. Therefore, implementation of PDFs 1 through 3 and Mitigation Measures HAZ-1a through HAZ-1d would be required to address on-site contamination. Impacts would be less than significant with mitigation incorporated and would be similar to the proposed project.

f. Noise

The By-Right Residential Alternative would result in eight fewer residential units than the proposed project, however this development would generate construction and operational noise. While temporary construction activities under this alternative would also comply with the Federal Transit Administration's (FTA) nighttime noise limit, temporary construction activities would exceed the FTA daytime noise limit for construction noise at the nearest receivers adjacent to the project site. Mitigation Measure N-1 would be required to reduce construction noise impacts. Construction impacts would be less than significant with mitigation incorporated and would be similar to the proposed project.

Although operational noise associated with the By-Right Residential Alternative would be regulated by and in compliance with respective standards in the RBMC, such noise sources would occur to a lesser degree than the proposed project. Nonetheless, on-site operational noise would remain typical of the urban environment and off-site traffic noise associated with development would not result in a perceptible increase in noise levels. Operational impacts would be less than significant.

Development under the By-Right Residential Alternative would also generate vibration exceeding thresholds for building damage to historic buildings during construction. Implementation of Mitigation Measure N-5 would reduce/control construction such that vibration would not exceed the criteria for building damage to historic buildings. Impacts would be less than significant with mitigation. Furthermore, as with the proposed project, it is not anticipated that operation of development under this alternative would involve activities that would result in substantial vibration levels, such as use of heavy equipment, and impacts would be less than significant. Overall noise impacts under the By-Right Residential Alternative would be similar to the proposed project.

g. Transportation

Because the By-Right Residential Alternative provides fewer residential units than the proposed project, it would also generate less total VMT in comparison. However, as shown in Table 6-2 the ratio of Home-Based VMT per Capita for this alternative, in terms of cumulative impact, is effectively the same as that of the project, which would result in a significant residential VMT impact requiring a reduction of approximately 24 percent. As discussed in Section 4.7, *Transportation*, no combination of the transportation demand management measures that were identified for the proposed project would be sufficient to mitigate the Home-Based VMT per Capita impact for this alternative, and this impact would be significant and unavoidable. Like the mitigation

analysis for the proposed project, parking strategies were not included in the mitigation analysis for this alternative, although their inclusion would not fully mitigate the residential VMT impact.

Because the By-Right Residential Alternative would not alter the proposed project's commercial square footage, the Home-Based Work VMT per Employee for this alternative would be the same as that of the proposed project shown in Table 4.7-8 in Section 4.7, *Transportation*. As such, implementation of transportation demand management (TDM) measures listed in Section 4-7, including local hire considerations coupled with incentives, monitoring, and enforcement for the hiring of individuals living within approximately 10 miles of the project site, would be sufficient to mitigate the work VMT impact under this alternative. Impacts would be significant and unavoidable and would be similar to the proposed project.

Table 6-2 Alternative 2 – By-Right Residential Units

	Proposed Project	Alternative 2: By-Right Residential Units
Total Home-Based VMT	1,475	1,088
Estimated Residents	101	75
Home-Based VMT Per Capita	14.6	14.5
Significance Threshold	11.1	11.1
Impact?	Yes	Yes
Impact After Mitigation?	Yes	Yes
% Reduction Needed	-24%	-24%

h. Tribal Cultural Resources

As described in Section 4.8, *Tribal Cultural Resources*, the site is sensitive for archaeological cultural resources. Under the By-Right Residential Alternative, there would be eight fewer residential units than under the proposed project; however, similar to the proposed project, construction would involve ground-disturbing activities, such as grading, which could potentially unearth or adversely impact previously unidentified tribal cultural resources. Therefore, Mitigation Measures TCR-1a and TCR-1b would be required to reduce impacts to previously undiscovered tribal cultural resources. Impacts would be less than significant with mitigation incorporated and would be similar to the proposed project.

6.3 Alternative 3: Increased Affordable Housing

6.3.1 Description

As with the proposed project, Alternative 3 (Increased Affordable Housing) would involve the same rehabilitation work of the existing commercial buildings, retention of 3,063 square feet of commercial/retail space for a tasting room and coffee shop, and development of 30 residential units. However, this alternative would increase the percentage of affordable housing units from 13 percent to 57 percent of the total number of units. As such, Alternative 3 would include 17 below-market rate units, which would be 13 more units compared to the proposed project.

Alternative 3 would maintain the same uses and total number of units as the proposed project, but would not fulfill the same objectives. Alternative 3 would not include at least 26 market-rate units and would not meet Objective 1 due to the increase in affordable housing units.

6.3.2 Impact Analysis

a. Air Quality

Under the Increased Affordable Housing Alternative, the same amount of rehabilitation work, commercial/retail space retention, and development would occur, resulting in the same anticipated population increase as the proposed project. Construction and operational air quality impacts would be the same as those of the proposed project as the same amount of development would occur. Emissions under this alternative would be the same as under the proposed project and therefore, construction and operation emissions would not exceed the SCAQMD regional thresholds or localized significance thresholds. Overall, air quality impacts under the Increased Affordable Housing Alternative would be the same as those under the proposed project.

b. Biological Resources

Development under the Increased Affordable Housing Alternative would be the same as that under the proposed project. Mitigation Measure BIO-1 of the proposed project would be required as impacts associated with vegetation removal during nesting season could occur to nesting birds during construction of the anticipated residential units. Impacts would be the same as what would occur under the proposed project since the same number of nests could be potentially impacted by development.

c. Cultural Resources

As described in Section 4.3, *Cultural Resources*, four out of the five buildings present on-site were determined to be eligible as historical resources pursuant to CEQA. Under the Increased Affordable Housing Alternative, the same number of residential units as under the proposed project would be constructed. Therefore, Mitigation Measure CUL-1 would be required as the four buildings qualified as historical resources on-site would be impacted. Additionally, consistent with the proposed project, construction would involve ground-disturbing activities, such as grading, which could potentially unearth or adversely impact previously unidentified archaeological resources or human remains and therefore, Mitigation Measures CUL-2a through CUL-2c and CUL-3 would be required to reduce impacts to unanticipated discoveries of archaeological resources or human remains. Impacts would be less than significant with mitigation incorporated and would be the same as the proposed project.

d. Geology and Soils

As described in Section 4.4, *Geology and Soils*, the site contains moderately compressible soils which could potentially pose direct or indirect risks to life or property. Under the Increased Affordable Housing Alternative, Mitigation Measure GEO-1 would be required to reduce the direct or indirect risk of life or property by implementing foundation and floor slab design recommendations, which would limit the shrinking and swelling behavior caused by clay soil and preventing damage to foundations. Impacts would be less than significant with mitigation incorporated.

This alternative would result in the same amount of rehabilitation work, commercial/retail space retention, and development. Therefore, construction would involve the same ground-disturbing activities as the proposed project, such as grading, which could directly or indirectly destroy previously unidentified paleontological resources, including significant vertebrate fossils. Mitigation

Measures GEO-2a and GEO-2b would be required to reduce impacts to a less than significant level. Geology and soils impacts would be the same as the proposed project.

e. Hazards and Hazardous Materials

As described in Section 4.5, *Hazards and Hazardous Materials*, the site contains contaminated soil and soil vapor. The Increased Affordable Housing Alternative would result in the same number of residential units as the proposed project. Therefore, construction has the potential to result in an accidental release of these hazardous materials, which could pose a hazard to the public and environment. Implementation of PDFs 1 through 3 and Mitigation Measures HAZ-1a through HAZ-1d would be required to address on-site contamination. Impacts would be less than significant with mitigation incorporated and would be the same as the proposed project.

f. Noise

The Increased Affordable Housing Alternative would result in the same number of residential units as the proposed project and therefore, development would generate the same amount of construction and operational noise as the proposed project. While temporary construction activities under this alternative would also comply with the FTA nighttime noise limit, temporary construction activities would exceed the FTA daytime noise limit for construction noise at the nearest receivers adjacent to the project site. Mitigation Measure N-1 would be required and would reduce construction noise impacts. Construction impacts would be less than significant with mitigation incorporated.

As with the proposed project, operational noise associated with the Increased Affordable Housing Alternative would be regulated by and in compliance with respective standards in the RBMC. On-site operational noise would remain typical of the urban environment and off-site traffic noise associated with development would not result in a perceptible increase in noise levels. Impacts would be less than significant.

Development under the Increased Affordable Housing Alternative would also generate vibration exceeding thresholds for building damage to historic buildings during construction. Implementation of Mitigation Measure N-5 would reduce/control construction such that vibration levels would not exceed the criteria for building damage to historic buildings. Impacts would be less than significant with mitigation. Furthermore, as with the proposed project, it is not anticipated that operation of development under this alternative would involve activities that would result in substantial vibration levels, such as use of heavy equipment, and impacts would be less than significant. Overall noise impacts under this alternative would be the same as the proposed project.

g. Transportation

The Increased Affordable Housing Alternative would provide the same number of residential units as the proposed project and, therefore, would house the same number of residents while also generating less total VMT. As shown in Table 6-3, the ratio of Home-Based VMT per Capita would be reduced to 11.9, which would be considered a significant impact. However, implementation of all TDM measures listed in Section 4-7, *Transportation*, would fully mitigate residential VMT impacts to a less than significant level.

As the Increased Affordable Housing Alternative would provide the same amount of commercial/retail space, the ratio of Home-Based Work VMT per Employee would remain the same as the proposed project. Implementation of TDM measures listed in Section 4-7, *Transportation*,

including local hire considerations coupled with incentives, monitoring, and enforcement for the hiring of individuals living within approximately 10 miles of the project site, would be sufficient to mitigate work VMT impacts to a less than significant level. Overall transportation impacts under this alternative would be less than significant with mitigation incorporated, which would be less than that of the proposed project because implementation of the TDM measures listed in Section 4-7, *Transportation,* would mitigate residential and work VMT impacts to a less than significant level.

Table 6-3 Alternative 3 – Increased Affordable Housing Units

	Proposed Project	Alternative 3: Increased Affordable Housing Units
Total Home-Based VMT	1,475	1,202
Estimated Residents	101	101
Home-Based VMT Per Capita	14.6	11.9
Significance Threshold	11.1	11.1
Impact?	Yes	Yes
Impact After Mitigation?	Yes	No
% Reduction Needed	24%	7%

h. Tribal Cultural Resources

As described in Section 4.8, *Tribal Cultural Resources*, the site is sensitive for archaeological cultural resources. Under the Increased Affordable Housing Alternative, the same number of residential units as under the proposed project would be developed. As with the proposed project, construction would involve ground-disturbing activities, such as grading, which could potentially unearth or adversely impact previously unidentified tribal cultural resources. Therefore, Mitigation Measures TCR-1a and TCR-1b would be required. Impacts would be less than significant with mitigation incorporated and would be the same as the proposed project.

6.4 Alternatives Considered but Rejected

CEQA Guidelines Section 15126.6(c) requires that the "EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination." Other alternatives considered, and the reasons they were rejected, include the following scenarios.

An alternative in which the total number of residential units included is increased was considered since it would result in a decreased traffic impact due to lower residential VMT. However, this alternative would either reduce the amount of commercial space proposed under the project or remove commercial space altogether, which would not achieve Objectives 4, 5, and 6. Increasing the number of residential units would have also required subterranean parking that would incur substantial remediation and grading costs to the developer rending the project financially infeasible. Furthermore, this alternative would result in a significant and unavoidable impact to cultural resources as there is a possibility that the existing commercial buildings qualified as historical resources could be removed for the construction of the residential units. Therefore, this scenario was rejected from further consideration.

Decreasing the number of residential units constructed under the proposed project to 15 total units was also considered as an alternative since it would result in a decreased traffic impact due to lower

residential VMT. However, buildout under this alternative would be below the 22 units that could be constructed at the project site by-right and would not achieve project objectives to the same extent as the proposed project or satisfy the City's intent of constructing the full number of units allowed by-right. Therefore, this scenario was rejected from further consideration.

6.5 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6 also requires the identification of the environmentally superior alternative among the options studied. Table 6-4 indicates whether each alternative's environmental impact is greater than, less than, or similar to that of the proposed project for each of the issue areas studied. Based on the alternatives analysis provided above, Alternative 3 would be the environmentally superior alternative.

Alternative 1 (No Project Alternative) assumes that the existing commercial buildings (i.e., total of 15,682 square feet) and associated surface parking lots would remain under this alternative, and construction of the proposed project would not occur. Two of the existing buildings are vacant and the other buildings currently serve commercial uses. Construction and operational air quality impacts as well as impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, noise and vibration, transportation, and tribal cultural resources would be less than those of the proposed project, as no new development would occur.

Alternative 1 would not fulfill Objectives 1 through 4 and 9 since it would not implement multi-family residential units, including affordable housing units, near the harbor and with access to commercial and recreational opportunities. In addition, this alternative would not fulfil Objectives 5, 6, and 8, which aim to provide neighborhood-serving commercial uses while simultaneously encouraging pedestrian and bicycle activity at the project's facade and preserving existing historic buildings as two of the existing buildings are vacant.

Alternative 2 (By-Right Residential Alternative) would involve the same rehabilitation work of the existing commercial buildings and retention of 3,063 square feet of commercial/retail space for a tasting room and coffee shop as the proposed project. However, this alternative would involve the buildout of the number of residential units allowed at the project site by-right, which would be 22 units consisting of townhome and apartment units. Construction and operational air quality impacts would be less than those of the proposed project as fewer residential units would be developed, resulting in a smaller anticipated population increase.

Although fewer residential units would be developed, impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, noise and vibration, transportation, and tribal cultural resources would be similar to the proposed project. Biological resource impacts would be less than significant with mitigation incorporated as impacts could occur to nesting birds during construction of the anticipated residential units and therefore, Mitigation Measure BIO-1 would be required. Cultural resource impacts would be less than significant with mitigation incorporated because the four buildings determined to be eligible as historical resources on-site would be impacted by this development and therefore, Mitigation Measure CUL-1 would be required. Impacts to geology and soils would be similar to the proposed project as the site contains moderately compressible soils which could potentially pose direct or indirect risks to life or property. Therefore, Mitigation Measure GEO-1 would be required which includes foundation and floor slab design recommendations to limit the shrinking and swelling behavior caused by clay soil and preventing damage to foundations. Construction under this alternative would have the potential to result in an accidental release of hazardous materials which could pose a hazard to the

public and environment and therefore, Mitigation Measures HAZ-1a through HAZ-1d would be required. Temporary construction activities would exceed the FTA daytime noise limit for construction noise at the nearest sensitive receivers and therefore, Mitigation Measure N-1 would be required to reduce construction noise impacts. Operational impacts would remain typical of the urban environment and off-site traffic noise associated with development would not result in a perceptible increase in noise levels. In addition, development under this alternative could generate vibration exceeding thresholds for building damage to historic buildings during construction and therefore, implementation of Mitigation Measure N-5 would be required to substantially reduce/control construction vibration levels. Overall noise impacts would be similar to the proposed project. Transportation impacts would be similar to the proposed project as this alternative would result in significant and unavoidable residential VMT impacts. In addition, construction would involve ground-disturbing activities that could potentially unearth or adversely impact previously unidentified archaeological resources, paleontological resources, tribal cultural resources, or human remains and therefore, Mitigation Measures CUL-2a through CUL-2c, CUL-3, GEO-2a, GEO-2b, TCR-1a, and TCR-1b would be required.

Alternative 2 would fulfill most of the same objectives as the proposed project, but not to the same extent and therefore, would not be considered environmentally superior. Furthermore, due to the reduction in eight residential units, this alternative would not include at least 26 market-rate units or assist the City's housing needs with units for different income levels to the same extent as the proposed project per objectives 1 and 3.

Alternative 3 (Increased Affordable Housing Alternative) would involve the same rehabilitation work of the existing commercial buildings, retention of 3,063 square feet of commercial/retail space for a tasting room and coffee shop, and development of 30 residential units. This alternative would increase the percentage of affordable housing units from 13 percent to 57 percent of the total number of units. As such, Alternative 3 would include 17 below-market rate units, which would be 13 more units compared to the proposed project. Construction and operational air quality impacts as well as impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, noise, and tribal cultural resources would be the same as the proposed project since the same amount of rehabilitation work, commercial/retail space retention, and development would occur, resulting in the same anticipated population increase as the proposed project. This alternative would provide 13 more below-market rate units than the proposed project, which would result in less total VMT. Implementation of all recommended TDM measures would be sufficient to fully mitigate both residential and work VMT impacts to a less than significant level. Therefore, this alternative would result in less than significant transportation impacts with mitigation incorporated, which is less than that of the proposed project.

Alternative 3 would maintain the same uses and total number of units as the proposed project, but would not fulfill the same objectives. Although this alternative would have less transportation impacts with mitigation incorporated, Alternative 3 would not include at least 26 market-rate units and would not meet Objective 1 due to the increase in affordable housing units. Therefore, the Increased Affordable Housing Alternative would not be considered environmentally superior.

Table 6-4 Impact Comparison of Alternatives

Issue	Proposed Project Impact Classification	Alternative 1: No Project	Alternative 2: By-Right Residential	Alternative 3: Increased Affordable Housing
Air Quality	Less than significant	+	+	=
Biological Resources	Less than significant with mitigation incorporated	+	=	=
Cultural Resources	Less than significant with mitigation incorporated	+	=	=
Geology and Soils	Less than significant with mitigation incorporated	+	=	=
Hazards and Hazardous Materials	Less than significant with mitigation incorporated	+	=	=
Noise	Less than significant with mitigation incorporated	+	=	=
Transportation	Significant and unavoidable	+	=	+
Tribal Cultural Resources	Less than significant with mitigation incorporated	+	=	=

+ Superior to the proposed project (reduced level of impact)

- Inferior to the proposed project (increased level of impact)

= Similar level of impact to the proposed project

This page intentionally left blank.

7 References

7.1 Bibliography

Executive Summary

California Department of Toxic Substances Control (DTSC). 2008. *Determination of a Southern California Regional Background Arsenic Concentration in Soil*.

National Park Service. 1983. Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. September 29, 1983. https://www.nps.gov/subjects/historicpreservation/upload/standards-guidelines-archeology-historic-preservation.pdf. Accessed November 2021.

Society of Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources.

Air Quality

California Air Resources Board (CARB). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* https://www.arb.ca.gov/ch/handbook.pdf. Accessed July 2021.

_____. 2016. Ambient Air Quality Standards. Last modified: May 4, 2016. https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf. Accessed July 2021.

_____. 2017. *2017 Amendments Health Risk Analysis*.

_____. 2021a. "Inhalable Particulate Matter and Health (PM2.5 and PM10). https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health#:~:text=Short%2Dterm%20exposures%20to%20PM10,to%20years)%20exposure%20to%20PM2. Accessed July 2021.

_____. 2021b. "Overview: Diesel Exhaust & Health." https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed July 2021.

_____. 2021c. Top 4 Summary. https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed July 2021.

_____. 2021d. "Summaries of Historical Area Designations for State Standards." https://ww2.arb.ca.gov/our-work/programs/state-and-federal-area-designations/state-area-designations/summary-tables. Accessed July 2021.

Fehr & Peers. 2021. Local Transportation Assessment for the Catalina Village Project. March 2021.

Iowa State University. 2021. Iowa Environmental Mesonet: Hawthorne Municipal. https://mesonet.agron.iastate.edu/sites/site.php?station=HHR&network=CA_ASOS. Accessed February 2021.

National Highway Traffic Safety Administration (NHSTA). 2021. "Fact Sheet: SAFE Vehicles Rule." https://www.nhtsa.gov/corporate-average-fuel-economy/safe-fact-sheet. Accessed July 2021.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments. Last modified: March 6, 2015. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed June 2021.

Redondo Beach, City of. 2017. City of Redondo Beach Climate Action Plan. https://www.southbaycities.org/sites/default/files/RB%20CAP.pdf. Accessed July 2021.

_____. 2020. 190th Street and Fisk Lane Condominiums Final Initial Study- Mitigated Negative Declaration. July 2020.

Singer, B. C., W. W. Delp, D. R. Black, and I. S. Walker. 2016. Measured performance of filtration and ventilation systems for fine and ultrafine particles and ozone in an unoccupied modern California house. Indoor Air. LBNL-1006961. https://escholarship.org/content/qt7x86h6ff/qt7x86h6ff.pdf. Accessed July 2021.

South Coast Air Quality Management District (SCAQMD). 1993. CEQA Air Quality Handbook. November 1993.

_____. 2003. White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. August 2003. http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf?sfvrsn=2. Accessed July 2021.

_____. 2005. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. May 6, 2005. http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf. Accessed July 2021.

_____. 2006. Final - Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds. October 2006. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf?sfvrsn=2. Accessed July 2021.

_____. 2008. Final Localized Significance Threshold Methodology. July 2008. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf. Accessed July 2021.

_____. 2009. Appendix C – Mass Rate LST Look-up Tables. Last modified: October 21, 2009. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2. Accessed July 2021.

_____. 2016. "National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin." February 2016. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf. Accessed July 2021.

_____. 2017a. Final 2016 Air Quality Management Plan (AQMP). March 3, 2017. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15. Accessed July 2021.

_____. 2017b. *Risk Assessment Procedure for Rules 1401, 1401.1 and 212. Version 8.1. September 1, 2017.* http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12. Accessed July 2021.

_____. 2019. "South Coast AQMD Air Quality Significance Thresholds." Last modified: April 2019. http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf. Accessed July 2021.

United States Environmental Protection Agency (USEPA). 2011. *Exposure Factors Handbook 2011 Edition (Final).* U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-09/052F, 2011.

_____. 2013. Policy Assessment for the Review of the Lead National Ambient Air Quality Standards, External Review Draft. https://www3.epa.gov/ttn/naaqs/standards/pb/data/010913_pb-draft-pa.pdf. Accessed July 2021.

_____. 2020. Outdoor Air Quality Data – Monitor Values Report." https://www.epa.gov/outdoor-air-quality-data/monitor-values-report. Accessed December 2020.

_____. 2021a. "Criteria Air Pollutants." Last modified: November 17, 2020. https://www.epa.gov/criteria-air-pollutants. Accessed July 2021.

_____. 2021b. Green Book Map Download. https://www.epa.gov/green-book/green-book-map-download. Accessed March 2021.

Biological Resources

United States Department of Agriculture (USDA). 2020. Natural Resources Conservation Service (NRCS) Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed June 2020.

Cultural Resources

Byrd, Brian F. and L. Mark Raab. 2007. Prehistory of the Southern Bight: Models for a New Millennium. In California Prehistory, edited by Terry L. Jones and Kathryn A. Klar, pp. 215-228. Altimira Press, New York.

Cleland, Robert Glass. 2005. The Cattle on a Thousand Hills: Southern California, 1850-80, second ed., sixth printing. The Huntington Library, San Marino, California.

Drover, Christopher E. 1971. Three Fired-Clay Figurines from 4-Ora-64, Orange County, California. Pacific Coast Archaeological Society Quarterly 7(4):73–86.

_____. 1975. Early Ceramics from Southern California. The Journal of California Anthropology 2(1):101–107.

Dumke, Glenn S. 1944. The Boom of the Eighties in Southern California. Huntington Library Publications, San Marino, California.

Erlandson, Jon M. 1991. Early Maritime Adaptations on the Northern Channel Islands. In Hunter-Gatherers of Early Holocene Coastal California, edited by J.M. Erlandson and R. Colten. Perspectives in California Archaeology, Vol. 1. Institute of Archaeology, University of California, Los Angeles.

Glassow, Michael A. 1997. Middle Holocene Cultural Development in the Central Santa Barbara Channel Region. In Archaeology of the California Coast during the Middle Holocene, edited by J. M. Erlandson and M. A. Glassow, pp.73–90. Perspectives in California Archaeology, Vol. 4. Institute of Archaeology, University of California, Los Angeles.

Glassow, Michael A., L. Wilcoxen, and J.M. Erlandson. 1988. Cultural and Environmental Change during the Early Period of Santa Barbara Channel Prehistory. In the Archaeology of Prehistoric Coastlines, edited by G. Bailey and J. Parkington pp. 64–77. Cambridge University Press, Cambridge.

Johnson, J.R., T.W. Stafford, Jr., H.O. Ajie, and D.P. Morris. 2002. Arlington Springs Revisited. In Proceedings of the Fifth California Islands Symposium, edited by D. Browne, K. Mitchell, and H. Chaney, pp. 541–545. USDI Minerals Management Service and The Santa Barbara Museum of Natural History, Santa Barbara, California.

Jones, Terry L., Richard T. Fitzgerald, Douglas J. Kennett, Charles Miksicek, John L. Fagan, John Sharp, and Jon M. Erlandson. 2002. The Cross Creek Site and Its Implications for New World Colonization. American Antiquity 67:213–230.

Kaplan Chen Kaplan. 2020a. 100-132 N. Catalina Avenue Redondo Beach, California Historic Resource Evaluation. November 20, 2020.

_____. 2020b. North Catalina Avenue Historic District: Rehabilitation and Adaptive Reuse—Historic Preservation Plan, 100-132 N. Catalina Avenue, Redondo Beach, California. November 20, 2020.

Koerper, Henry C. and Christopher E. Drover. 1983. Chronology Building for Coastal Orange County: The Case from CA-ORA-119-A. Pacific Coast Archaeological Society Quarterly 19(2):1–34.

Kowta, Makoto. 1969. The Sayles Complex, A Late Milling Stone Assemblage from the Cajon Pass and the Ecological Implications of its Scraper Planes. University of California Publications in Anthropology 6:35–69. Berkeley, California.

Kyle, Douglas E. 2002. Historic Spots in California. 5th ed. Stanford University Press, Stanford, California.

Material Culture Consulting, Inc. 2021. Cultural and Paleontological Phase I Assessment: Catalina Village Project, Redondo Beach, Los Angeles County, California. January 2021.

Meighan, Clement W. 1954. A Late Complex in Southern California Prehistory. Southwestern Journal of Anthropology 10(2):215–227.

Moratto, Michael J. 1984. California Archaeology. Academic Press, New York.

Moriarty, James R., III. 1966. Cultural Phase Divisions Suggested by Typological Change Coordinated with Stratigraphically Controlled Radiocarbon Dating in San Diego. The Anthropological Journal of Canada 4(4):20–30.

National Park Service. 1983. Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. September 29, 1983.

_____. 1990. National Register Bulletin 15. Revised 1997. https://www.nrc.gov/docs/ML1912/ML19120A529.pdf. Accessed November 2021.

Rice, Richard B., William A. Bullough, Richard J. Orsi, and Mary Ann Irwin. 2012. The Elusive Eden: A New History of California, 4th edition.

Rick, Torben C., Jon M. Erlandson, and René Vellanoweth. 2001. Paleocoastal Marine Fishing on the Pacific Coast of the Americas: Perspectives from Daisy Cave, California. American Antiquity 66:595–613.

Rogers, Malcom J. 1939. Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas. San Diego Museum of Man Papers 3.

_____. 1945. An Outline of Yuman Prehistory. Southwestern Journal of Anthropology 1(2):167–198.

True, Delbert L. 1993. Bedrock Milling Elements as Indicators of Subsistence and Settlement Patterns in Northern San Diego County, California. Pacific Coast Archaeological Society Quarterly 29(2):1–26.

Wallace, William. 1955. Suggested Chronology for Southern California Coastal Archaeology. Southwestern Journal of Anthropology 11:214–230

_____. 1978. Post-Pleistocene Archaeology, 9000 to 2000 B.C. In California, edited by Robert F. Heizer, pp. 25–36. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

Warren, Claude N. 1968. Cultural Tradition and Ecological Adaptation on the Southern California Coast. In Archaic Prehistory in the Western United States, edited by Cynthia Irwin-Williams, pp. 1–14. Eastern New Mexico University Contributions in Anthropology No. 1. Portales.

Waugh, John C. 2003. On the Brink of Civil War: The Compromise of 1850 and How It Changed the Course of American History. Scholarly Resources Inc., Wilmington, Delaware.

Geology and Soils

Geotechnologies, Inc. 2019. Geotechnical Engineering Investigation Proposed Mixed-Use Development 100 – 132 North Catalina Avenue Redondo Beach, California.

Jennings, C.W, Strand, R.G., and Rogers, T.H. 1977. Geologic map of California: California Division of Mines and Geology, scale 1:750,000.

Jennings, C.W., with modifications by Gutierrez, C., Bryant, W., Saucedo, G., and Wills, C. 2010. Geologic Map of California, Version 2.0 (California Geological Survey 150th Anniversary Edition), Department of Conservation, California Geological Survey: California Geologic Data Map Series, GDM No. 2, scale 1:750,000.

Material Culture Consulting, Inc. (MCC). 2021. Cultural and Paleontological Resources Assessment: Catalina Village Project, Redondo Beach, Los Angeles County, California. January 2021.

McCulloh, T.H. and Beyer, L.A. 2004. Mid-Tertiary Isopach and Lithofacies Maps for the Los Angeles Region, California: Templates for Palinspastic Reconstruction to 17.4 Ma.

Norris, R.M. and Webb, R.W. 1990. Geology of California.

Redondo Beach, City of. 1993. Redondo Beach General Plan – Environmental Hazards / Natural Hazards. https://www.redondo.org/civicax/filebank/blobdload.aspx?BlobID=29357. Accessed February 2021.

_____. 2021. Municipal Code. https://qcode.us/codes/redondobeach/?view=desktop&topic=10. Accessed February 2021.

Saucedo, J., Ed. 2016. Geologic Map of the Long Beach 30' x 60' Quadrangle, California. V 2.0. Department of Conservation, California Geological Society.

Society of Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources.

Woodring, W.P., Bramlette, M.N., and Kew, W.S.W. 1946. Geology and paleontology of Palos Verdes Hills, California: U.S. Geological Survey Professional Paper 207.

Yerkes, R.F., McCulloh T.H., Schoellhamer, J. E., and Vedder, J.G. 1965. Geology of the Los Angeles Basin, California: an introduction. United States.

Hazards and Hazardous Materials

Redondo Beach, City of. 1993. Redondo Beach General Plan – Environmental Hazards / Natural Hazards. https://www.redondo.org/civicax/filebank/blobdload.aspx?BlobID=29357. Accessed February 2021.

Regional Water Quality Control Board (RWQCB). 1996. Interim Site Assessment and Cleanup Guidebook. https://www.waterboards.ca.gov/losangeles/water_issues/programs/remediation/VOC/RBs1996GuideBook1_1.pdf. Accessed August 2021.

United States Environmental Protection Agency (USEPA). 2021. Regional Screening Levels. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. Accessed November 2021.

Noise

California Department of Transportation (Caltrans). 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. (CT-HWANP-RT-13-069.25.2). https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf. Accessed January 2021.

_____. 2020. Transportation and Construction Vibration Guidance Manual. (CT-HWANP-RT-20-365.01.01). https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Accessed January 2021.

Crocker, Malcolm J. Crocker (Editor). 2007. *Handbook of Noise and Vibration Control Book*, ISBN: 978-0-471-39599-7, Wiley-VCH, October.

Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook00.cfm. Accessed January 2021.

_____. 2011. Highway Traffic Noise: Analysis and Abatement Guidance (FHWA-HEP-10-025). https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf. Accessed January 2021.

Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment*. November. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed January 2021.

Fehr & Peers. 2021. Transportation Impact Study. Document.

Kinsler, Lawrence E. and R. Frey, Austin and B. Coppens, Alan and V. Sanders, James. 1999. Fundamentals of Acoustics, 4th Edition. ISBN 0-471-84789-5. Wiley-VCH, December 1999.

Redondo Beach, City of. 1993. Redondo Beach General Plan – Environmental Hazards / Natural Hazards. https://www.redondo.org/civicax/filebank/blobdload.aspx?BlobID=29357. Accessed January 2021.

Transportation

Fehr & Peers. 2021a. Draft CEQA Transportation Impact Assessment: Catalina Village Project. August 2021.

_____. 2021b. Draft Local Transportation Assessment for the Catalina Village Project. August 2021.

Los Angeles County Bicycle Coalition and South Bay Bicycle Coalition. 2011. South Bay Bicycle Master Plan. https://www.elsegundo.org/Home/ShowDocument?id=1159. Accessed March 2021.

Redondo Beach, City of. 2008. Harbor/Civic Center Specific Plan. https://www.redondo.org/civicax/filebank/blobdload.aspx?BlobID=17011. Accessed August 2021.

_____. 2021. Transportation and Circulation Element. https://www.redondo.org/civicax/filebank/blobdload.aspx?BlobID=39745. Accessed November 2021.

Southern California Association of Governments. 2020. Adopted Final Connect SoCal. https://scag.ca.gov/read-plan-adopted-final-plan. Accessed August 2021.

Tribal Cultural Resources

Bean, Lowell John and Charles R. Smith. 1978. Gabrielino. In California, edited by Robert F. Heizer, pp. 538-549. Handbook of North American Indians, Vol. 8, W.C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Blackburn, Thomas. 1963. *Ethnohistoric Descriptions of Gabrielino Material Culture*. Annual Report, Archaeological Survey. University of California, Los Angeles.

Heizer, Robert F. 1978. Introduction. In *California*, edited by Robert F. Heizer, pp. 1–6. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

King, Chester D. 1994. Native American Placenames in the Santa Monica Mountains National Recreation Area, Agoura Hills. Topanga Anthropological Consultants, California.

Kroeber, Alfred J. 1925. Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78. Originally published 1925, Smithsonian Printing Office, Washington, D.C. Unabridged reprint 1976, Dover Publications, Inc. New York.

Material Culture Consulting, Inc. 2021. Cultural and Paleontological Phase I Assessment: Catalina Village Project, Redondo Beach, Los Angeles County, California. January 2021.

McCawley, W. 1996. *The First Angelinos: The Gabrielino Indians of Los Angeles*. Malki Museum Press, Banning California and Ballena Press, Novato, California.

Shipley, William F. 1978. Native Languages of California. In *California*, edited by Robert F. Heizer, pp. 80–90. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

Other CEQA Required Discussions

California Department of Finance (California DOF). 2020. http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/. Accessed March 2020.

Southern California Association of Governments. 2020. Adopted Final Connect SoCal. Demographics and Growth Forecast. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579. Accessed August 2021.

7.2 List of Preparers

This EIR was prepared by the City of Redondo Beach, with the assistance of Rincon Consultants, Inc. Consultant staff involved in the preparation of the EIR are listed below.

RINCON CONSULTANTS, INC.

Deanna Hansen, Principal-in-Charge
Susanne Huerta, AICP, Project Manager/Supervising Planner
Vanessa Villanueva, Assistant Project Manager/Environmental Planner
Shannon Carmack, Principal
Christopher Duran, Principal
Torin Snyder, Principal
Melissa Whittemore, Supervising Planner
Brenna Vredeveld, Supervising Biologist
Breana Campbell-King, Supervising Archaeologist
Hannah Haas, Supervising Archaeologist
Steven Treffers, Supervising Archaeologist
Christopher Purtell, Senior Archaeologist
Bill Vosti, Senior Environmental Planner
Annaliese Miller, Environmental Planner
John Sisser, Environmental Planner
Lindsay Parker, Environmental Scientist
Emily Marino, Environmental Planner
Beth Wilson, Environmental Planner
Jenna Shaw, Environmental Planner
Shannon McAlpine, Environmental Planner
Tess Hooper, Biologist/Environmental Planner
Sarah Toback, Biologist
Jorge Mendieta, Archaeologist
Elaine Foster, Archaeologist
Hannah Haas, Archaeologist