Initial Study/Mitigated Negative Declaration



City of Carlsbad

Fire Station No. 2 and Fire Station No. 2 Temporary Location

November 22, 2019

Fire Station No. 2 & Fire Station No. 2 Temporary Location City of Carlsbad

prepared for

City of Carlsbad Carlsbad, California

City Project Nos. Fire Station No. 2 - CUP 2018-0014 / SUP 2018-0009 / V 2018-0007 Fire Station No. 2 Temporary Location - CUP 2019-0034 / CDP 2019-0030

November 22, 2019

prepared by

Burns & McDonnell Engineering Company, Inc. San Diego, California

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
ACM	asbestos-containing material
ADT	average daily trip
ALUCP	Airport Land Use Compatibility Plan
APCD	Air Pollution Control District
BMPs	Best Management Practices
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model®
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CFC	chlorofluorocarbon
CFMP	Community Forest Management Plan
CH4	methane
СМС	Carlsbad Municipal Code
СМР	Congestion Management Program

Abbreviation	<u>Term/Phrase/Name</u>
CMWD	Carlsbad Municipal Water District
CNEL	Community Noise Equivalent Level
СО	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COCs	contaminants of concern
CUPA	Certified Unified Program Agency
CUP	Conditional Use Permit
dBA	A-weighted decibel
DEH	Department of Environmental Health
DOC	California Department of Conservation
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
EWA	Encinitas Wastewater Authority
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
ft²	square feet
GHG	greenhouse gas
HFC	hydrofluorocarbon
HMD	Hazardous Materials Division

Abbreviation	<u>Term/Phrase/Name</u>
НМР	Habitat Management Plan
IS/MND	Initial Study/ Mitigated Negative Declaration
LCS	lead-containing surface
LED	Light-emitting diode
LOS	level of service
LRA	local responsibility area
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act
MMLOS	multi-modal level of service
MT	metric tons
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
No.	Number
NO ₂	nitrogen dioxide
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
O ₃	ozone
PDP	Priority Development Project
PFC	perfluorocarbon
РМ	particulate matter

Abbreviation	<u>Term/Phrase/Name</u>
RAQS	Regional Air Quality Standards
SANDAG	San Diego Association of Governments
SCIC	South Coastal Information Center
SDAB	San Diego Air Basin
SDNHM	San Diego Natural History Museum
SDRWQCB	San Diego Regional Water Quality Control Board
SF6	sulfur hexafluoride
SO ₂	sulfur dioxide
SRA	state responsibility area
SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Storm Water Quality Management Plan
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
UWR	Universal Waste Rule
VOCs	Volatile organic compounds

1.0 **Project Information**

1.1 **Project Name:**

Fire Station No. 2 & Fire Station No. 2 Temporary Location

1.2 **Project Nos:**

City of Carlsbad Project Nos. CUP 2018-0014 / SUP 2018-0009 / V 2018-0007 (City of Carlsbad permits for proposed Fire Station No. 2; permits for the Dove Library temporary location are City of Carlsbad Project Nos. CUP 2019-0034 and CDP 2019-0030

1.3 Lead Agency:

City of Carlsbad 1635 Faraday Avenue Carlsbad, CA 92008

1.4 **Project Applicant:**

Steve Stewart, Municipal Projects Manager Public Works Department City of Carlsbad 1635 Faraday Avenue Carlsbad, CA 92008 <u>Steven.Stewart@carlsbadca.gov</u> 760-602-7543

1.5 Lead Agency Contact Person:

Pam Drew, Associate Planner Planning Division City of Carlsbad 1635 Faraday Avenue Carlsbad, CA 92008 <u>Pam.Drew@carlsbadca.gov</u> 760-602-4644

1.6 **Project Locations:**

Fire Station No. 2 site (permanent facility, also referred to as the Project site throughout this document): 1906 Arenal Road, Carlsbad, California 92009 Dove Library (temporary site): 1775 Dove Lane, Carlsbad, California 92011

1.7 **General Plan Land Use Designation:**

The Project site is designated as R-4, Residential 0-4 du/ac in the City of Carlsbad General Plan Land Use Map (February 2017), an area intended to be developed with 0 to 4 dwelling units per acre. This site is also within the La Costa Master Plan area. The master plan identifies the Project site as a fire station and refers to the Zoning Ordinance for applicable standards. The Dove Library temporary site is designated L, Local Shopping Center General Plan.

1.8 **Zoning:**

The Project site is zoned as One Family Residential (R-1). The Dove Library temporary site has a zoning designation of Local Shopping Center (C-L). In the R-1 and C-L zones, fire stations are a conditionally permitted use. Detailed discussions regarding consistency with land use plans and zoning are included in Section XI. Land Use and Planning.

1.9 **Project Description**:

Project Overview

The City of Carlsbad (city) proposes to demolish the existing fire station located at 1906 Arenal Road, Carlsbad, and construct a new fire station at the same location. Prior to demolition, a temporary fire station is planned to begin operation at the Dove Library, less than one mile north, and remain in use until completion of the new station in 2022 (Project) (Figure 1-1 and Figure 1-2). The new permanent station will meet the operational needs, goals, and policies of the City of Carlsbad Fire Department and the city. The new station would be 10,782 square feet (ft²) and would be constructed on 0.42 acre in the same location as the existing station. The new station would be a two-story facility replacing the existing single-story station with the new height of the building at 32 feet.

Existing Setting and Project Background

The existing fire station was built in 1969 on the corner of Arenal Road and ECR in the City of Carlsbad. Originally built to accommodate one full-time firefighter, the station now houses five firefighters and requires substantial upgrades to fulfill the needs and objectives of the City of Carlsbad Fire Department. The existing building does not meet current seismicity, building, or fire codes; the garage is too small to fit modern emergency response vehicles and equipment; and the building lacks accommodations for a mix of male and female firefighters.

In November 2016, city voters approved Measure O, which authorized expenditure of general fund money to rebuild the existing fire station. The new fire station will be built in accordance with current building codes, increase operational efficiency, and will better accommodate assigned staff and emergency response vehicles and equipment.

Project Description Details

Proposed Fire Station (Permanent Facility)

The Project will accommodate five firefighters and one captain on duty per 24-hour shift, yearround. The new facility will be two stories and will include dormitories, a kitchen, dining area, bathrooms, a common area, laundry facilities, storage, weight room, office spaces, and one large garage that will store emergency response vehicles and equipment. Additionally, site improvements would include grading, new concrete foundation, emergency vehicle ingress and egress, two new driveways on ECR (ECR), staff parking, trash enclosure, emergency generator, public parking with three electric vehicle charging stations, and rooftop solar panels. Water, sewer, electricity, and natural gas connections already exist at the site to accommodate the new facility.

The new facility would be enclosed by block walls and gates. Due to grade changes, wall heights would vary from approximately five to nine feet; however, except where adjacent to Arenal Road, the wall would be no greater than six feet when viewed from outside the fire station, such as along ECR and the three residences bordering the fire station to the east and north. The block wall would reduce the amount of noise from the fire station during operation and provide security and screening. Furthermore, a six-foot tall wrought iron gate is proposed along the south property boundary along Arenal Road.

A conceptual site plan for the new fire station is provided in Appendix A. All improvements would be constructed to meet the city's building and engineering standards, and all needed discretionary permits (e.g., conditional use permit) would be obtained for the Project, including approval of a Special Use Permit—Scenic Preservation Overlay and a Variance from the city. Minor adjustments to the conceptual plan may occur during finalization of Project design, while adhering to entitlement conditions.

Implementation of the Project would achieve a variety of sustainability goals aimed to reduce environmental impacts, optimize performance, lower energy and operating costs, conserve resources, and increase occupant satisfaction and productivity. These sustainability design measures are in line with the City of Carlsbad Council Policy No. 71, Energy Conservation and Management, the city's General Plan Sustainability Element, and the city's Climate Action Plan (CAP), including applicable 2019 ordinances to implement CAP measures regarding electric vehicles, energy conservation, solar photovoltaic and water heating. The new facility would be built to achieve Silver Leadership in Energy and Environmental Design (LEED) standards or the equivalent per City Council Policy No. 71 and would include installation of solar panels and electric vehicle charging stations.

Carlsbad Council Policy 71 Paragraph 2 Construction of Civic Facilities, Subparagraph a, states:

"Whenever practicable and within a reasonable cost/benefit ratio, design and construct mechanical and electrical systems to achieve the maximum energy efficiency achievable with current technology."

The design for this Project incorporates the use of new Title 24 (California Building Standards Code) compliant heating, ventilation, and air conditioning equipment and light-emitting diode (LED) lighting fixtures to optimize electrical energy efficiency.

Construction Description

Site preparation would begin with the removal of flatwork, vegetation, utility lines, asphalt, concrete, existing building structure and other debris/material from areas to be graded. Excavation

would extend six to eight feet below grade, with a maximum depth of 10 feet below grade, to accommodate building foundations. The new station is anticipated to be supported on conventional shallow concrete foundations with an interior concrete slab-on-grade floor (Ninyo & Moore 2017). Construction staging would occur on the Project site for the duration of construction. The maximum number of construction personnel onsite at any one time would be approximately 25 workers during periods of peak construction activity. Up to five passenger vehicles can be accommodated onsite for construction staff parking during construction and street parking is available on Arenal Road east and west of ECR.

Project construction would be approximately 12 to 18 months in duration, and demolition of the existing fire station building is targeted for Spring/Summer 2021. The Project would be operational by 2022.

Table 1-1 identifies the number and type of equipment to be used during each phase of the Project construction.

Phase	Equipment (one each)			
Demolition/earthwork	Compactor, excavator, grader, haul truck, loader, water truck			
Underground utilities	Excavator, haul truck, loader, water truck			
Foundations	Concrete mixer truck, excavator			
Framing contractor	Crane, forklift, scissor lifts			
Electrical	Crane, forklift			
Plumbing	Forklift			
HVAC	Crane, forklift			
Roofing	Crane, forklift, scissor lift			
Interior finishing	Forklift			
Paving	Haul truck, paver			
Exterior concrete	Concrete mixer truck, paver			
Landscaping	Excavator, loader, water truck			

 Table 1-1: Phase and Equipment List for Project Construction





Source: ESRI; Burns & McDonnell Engineering Company, Inc

The current Project site on Arenal Road and ECR is served by the City of Carlsbad Fire Department District 2, according to Figure 6-9 of the city's General Plan (2015). During the construction of the new station, the same level of firefighting services would be provided from the Dove Library temporary site (Figure 1-3). A description of the Dove Library temporary site and construction methods follows below.

Dove Library Temporary Site Description

During construction, existing fire services would be relocated to a portion of the Dove Library parking lot on the northern side of the library. The library is located at 1775 Dove Lane, less than a mile north of the existing station and within District 2 (Figure 1-3). All necessary permits would be obtained for the Dove Library temporary site including a Conditional Use Permit (CUP), a Coastal Development Permit (CDP), and a building construction permit. The Dove Library temporary site would consist of a large tent for the emergency response vehicles and approximately a large portable trailer to accommodate Fire Department staff. The tent, portable trailer, and staff parking area would be fenced completely and green-screened (green-screening material on chain-link fence) for site security and appearance. The Dove Library temporary site would take approximately three weeks to set up. Electrical service to the portable trailer would be provided by a temporary power pole served by the transformer for the library, and potable water service would be provided via connection to Library utility services. Weekly sanitary services would be provided by a third-party vendor for the trailer.

Parking for library staff, which primarily occurs on the south side of the library building closest to the library entrance from Dove Lane, would not be impacted due to the temporary use of a portion of the north parking lot by Fire Department staff, trailer, equipment, and driveway space. Of the 68 spaces on this side of the building, 49 would be temporarily removed to accommodate the Dove Library temporary site. Limited replacement parking would be available on Dove Lane and elsewhere in the library parking lot, including south of the library, where employees currently park. Further, two to three of the accessible parking stalls (ADA compliant) in this area would not be available during temporary use of the parking lot; however, the city would temporarily locate two to four new accessible spaces to the library's east parking lot to continue meeting patron demand for accessible parking. In anticipation of special events at the library, staff would work with the city's Transportation Department to relax portions of the parking restrictions on Dove Lane northwest of the shopping center entrance closest to ECR while maintaining transitions to and from the adjacent bike lanes along Dove Lane west to ECR. Implementation of the Dove Library temporary site will not impact bicycle facilities along Dove Lane. The Library & Cultural Arts Director has reviewed the intended rearrangement and reduction of library parking and does not anticipate an adverse impact on patrons' use of the library during regular operations or special events during operation of the temporary fire station.

Fire truck and ambulance access in and out of the parking lot portion on the north side of the Dove Library would be accommodated by constructing a new two-way temporary driveway on Dove Lane (Figure 1-3) located northwest of the current library entrance off Dove Lane. This separate driveway would serve fire truck and ambulance access and help minimize traffic impacts to library access, parking, and pedestrian pathways. To construct the temporary driveway, the existing sidewalk and landscaping would be removed and graded to minimize the elevation change between the parking lot and the street. An asphalt patch would serve in place of the sidewalk, so pedestrian use of the sidewalk would continue. Upon completion of Fire Station No. 2 construction and upon relocation of Fire Department staff back to the new station, the sidewalk, landscaping, trailer, fencing, and all other temporary improvements would be removed, and the parking lot and surroundings would be restored to their pre-existing condition at Dove Library. Use of the Dove Library temporary site is expected between spring 2021 and summer/fall 2022. Construction is currently expected to be complete by summer/fall 2022.



Source: Google Earth (2016); Burns & McDonnell Engineering Company, Inc

1.10 Environmental Setting/Surrounding Land Uses:

The City of Carlsbad is located on the coast of the Pacific Ocean in the northwest area of San Diego County. The city is bounded by the City of Oceanside to the north, the cities of San Marcos and Vista to the east, and the City of Encinitas to the south.

The northern portion of the city abuts Highway 78 and Buena Vista Lagoon, which creates the boundary between the cities of Carlsbad and Oceanside. Similarly, Batiquitos Lagoon, along the city's southern edge, acts as a boundary between the cities of Carlsbad and Encinitas (City of Carlsbad General Plan, 2015).

The existing station is on the northeast corner of ECR and Arenal Road. Residential areas surround the existing fire station to the north, east, and west, and the Omni La Costa Resort and Spa is located south of the station. Open space, as designated by the City of Carlsbad General Plan, is located southwest of the Project and across ECR. The open space encompasses Batiquitos Lagoon and its surrounding preserve and is designated an existing hardline preserve by the city's Habitat Management Plan (HMP).

The Dove Library temporary site is located about 600 feet northwest of ECR, near the library's Dove Lane entrance. Residential, commercial, and open space surround the library.

1.11 Other Required Agency Approvals (i.e., permits, financing approval or

participation agreements):

The new fire station would disturb approximately 0.42 acre of developed land. Due to the station's proximity to Batiquitos Lagoon, the Project would be required to prepare a Tier 2 Storm Water Pollution Prevention Plan (SWPPP) in conformance with city standards. A CUP, Variance, and Special Use Permit are city-required discretionary permits for the Project as described in detail in Section XI. Land Use and Planning. Construction of the Project is not anticipated to trigger any other required agency approvals.

The Dove Library temporary site is not expected to require other agency approvals except for a CUP and a CDP issued by the city's Planning Commission.

1.12 California Native American Tribes Consultation

- **a.** Have California Native American Tribes traditionally and culturally affiliated with the project area requested consultation pursuant to public resources code section 21080.3.1?
- b. If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

🖾 Yes 🗆 No

1.13 **Previous Environmental Documentation:**

Technical studies have been developed for the construction of the new Project. These technical studies and reports include a traffic study, noise study, geotechnical evaluation, cultural and paleontological reports, hazardous building materials survey, and air quality modeling.

No previous environmental impact studies have been conducted prior to this Initial Study and Mitigated Negative Declaration (IS/MND).

1.14 Summary of Environmental Factors Potentially Affected:

A California Environmental Quality Act (CEQA) analysis of this Project has determined that the Project could have a significant environmental effect in the following areas: Biological Resources, Cultural/Paleontological Resources, Geology and Soils, Noise, and Tribal Cultural Resources. The Dove Library temporary site could have a significant environmental effect in temporary noise. With implementation of the proposed Mitigation Measures, the Project, including the Dove Library temporary site, would not result in any Significant Impacts. The following chapter supports a Mitigated Negative Declaration for the development of the Project and Dove Library temporary site.

	Aesthetics		Greenhouse Gas Emissions		Public Services
Π.	Agriculture & Forestry Resources	□ Ma	Hazards/Hazardous (terials		Recreation
	Air Quality		Hydrology/Water Quality		Transportation
\boxtimes	Biological Resources		Land Use & Planning	\boxtimes	Tribal Cultural Resources
⊠ Res	Cultural sources/Paleontological Resources		Mineral Resources		Utilities/Service Systems
	Energy	\boxtimes	Noise		Wildfire
\boxtimes	Geology/Soils		Population & Housing	\boxtimes	Mandatory Findings of Significance

1.15 **Preparation:**

The Initial Study/Mitigated Negative Declaration for the subject Project was prepared by:

11-25-19 am

Pam Drew, Associate Planner, City of Carlsbad Dat

1.16 Determination: (to be completed by Lead Agency)

On the basis of this initial evaluation:

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

- ☑ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described herein have been added to the Project. A MITIGATED NEGATIVE DECLARATION will be prepared.
- □ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- □ I find that the proposed Project MAY have a "potentially significant impact(s)" on the environment, but at least one potentially significant impact 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described herein. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.□ I find that although the proposed Project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project. Therefore, nothing further is required.

1.17 Environmental Determination:

The Initial Study for this Project has been reviewed and the environmental determination, indicated above, is hereby approved.

Date

Don Neu, City Planner

1.18 Applicant Concurrence with Mitigation Measures:

This is to certify that I have reviewed the mitigation measures in the Initial Study/Mitigated Negative Declaration and concur with the addition of these measures to the Project.

Nov. 25 Date Signature

2.0 Evaluation of Environmental Impacts

I. Aesthetics

A. Environmental Analysis

Except as pr Code Sectio	ovided in Public Resources n 21099, would the project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less than Significant Impact	No Impact
a) Have a su scenic vis	bstantial adverse effect on a ta?			\boxtimes	
b) Substantia including outcroppi within a S	ally damage scenic resources, but not limited to, trees, rock ngs, and historic buildings State scenic highway?			\boxtimes	
c) In non-ur degrade th quality of surroundi that are ex accessible in an urba conflict w regulation	banized areas, substantially the existing visual character or public views of the site and its ngs? (Public views are those experienced from publicly e vantage point). If the project is anized area, would the project with applicable zoning and other as governing scenic quality?			X	
d) Create a r and glare, day or nig	new source of substantial light which would adversely affect ghttime views in the area?			X	

a) Less than Significant Impact. The Project is situated in the southeast part of the city along Arenal Road, with primarily residential and commercial neighboring land uses. The residential areas in closest proximity to the Project site are located on the north and east property lines. Additional residential areas are located across ECR, approximately 150 feet west of the Project site. The Omni La Costa Resort & Spa, a large golf, hotel, and spa complex, is situated south of the Project. The Project site is currently developed with an existing single-story fire station that would be demolished and replaced with a new two-story fire station.

The residences surrounding the Project site do not currently have a view of Batiquitos Lagoon or any other scenic vistas.

The ECR roadway corridor is considered a scenic roadway—areas adjacent to the roadway provides rolling hillsides and diverse views. All properties with frontage along ECR are in a Scenic Preservation Overlay Zone. To retain the existing character of the scenic zone, the city has adopted the ECR Corridor Development Standards. These standards divide the ECR

corridor into five different areas with specific standards and requirements for each area. The Project would be subject to the ECR Corridor Development Standards Area 5, which has a design theme of Old California/Hispanic architectural elements. The intent and purpose of these standards is to maintain and enhance the appearance of the ECR roadway area. These standards reflect the existence of certain identified characteristics which the city considers worthy of preservation. The Design Guidelines (part of the ECR Corridor Development Standards) puts an emphasis on retaining the natural topography to avoid creating more "visible" development along the roadway and concentrating commercial and office uses along and near major intersections.

As discussed in detail in Section XI. Land Use and Planning, the Project seeks relief from certain provisions of the ECR Corridor Development Standards and the Zoning Ordinance, including provisions regarding maximum building and wall height, setbacks, and parking. Through a deviation process contained in Section V. of the ECR Corridor Development Standards, relief from certain requirements of those standards is proposed due to site constraints and to create a facility that meets modern fire-fighting needs. For the ECR Corridor Development Standards specifically, deviations are sought for the fire station building setback along ECR, perimeter wall height and setback, parking setbacks, and access. An exemption (addressed through the CUP) is proposed to address Zoning Ordinance inconsistencies in setbacks, building and wall height and parking, as detailed in Section XI.

Though the Project does not meet all ECR Corridor Development Standards, it maintains compliance with the intent of those standards by not substantially changing the composition or visual character of the existing scenic roadway. For example, by incorporating elements of old California/Hispanic architectural style, the proposed fire station maintains compliance with the design theme established by the ECR Corridor Development Standards Area 5 and blends in with the design of the adjacent Omni La Costa Resort and Spa. The new station would have old California/Hispanic architectural style details including:

- simple white plaster walls
- traditional terracotta tile walls that form the base and entries to the fire station
- entry tower
- heavy wood timber trellises and wood siding accents
- grid framed punched windows
- native drought tolerant landscape palette

Further, the Project's building height (which complies with the ECR Corridor Development Standards, but not the Zoning Ordinance, as discussed in Section XI) and minimal cut and fill grading meet the ECR Corridor Development Standards. Landscaping along the Project perimeter would soften the appearance of the building and wall that encroach into the setback. The block wall would be painted white to match the adjacent Old California style walls located at the Omni La Costa Resort and Spa. The Project would maintain the scenic quality objectives of the standards and therefore would be consistent with the intent of the ECR Scenic Preservation Overlay Zone (Carlsbad Municipal Code [CMC] Chapter 21.40).

The ECR Corridor Development Standards, in Section II., Design Guidelines, state, "intersections and access points shall be minimized along the corridor." Though not a part of the development standards, the city has treated this requirement as an applicable development standard for the Project, particularly since the Project has two limited access (exit only) driveways proposed directly onto ECR to accommodate the fire station uses. Presently, the existing fire station has no access onto ECR. The two proposed driveways onto ECR have been reviewed and approved by the city's Transportation and Engineering Departments as discussed further in Section XVII. Transportation.

Views of, and through, the Project site from adjacent residential areas on Arenal Road, Estrella De Mar Road, and ECR would be temporarily affected during Project construction. The temporary presence of construction-related equipment and vehicles would not constitute a substantial adverse effect on a scenic vista or roadway. Construction work would be temporary and highly localized.

Furthermore, completion of a two-story fire station would not substantially change a scenic vista or roadway and would generally conform to the ECR Corridor Development Standards. Increasing the height of the station from one to two stories would not significantly affect the vistas of the homes along the north and northeastern perimeter of the station as they are all one-story homes and any potential vistas are currently blocked by the existing one-story station. Therefore, the impact would be Less than Significant.

There are no scenic vistas identified at or around the Dove Library. As such, temporary use of the parking lot for the temporary fire station would not pose a substantial adverse effect on a scenic vista and is considered Less than Significant.

b) Less than Significant Impact. No highways in the city are included on the California Department of Transportation (Caltrans) list of officially designated scenic highways. The entire segment of Interstate-5 (I-5) that runs through San Diego County is considered an Eligible State Scenic Highway (Caltrans, 2016), but I-5 is located approximately two miles west of the Project site and the Dove Library temporary site and is not visible from either location.

No natural scenic resources or rock outcroppings that can be classified as unique or significant are on the Project site due to the urbanized nature of the site and the surrounding area (City of Carlsbad, 2015).

The Project would remove up to 10 ornamental trees, but these trees would be replaced by approved tree species in accordance with local guidelines and policies. The city approved an updated Carlsbad Community Forest Management Plan in 2019 to establish standards and guidelines primarily for city-managed landscapes, including tree planting within the city rights-of-way (City of Carlsbad, 2019). The City of Carlsbad Landscape Manual, dated February 2016, outlines the city's policies, programs, and requirements for landscaping and includes guidance for implementation of Carlsbad Municipal Code Chapter 18.50—Water Efficient Landscape Ordinance. The Project would be required to adhere to policies designated in the Community Forest Management Plan (2019) and the City of Carlsbad

Landscape Manual (2016) such that impacts resulting from tree removal and planting would be Less than Significant.

The Project would not substantially damage historic buildings. The existing fire station was built in 1969, but it does not meet the criteria for designation as a historical resource (LSA, 2018), as discussed further in Section V. Cultural Resources/Paleontological Resources. No historic buildings are near the Project site.

Because no substantial damage to State Scenic Highways, scenic trees, rock outcroppings, or historic buildings are anticipated within or near the Project site, the impact would be Less than Significant.

The Dove Library temporary site would remove some ornamental vegetation to create a driveway for trucks and would require a green fence-like barrier for security, but the temporary station would not damage trees, rock outcroppings, historic buildings, or any such scenic resource within a State Scenic Highway and is therefore considered Less than Significant.

c) *Less than Significant Impact.* The Project site and Dove Library temporary site are located in urbanized areas; therefore, this discussion analyzes potential visual impacts with respect to applicable zoning regulations.

The short-term construction phase would temporarily impact the visual character and quality of the site by introducing construction activity and equipment. Construction is anticipated to last 12 to 18 months and includes the use of excavators, loaders, graders, haul trucks, water trucks, forklifts, cranes, and pavers. Visibility of the Project site includes adjacent residential areas on Arenal Road and Estrella De Mar Road, as well as travelers along ECR.

Construction activities would not constitute a substantial degradation of the visual character of the neighborhood because they are temporary. During construction, the Project would have a Less than Significant Impact on the visual character and quality of the site and its surroundings.

Once constructed, the addition of a second story would make the fire station building taller than the existing fire station (two stories rather than a single-level building). The building design would conform with the old California/Hispanic style appearance required by the city's ECR Corridor Development Standards, which is in line with the visual character of the surrounding community. Two new, limited access driveways would be placed along ECR, north of the Arenal intersection and would be designed in conformance with the city's Engineering Department Design Standards as discussed further in Section XVII. Transportation. The proposed driveways would not significantly impair visual qualities of neighborhoods or of the ECR corridor. Furthermore, the flat roofs and parapet walls allow for (while also screening from view) new technology, such as the proposed photovoltaic panels, designed to comply with the city's Climate Action Plan (CAP).

The Project would include landscaping and a wall for security along the west, north, and east perimeters between the station's property boundary, ECR, and the adjacent residential area.

Given the grade variation on-site, the perimeter security wall would vary in height between five and nine feet. However, the wall would be limited to six feet tall as viewed from offsite due to grade variation between the site and surrounding area (refer to Section XI. Land Use and Planning, for details). Landscaping would conform to the visual character of the site and its surroundings. Although two trees would have to be removed along ECR for the driveways, additional trees and landscaping are proposed along the perimeter wall. Trees are also proposed on the property within the side- and rear-yard setbacks and within the employee parking area, which would shield part of the two-story structure from the adjacent residential houses. The new block wall along the north and east perimeter would be substantially similar in height to the existing wall/fence (as viewed from the backyards of adjacent homes along Estrella De Mar) and would not conflict with the existing community visual character. Most design components of the new building, landscaping, and grading comply with the ECR Development Standards. Deviations from the Standards are needed for setbacks along ECR. However, a perimeter wall and landscaping are proposed and thus the visual character and quality of the site and its surroundings would not be subject to substantial degradation along the ECR corridor and the Project would have a Less than Significant Impact.

The appearance of the temporary fire station at the Dove Library would consist of a large tent for the fire truck and ambulance and one portable trailer to accommodate Fire Department staff. The tent, portable trailer, and staff parking area would be fenced completely with a chain-link fence, which would include green-screening material for site security and appearance. Use of the green-screening material on the chain-link fence would visually block the site's interior, the tent, and portable trailer. The tent and portable trailer would comply with the height and setback requirements of the C-L Zone. The tent and portable trailer are expected to be approximately 21 feet above ground height and the maximum building height in the C-L zone is 35 feet above ground. Once the new station is constructed the temporary fire station and related improvements would be removed and the affected area returned to its pre-existing condition. The Dove Library temporary site would not substantially degrade the visual character or quality of the site and its surroundings and are considered Less than Significant.

d) *Less than Significant Impact.* The Project would not create a new source of substantial light that would adversely affect daytime or nighttime views in the area. Lighting already exists in the Project area due to streetlights, security lighting in the existing parking lot, and surrounding residential and commercial development. The streetlights at the intersection of Arenal Road and ECR would remain unchanged by the Project; however, the traffic signal for the south-bound traffic on ECR would be relocated approximately 75 feet to the north to allow space for fire apparatus to safely enter/exit the new station. Any exterior lighting during construction and operations would be positioned downward to minimize light spillage off-site. Temporary and permanent lighting sources would be screened or shielded to direct light downward and limit light onto adjacent properties. In addition, construction is anticipated to occur during daylight hours. The Project would avoid the use of unusually high lighting fixtures. Appropriate building and construction materials would be used to prevent glare from adversely affecting motorists on nearby roadways or disturbing nearby residential areas. In addition, compliance with General Plan policies and the city's Habitat Management

Plan (HMP) Adjacency Standards related to lighting, including use of low-pressure sodium or equivalent illumination, would result in Less than Significant impacts relative to lighting and glare.

Exterior lighting at the Dove Library temporary site would be provided by existing parking lot lighting and lighting from trailer interiors would be screened by perimeter fence green-screen; therefore, lighting impacts are considered Less than Significant.

B. References

Caltrans. 2016. "San Diego County State Scenic Highways." Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways. Accessed: February 6, 2018.

City of Carlsbad. 2015. *City of Carlsbad Final Environmental Impact Report*. Available at: http://www.carlsbadca.gov/services/depts/planning/update/documents.asp. Accessed: February 6, 2018.

City of Carlsbad. 2019. Carlsbad Community Forest Management Plan.

City of Carlsbad. 1984. ECR Corridor Development Standards. Available at: http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=24734.

City of Carlsbad. 2016. Landscape Manual – Policies and Requirements.

LSA Associates, Inc. 2018. Cultural Resources Assessment, Fire Station No. 2. City of Carlsbad, CA.

II. Agricultural and Forest Resources

A. Environmental Analysis

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

a) No Impact. The California Department of Conservation (DOC) administers many programs, including those established in the Williamson Act, designed to preserve and sustainably manage the conversion of agricultural land. The DOC Farmland Mapping and Monitoring Program (FMMP) compiles important farmland maps pursuant to the provisions of Section 65570 of the California Government Code. The FMMP was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). The FMMP creates maps used to analyze impacts to agricultural resources in the State of California. Land is rated and categorized based on physical and chemical soil properties, land use, and irrigation status. For the purposes of CEQA review, Important Farmland of Local Importance, or Grazing Land.

The Project site is in an area that is designated as Urban and Built-Up according to the FMMP (CDC, 2016). The closest designated agricultural land is an area approximately 2,500 feet west of the Project site. The closest Prime Farmland is four miles northwest of the

Project site. The Project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; therefore, No Impact would occur from construction of the Project.

The Dove Library temporary site would be constructed on a paved parking lot at the Dove Library, which is currently used for non-agricultural uses. The Dove Library temporary site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; therefore, No Impact would occur from temporary use of Dove Library parking lot.

b) No Impact. The Project site is designated as Urban and Built-Up land and does not contain viable farmland. There are no Williamson Act contracts on the Project site. Therefore, No Impacts to land with existing zoning for agricultural use or a Williamson Act contract would occur from construction of the Project.

The Dove Library parking lot does not contain viable farmland. There are no Williamson Act contracts on the temporary site. Therefore, No Impacts to land with existing zoning for agricultural use or a Williamson Act contract would occur from temporary use of the Dove Library parking lot.

- c) *No Impact.* Both the Project site and the Dove Library temporary site are not zoned as forest land, timberland, or timberland zoned Timberland Production. The construction of the Project and temporary use of the Dove Library parking lot would not cause the rezoning of any of these lands; therefore, No Impact would occur.
- d) *No Impact.* No forest land exists on the Project site or Dove Library temporary site. Neither the Project site nor the Dove Library temporary site are zoned as agricultural or forest land and the Project would not result in conversion to non-forest use. Therefore, No Impact would occur from construction of the Project or use of the Dove Library parking lot.
- e) *No Impact.* Construction of the Project and temporary use of the Dove Library parking lot would not involve changes to the existing environment that would result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No Impact would occur.

B. References

California Department of Conservation (CDC). 2016. "California Important Farmland Map". Available at: http://www.conservation.ca.gov/dlrp/fmmp. Accessed: February 6, 2018.

III. Air Quality

A. Environmental Analysis

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

a) Less than Significant Impact. An area is designated in attainment when it complies with the National Ambient Air Quality Standards (NAAQS) (federal) and California Ambient Air Quality Standards (CAAQS) (state). These standards are set by the U.S. Environmental Protection Agency (EPA) or the California Air Resources Board (CARB) for the maximum level of a given air pollutant that can exist in the outdoor air without adverse effects on human health or public welfare. The criteria pollutants of primary concern considered in an air quality assessment include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}), lead, and toxic air contaminants. Volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) are precursors to the formation of ground-level O₃.

The Project is located within the San Diego Air Basin (SDAB). The SDAB is designated by the EPA as an attainment area for the 1997 8-hour NAAQS for O_3 and as a marginal nonattainment area for the 2008 8-hour NAAQS for O_3 . The SDAB was designated in attainment for all other criteria pollutants under the NAAQS except for PM₁₀, which was deemed unclassifiable.

Under the CAAQS, the SDAB is currently designated as nonattainment for O_3 and PM_{10} and $PM_{2.5}$. It is designated as in attainment under the CAAQS for CO, NO_2 , SO_2 , lead, and sulfates (City of Carlsbad, 2015b).

The violations of NAAQS in the SDAB, particularly for O₃, require development of a plan outlining pollution controls to improve air quality. Air quality management in San Diego

County is a shared responsibility among several agencies pursuant to state and federal laws. Locally, the San Diego County Air Pollution Control District (APCD) is entrusted with regulating stationary (fixed) sources of air pollution, including power plants, manufacturing and industrial facilities, stationary internal combustion engines, gas stations, landfills, and solvent cleaning and surface coating operations. Accordingly, the emission control measures identified in the Regional Air Quality Standards (RAQS) focus on stationary sources while CARB is responsible for the regulation of mobile emission sources within the state (APCD, 2016). The RAQS outlines the APCD's plans and regulatory control measures designed to attain state air quality standards for O₃. The RAQS, which was adopted by the San Diego APCD Board in 1992, is updated every three years, with the most recent revision prepared in December 2016.

The Project will demonstrate compliance with the CAP and City of Carlsbad Policy No. 71. Greenhouse Gas (GHG) emissions from the Project and compliance with CAP ordinances are discussed in Section VIII. Greenhouse Gas Emissions.

During construction, the Project would not be classified as a stationary source of emissions and is therefore not in conflict with the RAQS. All emissions from Project construction would be from fugitive dust emissions and operation of construction equipment. All mobile equipment shall meet the applicable requirements of CARB's Diesel Off-Road, Truck and Bus, and Large Spark Ignition regulations.

Additionally, the construction emissions and operational emissions from the Project are substantially below the screening levels established by the APCD Daily Threshold, and subsequently would not violate ambient air quality standards or applicable air quality plans. As a result, impacts are expected to be Less than Significant.

Use of the Dove Library temporary site would generate very little dust during site setup as the area is already paved. During operation of the temporary site one fire truck and one ambulance would be in operation. The operational use emissions of the temporary fire service location would likely be equal to or very similar in magnitude to the current operational emissions. Therefore, no significant change in operational emissions would occur during or after the construction of the new station. Emissions from the Dove Library temporary site would not conflict or obstruct implementation of air quality plans and are therefore considered Less than Significant.

b) Less than Significant Impact. The SDAB is currently in nonattainment for O₃ and suspended fine particulates. The Project's construction emissions are below all APCD district daily thresholds (Appendix B).

The California Emissions Estimator Model® (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction from a variety of land use projects. The model is a comprehensive tool for quantifying air quality impacts from land use projects located throughout California.

The CalEEMod was used to estimate construction emissions from the Project. The assumptions used to perform these calculations are provided in Appendix B. As shown in Table 2-1, construction emissions are below all APCD construction emission thresholds. Construction emissions associated with the Project would be short-term. Therefore, according to the CEQA Guidelines Section 15130, the Project's contribution to the cumulative impact is considered *de minimis*, and impacts would be Less than Significant.

The operational use emissions of the Dove Library temporary site would likely be equal to or very similar in magnitude to current operational emissions. Therefore, no significant change in operational emissions would occur during or after the reconstruction of Fire Station No. 2 and impacts would be Less than Significant.

	Emissions (pounds per day)ª					
	ROG	NOx	СО	SO ₂	PM ₁₀ Total	PM _{2.5} Total
2019	2.53	27.30	14.97	0.05	1.71	1.01
2020	11.63	24.87	17.13	0.05	1.96	1.05
Maximum	11.63	27.30	17.13	0.05	1.96	1.05
APCD Daily Thresholds ^b	137	250	550	250	100	55
Exceed APCD Thresholds?	No	No	No	No	No	No

 Table 2-1: Project Construction Emissions

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; particulate matter less than or equal to 10 microns in diameter (PM_{10}); particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$)

(b) APCD = San Diego County Air Pollution Control District

c) Less than Significant Impact. Residences are located along the northeastern side of the Project site, approximately 48 feet from the new station. No other sensitive receptors (e.g., schools or hospitals) are within 0.25 mile of the new station. As noted above, the Project would not result in substantial pollutant emissions or concentrations during construction or operation. Therefore, impacts to sensitive receptors would be Less than Significant.

Temporary use of the Dove Library parking lot would not expose sensitive receptors to substantial pollutant concentrations. There are residential houses adjacent to the Dove Library temporary site; however, only one emergency response vehicle and one ambulance are proposed, the use of which would not produce substantial pollutant emissions or concentrations. Therefore, impacts would be Less than Significant.

d) *Less than Significant Impact.* Operation of construction equipment could generate fumes at the Project site and at the Dove Library temporary site. However, such exposures would be short-term and/or transient, as they would occur during the construction phase only. Therefore, impacts from objectionable odors would be Less than Significant.

B. References

- APCD. December 2016. 2016 Revision of the Regional Air Quality Strategy (RAQS) for San Diego County.
- City of Carlsbad. 2010. "Community Vision." Available at: http://www.carlsbadca.gov/residents/vision.asp.
- City of Carlsbad. 2015a. *Climate Action Plan (CAP)*. Available at: http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=29361.
- City of Carlsbad. 2015b. General Plan & Climate Action Plan, Final Environmental Impact Report SCH #2011011004. Available at: http://www.carlsbadca.gov/services/depts/planning/update/documents.asp.

IV. Biological Resources

A. Environmental Analysis

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

a) Less than Significant Impact. The city approved the HMP for Natural Communities in the City of Carlsbad in 2004 as a comprehensive program to protect sensitive biological resources citywide. The Project site is developed and does not support any special status species or sensitive wildlife habitats. However, the Project site is near Batiquitos Lagoon, an area identified as a core wildlife zone in the city's HMP. Batiquitos Lagoon is an estuarine system that supports a variety of sensitive plant and animal species, as well as foraging habitat for raptors. Despite the proximity to Batiquitos Lagoon, the Project would not have a

substantial effect on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or identified by California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS). All construction activities would occur on the existing developed Project site and would not impact sensitive biological resources in the surrounding areas. Therefore, impacts on the Project site would be Less than Significant.

The Dove Library temporary site is already paved and located in a developed commercial and residential area. No special-status species, sensitive natural communities, or protected water features exist on the temporary site. Therefore, the Dove Library temporary site would have a Less than Significant impact on biological resources.

- b) No Impact. There is no riparian, aquatic or wetland habitat or any other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS on the Project site or the Dove Library temporary site. The entire Project site is designated as urban and disturbed land, as shown on the vegetation map in the city's HMP (City of Carlsbad, 2004). Sensitive vegetation communities exist in Batiquitos Lagoon in the Project vicinity, but the Project site and the Dove Library temporary site would not have a substantial adverse effect on those communities. Therefore, there would be No Impact.
- c) *No Impact.* The Project site is developed as an existing fire station. No federally protected wetlands as defined by Section 404 of the Clean Water Act exist on the Project site or the Dove Library temporary site. The Project would not have any direct or indirect impact on federally protected wetlands; therefore, there would be No Impact.
- d) Less than Significant Impact with Mitigation Incorporated. As stated in previous responses, the Project site and the Dove Library temporary site are developed and do not support any special status species or sensitive wildlife habitats. Neither site is located within a core linkage area as defined by the city's HMP (City of Carlsbad, 2004) and neither site has been identified as a migratory wildlife corridor. Although there are no sensitive wildlife habitats on either site, bird species protected by the Migratory Bird Treaty Act (MBTA) may nest in trees that would be removed prior to or during construction (no trees would be removed at the Dove Library temporary site). With the implementation of mitigation measure BIO-1, the city would retain a qualified biologist to perform pre-construction nesting bird surveys if vegetation disturbance is scheduled to occur during the bird breeding season (between January 15 and September 15). The biologist would implement the policies and guidance outlined in the city's Guidelines for Biological Studies (2008). Therefore, potential impacts would be Less than Significant with Mitigation.

BIO-1: Pre-Construction Nesting Bird Monitoring. The city shall retain a qualified biologist to perform pre-construction nesting bird surveys if vegetation disturbance is scheduled to occur during the bird breeding season (between January 15 and September 15). The nesting bird surveys shall occur no more than 72 hours prior to vegetation disturbance. If nesting birds are found, the biologist shall establish an adequate buffer zone based on a species-by-species, case-by-case basis, in accordance with city policies and guidelines.
- e) Less than Significant Impact. The city approved an updated Community Forest Management Plan (CFMP) in 2019 to establish guidelines for tree planting within the city's rights-of-way. To comply with these guidelines, any trees that would be removed during construction would be replaced by approved tree species designated in the CFMP (2019) and the City of Carlsbad Landscape Manual (2016). Replacement trees would be selected to maintain community identity and character. The Dove Library temporary site is located within the Coastal Zone as defined by the California Coastal Commission, therefore the temporary site would require a Coastal Development Permit and compliance with the City of Carlsbad Local Coastal Program (2017). Since the Dove Library temporary site is already developed and proposed facilities would not interfere with LCP policies regarding protection of natural resources, among others, findings to grant the permit and demonstrate program compliance can be made. The Project would not conflict with any other local policies or ordinances protecting biological resources; therefore, impacts are considered Less than Significant.
- f) No Impact. The Project site and the Dove Library temporary site are already developed, and construction and operation at both locations would not conflict with any provisions of the city's HMP or any other local, regional, or state habitat conservation plan. The Project site and the Dove Library temporary site are designated as an urban, disturbed area in the city's HMP. The Project and the Dove Library temporary site are not located in a biological core area or linkage area identified in the HMP. The Project and Dove Library temporary site would not conflict with any provisions of the city's HMP or any other local, regional, or state habitat conservation plan. Therefore, there would be No Impact.

B. References

City of Carlsbad. 2004. Habitat Management Plan for Natural Communities in the City of Carlsbad

City of Carlsbad. 2019. Community Forest Management Plan

City of Carlsbad. 2008. Guidelines for Biological Studies

City of Carlsbad. 2016. Landscape Manual – Policies and Requirements

City of Carlsbad. 2017. Local Coastal Program.

V. Cultural Resources/Paleontological Resources

A. Environmental Analysis

Would the Project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?			\boxtimes	
b) Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5?		\boxtimes		
c) Disturb any human remains, including those interred outside of dedicated cemeteries?		\boxtimes		

a) Less than Significant Impact. A Cultural Resources Assessment was prepared for the Project by LSA Associates, Inc., dated March 23, 2018 (Appendix C- Confidential Cultural Resources Assessment) and is the basis for the discussion in this section. The assessment included a records search of the Project vicinity at the South Coastal Information Center (SCIC), a sacred lands file search with the Native American Heritage Commission (NAHC), and a summary report. The assessment determined that no historical resources are on the Project site as defined in Section 15064.5 of the CEQA Guidelines. The existing fire station was built in 1969 but does not meet the criteria to be designated as a historical resource. No other historical resources exist on the Project site.

The Dove Library temporary site is located in a parking lot and would not involve demolition or alteration of any structures, therefore historical resources would not be subject to impacts and no further analysis related to historical resources is warranted for the Dove Library temporary site.

The construction of the Project would not impact any historical resources; therefore, impacts are considered Less than Significant.

b) Less than Significant with Mitigation Incorporated. A geotechnical evaluation prepared for the Project by Ninyo & Moore, dated October 18, 2017, indicates the subsurface of the Project site consists of artificial fill, old alluvial floodplain deposits, and materials of the Santiago Formation. Artificial fill is the dominant material found at the ground surface and extends to depths of approximately 10 feet, where it is underlain by the Santiago Formation and alluvial flood plain deposits. This fill material was likely brought in when the original fire station was constructed in 1969 and the previously disturbed nature of the Project area suggests a low likelihood of encountering buried intact cultural deposits (Appendix C). The SCIC records search found one previously recorded cultural resource (CA-SDI-609) on the Project site. The cultural resource CA-SDI-609 was recorded in 1959 and consisted of

midden soil deposits, shell fragments, and lithic artifacts. These observations predate the construction of the existing fire station in 1969 and the replacement of native soil on the Project site with fill material.

Most construction activities would only affect previously disturbed materials and artificial fill at depths of six to eight feet. Excavation activities could potentially extend beneath the fill material, disturbing native soils and exposing unknown archeological resources. However, this potential impact would be reduced to a Less than Significant level with implementation of mitigation measure **CUL-1**.

For the Dove Library temporary site, excavation would be limited to sidewalk and landscape removal and restoration for installation of a temporary driveway. Minor trenching to access underground utilities may be considered; however, it is not anticipated. Due to the limited area of disturbance and the location on previously developed/paved areas, impacts to cultural resources at the Dove Library temporary site are not anticipated and are therefore considered Less than Significant.

CUL-1: Archeological Monitoring. The city shall retain a qualified archaeologist to monitor ground-disturbing construction activities that would have a reasonable likelihood to disturb areas of archaeological sensitivity. If archaeological material is identified at any point of construction, work in that location shall be diverted, and the qualified archaeologist shall evaluate the nature and significance of the find.

c) Less than Significant with Mitigation Incorporated. The records search did not indicate that there are any human remains known to exist on the Project or Dove Library temporary site. However, there exists a low potential for human remains to be inadvertently discovered during ground-disturbing construction activities. This potential impact would be reduced to a Less than Significant level with the implementation of mitigation measure CUL-2.

CUL-2: Incidental Discovery of Human Remains. If human remains are encountered during construction, no further disturbance shall occur until the county medical examiner has been notified and has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made.

B. References

- LSA Associates, Inc. 2018. Cultural Resources Assessment for the Carlsbad Fire Station No. 2. Project, City of Carlsbad.
- LSA Associates, Inc. 2018. Paleontological Resources Assessment for the Carlsbad Fire Station No. 2. Project, City of Carlsbad.

Ninyo & Moore. 2017. Geotechnical Evaluation, Fire Station No. 2. San Diego, California.

VI. Energy

A. Environmental Analysis

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

a) *Less than Significant Impact.* The following analysis addresses the Project's electricity, natural gas, and transportation fuel usage for both construction and permanent operations.

During Project construction, energy would be consumed in the form of electricity to power certain activities and equipment, and in the form of petroleum-based fuels for vehicle and equipment use. This energy demand would be temporary, limited, and would cease upon completion of construction. Construction activities are not anticipated to involve consumption of natural gas.

During site clearing, excavation, and construction phases at the Project site and the Dove Library temporary site, diesel fuel would be consumed by heavy-duty equipment for the purposes of site clearing, grading and materials transfer. For the duration of Project construction, worker travel to and from the site would result in the consumption of vehicular unleaded gasoline fuel.

Construction for the Project site and the Dove Library temporary site would be conducted in compliance with local, State, and federal regulations (e.g., limit engine idling times, require the recycling of construction debris, etc.) which would reduce short-term energy demand during the Project's construction to the extent feasible. Therefore, construction at both the Project site and the Dove Library temporary site would not result in a wasteful or inefficient use of energy.

Project operations do not involve any unusual characteristics or processes that would require the use of equipment that would be more energy intensive than is used for comparable activities at the existing fire station. In fact, the Project is designed to achieve a variety of sustainability goals aimed at lowering energy consumption during operation. These sustainability design measures are in line with the City of Carlsbad Council Policy No. 71, Energy Conservation and Management Policy. The Project would be built to meet Silver LEED standards and will include installation of solar panels and electric vehicle charging stations. Equipment would conform to current emissions standards and related fuel efficiencies. Furthermore, through compliance with applicable requirements and/or regulations discussed in Sections III. Air Quality and VIII. Greenhouse Gas Emissions in this MND (e.g., 2016 California Code of Regulations. Title 24, Part 6–Energy Efficiency Standards), as well as the City of Carlsbad Council Policy No. 71, Energy Conservation and Management, the city's General Plan Sustainability Element and the city's CAP discussed below, individual project elements (e.g., building design, HVAC equipment, etc.) would not consume energy resources in a wasteful or inefficient manner and impacts would be Less than Significant.

b) Less than Significant Impact. State and local agencies regulate the use and consumption of energy through various methods and programs. Because of the passage of Assembly Bill 32 (AB 32) (the California Global Warming Solutions Act of 2006) which seeks to reduce the effects of GHG Emissions, a majority of the state regulations are intended to reduce energy use and GHG emissions. These include, among others, California Code of Regulations Title 24, Part 6–Energy Efficiency Standards, and the California Code of Regulations Title 24, Part 11– California Green Building Standards (CALGreen).

At the local level, the city's Building Department enforces the applicable requirements of the Energy Efficiency Standards and Green Building Standards in Title 24. In addition, the city adopted a CAP in 2015 (City of Carlsbad, 2015a), which identifies goals, policies and actions to reduce GHG emissions in the City of Carlsbad. The 2015 CAP is a long-range plan that sets a baseline for past and current emissions, forecasts future emissions, and establishes targets to achieve the State-recommended GHG emissions reduction of reducing GHG emissions to 1990 levels by 2020 and reducing GHG emissions to 20 percent of 1990 levels by 2050. On March 12, 2019, the Carlsbad City Council adopted ordinances to implement the CAP that are related to energy efficiency, renewable energy, alternative water heating, and electric vehicle charging infrastructure. The Project is required to comply with these ordinances.

As discussed above and in the Air Quality and Greenhouse Gas Section (Sections III and VIII, respectively), the Project is consistent with the CAP and relevant local ordinances and policies. The city would implement energy efficient design elements to help meet the goals of the CAP. The Project would be designed to meet LEED Silver Standards, or the equivalent, and would include installation of solar panels on the roof of the building and the use of LED lighting. The Project would also install three electric vehicle charging stations to help meet the goals of the CAP and the City of Carlsbad Council Policy Number 71, which states in part, "…new facilities would be designed to be at least 25% more energy efficient than required by the State of California…" and that "the City of Carlsbad strives to achieve LEED "Silver" Level Certification or the equivalent for all new city facilities." Accordingly, the Project will have a Less than Significant Impact on state or local plans for renewable energy or energy efficiency.

B. References

- City of Carlsbad Council Policy No. 71, *Energy Conservation and Management Policy*, dated June 6, 2006. Available at: http://edocs.carlsbadca.gov/HPRMWebDrawer/RecordHTML/392289, accessed June 6, 2019.
- City of Carlsbad. 2015a. *Climate Action Plan (CAP)*. Available at: http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=29361.
- City of Carlsbad. 2015b. General Plan & Climate Action Plan, Final Environmental Impact Report SCH #2011011004. Available at: http://www.carlsbadca.gov/services/depts/planning/update/documents.asp.

VII. Geology and Soils

A. Environmental Analysis

Would the Project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				
ii. Strong seismic ground shaking?			\boxtimes	
iii. Seismic-related ground failure, including liquefaction?			\boxtimes	
iv. Landslides?			\boxtimes	
b) Result in substantial soil erosion or the loss of topsoil?			\boxtimes	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			\boxtimes	
 d) Be located on expansive soils, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property? 			\boxtimes	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				\boxtimes
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		\boxtimes		

a.i) Less than Significant Impact. All of California is seismically active; however, the Project site and Dove Library temporary site are not located within an Alquist-Priolo Earthquake Fault Zone. Figure 3.5-2 of the City of Carlsbad General Plan Final Environmental Impact Report (FEIR), dated June 2015, illustrates that there are no known active, potentially active, or inactive faults that traverse the Project site or its vicinity. The nearest active fault is Rose Canyon Fault located offshore, approximately 5.7 miles southwest of the Project site, as shown on Figure 2-1. In the Geotechnical Evaluation performed at the Project site by Ninyo & Moore (2017), it was concluded that the probability of damage from surface ground rupture is considered low.

Excavation at the Dove Library temporary site would be limited to minor grading and landscape removal for the purpose of putting in a temporary driveway. Therefore, a separate geotechnical evaluation for the Dove Library temporary site is not warranted. Nevertheless, as demonstrated in Figure 2-1 below, there are no known faults traversing the vicinity of the Dove Library temporary site. Therefore, impacts to the new station and Dove Library temporary site associated with the rupture of a known fault would be Less than Significant.



Source: USGS; California Geological Survey; ESRI; Burns & McDonnell Engineering Company, Inc

a.ii) Less than Significant Impact. Southern California is a seismically active region, and it is typical for seismic activity to result in ground shaking. Moderate to strong ground shaking could be generated by earthquakes along any of the known active faults in the region, including the Elsinore, San Jacinto, San Andreas, Rose Canyon, Coronado Bank, San Diego Trough, and San Clemente faults. However, the Project (including the Dove Library temporary site) would be designed and constructed in compliance with the city's Building Codes and Regulations (CMC Title 18) and the California Building Code (CBC; California Code of Regulations, Title 24) regulations that minimize ground shaking impacts. The CBC includes building design standards with specific seismic engineering design measures that would mitigate impacts from seismic ground shaking. Therefore, impacts associated with strong seismic ground shaking would be Less than Significant.

a.iii) Less than Significant Impact. Research and historical data have shown that loose granular soils and non-plastic silts that are saturated by a relatively shallow groundwater table are susceptible to liquefaction. According to Figure 3.5-3 of the FEIR for the city's General Plan update (City of Carlsbad, 2015), there are no areas of liquefaction hazards on the Project site or the Dove Library temporary site. Historically, seismic shaking levels in the San Diego region, including Carlsbad, have not been sufficient enough to trigger liquefaction. The city has a low liquefaction risk; however, there are areas of the city that have a higher risk of liquefaction due to the presence of hydric soils or soils that are often saturated or characteristic of wetlands. These areas are limited to the immediate vicinity of the Buena Vista, Agua Hedionda, and Batiquitos lagoons. Construction activities and structures would adhere to the site-specific recommendations in accordance with the Geotechnical Evaluation (Ninyo & Moore, 2017) to avoid any potential impacts from ground failure, including liquefaction. The geotechnical evaluation found that due to the relatively dense nature of the formational materials underlying the Project site, the potential for liquefaction and seismically induced settlement is not a design consideration.

As discussed above, rupture due to faulting at both the Project site and the Dove Library temporary site is unlikely; however, lurching or cracking of the ground surface because of nearby seismic events is possible. Because the Project would be designed and constructed in accordance with local and state building codes as well as recommendations contained in the referenced Geotechnical Evaluation, the impacts associated with seismic-related ground failure would be Less than Significant.

a.iv) *Less than Significant Impact.* The FEIR for the city's General Plan (City of Carlsbad, 2015) does not identify any areas in the city as susceptible to landslides. The Project site and the Dove Library temporary site are not located within a mapped landslide zone. Both the Project site and the Dove Library temporary site have relatively uniform flat topography with low vulnerability to landslides, mudslides, or rock-fall events induced by rainfall or excessive rainfall. As discussed above, the Project (including the Dove Library temporary site) would be required to comply with applicable local and state building codes, and therefore would not exacerbate the potential for landslide hazards. Therefore, the impacts associated with landslides would be Less than Significant.

b) *Less than Significant Impact.* Construction activities would include grading and vegetation removal that may result in soil and other raw materials being exposed. During rain events, these exposed raw materials can be carried in surface runoff increasing the amount of silt, debris, and suspended sediments that are deposited into surface water.

Due to the Project's proximity to the Batiquitos Lagoon, the Project would be required to prepare a Tier 2 SWPPP in conformance with city standards. The SWPPP would list best management practices (BMPs) to limit soil erosion from the site. Implementation of the SWPPP during the construction phase would reduce potential impacts related to erosion. The Project will incorporate permeable materials (such as permeable pavers) and will not exceed the 10,000 ft² threshold that would qualify the Project as a Priority Development Project (PDP; City of Carlsbad, 2016). The Project includes 9,945 ft² of impervious surface area (refer to Appendix A for detail); therefore, the Project would not be required to prepare a Stormwater Quality Management Plan (SWQMP).

Once the Project is constructed, no stockpiles of soil would exist on the Project site. In addition, the Project site would be paved, developed, and vegetated so that exposed soil is limited. Implementation of BMPs and compliance with permit requirements would limit impacts associated with substantial soil erosion or the loss of topsoil to Less than Significant.

There would be no major earth moving activities at the Dove Library temporary site that would trigger a SWPPP. Minor vegetation removal and grading would occur for construction of the driveway and potential trenching for utilities. All other site preparation related to the Dove Library temporary site would occur on paved surfaces; therefore, soil erosion or the loss of topsoil at the Dove Library temporary site would be Less than Significant.

- c) Less than Significant Impact. The Project site and Dove Library temporary site are not located in an area prone to liquefaction or landslides. The site-specific Geotechnical Evaluation (Ninyo & Moore, 2017) provided recommendations to minimize any potential impacts related to ground failure or instability at the Project site. All construction activities and structures would adhere to recommendations from the site-specific Geotechnical Evaluation to avoid problems related to instability and ground failure. All structures at the Project site and Dove Library temporary site would be constructed in conformance with applicable city Building Codes and Regulations (CMC Title 18) and the CBC. By following the recommendations contained in the referenced Geotechnical Evaluation and applicable building codes and regulations, the impacts associated with soil instability and ground failure would be Less than Significant.
- **d)** Less than Significant Impact. The Geotechnical Evaluation (Ninyo & Moore, 2017) found the subsurface to consist of artificial fill, old alluvium, and materials of the Santiago Formation. The fill and material consisted of moist, medium dense, silty and clayey sand; stiff to firm, sandy clay; dry to moist, medium dense, silty fine sand; and moist, weekly to strongly cemented, clayey and silty sandstone. Based on laboratory testing performed for the Geotechnical Evaluation, onsite materials possess a low to medium potential for expansion. All construction activities and structures would adhere to recommendations from the site-

specific Geotechnical Evaluation, such as remedial grading to address the potentially expansive soil.

The Dove Library temporary site would be situated on paved surfaces and would not expose soils with high shrink-swell capacity. Most soils in Carlsbad have low shrink-swell potential with limited susceptibility to expansion. Expansive soils tend to contain large amounts of clay and are typically located in basins or on basin rims. The soils at the Project site and at the Dove Library temporary site do not have these characteristics, and therefore potential impacts related to expansive soils would be Less than Significant.

- e) *No Impact.* No septic tanks or alternative wastewater disposal systems are proposed as part of this Project or the Dove Library temporary site. The Dove Library temporary site would be equipped with a portable lavatory that would be cleaned by a third-party professional. Therefore, construction and operation of the Project and Dove Library temporary site would have No Impact on septic tank or alternative wastewater disposal systems.
- f) Less than Significant with Mitigation Incorporated. A Paleontological Resources Assessment was prepared for the Project by LSA Associates, Inc., dated March 23, 2018 (Appendix D) and is the basis for the discussion in this section. The assessment included a literature review, a fossil locality search with the San Diego Natural History Museum (SDNHM), and a summary report. The fossil localities search found no known fossils within the boundaries of the Project site or the Dove Library temporary site. However, the search found six localities within the Santiago Formation within one mile of the Project site. None of these localities are in close proximity to the Dove Library temporary site.

Artificial fill is the dominant subsurface material at the Project site, extending to depths of approximately 10 feet, and it has no paleontological sensitivity. However, much of that fill material is underlain by alluvial flood plain deposits and the Santiago Formation, which are both considered to have high paleontological sensitivity. Excavation activities associated with the construction of the Project that extend beyond the fill materials would have the potential to disturb materials associated with the alluvial flood plain deposits as well as the Santiago Formation. However, this potential impact would be reduced to a Less than Significant level with the implementation of mitigation measure **PALEO-1**.

PALEO-1: Paleontological Monitoring. A qualified paleontologist shall be retained during construction activities that would have a reasonable likelihood to disturb areas of high paleontological sensitivity. No monitoring is required for excavations in artificial fill with no paleontological sensitivity. If paleontological resources are encountered during construction, the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find to assess its significance. If paleontological resources are encountered when the qualified paleontologist is not present, work in the immediate area of the find shall be redirected and the paleontologist shall be collected from the field. Collected resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository.

B. References

- California Department of Conservation California Geological Survey (CGS). 2016. *The Alquist-Priolo Earthquake Fault Zoning (AP) Act*. Available at: http://www.conservation.ca.gov/cgs/rghm/ap. Accessed: February 2018
- City of Carlsbad. 2015. General Plan & Climate Action Plan, Final Environmental Impact Report SCH #2011011004. Available at: http://www.carlsbadca.gov/services/depts/planning/update/documents.asp.
- City of Carlsbad. 2016. *City of Carlsbad Storm Water Standards Questionnaire*. Available at: <u>http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=22711</u>. Accessed February 2018.
- CGS. 2007. Special Publication 42 Fault-Rupture Hazard Zones in California. Available at: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/Sp42.pdf. Accessed: February 2018.
- LSA Associates, Inc. 2018. Paleontological Resources Assessment, Fire Station No. 2. City of Carlsbad, CA.
- Ninyo & Moore. 2017. Geotechnical Evaluation, Fire Station No. 2. San Diego, California.

VIII. Greenhouse Gas Emissions

A. Environmental Analysis

Would the Project:	Potentially	Significant Impact	Less than Significant with Mit. Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	E			\boxtimes	
b) Conflict with an applicable plan, policy or regulation adop for the purposes of reducing the emissions of greenhouse gases?	oted				X

a) Less than Significant Impact. Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), and certain hydrofluorocarbons (HFCs). These GHGs allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Emissions of GHGs at greater than ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and contribute to global climate change. Global climate change impacts are by nature cumulative; direct impacts cannot be evaluated because the impacts themselves are global rather than localized impacts.

California Health and Safety Code Section 38505(g) defines GHGs to include the following compounds: CO₂, CH₄, N₂O, O₃, chlorofluorocarbons (CFCs), HFCs, perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Individual GHGs have varying heat-trapping properties and atmospheric lifetimes, so GHG emissions are converted to carbon dioxide equivalent (CO₂e) units for comparison. The CO₂e is a consistent methodology for comparing GHG emissions because it normalizes various GHG emissions to a consistent measure. The most common GHGs associated with the Project are those primarily related to fuel combustion for construction equipment: CO₂, CH₄, and N₂O.

In September 2015, the city adopted a CAP (City of Carlsbad, 2015a) that outlines actions that the city would undertake to achieve its proportional share of state GHG emissions reductions. The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. The city's CAP is designed to reduce the city's GHG emissions and streamline environmental review of future development projects in the city in accordance with CEQA. The CAP has been prepared concurrently with the city's approved General Plan

(City of Carlsbad, 2015b) and includes actions to carry out the General Plan's goals and policies. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP. The CAP created enforceable GHG reduction measures and a monitoring and reporting processes to ensure targets are met.

The CAP established a screening threshold of 900 metric tons per year of carbon dioxide equivalents (MTCO₂e) for new development projects in order to determine if a project would need to demonstrate consistency with the CAP through the Consistency Checklist and/or a Self-developed program. Projects that require a building permit are required to comply with applicable CAP ordinances. Compliance is evaluated through completion of the CAP Consistency Checklist. The Project will have a GHG impact of less than 900 MTCO₂e and will comply through completion of the CAP Consistency Checklist. This checklist has been completed for the Project and was filed with the CUP application. The Project will demonstrate compliance with CAP ordinances approved in 2019 related to energy efficiency, renewable energy, alternative water heating, and electric vehicle charging infrastructure. In turn, this compliance establishes consistency with the applicable measures and actions of the CAP.

The construction, temporary operation (at the Dove Library temporary site), and normal operation (once the Project is constructed) would not add new sources of operational GHG emissions. Implementation of the Project would include construction that would generate minor amounts of GHG emissions which would be finite and temporary (limited to the 12-18-month duration of construction). CalEEMod Version 2016.3.1 was used to quantify GHG emissions associated with construction of the Project (Appendix B). Both construction and operational GHG emissions for both the Project site and the Dove Library temporary site would be less than the screening threshold of 900 MTCO₂e. In addition, the Project would build to LEED Silver Standards and would include installation of solar panels, electric vehicle charging stations, and other improvements in compliance with CAP ordinances. As a result, the Project would not contribute considerably to climate change impacts, and the Project impact is therefore Less than Significant.

b) *No Impact.* The Project is in compliance with CAP ordinances and with City of Carlsbad Policy No. 71. The Project is also in line with the General Plan Sustainability Element's Climate Change and GHG Policy 9-P.2, which states,

"Continue efforts to decrease use of energy and fossil fuel consumption in municipal operations, including transportation, waste reduction and recycling, and efficient building design and use."

The new fire station would be equipped with solar panels, electric vehicle charging stations, and would be built to meet LEED Silver standards, or the equivalent. In addition, Project design incorporates the use of new Title 24 (California Building Standards Code) compliant heating, ventilation, and air conditioning equipment and LED lighting fixtures to optimize electrical energy efficiency.

As stated above, the CAP, adopted in 2015, outlines actions that the city will implement to achieve its proportional share of state GHG emissions reductions (City of Carlsbad, 2015a). The CAP demonstrates that adherence to applicable General Plan goals and policies, coupled with state and federal actions and execution of CAP measures and actions, will reduce city GHG emissions in alignment with state goals established by Assembly Bill 32 and Senate Bill 32, and maintain a trajectory to meet its proportional share of the 2050 state target identified in Executive Order S-3-05. The Project is consistent with applicable General Plan goals and policies (City of Carlsbad, 2015b) as well as ordinances to implement the CAP. As such, the Project would not conflict with any applicable plan, policy or regulation adopted for the purposes of reducing the emissions of greenhouse gases. There would be No Impact.

B. References

City of Carlsbad. 2015a. *Climate Action Plan (CAP)*. Available at: http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=29361.

City of Carlsbad. 2015b. General Plan & Climate Action Plan, Final Environmental Impact Report SCH #2011011004. Available at: http://www.carlsbadca.gov/services/depts/planning/update/documents.asp.

IX. Hazards and Hazardous Materials

A. Environmental Analysis

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

a) *Less than Significant Impact.* Construction activities may require the use of limited quantities of hazardous materials such as fuels, solvents, lubricating fluids, and other common construction materials. As with any construction project, there is the potential for drips, leaks, and spills to occur during operation, maintenance, and refueling of construction equipment.

Demolition of the existing building may involve the handling of material containing lead and asbestos. Ninyo & Moore prepared a Hazardous Building Materials Survey (dated April 27,

2018) (Appendix E) of the existing building. The survey included an asbestos-containing materials (ACMs) survey, a lead-containing surfaces (LCSs) survey of materials, visual identification and quantification of building materials potentially subject to the California Department of Toxic Substances Control (DTSC) Universal Waste Rule (UWR), and other potential hazardous building materials. Based on the analytical results from this survey, ACMs, LCSs, and other potential hazardous building material, state, and local regulations is required for ACMs and LCSs prior to demolition, as detailed in Appendix E. Adherence to federal, state, and local regulations for these materials (for instance, abatement and/or removal and recycling by licensed contractors prior to demolition) would reduce potential impacts to a Less than Significant level.

Operation of the new station would involve the routine use, transport, and/or disposal of hazardous materials. These materials would include fuels, solvents, and lubricating fluids for fire trucks; a 96-gallon diesel tank for an emergency generator; and typical janitorial supplies (e.g., aerosols, and paint products). There is the potential for spills and leaks to occur during routine operations and maintenance. These potentially hazardous materials if mishandled, improperly stored, or improperly disposed of, could lead to localized contamination.

During use of the Dove Library temporary site all hazardous materials, including janitorial supplies, would either be stored at other fire stations or off site, and therefore would be a Less than Significant impact to the public or environment through transport, use, or disposal of hazardous materials. All vehicle fueling and servicing during operation of the Dove Library temporary site would be conducted offsite.

All storage, handling, transport, and disposal of potentially hazardous materials are regulated by the EPA, the DTSC, and the County of San Diego Department of Environmental Health, Hazardous Materials Division (HMD). The HMD is the designated Certified Unified Program Agency (CUPA) for San Diego County and is therefore responsible for implementing the unified hazardous waste and hazardous material management and regulatory program. Any hazardous wastes that are produced would be managed in accordance with applicable regulations. These hazardous materials are not expected to cause any substantial health or safety hazards. Therefore, potential impacts related to the routine use, transport, and disposal of hazardous materials would be Less than Significant.

b) *Less than Significant Impact.* The reasonably foreseeable upset and accident conditions associated with this Project include potential spills and leaks of fuels, solvents, and lubricating fluids that could occur during construction and operation. However, compliance with applicable regulations for the handling and storage of hazardous materials would prevent a significant hazard to the public or the environment; therefore, impacts would be Less than Significant.

Hazardous material would not be stored at the Dove Library temporary site. Therefore, No Impact would occur at the Dove Library temporary site.

c) *No Impact.* There are no schools within a quarter mile of the Project site. The type and amount of hazardous materials that would be used during construction would not be considered acutely hazardous, and their use would not occur for an extended period in any one area. Therefore, there would be No Impact.

The Aviara Oaks Elementary school is located approximately 0.33 mile southwest from the Dove Library temporary site. This is outside of the 0.25-mile radius of CEQA. Additionally, no hazardous or acutely hazardous materials would be stored onsite; therefore, No Impact would occur.

d) *Less than Significant Impact.* The Cortese List, Hazardous Waste and Substances Sites List, also known as the California Superfund, is a planning document used by the state and its various local agencies and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. California Government Code section 65962.5 requires the California EPA to develop at least an annually updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information for the Cortese List. The list is maintained via DTSC's Brownfields and Environmental Restoration Program, called EnviroStor. The EnviroStor database was checked as part of this analysis (CalEPA, 2018). In addition to EnviroStor, information was obtained from the online GeoTracker tool (State Water Resources Control Board, 2018).

The Project site is not currently identified or listed as a hazardous materials site, and therefore, construction and operation activities should not create a significant hazard to the public or the environment. However, a Leaking Underground Storage Tank (LUST) was previously noted at the Project location. In June 1991, the site was deemed "Completed—Case Closed" as described below.

Based on reports prepared by MV Environmental, Inc. [1991a, 1991b, 1991c], a leaking, 500-gallon, gasoline underground storage tank was removed from the site on March 5, 1990. Due to observed staining beneath the tank, an authorized release case was opened (H24732-001). According to the maps contained in the referenced reports, the tank was located in the driveway to the east of the existing fire station building. Subsequent work at the site included sampling and testing of contaminated soils. According to the County of San Diego Department of Environmental Health (DEH) Closure Report (1991), soil impacted with contaminants of concern (COCs) was removed from the area of the former tank and confirmation sampling indicated remaining soil was non-detect for the COCs. According to the referenced MV Environmental, Inc. reports (1991), the former underground storage tank (UST) and over-excavation area was filled with noncontaminated fill soils. The case was closed by the San Diego Department of Environmental Health on June 4, 1991. The extent of the soil removal area was anticipated to be approximately 13 feet by 12 feet and extend to a depth of approximately 9 feet (GeoTracker ID # T0607300484).

The nearest sites identified on GeoTracker are approximately 825 feet southeast from the Project site and are closed LUST sites as of 2002 and 2003. The Omni La Costa Resort and Spa also has a permitted UST, facility ID 37-000-212002. This is consistent with Figure 3.6-2 of the city's 2015 FEIR. One additional Tiered Permit and Permitted UST Site is identified on this figure; the site is located approximately 1,668 feet northwest from the Project site. The next nearest Hazardous Material Sites are over 2,000 feet from the Project site. These sites are not anticipated to result in any impact related to the Project. Furthermore, properties or sites contaminated by hazardous substances are regulated at the local, state, and federal levels and are subject to compliance with stringent laws and regulations for investigation and remediation. Therefore, impacts are considered Less than Significant.

The Dove Library temporary site is not located on a hazardous materials site and there would be minimal ground disturbance; therefore, the Dove Library temporary site would not cause a significant hazard to the public or environment.

e) *No Impact.* The Project site is located approximately 2.2 miles from the McClellan-Palomar Airport and is located outside of the Airport Land Use Compatibility Plan (ALUCP) Safety Zones (Airport Land Use Commission San Diego County, amended December 1, 2011). No structures that would pose a risk to aircraft would be constructed as part of this Project. Therefore, there would be no safety hazard for people residing or working in the Project area, and No Impact would occur.

The Dove Library temporary site is located approximately 1.55 miles south of the McClellan-Palomar Airport, and is outside all safety zones (McClellan-Palomar ALUCP, 2011).

f) Less than Significant Impact. Construction activities would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The current Project site on Arenal Road is within a residential zone and is served by, and responsible for, City of Carlsbad Fire Department District 2, according to Figure 6-9 of the city's General Plan (2015). The Dove Library temporary site is also within District 2. The City of Carlsbad Fire Department has signed automatic aid agreements with all surrounding communities for support if additional firefighting resources are needed; therefore, impacts related to fire service adequacy in this District during this temporary period of construction would be Less than Significant and compliant with City of Carlsbad Growth Management Plan, which requires no more than 1,500 dwelling units to be outside of a 5-minute response time. Per City of Carlsbad Fire Department Directive 5, a fire engine must be located in District 2 to assure the capability of delivering fire services and maintaining their goal of having a crew on site at an emergency within six minutes, 90% of the time.

Fire truck and ambulance access in and out of the parking lot portion on the north side of the Dove Library would be accommodated by constructing a new temporary driveway at Dove Lane. This separate driveway would benefit fire truck and ambulance access and help minimize traffic impacts to library patron access, parking, and pedestrian pathways. Fire truck ingress and egress would not significantly impact traffic on Dove Lane upon returns. Therefore, the emergency response plans would not be significantly impacted by the

temporary relocation of equipment. Construction would not impede, cause a delay, or block any emergency response in the Project area. Therefore, impacts would be Less than Significant.

g) Less than Significant Impact. The Project site is located within a residential zone and surrounded by residences. The Project would replace and serve the same purpose of the existing station. The Dove Library temporary site is located in a parking lot and within a commercial zone surrounded by businesses, residences and open space. Based on the CAL FIRE adopted Fire Hazard Severity Zone map (June 2009) for the city, the Project site and Dove Library temporary site are in the Non-Very High Hazard Severity Zone. The city has a plan in place to continue coverage of the service area covered by Fire Station No. 2 throughout construction and through the temporary relocation of existing fire services to the Dove Library temporary site. The City of Carlsbad Fire Department has signed automatic aid agreements with all surrounding communities if additional firefighting resources are needed. The city also has Mutual Aid Agreements with San Diego County and the State of California and an agreement with CAL FIRE. Therefore, impacts related to wildland fires would be Less than Significant.

B. References

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- City of Carlsbad. 2015. *City of Carlsbad General Plan*. Available at: <u>http://www.carlsbadca.gov/services/depts/planning/update/documents.asp</u>
- MV Environmental, Inc. 1991a. Sample Collection and Analysis, Former Underground Tank Site at Fire Station #2, Arenal Road and ECR.
- MV Environmental, Inc. 1991b. Additional Stockpile Sample Results at Fire Station #2, Arenal Road and ECR.
- MV Environmental, Inc. 1991c. Uniform Hazardous Waste Manifest, City Carlsbad Fire Station #2.

State Water Resources Control Board. 2017. "GeoTracker Website." Available at: https://geotracker.waterboards.ca.gov/. Accessed: February 2018.

X. Hydrology and Water Quality

A. Environmental Analysis

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

a) Less than Significant Impact. Section 402 of the Clean Water Act established the National Pollutant Discharge Elimination System (NPDES), a program administered by the EPA to control direct storm water discharges. The San Diego Regional Water Quality Control Board (SDRWQCB) regulates discharges in the San Diego region through the regional municipal separate storm sewer systems (MS4) permit, which covers 39 municipal, county, and special district entities, including the city. As a co-permittee for the regional MS4 permit, the city is required to include BMPs to reduce pollutant discharges from private and public development projects. The new station would disturb approximately 0.42 acre, which is less than the one acre of ground disturbance threshold that triggers the requirement for coverage under the NPDES Construction General Permit through the SDRWQCB. However, due to its proximity to Batiquitos Lagoon, the Project would pose a moderate threat to storm water quality and therefore would be required to prepare a Tier 2 SWPPP in conformance with city standards. As stated above, the Project will incorporate permeable materials (such as permeable pavers) and will not exceed the 10,000 ft² threshold that would qualify the Project as a Priority Development Project (PDP; City of Carlsbad, 2016). The Project includes 9,945 ft² of impervious surface area (refer to Appendix A for detail). Therefore, the Project would not be required to prepare a SWQMP.

The Tier 2 SWPPP would identify potential sources of pollutants and designate BMPs to minimize sediment and construction materials from entering storm water runoff. BMPs would include, but are not limited to, erosion and sediment control, construction equipment leak and spill prevention, good housekeeping, and training for construction personnel working on the Project site. Implementation of these BMPs and compliance with the SWPPP would limit impacts to Less than Significant.

Ground disturbance at the Dove Library temporary site would be minor and would not trigger a SWPPP. There would be no waste discharge or non-storm water discharges to storm drains during construction or operation of the Dove Library temporary site; therefore, impacts would be Less than Significant.

b) No Impact. The Geotechnical Evaluation performed by Ninyo & Moore in 2017 indicated that depth to groundwater on the Project site is greater than 20 feet below the ground surface, and it is highly unlikely that groundwater would be encountered during construction (Ninyo & Moore, 2017).

The Project would not consume groundwater and would not have any impact on groundwater supplies. Water used by the Project would be provided by the Carlsbad Municipal Water District (CMWD), which does not utilize any local groundwater or surface water supplies. The Project site is already developed and paved; therefore, the Project would not increase impervious surfaces in a way that would interfere substantially with groundwater recharge.

Additionally, water would be provided at the Dove Library temporary site by connecting to the existing water system at the Library. No groundwater or surface water supplies would be utilized. Changes to pervious and impervious surfaces would be minor and limited to minor grading and removal of some vegetation to create new driveway and potential trenching for utilities (See Appendix A for detailed site plans). These changes would not substantially alter ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level. Therefore, there would be No Impact.

ci) *Less than Significant Impact.* The Project site and the Dove Library temporary site are already developed and do not contain any streams or rivers. The closest such feature is San Marcos Creek, with an outlet to Batiquitos Lagoon located approximately 0.4 mile south of the existing station site and about 1.2 miles from Dove Library temporary site. The course of

San Marcos Creek would not be impacted by the Project or Dove Library temporary site. Therefore, the Project and the Dove Library temporary site would not substantially alter the existing drainage pattern or alter the course of any stream, river, or surface water.

Project construction would include demolition, grading, excavation, paving, and landscaping, which has the potential for erosion and siltation during construction activities. However, implementation of the designated BMPs and compliance with the SWPPP would limit these impacts. Minor construction activities at the Dove Library temporary site would not trigger preparation of a SWPPP and no erosion or siltation is anticipated since site preparation would occur on an existing paved parking lot and would not involve earth moving activities, except for minor grading to accommodate a temporary driveway and potential trenching for utilities.

During operation, the Project site would be covered by a building footprint, pavement, and landscaping; thus, Project operation would not result in substantial erosion or siltation. Impacts would be Less than Significant.

- cii) Less than Significant Impact. As stated above, the Project would not substantially alter the drainage pattern of the area or alter the course of any stream, river, or surface water. The Project would demolish and then replace existing facilities on a site that is already developed with impervious surfaces; thus, the Project (including the Dove Library temporary site) would not substantially increase surface runoff in a manner that would result in flooding. Implementation of BMPs and compliance with the SWPPP would further limit potential impacts of surface runoff. Therefore, potential impacts related to surface runoff would be Less than Significant.
- **ciii)** Less than Significant Impact. As stated above, the Project would not substantially increase surface runoff volume given that it is the redevelopment of an existing site and the temporary use of the north parking lot at Dove Library to accommodate temporary relocation of fire services. Construction activities and Project operations have the potential to contribute additional sources of polluted runoff, but with the implementation of storm water BMPs and compliance with the SWPPP, water quality impacts would be Less than Significant.
- civ) No Impact. As stated above, the Project would not alter the drainage pattern of the area or alter the course of any stream, river, or surface water drainage. The Federal Emergency Management Agency (FEMA) prepares 100-year floodplain maps that display the areas adjacent to water bodies where there is more than a 1% probability of flood in any given year. The Project site and the Dove Library temporary site are located outside of the FEMA 100-year floodplain area (City of Carlsbad, 2015); therefore, there would be No Impact.
- d) Less than Significant Impact. Seiches are seismically induced events that occur when enclosed bodies of water are shaken (such as during seismic activity), causing waves that overflow containment. The Project site is near the Batiquitos Lagoon; however, based on water levels in the lagoon and the surrounding topography, there is no risk for inundation on the Project site as a result of a seiche. The Dove Library temporary site is approximately one mile from the Batiquitos Lagoon and there is no risk of inundation to the Dove Library temporary site from a seiche.

Tsunamis are large ocean waves induced by seismic events, volcanic eruptions, or landslides. The County of San Diego creates maps that identify coastal areas that are at high risk of inundation during tsunami events, and the Project and the Dove Library temporary site are located outside of the identified tsunami run-up areas (County of San Diego, 2009).

The Project site and the surrounding area are relatively flat, and there is a very low risk for inundation from mudflows during periods of heavy rainfall when rapid erosion occurs. The Dove Library temporary site would remain paved for the duration of its use.

Therefore, potential impacts related to release of pollutants from inundation due to seiches, tsunamis or mudflows would be Less than Significant.

e) Less than Significant Impact. The Project is located over the Batiquitos Lagoon Valley Groundwater Basin in the CMWD. According to the CMWD Urban Water Management Plan (CMWD, 2015), the Batiquitos Lagoon Valley Groundwater Basin is the only basin located in CMWD's service area (the Dove Library temporary site is not located over this basin). The San Luis Rey Valley Groundwater Basin is located north of CMWD and the San Marcos Valley Groundwater Basin is located east of CMWD. Of these groundwater basins, San Luis Rey Valley Groundwater Basin has been designated as a Medium Priority Basin under California Groundwater Elevation Monitoring (CASGEM), while both Batiquitos Lagoon Valley and San Marcos Valley Groundwater Basin is not currently used as supply and no groundwater management plan has been developed or adopted by CMWD. Therefore, the Project would not conflict with any sustainable groundwater management plan and impacts are considered Less than Significant.

The Water Quality Control Plan for Ocean Waters of California (California Ocean Plan) includes the State Water Quality Protection Areas & Marine Protected Areas (MPAs) Amendment (Resolution no. 2012-0056), which identifies MPAs along the California coast. In the Amendment, Batiquitos Lagoon is designated as an MPA and is identified as the Batiquitos Lagoon State Marine Conservation Area (SMCA). SMCAs are regulated by CCR Title 14, Section 632(b), which limits the take of marine resources within MPAs. The Project is in the Batiquitos SMCA watershed but would not involve any take of marine species. Other water quality control plans that are applicable to the Project include the Enclosed Bays and Estuaries Plan and the SDRWQCB Basin Plan. With the implementation of the Tier II SWPPP, potential impacts from adverse water quality associated with the Project would be minimized or eliminated. Therefore, the Project would not conflict or obstruct implementation of a water quality control plan and impacts are considered Less than Significant.

B. References

Ninyo & Moore. 2017. Geotechnical Evaluation, Fire Station No. 2. San Diego, California.

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XI. Land Use and Planning

A. Environmental Analysis

Would the Project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?				\boxtimes
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			\boxtimes	

- a) *No Impact.* The Project consists of replacing the existing structure with a building for the same use. The Project would not divide an established community. The Dove Library temporary site is located on the paved portion of the Dove Library northern parking lot and would therefore not divide an established community. Thus, there would be No Impact.
- **b)** *Less than Significant Impact.* The Project complies with the low density residential General Plan and zoning designations (R-4 and R-1, respectively) applied to the Project site. The Project is also within and consistent with the La Costa Master Plan (MP-149). The Master Plan identifies the Project site as a fire station and defers to the Zoning Ordinance for applicable standards. The Dove Library temporary site does not conflict with the Local Shopping Center General Plan and zoning designations (L and C-L, respectively) applicable to it. In the R-1 and C-L zones, fire stations are a conditionally permitted use.

The Project does not comply with certain requirements of the ECR Corridor Development Standards and the Zoning Ordinance. The following are compliance discussions for each.

ECR Corridor Development Standards

As discussed in Section I. Aesthetics, all properties with frontage along ECR are in a Scenic Preservation Overlay Zone. To implement the zone standards, the city has adopted the ECR Corridor Development Standards. The standards, implemented through a Special Use Permit (SUP), preserve the scenic qualities and maintain and enhance the appearance of the roadway area.

The ECR Corridor Development Standards pertain to details such as signage, setbacks from the roadway, roof equipment, building height, etc. The new facility, except for minimum setbacks from the ECR right-of-way for structures, walls, and parking, is consistent with the development standards and intent of those standards. The standards require a 30-foot setback from the right of way for structures and 25-foot setback for six-foot walls or parking areas. The following bulleted points are the proposed encroachments within the required setbacks:

- The Project proposes a five- to nine-foot high perimeter wall and vehicle gate (measuring six-foot high as viewed from ECR), on the property line/right of way boundary along ECR (0-foot setback).
- All or portions of three parking spaces are located within the required 25-foot setback along ECR.
- Along its first floor, the fire station building is setback ten feet from the ECR property line except at the corner of ECR and Arenal Road, where the setback decreases to approximately five feet. In addition, a small corner of the second floor of the building encroaches up to the ECR right of way (0-foot setback).

Per the ECR Corridor Development Standards, when practical application of setback and other standards is not feasible and not in the best interest of good planning practices, deviations to the standards may be approved by the Planning Commission after making four required findings. These findings require a determination of infeasibility, maintenance of scenic qualities, consistency with the Scenic Preservation Overlay Zone intent, and no adverse impact on traffic safety. For discussion regarding traffic safety, please refer to Section XVII. Transportation. Regarding the infeasibility determination, compliance with required setbacks along ECR is not possible due to the irregular shape, small size, and limited depth of the existing fire station lot. The lot is hampered by two street frontages and irregular depth and width of lot. Further, a portion of the lot consists of an approximately 20 by 200-foot long "stem" along ECR that connects the site to Estrella De Mar Road. Most of this stem is unusable and combined with the irregular lot dimensions and setback requirements, reduces the site's usable area and ability to accommodate a modern fire station, adequately house staff and fire apparatus, ancillary equipment, on-site parking, and provide necessary circulation and security.

The design of the new fire station blends elements of Old California/Hispanic architectural themes within the ECR corridor into a fully functioning, technology enhanced, 'state of the art' fire station. Old California/Hispanic architecture is captured by using simple white plaster walls contrasted against the traditional terracotta tile walls that form the base and entries to the fire station. An entry tower would provide identity to the corner and identify the prominence of this new civic building. Heavy wood timber trellises and wood siding accents complement the other traditional materials. Grid framed punched windows and native drought tolerant landscape plantings are prominently visible on the public corner of ECR and Arenal Road. The flat roofs and parapet walls allow for incorporating, while also screening from view, new technology, such as the proposed photovoltaic panels, designed to comply with the city's CAP.

Additionally, by proposing an old California/Hispanic architectural style, the fire station maintains compliance with the design theme established by the ECR Corridor Development Standards for Area 5 and blends in with the design of the adjacent Omni La Costa Resort and Spa. Further, the Project's building height and minimal cut and fill grading meet the

development standards and landscaping along the Project perimeter and soften the building and perimeter wall that encroach into the setback. The Project maintains existing grade differences and the general locations and heights of existing walls. For example, due to grade differences between ECR and the fire station building, the height of the "interior" side of the proposed wall would vary from five to nine feet as the property grade gradually drops in elevation from north to south. Similar to the existing fire station wall along ECR, this interior side of the perimeter wall will not be in the public view. Instead, a maximum six-foot high wall and gate would be visible from ECR.

The wall would be made of block with a white stucco finish to match the adjacent Old California style walls located at the Omni La Costa Resort and Spa.

Finally, since the Project maintains the scenic quality objectives of the standards, it also is consistent with the intent of the Scenic Preservation Overlay Zone (Zoning Ordinance Chapter 21.40). The Overlay Zone supplements the underlying zoning by providing additional regulations and guidelines (which the ECR Corridor Development Standards provide) to guide development in designated areas, such as scenic corridors, and implement General Plan goals and objectives. Accordingly, the Project complies with General Plan Land Use and Community Design Element goals, including Land Use Goal 2-G.3, which states: "Promote infill development that makes efficient use of limited land supply, while ensuring compatibility and integration with existing uses. Ensure that infill properties develop with uses and development intensities supporting a cohesive development pattern" and Growth Management Goal 2-G.21: to "Ensure that adequate public facilities and services are provided in a timely manner to preserve the quality of life of residents."

Zoning Ordinance requirements

Due to the lot constraints and need for a modern fire station that is adequately sized with reasonable circulation and security, the Project does not comply with several Zoning Ordinance standards (referenced as chapters or sections in the CMC). In some cases, aspects of the Project are inconsistent with both the ECR Corridor Development Standards and the Zoning Ordinance (e.g., building setback along ECR). Issues with Zoning Ordinance compliance would be addressed and justified through a Variance and a CUP as follows:

- The Project proposes a Variance from Zoning Ordinance standards (CMC Chapter 21.50) to justify wall heights that exceed height limitations as found in CMC Section 21.46.130.
- Through the Project's CUP (CMC Chapter 21.42), required for a fire station in the R-1 Zone, findings are proposed to allow the fire station to exceed the R-1 Zone's building height maximum and encroach into required front and side yard setbacks and to allow some Project parking, required to be off-street, to locate mostly in the Arenal Road right of way. Exemptions for building height, setbacks, and parking can be made through CUP findings and conditions pursuant to CMC Section 21.42.140 A.; however, deviations from wall height standards are not permitted through a CUP and must be processed through a Variance as noted above.

The following describes in detail the aspects of non-compliance with the Zoning Ordinance.

- The proposed fire station features flat roofs that reach a maximum of 32 feet high. The maximum height permitted in the R-1 Zone for buildings with flat roofs is 24 feet.
- The proposed fire station has a front setback that varies from as little as 3 feet 4 inches to approximately 14 feet from the property line along Arenal Road, which is less than the 20-foot front setback required in the R-1 Zone.
- A corner of the fire station's second floor extends to the street side property line (right of way boundary) along ECR, resulting in no setback (0 feet). This violates the 10-foot street side setback requirement. A corner of the building's first floor near the ECR and Arenal Road intersection also encroaches into this setback.
- Along the Project's rear property line that borders homes fronting Estrella De Mar Road, proposed wall heights exceed the maximum permitted height of six feet as measured from the lowest adjacent grade. However, wall heights exceed six feet only as measured from the fire station (interior) side of the walls, which is at a lower grade than its surroundings, and some of the portions that do exceed six feet will not be visible or readily visible to the public.
- Along the street side property line bordering ECR, proposed wall heights exceed the maximum permitted height of six feet as measured from the lowest adjacent grade. However, wall heights exceed six feet only as measured from the fire station (interior) side of the walls, which is at a lower grade than its surroundings, and some of the portions that do exceed six feet will not be visible or readily visible to the public.
- Along Arenal Road, the Project proposes a six-foot-high wall and gate within the front yard. The Zoning Ordinance limits wall and gate heights in the front yard to three and a half feet. Further, where this wall intersects the rear property line to the east of the proposed building, a seven and a half-foot-high trash enclosure is also proposed within the front yard setback. The enclosure would be subject to the 20-foot front building setback requirement.

As noted, the CMC Section 21.46.130 allows up to a 42-inch wall within the front yard setback and up to six feet in the street side and rear yard setbacks. Portions of some of the Project walls are proposed to exceed these standards for the following reasons:

- 1. A six-foot high wall, as measured from the outside of the wall facing ECR and the outside of the wall facing the neighboring homes, is desired for both the fire station and nearby residents to provide security and privacy and to reduce noise. In particular, a six-foot-high wall provides the fire station with a visual and access barrier and security for valuable apparatus, fire and medical equipment, Drug Enforcement Agency controlled medicines, and protected employee and patient information.
- 2. A six-foot-high masonry wall (or other solid material approved by the decision-making authority) is required by CMC Section 21.44.060 Table C when parking is located within

the rear and side yards of residential zones, as the Project proposes. Due to lot limitations and fire station needs, there are no other locations for secure, on-site parking.

- 3. Existing neighboring residential walls either do not meet the six-foot height, the "solid material" requirement (two of the walls are vinyl or wood fence) described in item 2 above or are set back from the property line. If the fire station were not to build a wall, the gap resulting from the setback could represent a security risk for the station.
- 4. Wall heights above six feet result from adjacent residential property and ECR grades, which are in some cases approximately three or more feet higher in elevation than the fire station property. Due to the grade difference, a six-foot-high wall from the residential properties or ECR causes a six- to nine-foot "exposed" wall height facing the fire station. This height difference is similar to current site conditions.
- 5. Due to small lot size, irregular lot shape, parking, circulation, and operational requirements, reducing the exposed wall height or space to screen from the fire station and Arenal Road, whether through means such as landscaping, berming, or "splitting" the wall into two shorter walls separated by a planting strip, is severely limited.

Discussion regarding the proposed Variance and required findings

CMC Section 21.50.040 permits walls to exceed permitted heights subject to the approval of a Variance and required findings. The findings require the existence of special circumstances (e.g., a property's size and shape) and compliance with applicable land use documents, such as the General Plan, and specify that a Variance not result in the grant of a special privilege or use not otherwise permitted by a property's zoning.

Special circumstances of the subject property include its irregular shape, small size, limited depth, two street frontages, and grade. To accommodate the space needed for a modern fire station and to adequately and securely house staff and fire apparatus, the building and related features, including walls, encroach into setbacks or exceed maximum permitted heights as this initial study explains. The strict application of the Zoning Ordinance, in particular its requirement that wall heights not exceed three and a half feet in the front setback and six feet elsewhere, combined with the property's special circumstances, deprives the property of privileges enjoyed by other properties in the vicinity, namely that of reasonable security and screening provided by a six-foot-high wall.

In addition, the Variance would not permit a use inconsistent with governing land use documents and instead can be found consistent with them. As discussed elsewhere in this initial study, the proposal for a new fire station complies with the La Costa Master Plan, ECR Corridor Standards, and the General Plan, including the latter document's land use designation for the property; therefore, the findings needed to grant a Variance can be met.

Discussion regarding proposed CUP standard exemptions and findings

Fire Station No. 2 is an allowed use in the R-1 zone by a CUP as a "public quasi-public buildings and facilities and accessory utility buildings/facilities" per Section 21.04.297 and Section 21.10.020 of the CMC. It is also subject to the standards of the R-1 Zone. The Project, with the exception of front and street side yard setbacks and building height, is consistent with R-1 Zone standards as contained in Chapter 21.10 of the CMC. Further, since three proposed fire station parking spaces are provided mostly in the Arenal Road right of way, the Project is not consistent with CMC Section 21.44.010, which requires newly constructed buildings to provide required parking off-site.

CMC Section 21.42.140.A permits, through the CUP process and resulting findings and conditions, exemptions to be made to development standards with respect to front and side yard setbacks, off-street parking and building height. Due to the Project's irregular lot shape, small size, limited depth, and need for a larger fire station, structures and parking are proposed within the setbacks. Nine staff parking spaces are proposed in the back and side yards and three public parking spaces are proposed partially in the front yard setback and public right of way. The shift crew size is six personnel. As the shift change occurs in the morning there would be a need for 12 parking spaces. The three public parking spaces located mostly in the front yard setback would be utilized by the fire personnel during shift changes in the morning. After the shift change has been completed the three vehicles parked in the public parking spaces would be relocated to the back of the lot. The public spaces would be utilized by vendors, visitors or the general public. Street parking exists on both sides of Arenal Road should additional parking be necessary.

The height of the flat-roofed building is proposed at 32 feet, whereas the R-1 zoning only allows a 24-foot height with a roof pitch of less than 3:12. A height above 24 feet is required to adequately house staff and fire apparatus on the small site. The height of the fire apparatus dictates the minimum width and height of the first-floor apparatus bays; this dictates a minimum first floor height of approximately 15 feet 5 inches. The height of the residential space on the second floor has been designed to a code compliant minimum height. A flat roof design would be utilized to maximize useable interior space and minimize overall building height. So overall, the station height of 32 feet is a minimum height for a two-story fire station.

As noted, findings must be made to grant exemptions to development standards through the CUP process. These findings are the same as CUP approval findings and require the proposed use to be necessary or desirable for the development of the community, not detrimental to existing uses, compatible with applicable land use documents, compatible with the surrounding neighborhood, located on a site adequate in size to comply with development standards so as to fit with other uses in the neighborhood, and be served by a street system adequate to handle proposed traffic.

With regards to the necessity or desirability of the Project as well as its land use compatibility, the current station is a single-story structure with many deficiencies in regard to space, infrastructure and current health, safety, and fire codes. The City of Carlsbad Growth Management Plan requires no more than 1500 dwelling units to be outside of a 5-

minute emergency response time. The City of Carlsbad Fire Department Directive 5 requires that a fire engine must be located in District 2 to assure the capability of delivering fire service and maintaining their goal of having a crew on site at an emergency within six minutes, 90% of the time, which is necessary to keep up with the development of the community and is in harmony with the Public Safety Element and objectives of the General Plan and is not detrimental to existing uses. Therefore, the findings needed to grant an exemption can be met. Efforts to find a different site within District 2 were unsuccessful, causing the city to ultimately propose a new fire station on the existing Fire Station No. 2 site despite its limitations.

The current Project site on Arenal Road is within a residential zone and is served by and responsible for City of Carlsbad Fire Department District 2. It has served the community as a fire station since 1969 and is identified as such in the La Costa Master Plan. While this initial study identifies the many modifications to standards necessary to fit the Project on the proposed site, it also documents the efforts to integrate the Project into its neighborhood. These efforts include the design of the building, layout of the site, colors and materials, and perimeter walls. Such modifications are permitted through the Variance and CUP process. Furthermore, the city conducted community outreach for the Project in 2017 and 2018 and the input received, primarily from neighbors near the Project site, was considered during Project design.

Finally, with regards to the adequacy of the serving street network, the Project would not result in any related concerns. Please refer to Section XVII. Transportation.

A temporary fire station for use during construction must be located within District 2 and in compliance with the City of Carlsbad Growth Management Plan, which requires no more than 1,500 dwelling units to be outside of a 5-minute response time. The Dove Library temporary site was chosen in accordance with requirements set forth in the Carlsbad Fire Department Directive 5, the Carlsbad Growth Management Plan, and to support continued operation within District 2.

In summary, the Project would be consistent with the General Plan, Zoning Code, ECR Corridor Development Standards, and Growth Management Plan's fire performance standard. As discussed, the Project would obtain a CUP, SUP, and Variance, and the necessary findings to grant deviations from standards, as proposed through these permits, can be made. Further, the Dove Library temporary site would also obtain a CUP and would also require a CDP since this site, unlike the existing fire station site, is located within the Coastal Zone.

The Dove Library temporary site would be designed and constructed to comply with all applicable local, state, and federal regulations. Therefore, impacts are Less than Significant.

B. References

- California Coastal Conservancy (CCC). 2017. "About the Conservancy." Available at: http://scc.ca.gov/about/. Accessed: February 2018.
- City of Carlsbad. 2004. Habitat Management Plan for Natural Communities in the City of Carlsbad. Available at: http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=27193. Accessed: February 2018.
- City of Carlsbad. 2017. "General Plan Land Use Map". Available at: <u>http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=24082</u>. Accessed: February 2018
- City of Carlsbad. 2017. "Zoning Map." Available at: http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=24153. Accessed: February 2018.
- City of Carlsbad. 2018. *City of Carlsbad Municipal Code. Title 21 Zoning*. Available at: <u>http://www.qcode.us/codes/carlsbad/?view=desktop&topic=10-10_32-10_32_091</u>. Accessed: August 2018.
- City of Carlsbad. 2018. *City of Carlsbad ECR Corridor Development Standards*. Available at: <u>http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=24734</u> Accessed: September 2018.

City of Carlsbad. 2006. La Costa Master Plan (MP 149(U)). Amended October 3, 2006.

XII. Mineral Resources

A. Environmental Analysis

Would the Project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				\boxtimes

- a) No Impact. The Project site and the Dove Library temporary site are located in an urbanized area that is currently developed, and there are no known mineral resources within the Project boundary or the Dove Library temporary site. The California State Geologist is responsible for classifying areas that are Mineral Resource Zones and identifying the presence of significant mineral resources in the state. The city does not contain any mineral resources of Statewide or Regional Importance, as classified by the State Geologist (City of Carlsbad, 2015). In addition, no mineral resources that would be of value to the region and the residents of the state have been identified in or on the Project site or vicinity, including the Dove Library temporary site. As such, construction of the Project and installation of temporary improvements at the library would result in No Impact with regards to a loss of availability of a known mineral resource that would be of value to the region and the residents.
- **b)** *No Impact.* No locally important mineral resources delineated on a land use plan are in the Project vicinity or the Dove Library temporary site. As such, construction of the Project would have No Impact.

B. References

City of Carlsbad. 2015. City of Carlsbad Final Environmental Impact Report. Available at: http://www.carlsbadca.gov/services/depts/planning/update/documents.asp. Accessed: February 6, 2018.
XIII. Noise

A. Environmental Analysis

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

a) Less than Significant Impact with Mitigation Incorporated. Existing ambient noise at the Project site is expected to be dominated by traffic noise from ECR (Figure 2-2). The ambient noise level attributed to ECR in the Project area is 70 A-weighted decibel (dBA) Community Noise Equivalent Level (CNEL) (City of Carlsbad GP, 2015). The Dove Library temporary site is far enough away (approximately 600-feet) from ECR to not be significantly impacted by traffic noise.

Periodic emergency response activities on the existing fire station site currently require use of sirens. Operational noise related to emergency responses would not change with implementation of the Project because the Project would maintain existing use of the site. Thus, operational analysis of noise is not warranted because there would be no changes to existing conditions once the Project is constructed.



The Project and Dove Library temporary site would generate construction noise within the city limits. The State of California allows each local jurisdiction to determine acceptable interior and exterior noise levels by land use. The city of CMC does not have a quantitative noise restriction for construction noise, but it does have limitations on construction hours:

CMC 8.48.010: Construction hours limitations. It shall be unlawful to operate equipment or perform any construction in the erection, demolition, alteration, or repair of any building or structure or the grading or excavation of land during the following hours, except as hereinafter provided:

- A. After 6:00 p.m. on any day, and before 7:00 a.m., Monday through Friday, and before 8:00 a.m. on Saturday;
- B. All day on Sunday; and
- C. On any federal holiday. (Ord. CS-211 § 2, 2013; Ord. 3109 § 1, 1978)

Exceptions to the construction hours are permitted by CMC Section 8.48.020 in limited circumstances; however, the city would abide by the limitations noted during facility construction.

For the Dove Library temporary site, construction noise impacts would be limited to minor vegetation removal and grading for construction of the driveway and potential trenching for utilities. All other site preparation at the Dove Library would occur on paved surfaces. Upon completion of the Project, construction noise impacts would also result from removal of the temporary improvements.

For the Project, noise levels were estimated during each phase of construction. Sound levels for each piece of construction equipment were used to calculate the average hourly A-weighted sound level and the CNEL. Sound levels for each construction phase were estimated at the nearest receiver, located an average of 50 feet northeast from the center of the Project site. Sound levels for each piece of equipment were referenced from the City of Carlsbad Noise Guidelines Manual (Nolte and Associates, Inc., 2013), and daily usage factors were referenced from Caltrans Technical Noise Supplement to the Traffic Noise Protocol (2013).

Table 2-2 provides average hourly sound pressure levels, CNEL for daytime operation, and sound level increase over the existing ambient noise for each construction phase assuming all equipment is in use for the defined amount of time in each hour of the workday. CNEL levels are calculated for the maximum allowable construction of 11 hours of daytime activity from 7:00 a.m. to 6:00 p.m. The noise study prepared for the Project (Appendix F) provides assumptions and calculations for each construction equipment sound pressure level.

Phase	Equipment	Distance to Nearest Noise Sensitive Receiver (ft)	Hourly Average Sound Pressure Level (dBA)	Sound Pressure Level for Daytime Operation (dBA CNEL) ^a	Assumed Ambient (dBA CNEL) ^b	Logarithmic Sum of Operational and Assumed Ambient (dBA CNEL)	Increase to Ambient (dBA CNEL)
Demolition/ Earthwork	Compactor (1), Excavator (1), Grader (1), Haul Truck (1), Loader (1), Water Truck (1)	50	92.6	89.2	70.0	89.3	19.3
Underground Utilities	Excavator (1), Haul Truck (1), Loader (1), Water Truck (1)	50	91.1	87.7	70.0	87.8	17.8
Foundations	Concrete mixer truck (1), Excavator (1)	50	88.0	84.6	70.0	84.8	14.8
Framing Contractor	Crane (1), Forklift (1), Scissor Lifts (1)	50	80.1	76.7	70.0	77.5	7.5
Electrical	Crane (1), Forklift (1)	50	80.0	76.7	70.0	77.5	7.5
Plumbing	Forklift (1)	50	51.0	47.6	70.0	70.0	0.0
HVAC	Crane (1), Forklift (1)	50	80.0	76.7	70.0	77.5	7.5
Roofing	Crane (1), Forklift (1), Scissor Lifts (1)	50	80.1	76.7	70.0	77.5	7.5
Interior Finishing	Forklift (1)	50	51.0	47.6	70.0	70.0	0.0

Table 2-2: Estimated Noise Levels by Construction Phases

Phase	Equipment	Distance to Nearest Noise Sensitive Receiver (ft)	Hourly Average Sound Pressure Level (dBA)	Sound Pressure Level for Daytime Operation (dBA CNEL)ª	Assumed Ambient (dBA CNEL) ^ь	Logarithmic Sum of Operational and Assumed Ambient (dBA CNEL)	Increase to Ambient (dBA CNEL)
Paving	Haul Truck (1), Paver (1)	50	88.5	85.2	70.0	85.3	15.3
Exterior Concrete	Concrete mixer truck (1), Paver (1)	50	87.2	83.8	70.0	84.0	14.0
Landscaping	Excavator (1), Loader (1), Water Truck (1)	50	89.9	86.5	70.0	86.6	16.6

(a) Daytime operation from 7:00 a.m. to 6:00 p.m.

(b) Ambient CNEL attributed to ECR

The CMC restricts hours of operation for construction but does not state a numerical noise restriction. Based on the noise study prepared for this Project (Appendix F), temporary impacts to nearby residential receivers would range from an hourly average of 51.0 dBA during interior finishing and plumbing to 92.6 dBA during demolition. The noise calculations conservatively assume all equipment is in use during allowable daytime hours of 7:00 a.m. to 6:00 p.m. In practice, it is unlikely that all equipment would operate simultaneously for the entire duration of construction; therefore, impacts are overstated. The Project and Dove Library temporary site would comply with the CMC and GP because demolition and improvement activities would be performed during hours of allowable construction noise; the contractor would operate equipment with appropriate mufflers; and equipment would be located as far from residential receivers as practical.

Project construction would result in a temporary, periodic increase in ambient noise levels. However, the Project would comply with the CMC and GP because Project activities would be performed during hours of allowable construction noise and in accordance with mitigation measure **NOISE-1**. Under this measure, the contractor would operate equipment with appropriate mufflers, and noise generating equipment would be located as far from residential receptors as practical. Therefore, potential impacts would be Less than Significant with Mitigation Incorporated.

NOISE-1: Construction Noise. The following mitigation measures shall be implemented.

a) Construction activities shall adhere to the CMC 8.48.010, which restricts operation of equipment or performance of construction after 6:00 p.m. on any day, before 7:00 a.m.,

Monday through Friday, before 8:00 a.m. on Saturday, all day on Sunday, and all day on any federal holiday.

b) Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers, in accordance with manufacturers' recommendations.

c) Construction equipment staging areas shall be located at the furthest distance possible from nearby noise-sensitive land uses.

The noise associated with engine checks and fire truck sirens would be new to the neighborhood around the Dove Library temporary site. The Fire Department staff would delay their engine checks until after 9:00 a.m., and in the event of an emergency call, shall delay siren activation for both the fire engine and ambulance until they are entering ECR to mitigate periodic noise impacts associated with engine checks and siren use. There may be occasional situations where siren activation would be temporarily necessary on Dove Lane for public safety, but Fire Department protocol would be to delay siren activation until they are entering ECR. To minimize traffic backup at the ECR intersection, staff would work with the city Engineering and Transportation Department procedures for manipulating the signal. With the mitigation measure **NOISE-2** included, impacts would be Less than Significant.

NOISE-2: Siren Delay at Dove Library Temporary Site. Fire Department staff shall delay their engine checks until after 9:00 a.m., and in the event of an emergency call, shall delay siren activation for both the fire engine and ambulance, until entering ECR. There may be occasional situations where siren activation would be necessary on Dove Lane for public safety, but Fire Department protocol would be to delay siren activation until they reach ECR.

- **b)** *Less than Significant Impact.* Excessive groundborne noise and vibration is typically caused by pile driving or blasting. Heavy construction machinery such as bulldozers, heavy trucks, etc., typically produce negligible levels of groundborne vibration. The greatest amount of noise would be generated during the demolition phase of construction. The demolition phase of construction would not involve pile driving or blasting. Furthermore, construction would be temporary in nature and would not create excessive groundborne vibrations. Therefore, potential impacts would be Less than Significant.
- c) Less than Significant Impact. The Project and Dove Library temporary site are not located in the vicinity of a private airstrip. The Project is located over two miles from the McClellan-Palomar Airport and the Dove Library temporary site is located approximately 1.55 miles from the airport. Both the Project site and the Dove Library temporary site are located outside of the 60 dB CNEL noise exposure range, and workers would not be subject to excessive noise levels as a result of airport operations (McClellan-Palomar ALUCP, 2011). Therefore, potential impacts would be Less than Significant.

B. References

- Airport Land Use Commission San Diego County. 2010. McLellan-Palomar Airport Land Use Compatibility Plan. Amended December 1, 2011. Available at: <u>http://www.san.org/DesktopModules/Bring2mind/DMX/Download.aspx?EntryId=2991&</u> <u>Command=Core_Download&language=en-US&PortalId=0&TabId=180</u>. Accessed: February 2018.
- California Department of Transportation Division of Environmental Analysis Environmental Engineering Hazardous Waste, Air, Noise, Paleontology Office. 2013. *Technical Noise* Supplement to the Traffic Analysis Protocol.
- City of Carlsbad. 2015. *City of Carlsbad General Plan*. Available at: http://www.carlsbadca.gov/services/depts/planning/update/documents.asp
- City of Carlsbad. "Carlsbad Municipal Code 8.48.010." Available at: http://www.qcode.us/codes/carlsbad. Accessed March 18, 2018

Nolte and Associates, Inc. 2013. City of Carlsbad Noise Guideline Manual.

XIV. Population and Housing

A. Environmental Analysis

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

a) *No Impact.* The city has a population of 113,952, as of July 1, 2017 (U.S. Census Bureau, 2017). There are approximately 45,000 housing units. Of those housing units, approximately 63 percent are occupied by owners (U.S. Census Bureau, 2015).

The Project would include the demolition and replacement of the existing fire station. No new dwellings would be constructed, and no roads or other infrastructure would be extended for the Project or the Dove Library temporary site. Further, the alteration of the existing property for both the Project and the Dove Library temporary site would not lead to the development of houses or other infrastructure that would induce population growth. The existing fire station is being upgraded to accommodate demands of the existing growth in the community and would not induce new growth. Therefore, construction of the Project or the Dove Library temporary site would not induce substantial population growth directly or indirectly by proposing new homes and businesses or through the extension of roads or other infrastructure. There would be No Impact.

b) *No Impact.* The existing Project site is developed and consists of a parking lot and fire station. Immediate surrounding land use to the Project site is residential. No people or housing would be displaced as part of the Project, and no housing currently exists on the property. Similarly, construction of the temporary fire station at Dove Library would occur in a developed parking lot. As such, no people or housing would be displaced during the construction of the Project, and there would be No Impact.

B. References

U.S. Census Bureau. 2017. 2010 to 2017 Population Statistics. Available at: https://www.census.gov/quickfacts/fact/table/carlsbadcitycalifornia/PST045216. Accessed: March 7, 2019.

XV. Public Services

A. Environmental Analysis

	Would the Project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less than Significant Impact	No Impact
a)	Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, a need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i.	Fire protection?			X	
ii.	Police protection?				\boxtimes
iii.	Schools?				\boxtimes
iv.	Parks?				\boxtimes
v.	Other public facilities?			X	

a) Less than Significant Impact.

i. The purpose of the Project is to provide a new fire station to replace the fire station currently on the site. The associated environmental impacts are the subject of this IS/MND. The Project would not have other impacts to fire protection services beyond what is analyzed in this document.

The City of Carlsbad Fire Department provides fire and emergency services within the city for an approximate 39-square-mile region. The Project would be subject to the city's policies and codes for hazard mitigation and fire prevention (including GP, Land Use and Community Design Element Goal 2-G.22 and Policies 2-P.58, 2-P.60, 2-P.61, and Public Safety Element Goals 6-G.1, and 6-G.3, and Policies 6-P.28, 6-P.31, 6-P.32, 6-P.33 and 6-P.34, and Fire Prevention Code 17.04), as well as plan review by the city's Fire Prevention Division.

As described in the Project Description, the current Project site on Arenal Road is within a residential zone and is served by City of Carlsbad Fire Department District 2, according to Figure 6-9 of the city's GP (2015). The Dove Library temporary site would also be within District 2. The City of Carlsbad Fire Department has signed automatic aid agreements with all surrounding communities for support if additional firefighting resources are needed; therefore, impacts related to fire service adequacy in this District during the temporary period of construction would be less than significant, and compliant with City of Carlsbad Growth Management Plan which requires no more than 1,500 dwelling units to be outside of a 5-minute response time. Temporary relocation of fire services to the Dove Library parking lot would not result in a significant impact to fire protection services.

As described in Chapter 1.0 of this IS/MND, the Project would be constructed to meet the operational needs, goals, and policies of the City of Carlsbad Fire Department and the city. It would not increase demand for fire services, but rather improve existing service facilities for the public and staff. Thus, impacts on fire protection services would be Less than Significant.

- **ii.** *No Impact.* The City of Carlsbad Police Department provides police services within the city. The Project would replace an existing, outdated fire station with a new facility in the same location. The Project and Dove Library temporary site operations and construction would not increase demand for law enforcement. Thus, No Impact would occur.
- **iii.** *No Impact.* The Project and the Dove Library temporary site would not construct new residences that would generate students; therefore, it would not increase the demand for schools in the area. Thus, No Impact would occur.
- iv. *No Impact.* The Project and the Dove Library temporary site would not change demand for park and recreation services. Thus, No Impact would occur.
- v. *Less than Significant Impact.* Implementation of the Project and the Dove Library temporary site would not increase population or otherwise affect demand for other public facilities, such as libraries, within the plan area.

Parking for library staff, which primarily occurs on the south side of the library building, would not be reduced due to the temporary use of a portion of the north parking lot by Fire Department staff, a trailer, equipment, and driveway space. Of the 68 spaces on the north side of the building, 49 would be temporarily removed to accommodate the Dove Library temporary site. Limited replacement parking would be available on Dove Lane and elsewhere in the library parking lot, including south of the library, where employees currently park.

Two to three of the accessible parking spaces in this area would not be available during temporary use of the parking lot; however, the city would temporarily locate two to four new accessible spaces to the library's east parking lot in order to continue meeting patron demand for accessible parking. In anticipation of special events at the library, staff would work with the city's Transportation Department to relax portions of the parking restrictions on Dove Lane northwest of the shopping center entrance closest to ECR while maintaining transitions to and from the adjacent bike lanes along Dove Lane west to ECR. Implementation of the Dove Library temporary site will not impact bicycle facilities along Dove Lane.

Fire truck and ambulance access in and out of the parking lot portion on the north side of the Dove Library would be accommodated by constructing a new two-way temporary driveway on Dove Lane (Figure 1-3) located northwest of the current library entrance off Dove Lane. This separate driveway would serve fire truck and ambulance access and help minimize traffic impacts to library access, parking, and pedestrian pathways. To construct the temporary driveway, the existing sidewalk and landscaping would be removed and graded to minimize the elevation change between the parking lot and the street. An asphalt patch would serve in place of the sidewalk, so pedestrian use of the sidewalk would continue. Upon completion of Fire Station No. 2 construction and upon relocation of Fire Department staff back to the new station, the sidewalk, landscaping, a trailer, fencing, and all other temporary improvements would be removed, and the parking lot would be restored to its pre-existing condition. Use of the Dove Library temporary site is expected between spring 2021 and summer/fall 2022, while the current station is demolished and reconstructed. Construction is currently expected to be complete by summer/fall 2022.

B. References

City of Carlsbad. 2015. *City of Carlsbad General Plan*. Available at: <u>http://www.carlsbadca.gov/services/depts/planning/update/documents.asp</u> Accessed: March 2018.

XVI. Recreation

A. Environmental Analysis

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

- a) *No Impact.* The Project would be built in the same location as the existing fire station. The fire station's function, equipment, and personnel would remain similar (including both the Dove Library temporary site and the permanent facility); therefore, the Project and the Dove Library temporary site would not increase the use of existing neighborhood regional parks or other recreational facility and therefore, No Impact to parks would occur.
- **b)** *No Impact.* The Project and the Dove Library temporary site would not increase the use of existing parks or recreational facilities and would not introduce new housing or population that would require use of such facilities. The Project does not propose recreational facilities or require the construction or expansion of recreational facilities. Therefore, No Impact to recreation would occur.

B. References

City of Carlsbad. 2015. *City of Carlsbad General Plan*. Available at: <u>http://www.carlsbadca.gov/services/depts/planning/update/documents.asp</u> Accessed: March 2018.

XVII. Transportation

A. Environmental Analysis

	Would the Project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less than Significant Impact	No Impact
a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			\boxtimes	
b)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			\boxtimes	
c)	Result in inadequate emergency access?			\boxtimes	

a) *Less than Significant Impact.* The city accommodates motorists via its system of freeways, regional streets, and local streets. ECR is considered an arterial for north/south travel as per the City of Carlsbad Mobility Element of the GP (General Plan, 2015). The 2008 California Complete Streets Act requires cities in California to plan for a balanced, multi-modal transportation system that meets the needs of all travel modes. This Mobility Element establishes a multi-modal level of service (MMLOS) methodology for the city that determines the vehicle level of service by the Highway Capacity Manual and evaluates the service levels for pedestrians, bicyclists and transit users. The city's MMLOS methodology provides a qualitative "grade" assigned to specified travel modes, ranging from a level of service (LOS) A to LOS F. LOS A reflects a high service standard for a travel mode (e.g., outstanding characteristics and experience for that mode) and LOS F reflects a poor service standard for a travel mode (e.g., congestion for vehicles, no bicycle, pedestrian, or transit facilities, etc.).

The Project would not alter current land uses on the site. However, Project construction could result in temporary impacts to the circulation system. A Traffic Impact Study, prepared by Burns & McDonnell Engineering Company, Inc. dated March 23, 2018, was conducted for the Project to determine impacts of construction on all modes of transportation along ECR (Appendix G). The most significant period of construction activity is anticipated to include 25 laborer trips in both the morning and evening peak hours (7:45 a.m. to 8:45 a.m. and 4:45 p.m. to 5:45 p.m., respectively). Construction activity also includes approximately 50 trips per day for material delivery and hauling (100 total trips per day) which would occur throughout the workday, outside of morning and evening peak hours. For the purposes of the traffic assessment, it is anticipated that the construction activities would result in an influx of 25 vehicles entering the Project site during the morning peak hour and 25 vehicles exiting the Project site during the morning peak hour and 25 vehicles exiting the Project site during the workers during the vening peak hour and 25 vehicles exiting the Project site during the morning peak hour and 25 vehicles exiting the Project site during the workers during the workers during the vening peak hour and 25 vehicles exiting the Project site during the workers during the workers during the workers during the vening peak hour and 25 vehicles exiting the Project site during the workers during the

peak construction periods can be accommodated partially on the Project site and along Arenal Road east and west of ECR. Construction activity trip distribution was determined through assessment of the existing condition peak hour traffic volume counts. Construction trips are anticipated to utilize ECR and were distributed to the north and south via ECR based on a volume weighting of existing day traffic counts.

The Traffic Impact Study states that the measure of significant impact to intersection performance is an increase of vehicular delay by 2.0 seconds. Once the new fire station becomes operational, the service area is expected to remain the same as in the existing condition and it can reasonably be assumed that the frequency of emergency response requests would be similar to the existing conditions. Similarly, the signalized intersection will continue to use emergency vehicle pre-emption to allow access to and from the new fire station. Once operational, the roadway network would experience similar operating conditions as it currently does. The Traffic Impact Study found no significant impact anticipated to each of the study intersections in considering peak construction activities (Appendix G). The southbound approach of ECR and Arenal Road would degrade from a LOS C to LOS D in the evening peak hour; however, the overall intersection performance would remain at LOS C. The overall intersection and approach delay would result in an increase of fewer than 2.0 seconds. Construction of the Project would not conflict with an applicable plan, ordinance, or policy established to measure effectiveness and would not decrease overall LOS at intersections.

As part of the traffic study, intersection traffic counts were conducted on February 8, 2018, for a period of 24 hours. The study found no pedestrian or bicycle usage during the peak vehicle hours of 7:45 a.m. to 8:45 a.m. and 4:45 p.m. to 5:45 p.m. As such, the traffic count study focused on the automobile mode and impact to automobile LOS. Other modes of roadway users were observed during off-peak periods, with a total pedestrian usage of 53 pedestrians at the ECR and Arenal Road intersection. The peak pedestrian usage of the ECR and Arenal Road intersection for 6:00 a.m. to 7:00 a.m. when eight pedestrians utilized the intersections crosswalks. Total bicycle usage was found to include 14 bicyclists during the traffic count period, with none present during the peak vehicular time periods.

Construction of the Project and use of the Dove Library temporary site, including installation of the temporary driveway, would not conflict with adopted policies, plan, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease performance or safety of such facilities. Crosswalks and bike paths near the Project would continue to operate during construction and operation and use of the sidewalk would continue across the temporary driveway at Dove Library. Additionally, there would be no significant impact to LOS for vehicles. Therefore, potential impacts would be Less than Significant.

The existing fire station has two driveways on Arenal Road and lacks access directly onto ECR. Presently, one wide driveway serves the apparatus bay; maneuvering for emergency response vehicles, including backing into the bay, requires use of the street. Fire station personnel access the fire station site via a separate, smaller driveway, also on Arenal Road.

Though this separate, smaller driveway is two-way, limited on-site area for vehicle maneuvering makes exiting the fire station in a forward direction a challenge.

To enable all vehicles to enter and exit the fire station site and apparatus bay in a forward direction, the new station would have one shared driveway to enter the site from Arenal Road and two new exit-only driveways onto ECR. The single Arenal Road driveway serves as ingress for both emergency response and fire station personnel vehicles. The two, one-way (exit only) ECR driveways serve as either egress for emergency response vehicles at the station's street-facing apparatus bay, or as the egress for the vehicles of fire station employees.

The design guidelines of the ECR Corridor Development Standards indicate that "intersections and access points shall be minimized along the corridor. Such roadways should be designed in conformance with the city's Engineering Department Design Standards." The new driveways onto ECR represent two additional access points for a single use. They are necessary to facilitate more efficient and safe ingress and egress of emergency vehicles and personal vehicles and to aid response times. Further, use of the ECR driveway for emergency vehicles/emergency response would be periodic and brief; use of the other driveway is anticipated to be sporadic and limited to fire station personnel. Therefore, neither are anticipated to degrade intersection performance.

The bike lane and sidewalk on ECR would be maintained and properly transitioned across the new fire station driveway. To accommodate emergency vehicles exiting from the apparatus bay driveway onto ECR, a "Keep Clear" label would be painted on both north and south bound lanes to allow safe right and left turns out of the station. In addition, the southbound ECR traffic signal at Arenal Road would be relocated approximately 75 feet to the north of the driveway. The crosswalk will remain on ECR.

Due to the placement of the new apparatus bay driveway on ECR, the existing bus stop would be relocated south in front of the Omni Resort & Spa. This bus stop mostly serves the employees of the Omni Resort & Spa and would continue to operate during construction so that public transportation services are not interrupted.

The city engineer and the city's Traffic Division have reviewed the additional driveways, bus stop and signal relocations and concluded the Project is compliant with requirements. Therefore, potential impacts would be Less than Significant.

During the construction of the Project, a temporary location would be established at the nearby Dove Library. Trips associated with staff at the current site would be temporarily assigned to the Dove Library location, as would associated trips resulting from emergency response activities. The trips associated with staff (5 employees per shift plus an additional person, such as a paramedic colleague, someone from the city's explorer program or a probationary employee, for a ride-along, for a maximum of 6 people per shift) travel to and from the facility are negligible and have no significant impact on area traffic operations, while trips associated with emergency response are variable both in terms of time of day and number of occurrences. These trips are also expected to have no significant impact on area

traffic operations. It can be reasonably expected that the Project operations, whether at the Dove Library temporary site or the new permanent facility, would have the same general effect on area circulation as the current Fire Station No. 2. The Dove Library temporary site would include construction of a temporary driveway for ingress and egress as described in the Project Description. The existing bike lanes along Dove Lane west of ECR and transitions to and from them will be maintained for the duration of the project. No impact to the operation of the existing bike lane network will result. Therefore, impacts to circulation at the Dove Library temporary site would be localized to the sidewalk. Impacts to Dove Lane and signalization discussion is included under item b), below. Impacts to the sidewalk along Dove Lane would be periodic (during construction of the ingress/egress driveway) and intermittent (such as when vehicles enter or exit) and are therefore considered Less than Significant.

b) Less than Significant Impact. The streetlights and traffic signal at the intersection of Arenal Road and ECR would remain unchanged by the Project, except for the south-bound traffic signal on ECR, which would be relocated approximately 75 feet to the north to allow space for emergency response vehicles exiting onto ECR. During an emergency response, manual or automatic activation of the large apparatus bay garage doors would trigger a call to the traffic signal to allow safe egress of the emergency vehicle exiting from station and protect local traffic. Other than relocating the traffic signal 75 feet to the north, no circulation improvements are proposed for local roadways surrounding the Project. Ingress and egress routes would be designed and constructed to city standards and any deviation from design standards would be subject to the approval of the City Engineering Department. The ECR Corridor Development Standards (as discussed in Section I. Aesthetics and XI. Land Use and Planning) discourage direct access (driveways, intersections) onto ECR. However, the Fire Department requires driveways which would provide safe and efficient access onto ECR for fire and employee vehicles and is coordinating with the City Engineering Department to design adequate safety measures (such as the appropriate line of sight) and no feature of the Project would result in a design hazard.

Emergency vehicle access at the Dove Library temporary site in and out of the parking lot portion on the north side of the Dove Library would be accommodated by constructing a new temporary two-way driveway at a location northwest of the existing library entrance where this is feasible with the grade of Dove Lane. A separate driveway would benefit emergency vehicle access and help minimize traffic impacts to library patron parking and pedestrian pathways. Emergency vehicle ingress and egress will not significantly impact traffic on Dove Lane, as all firetruck and ambulance maneuvering would occur within the parking lot area. To construct the temporary driveway, the existing sidewalk and landscaping would be removed to minimize the grade change between the parking lot and the street. An asphalt patch would take the place of the sidewalk in this area, so pedestrian use of the sidewalk would not be compromised. Upon completion of the Fire Station No. 2 construction Project and upon relocation of Fire Department staff back to the new station, the sidewalk and landscaping area would be restored to its pre-existing condition. Therefore, it would not increase hazards due to an incompatible use, and potential impacts would be Less than Significant. c) *Less than Significant Impact.* There is no planned road closure or a significant impact to LOS because of construction that would prevent or impact emergency response near the Project site. Fire Station No. 2 would be temporarily relocated to the Dove Library temporary site during construction, so construction at the existing site would not interfere with emergency response from this fire station. Therefore, potential impacts would be Less than Significant.

B. References

- City of Carlsbad. 2015. *City of Carlsbad General Plan*. Available at: <u>http://www.carlsbadca.gov/services/depts/planning/update/documents.asp</u>
- City of Carlsbad. 2018. *City of Carlsbad ECR Corridor Development Standards*. Available at: http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=24734 Accessed: September 2018.
- County of San Diego. 2011. Guidelines for Determining Significance and Report Format and Content Requirements, Transportation and Traffic. Available at: https://www.sandiegocounty.gov/dplu/docs/Traffic_Guidelines.pdf

Burns & McDonnell Engineering Company, Inc. 2018. Fire Station Number 2 Construction Traffic Impacts.

XVIII. Tribal Cultural Resources

A. Environmental Analysis

Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less than Significant Impact	No Impact
 a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or 				\boxtimes
 b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. 				

- a) No Impact. There are no tribal cultural resources listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), that would be affected by the Project or the temporary improvements at Dove Library. Thus, there would be No Impact.
- b) Less than Significant Impact with Mitigation Incorporated. In accordance with the city's Tribal, Cultural, and Paleontological Resources Guidelines (2017), the City Planning Division notified the San Luis Rey Band of Mission Indians, the Torres Martinez Desert Cahuilla Indians, the Mesa Grande Band of Mission Indians, and the Rincon Band of Luiseño Indians, which are traditionally and culturally affiliated California Native American tribes that have requested notice of proposed projects in the city. Notices were sent on April 23, 2018, in conformance with Assembly Bill 52 (See Appendix H for tribal consultation records). The San Luis Rey Band of Mission Indians responded within 30 days in a letter dated April 27, 2018 and requested consultation. The city responded to the San Luis Rey Band letter to engage in further consultation, and the tribe has requested additional information; at the time of publication of this IS/MND, the consultation process is ongoing. The Rincon Band of Luiseño Indians responded in a letter dated May 25, 2018 and did not request any consultation. However, the tribe recommended archaeological and Luiseño tribal monitoring during ground disturbance activities because the Project site is located within the historical territory of the Luiseño people. The city received no response or consultation request from either the Torres Martinez Desert Cahuilla Indians or the Mesa Grande Band of Mission Indians.

As stated in Section V. Cultural Resources/Paleontological Resources, the SCIC records search found one previously recorded cultural resource (CA-SDI-609) on the Project site. The cultural resource CA-SDI-609 was recorded in 1959 and consisted of midden soil deposits, shell fragments, and lithic artifacts. The city will retain a qualified Luiseño Native American monitor to monitor ground-disturbing construction activities that would have a reasonable likelihood to disturb areas of tribal cultural resources. Therefore, with implementation of mitigation measures **TRIBAL-1** through **TRIBAL-10** below, impacts would be Less than Significant.

For the Dove Library temporary site, excavation would be limited to sidewalk and landscape removal and restoration for installation of a temporary driveway. Minor trenching to access underground utilities may be considered; however, it is not anticipated. Due to the limited area of disturbance and the location on previously developed/paved areas, impacts to cultural resources at the Dove Library temporary site are not anticipated and are therefore considered Less than Significant.

TRIBAL-1: Native American Monitoring. A Luiseño Native American monitor shall be present during all ground disturbing activities. Ground disturbing activities may include, but are not limited to, archaeological studies, geotechnical investigations, clearing, grubbing, trenching, excavation, preparation for utilities and other infrastructure, and grading activities.

TRIBAL-2: Native American Monitoring. Any and all uncovered artifacts of Luiseño Native American cultural importance shall be returned to the San Luis Rey Band of Mission Indians, and/or the Most Likely Descendant, if applicable, and not be curated, unless ordered to do so by a federal agency or a court of competent jurisdiction.

TRIBAL-3: Preconstruction Meeting. The Luiseño Native American monitor shall be present at the Project's preconstruction meeting to consult with grading and excavation contractors concerning excavation schedules and safety issues, as well as to consult with the archaeologist concerning the proposed archaeologist techniques and/or strategies for the Project.

TRIBAL-4: Temporary Divert and/or Halt Construction Activities. Luiseño Native American monitors and archaeological monitors shall have joint authority to temporarily divert and/or halt construction activities. If tribal cultural resources are discovered during construction, all earth-moving activity within and around the immediate discovery area must be diverted until the Luiseño Native American monitor and the archaeologist can assess the nature and significance of the find.

TRIBAL-5: Data Recovery Plan. If a significant tribal cultural resource(s) and/or unique archaeological resource(s) are discovered during ground-disturbing activities for the Project, the San Luis Rey Band of Mission Indians, or another Luiseño Native American Band, shall be notified and consulted regarding the respectful and dignified treatment of those resources. Pursuant to California Public Resources Code Section 21083.2(b) avoidance is the preferred method of preservation for archaeological and tribal cultural resources. If, however, the Applicant is able to demonstrate that avoidance of a significant and/or unique cultural resource is infeasible and a data recovery plan is authorized by the

City of Carlsbad as the lead agency, the San Luis Rey Band of Mission Indians, or another Luiseño Native American Band, shall be consulted regarding the drafting and finalization of any such recovery plan.

TRIBAL-6: Collection of Tribal Cultural Resources. The avoidance and/or preservation of the significant tribal cultural resource and/or unique archaeological resource must first be considered and evaluated as required by CEQA. Where any significant tribal cultural resources and/or unique archaeological resources have been discovered and avoidance and/or preservation measures are deemed to be infeasible by the city, then a research design and data recovery program to mitigate impacts shall be prepared by the qualified archaeologist (using professional archaeological methods), in consultation with a Luiseño Native American monitor and shall be subject to approval by the city.

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

In addition, an option to include an on-site reburial in a protected area (i.e. open space easement or conservation area) to avoid impacts from future development and/or maintenance projects.

TRIBAL-7: Incidental Discovery of Human Remains. If suspected Native American human remains are encountered, California Health and Safety Code Section 7050.5(b) states that no further disturbance shall occur until the San Diego County Medical Examiner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. Suspected Native American remains shall be examined in the field and kept in a secure location at the site. A Luiseño Native American monitor shall be present during the examination of the remains. If the San Diego County Medical Examiner determines the remains to be Native American, the NAHC must be contacted by the Medical Examiner within 24 hours. The NAHC must then immediately notify the Most Likely Descendant about the discovery. The Most Likely Descendant shall then make recommendations within 48 hours and engage in consultation concerning treatment of remains as provided in Public Resources Code 5097.98.

TRIBAL-8: Imported Fill Material. In the event that fill material is imported into the Project area, the fill shall be clean of tribal cultural resources and documented as such. Commercial sources of fill material are already permitted as appropriate and would be culturally sterile. If fill material is to be utilized and/or exported from areas within the Project site, then that fill material shall be analyzed and confirmed by an archeologist and Luiseño Native American monitor that such fill material does not contain tribal cultural resources.

TRIBAL-9: Testing of Tribal Cultural Resources. No testing, invasive or non-invasive, shall be permitted on any recovered tribal cultural resources without the written permission of the San Luis Rey Band of Mission Indians or another Luiseño Native American Band.

TRIBAL-10: Monitoring Report. Prior to the release of the grading bond, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis and conclusions of the monitoring program shall be submitted by the archaeologist, along with the Luiseño Native American monitor's notes and comments, to the City of Carlsbad for approval. Said report shall be subject to confidentiality as an exception to the Public Records Act and will not be available for public distribution.

B. References

City of Carlsbad, 2017. Carlsbad Tribal, Cultural, and Paleontological Resources Guidelines. Available at: http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=34010 Accessed April 2018.

XIX. Utilities and Service Systems

A. Environmental Analysis

	Nould the Project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less than Significant Impact	No Impact
a) 1	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?				
b) 1	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			\boxtimes	
c)]	Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?				
d) (Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				
e) (Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				\boxtimes

a) *Less than Significant Impact.* The Project and the Dove Library temporary site would not result in the construction of a new water or wastewater treatment facility, nor would they entail the expansion of existing facilities. Because no alterations to the existing municipal water and wastewater services are proposed, No Impacts are anticipated with regard to water and wastewater services.

Drainage for the Project site would be designed to minimize pollution to surface water and minimize runoff from the Project site. The Project design would comply with the City of Carlsbad Engineering Standards Volumes 4 and 5 and the CMC Title 15. The Project would comply with all applicable storm water management and hydromodification management requirements listed in the City of Carlsbad BMP Design Manual.

Compliance with the city's regulations and ordinances for grading, drainage, and storm water would require that the capacity of the existing storm drain systems would not be exceeded, and that new and/or retrofitted facilities would be provided, as necessary. Because the Project would maintain the existing land uses at the site, it would not be expected to generate significant increases in storm water runoff.

The Dove Library temporary site would not construct new storm water drainage facilities or expand existing facilities. Therefore, potential impacts would be Less than Significant.

b) Less than Significant Impact. During construction, water use would be limited and temporary in nature at the Project site. Water would be used for some construction activities such as dust control and or mixing materials (e.g., concrete mix). Operational water usage would remain substantially similar to existing conditions. Existing municipal water facilities would serve the Project, and if necessary, a water truck may be used during construction. The Project would require minimal new water supplies to serve irrigation needs once constructed.

The Dove Library temporary site would connect to the library utility services for all water needs. The library is connected to the municipal water system and has adequate capacity to serve the Dove Library temporary site.

The Project and the Dove Library temporary site do not meet the requirements of a "regionally significant project" per Senate Bill 610 as they would not require expanded use of water supplies. Therefore, the Project is not subject to enhanced CEQA requirements per SB 610. There are sufficient water supplies available to serve the Project; therefore, potential impacts would be Less than Significant.

- c) Less than Significant Impact. For the Project, wastewater treatment services are provided by the Leucadia Wastewater District. For the Dove Library site, they are provided by the City of Carlsbad. Project implementation would not significantly impact wastewater treatment, since no significant increased demand would result with implementation of the Project or the Dove Library temporary site. Weekly sanitary services would be provided by third party vendor for the trailer at the Dove Library temporary site. Therefore, potential impacts would be Less than Significant.
- d) Less than Significant Impact. Construction activities for the Project and the Dove Library temporary site would produce construction debris and waste. However, this waste is anticipated to be minimal and is not expected to exceed the permitted capacity of local landfills. The landfills that would likely be used to dispose of Project solid waste are Sycamore Canyon and Otay. All material would be sorted and disposed of according to local, state, and federal requirements. The California Green Building Standards Code (Title 24, Part 11) requires that new building construction divert 50% of construction waste from landfills (CBSC, 2017). Operational waste would remain substantially similar to existing conditions. Therefore, potential impacts would be Less than Significant.
- e) *No Impact.* Under the Integrated Solid Waste Management Act of 1989, all cities and counties in California were required to divert 25 percent of solid waste from landfills by

January 1, 1995 and continue to increase solid waste diversion to 50 percent by January 1, 2000. The Project would follow the latest diversion requirements as defined in the 2016 California Green Building Standards Code. The California Solid Waste Reuse and Recycling Access Act of 1991 requires that state and local agencies provide adequate and accessible areas for collecting and loading garbage and recycling materials by creating ordinances for development projects. Lastly, the DTSC enforces hazardous waste laws and regulations. The DTSC also issues permits to store, treat, or dispose of hazardous wastes; oversees cleanup activities on contaminated sites; provides emergency response for hazardous materials-related emergencies; and investigates potential criminal activities related to hazardous wastes (DTSC, 2010). The Project would comply with federal, state, and local statutes and regulations related to solid waste. Recycling of construction debris would be implemented to the extent possible. All solid waste would be disposed of in an approved site in compliance with applicable regulations. There would be No Impact.

B. References

- California Building Standards Commission (CBSC). 2017. *Guide to the 2016 California Green Building Standard Code*. Available at: https://www.documents.dgs.ca.gov/bsc/CALGreen/CALGreen-Guide-2016-FINAL.pdf. Accessed: March 2018.
- California Department of Resources Recycling and Recovery (CalRecycle). 2016. *California's* Statewide Per Resident, Per Employee, and Total Disposal Since 1989. Available at: http://www.calrecycle.ca.gov/lgcentral/goalmeasure/DisposalRate/Graphs/Disposal.htm. Accessed: March 2018.
- California Department of Toxic Substances Control (DTSC). 2010. "DTSC: Who We Are and What We Do." Available at: http://www.dtsc.ca.gov/InformationResources/DTSC_Overview.cfm. Accessed: March 2018. Accessed: March 2018.

XX. Wildfire

A. Environmental Analysis

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

a) Less than Significant Impact. The Project would not impair an adopted emergency response plan or emergency evacuation plan. Refer to responses above under Section IX. Hazards and Hazardous Materials, items f and g. Construction and operation of the Project as well as use of the Dove Library temporary site would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. In fact, the Project will enhance emergency response and evacuation efforts by constructing an improved fire station that will meet the operational needs, goals, and policies of the City of Carlsbad Fire Department and the city.

The City of Carlsbad participates in the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) and identified Structural Fire/Wildfire as one of their top five hazards (San Diego County, 2019). The City of Carlsbad included goals in the MJHMP to reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to structural fire/wildfire.

Furthermore, the City of Carlsbad has adopted an Emergency Operations Plan (City of Carlsbad, 2018) to provide guidance for the City of Carlsbad's response to emergencies, including wildfire. This plan was developed to facilitate response and short-term recovery

activities. This plan is consistent with and references the MJHMP. Several mitigation actions specific to wildfire are included in the plan. These include, Zoning ordinances and Uniform Building Code, weed abatement and defensible space programs, tree and landscape maintenance, habitat management plan, and community outreach strategies such as distribution of materials about wildland fire mitigation actions the community can implement.

The construction and operation of both the Project and the Dove Library temporary site would be consistent with the MJHMP and the City of Carlsbad Emergency Operations Plan. Therefore, the Project would have a Less than Significant Impact on any emergency response plans or emergency evacuation plans.

b) No Impact. The construction of a new and improved fire station will yield a net benefit and enhance the city's capability to respond to wildfire threats. CAL FIRE uses the Fire Hazard Severity Zone model as the basis for evaluating fire hazards and making recommendations to local jurisdictions where Very High Fire Hazard Severity Zones exist. The Local Responsibility Area (LRA) hazard rating reflects flame and ember intrusion from adjacent wildlands and from flammable vegetation in urban areas (CAL FIRE, 2019a). The Project site and the Dove Library temporary site are not located on lands classified as Very High Fire Hazard Severity Zones. The nearest local responsibility area (LRA) is located approximately 0.5 mile south of the Project site (CAL FIRE, 2019a and b). Therefore, the Project will not exacerbate the wildfire risks due to slope, prevailing winds, and other factors. Project occupants will not be exposed to pollutant concentrations from wildfires or uncontrolled spread of wildfires caused by construction or operation of the Project or by the Dove Library temporary site.

Furthermore, the purpose of the Project is to meet the operational needs, goals, and policies of the City of Carlsbad and the Carlsbad Fire Department, including current fire codes. The Project could ultimately help reduce the risk of impacts from wildfires. Therefore, there is No Impact related to exacerbation of wildfire risk.

- c) *No Impact.* As explained above, the Project site and the Dove Library temporary site are not located on lands classified as Very High Fire Hazard Severity Zones. The Project would be constructed on the site of the existing fire station and will not require the installation of new permanent associated infrastructure (such as fuel breaks, emergency water sources, power lines or other utilities) that could exacerbate fire risk or result in temporary or ongoing impacts to the environment. The Dove Library temporary site will not require installation of new permanent infrastructure that could exacerbate fire risk. Therefore, there would be No Impact related to this threshold.
- d) *Less than Significant*. As explained above, the Project site and the Dove Library temporary site are not located on lands classified as Very High Fire Hazard Severity Zones. The Project site and the Dove Library temporary site are not located within a mapped landslide zone (City of Carlsbad, 2015). Both the Project site and the Dove Library temporary site have relatively uniform flat topography with low vulnerability to landslides, mudslides, or rock-fall events induced by rainfall or excessive rainfall. The Project does not include changes

related to existing drainage patterns nor would it create new risks due to downslope or downstream flooding. The Project and the Dove Library temporary site would be required to comply with applicable local and state building codes, and therefore would not exacerbate the potential for landslide hazards. Therefore, impacts associated with landslides as a result of runoff, post-fire slope instability, or drainage changes would be Less than Significant.

B. References

- San Diego County. 2019. *Multi-jurisdictional Hazard Mitigation Plan*. Available at: https://www.sandiegocounty.gov/oes/docs/2010-HazMit-Final-August-2010.pdf. Accessed: June 2019.
- City of Carlsbad. 2015. *City of Carlsbad General Plan*. Available at: http://www.carlsbadca.gov/services/depts/planning/update/documents.asp.
- California Department of Forestry and Fire Protection Fire and Resource Assessment Program (CAL FIRE) a. 2019. *Local Responsibility Area (LRA) GIS layer*. Available at: https://www.fire.ca.gov/fire_prevention/fhsz_maps_sandiego. Accessed: June 2019.
- California Department of Forestry and Fire Protection Fire and Resource Assessment Program (CAL FIRE) b. 2019. "State Responsibility Area (SRA) GIS layer." Available at: https://www.fire.ca.gov/fire_prevention/fhsz_maps_sandiego. Accessed: June 2019.
- City of Carlsbad. 2015. General Plan & Climate Action Plan, Final Environmental Impact Report SCH #2011011004. Available at: <u>http://www.carlsbadca.gov/services/depts/planning/update/documents.asp</u>.
- City of Carlsbad. 2018. City of Carlsbad Emergency Operations Plan. On file with City of Carlsbad. Dated June 2018.

XXI. Mandatory Findings of Significance

A. Environmental Analysis

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

- a) Less than Significant with Mitigation Incorporated. Based on evaluation and discussions contained in this IS/MND, the Project has limited potential to degrade the quality of the environment (including habitat, special-status species, and periods of California history or prehistory). With mitigation for biology, cultural, noise, and paleontological and Tribal Cultural resources, the Project and the Dove Library temporary site would not result in significant impacts for any environmental topic areas. Furthermore, adherence to regulations, ordinances, standards, and mitigation measures (listed in Table 2-3 below) would further reduce impacts resulting from construction and operation of the Project and the Dove Library temporary site. Therefore, impacts related to this threshold would be Less than Significant with Mitigation.
- b) Less Than Significant Impact with Mitigation Incorporated. Cumulative impacts are defined as two or more individual project effects that, when considered together or in concert with other projects, combine to result in a significant impact (CEQA Guidelines Section 15355). The Project and the Dove Library temporary site are consistent with the city's GP and land use designations adhering to all land use plans and policies with jurisdiction in the city. Furthermore, with implementation of regulations, ordinances, standards, and the mitigation measures (listed in Table 2-3 below) at the Project and the Dove Library

temporary site, project-level impacts to the environment would be reduced to Less than Significant with Mitigation, and impacts would not be cumulatively considerable when viewed in connection with the effects of reasonably foreseeable projects.

c) Less than Significant Impact with Mitigation Incorporated. The Project would not result in environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly. The Project would provide a net benefit to the local community by improving the City of Carlsbad Fire Department's ability to provide fire protection services. Adherence to regulatory codes, ordinances, regulations, standards, and the mitigation measures (listed in Table 2-3 below), whether for the Project or the Dove Library temporary site, would ensure that construction and operations would not result in substantial adverse direct or indirect effects on humans. Therefore, impacts would be considered Less than Significant with Mitigation.

List of Mitigation Measures

Section	Mitigation Measures
Biological Resources	BIO-1: Pre-Construction Nesting Bird Monitoring. The city shall retain a qualified biologist to perform pre-construction nesting bird surveys if vegetation disturbance is scheduled to occur during the bird breeding season (between January 15 and September 15). The nesting bird surveys shall occur no more than 72 hours prior to vegetation disturbance. If nesting birds are found, the biologist shall establish an adequate buffer zone based on a species-by-species, case-by-case basis, in accordance with city policies and guidelines.
Cultural/ Paleontological Resources	 CUL-1: Archeological Monitoring. The city shall retain a qualified archaeologist to monitor ground-disturbing construction activities that would have a reasonable likelihood to disturb areas of archaeological sensitivity. If archaeological material is identified at any point of construction, work in that location shall be diverted, and the qualified archaeologist monitor shall evaluate the nature and significance of the find. CUL-2: Incidental Discovery of Human Remains. If human remains are encountered during construction, no further disturbance shall occur until the county medical examiner has been notified and has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. PALEO-1: Paleontological Monitoring. A qualified paleontologist shall be retained during construction activities that would have a reasonable likelihood to disturb areas of high paleontological sensitivity. If paleontological resources are encountered during construction, the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find to assess its significance. If paleontological resources are encountered when the qualified paleontologist is not present, work in the immediate area of the find shall be collected from the field. Collected resources shall be prepared to the point of identification, identified to
	the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository.
Noise	 NOISE-1: Construction Noise. The following mitigation measures shall be implemented. a) Construction activities shall adhere to the Carlsbad Municipal Code 8.48.010, which restricts operation of equipment or performance of construction after 6:00 p.m. on any day, before 7:00 a.m., Monday through Friday and before 8:00 a.m. on Saturday, all day on Sunday, and all day on any federal holiday.

Table 2-3: List of Mitigation Measures

	b) Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers, in accordance with manufacturers' recommendations.c) Construction equipment staging areas shall be located at the furthest distance possible from nearby noise-sensitive land uses.
	NOISE-2: Siren Delay at Dove Library temporary site. Fire Department staff shall delay their engine checks until after 9:00 a.m., and in the event of an emergency call, shall delay siren activation for both the fire engine and ambulance, until entering ECR. There may be occasional situations where siren activation would be necessary on Dove Lane for public safety, but Fire Department protocol would be to delay siren activation until they reach ECR.
	TRIBAL-1: Native American Monitoring. A Luiseño Native American monitor shall be present during all ground disturbing activities. Ground disturbing activities may include, but are not be limited to, archaeological studies, geotechnical investigations, clearing, grubbing, trenching, excavation, preparation for utilities and other infrastructure, and grading activities.
	TRIBAL-2: Native American Artifacts Uncovered. Any and all uncovered artifacts of Luiseño Native American cultural importance shall be returned to the San Luis Rey Band of Mission Indians, and/or the Most Likely Descendant, if applicable, and not be curated, unless ordered to do so by a federal agency or a court of competent jurisdiction.
	TRIBAL-3: Preconstruction Meeting. The Luiseño Native American monitor shall be present at the Project's preconstruction meeting to consult with grading and excavation contractors concerning excavation schedules and safety issues, as well as to consult with the archaeologist PI concerning the proposed archaeologist techniques and/or strategies for the Project.
Tribal Cultural Resources	TRIBAL-4: Temporary Divert and/or Halt Construction Activities. Luiseño Native American monitors and archaeological monitors shall have joint authority to temporarily divert and/or halt construction activities. If tribal cultural resources are discovered during construction, all earth-moving activity within and around the immediate discovery area must be diverted until the Luiseño Native American monitor and the archaeologist can assess the nature and significance of the find.
	TRIBAL-5: Data Recovery Plan. If a significant tribal cultural resource(s) and/or unique archaeological resource(s) are discovered during ground-disturbing activities for the Project, the San Luis Rey Band of Mission Indians, or another Luiseño Native American Band, shall be notified and consulted regarding the respectful and dignified treatment of those resources. Pursuant to California Public Resources Code Section 21083.2(b) avoidance is the preferred method of preservation for archaeological and tribal cultural resources. If, however, the Applicant is able to demonstrate that avoidance of a significant and/or unique cultural resource is infeasible and a data recovery plan is authorized by the City of Carlsbad as the lead agency, the San Luis Rey Band of Mission Indians, or another Luiseño Native American Band, shall be consulted regarding the drafting and finalization of any such recovery plan.

TRIBAL-6: Collection of Tribal Cultural Resources: The avoidance and/or preservation of the significant tribal cultural resource and/or unique archaeological resource must first be considered and evaluated as required by CEQA. Where any significant tribal cultural resources and/or unique archaeological resources have been discovered and avoidance and/or preservation measures are deemed to be infeasible by the city, then a research design and data recovery program to mitigate impacts shall be prepared by the qualified archaeologist (using professional archaeological methods), in consultation with a Luiseño Native American monitor and shall be subject to approval by the city.

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

In addition, an option to include an on-site reburial in a protected area (i.e. open space easement or conservation area) to avoid impacts from future development and/or maintenance projects.

TRIBAL-7: Incidental Discovery of Human Remains. If suspected Native American human remains are encountered, California Health and Safety Code Section 7050.5(b) states that no further disturbance shall occur until the San Diego County Medical Examiner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. Suspected Native American remains shall be examined in the field and kept in a secure location at the site. A Luiseño Native American monitor shall be present during the examination of the remains. If the San Diego County Medical Examiner determines the remains to be Native American, the NAHC must be contacted by the Medical Examiner within 24 hours. The NAHC must then immediately notify the "Most Likely Descendant" about the discovery. The Most Likely Descendant shall then make recommendations within 48 hours and engage in consultation concerning treatment of remains as provided in Public Resources Code 5097.98.

TRIBAL-8: Imported Fill Material. In the event that fill material is imported into the Project area, the fill shall be clean of tribal cultural resources and documented as such. Commercial sources of fill material are already permitted as appropriate and would be culturally sterile. If fill material is to be utilized and/or exported from areas within the Project site, then that fill material shall be analyzed and confirmed by an archeologist and Luiseño Native American monitor that such fill material does not contain tribal cultural resources.

TRIBAL-9: Testing of Tribal Cultural Resources. No testing, invasive or non-invasive, shall be permitted on any recovered tribal cultural resources

without the written permission of the San Luis Rey Band of Mission Indians or another Luiseño Native American Band.
TRIBAL-10: Monitoring Report. Prior to the release of the grading bond, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis and conclusions of the monitoring program shall be submitted by the archaeologist, along with the Luiseño Native American monitor's notes and comments, to the City of Carlsbad for approval. Said report shall be subject to confidentiality as an exception to the Public Records Act and will not be available for public distribution.

Earlier Analyses and Supporting Information Sources

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

- 1. Final Environmental Impact Report for the City of Carlsbad General Plan and Climate Action Plan (SCH #2011011004), City of Carlsbad Planning Division, June 2015.
- 2. City of Carlsbad Climate Action Plan, City of Carlsbad Planning Division, dated September 2015.
- 3. City of Carlsbad General Plan, City of Carlsbad Planning Division, dated September 2015.
- 4. City of Carlsbad Municipal Code (CMC), Title 21 Zoning (including Scenic Preservation Overlay Standards), City of Carlsbad Planning Division.
- 5. City of Carlsbad, ECR Corridor Development Standards, City of Carlsbad Planning Division, dated February 1984.
- 6. Habitat Management Plan for Natural Communities in the City of Carlsbad (HMP), City of Carlsbad Planning Division, final approval dated November 2004.
- San Diego Regional Airport Authority/San Diego County Airport Land Use Commission. McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP). Amended December 1, 2011.

Appendix A: Preliminary Conceptual Plan

Project Team

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Owner:	City of Carlsbad Public Works Department 1635 Faraday Carlsbad, CA 92008 760-602-7543 Contact: Steven Stewart steven.stewart@carlsbadca.gov
Architect:	domus studio architecture 2150 W Washington, Suite 303 San Diego, CA 92110 619.692.9393 x15 Contact: Wayne Holtan wayne.holtan@domusstudio.com
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Structural Engine	eer: Structural Engineering Solutions 45901 Sandla Creek Temecula, CA 92590 951.699.2666 Contact: Paul Feather pfeather@SE-Solutions.net
Mechanical Engi	neer: Syska Hennessy Group 401 West A Street, Suite 1850 San Diego, CA 92101 858.244.0362 Robert Fagnant rfagnant@syska.com
Electrical Engine	er: Syska Hennessy Group 401 West A Street, Suite 1850 San Diego, CA 92101 858.244.0362 Robert Fagnant rfagnant@syska.com
Landscape Archi	tect: Deneen Powell Atelier, Inc. 2305 El Cajon Blvd. San Diego, CA 92104 619.294.9042 Contact: Jon Powell jon@dpadesign.com
Geotechnical Eng	gineer/Surveyor: Ninyo & Moore 5710 Ruffin Road San Diego, CA 92123 858.576.1000 Contact: Christina Tretinjak ctretinjak@ninyoandmoore.com
Traffic: STC 1	Fraffic, Inc. 5865 Avenida Encinas 142 B Carlsbad, CA 92008 Contact: Dawn Wilson dawn.wilson@STCTraffic.com

Sheet Index

Title

A000 Title Sheet

Civil

C001 Conceptual Grading Plan C002 Conceptual Grading Plan C003 Predevelopment and Post-Development DMA Exhibits

Structural

S001 Structural Notes and Abbreviations S002 Typical Structural Details and Wall Sections

Traffic

T001Conceptual Traffic PlanT002Corner Sight Distance

Landscape

L-1 Landscape Concept Plan

Maximum Area of Exterior Wall Openings C.B.C. Table 705.8								
Classification of Opening	0 < 3'	3' < 5'	5' < 10'	10' < 15'	15' < 20'	20' < 25'	25' < 30'	<u><</u> 30'
Unprotected, Non-Sprinklered	Not Permited	Not Permited	10%	15%	25%	45%	70%	No Limit
Unprotected, Non-Sprinklered	Not Permited	15%	25%	45%	75%	No Limit	No Limit	Not Required
Protected	Not Permited	15%	25%	45%	75%	No Limit	No Limit	Not Required

C.B.C. Table 601

Fire Resistance Rating Requirements for Building Elements (In hours)									
Duilding Element	TYPE I		TYPE II		TYPE III		TYPE IV TYP		ΕV
Building Element	Α	В	A(d)	В	A(d)	В	HT	A(d)	В
Primary Structural Frame (g)	3(a)	2(a)	1	0	1	0	HT	1	0
Bearing Walls Exterior Interior	3 3(a)	2 2(a)	1 1	0 0	2 1	2 0	2 1/HT	1	0 0
Nonbearing walls and partitions - exterior				S	EE TA	BLE 60)2		
Nonbearing walls and partitions - interior	0	0	0	0	0	0	SEE SEC 602.4.6	0	0
Floor construction - including supporting beams and joists	2	2	1	0	1	0	HT	1	0
Roof construction - including supporting beams and joists	1-1/2 (b)	1 (b,c)	1 (b,c)	0 (c)	1 (b,c)	0	HT	1 (b,c)	0

a. Roof supports: Fire-resistance ratings of structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only. The structural frame shall be considered to be the columns and girders, beams, trusses and spandrels having direct connections to the columns and bracing members designed to carry gravity loads. The members of floor and roof panels which have no connection to the columns shall be considered secondary members and not part of the structural frame. b. Except in *high rise buildings*, Group A,E,F-1,H,I,L,M,R-1,R-2 and S-2 occupancies, fire rotection

of structural members shall no be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber shall be alowed where a 1 hour or less fire-resistance rating is required.

d. An approved automatic sprinkler system is accordance with Section 903.3.1.1 shall be allowed to be substituted for 1 hour fire-resistance rated construction, provided such system is not otherwise required by other provisions of the code or used for an allowable area increase in accordance with Section 506.3 or an allowable height increase in accordance with Section 504.2. The 1 hour substitution for the fire-resistance of exterior walls shall not be permitted. e. Not less than the fire-resistance rating required by other sections of this code.

f. Not less than the fire-resistance rating based on fire separation distance (see Table 602) g. Not less than the fire-resistance rating as referenced in Section 704.10

Fire Station No. 2 1906 Arenal Road Carlsbad, CA 92009

Total Sheets	24
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Architectural

A001	Site Plan
A002	Enlarged Site Plan
A003	Bus Stop Relocation
A004	Site Wall Elevations
A005	Site Wall Elevations
A006	Site Details
A007	Street + Utilities - Existing Utilities
A101	First Floor Plan
A102	Second Floor Plan
A103	Roof Plan
A104	First Floor Reflected Ceiling Plans
A105	Second Floor Reflected Ceiling Plan
A201	Building Elevations
A202	Building Elevations
A301	Building Sections
A302	Site Section
A401	Rendering

Project Data: (Building)

	Existing Occupancy: B
	Proposed Occupancy: B
	Existing Construction Type: V-B Non-Separated Occupancies (Non-Sprinklered)
	Proposed Construction Type: V-B Non-Separated Occupancies (Sprinklered)
	Allowable Area: B 27,000 SF R-2 21,000 SF S-2 54,000 SF
	Actual Bldg Area: B 881 SF R-2 4,619 SF S-2 5,282 SF
	Aa = 102,000 + (NS x lf) At = 102,000 (CBC Table 506.2) (Sprinkler <u>is not</u> being used for story increase)
	Actual Net Area: Building: 10,782 SF Trash Enclosure: 163 SF Total: 10,945 SF
	<u>CMC Requirements:</u> Allowable Height: 30'-0" (3:12 Roof Pitch)/24'-0" (less thatn 3:12 Roof Pitch) Actual Height: 32 '- 0"
	Allowable Stories:2 (CMC 21.10.050)Actual Stories:2
	<u>CBC Requirements:</u> Allowable Height: 60' - 0" <u>Without</u> area increase (CBC Table 504.3) Actual Height: 32 '- 0"
	Allowable Stories: 3 <u>Without</u> area increase (CBC Table 504.4) Actual Stories: 2
	Exterior Wall Ratings (Table 602): Type VB: 1 hour less than 10 ft./ NR elsewhere for S-2 and B occ.
d	Paving (See Exhibits on C003):
d	Existing Impervious: 9,953 SF
	Building Footprint: 5,260 SF Driveway: 1,200 SF

Vicinity Map

Proposed Pervious:

7,976 SF



Project Description:

Owner:

Project Manager:

Project Address:

Historic: Assessor's Parcel No.: Legal Description: Existing Use: Proposed Use: Approvals: Lot Site: Sanitation District: Water District: Utilities: School District: <u>Zoning:</u> Zone: General Plan Use

Lot Classification

Total Number of Lots

Required Setbacks: 20 ft. Front

Height:

Parking:

Existing Pa To be Dem

To be Adde

Total Provid

<u>Grading:</u>

Cut: Fill: Import: Export:

New Fire Station

CUP 2018-0014 SUP 2018-0009 V 2018-0007

Project Data: (Planning)

Demolition of existing fire station for construction of new and modernized fire station.

City of Carlsbad 1635 Faraday

Carlsbad, CA 92008

Steven Stewart, Municipal Project Manager 760-602-7543

1906 Arenal Rd. Carlsbad, CA 92009

No

215-140-1900

Fire Station

Fire Station

CUP/SUP/V

0.42 Acres / 18,295 SF

Leucadia Wastewater District

Carlsbad Municipal Water District

City of Carlsbad Public Works

Unified School District

Percentage of lot to be landscaped: 28% of site (6,798 SF)

R-4

The Project site is designated as R-4 in the City of Carlsbad General Plan Land Use Map, an area intended to be developed with 0 to 4 dwelling units per acre. It is zoned as one family residential (R-1).

Proposed Setbacks: 7 ft. Side (Interior) 10 ft. Side (Street) 20 ft. Rear

3' 4" ft. Front 6 in. Side 0 ft. Street Side 20 ft. Rear

30/24 Allowable / 32 Actual

rking:	Public	0
-	Private	3
olished:	(3)	
ed:	Public	3 (1EV + 1 Van Accessible EV)
	Private	9 (parallel spaces)
ded:		11

<u>Traffic:</u> There will be no inclreased traffic generated from this project.

76 cubic yards 311 cubic yards 235 cubic yards #2 on Stati Fire Carlsbad | 1906 Arenal Rc Carlsbad, CA 9



domus studio architecture



2150 West Washington, Suite 303 San Diego, California 92110

100% Schematic Design	06Apr2018
CUP/SUP/V Submittal	20July2018
CUP/SUP/V Resubmittal	13Feb2019
CUP/SUP/V Resubmittal	25Mar2019

Sheet 1

Sheets 26

Team Project No. Drawing No.

1720






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2800 Third Avenue San Diego, California 92103

100% Schematic Design 06Apr2018 CUP/SUP/V Submittal 20July2018 CUP/SUP/V Resubmittal 05Feb2019 CUP/SUP/V Resubmittal 25Mar2019

Sheet 2 Sheets 26 Team Project No. 1720 Drawing No.

C001







	NOTE: UNLESS SPECIFICALLY STATED IN THE CONDITIONS, UPON THE APPROVAL OF DEVELOPMENT MUST BE MET PRIOR TO APPROVAL OF A
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	4. THIS PROJECT MAY REQUIRE OFF SITE GRADING. NO PRIVATE IMPROVEMENTS SHALL OCCUR OUTSIDE THE DEVELOPER OBTAINS, RECORDS, AND SUBMITS A REC THE CITY ENGINEER, A TEMPORARY GRADING, CONST SLOPE EASEMENT OR AGREEMENT FROM THE OWNER AFFECTED PROPERTIES. IF DEVELOPER IS UNABLE TO
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SEE DETAIL,	THE CITY ENGINEER AND CITY PLANNER.
	STORM WATER QUALITY
DGE OF	5. DEVELOPER SHALL COMPLY WITH THE CITY'S STORMW REGULATIONS, LATEST VERSION, AND SHALL IMPLEME MANAGEMENT PRACTICES AT ALL TIMES. BEST MANA PRACTICES INCLUDE BUT ARE NOT LIMITED TO POLLU
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USH.	NOTIFY PROSPECTIVE OWNERS AND TENANTS OF THE REQUIREMENTS.
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TECT'S PLANS.	INCLUDING, BUT NOT LIMITED TO, MINIMIZING THE USE AREA (PAVING), ROUTING RUN-OFF FROM IMPERVIOUS PERVIOUS/LANDSCAPE AREAS, PREVENTING ILLICIT DI

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2800 Third Avenue San Diego, California 92103

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Team		
Project No.		1720
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C002

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DEDICATIONS/IMPROVEMENTS

8.PRIOR TO ANY WORK IN THE CITY RIGHT-OF-WAY OR PUBLIC EASEMENTS, DEVELOPER SHALL APPLY FOR AND OBTAIN A RIGHT-OF-WAY PERMIT TO THE SATISFACTION OF THE CITY ENGINEER.

____ - BASE LAYER. MINIMUM 4" ASTM NO. 57 STONE (3/4" CRUSHED ROCKS) - BASE LAYER. MINIMUM 6" ASTM NO. 2 STONE (2 1/2" CRUSHED ROCKS, USE 3/4" CRUSHED ROCKS.



NO SCALE

ENGINEER OF WORK Snipes-Dye associates civil engineers and land surveyors 8348 CENTER DRIVE, STE. G, LA MESA, CA 91942 TELEPHONE (619) 697-9234 FAX (619) 460-2033

MATTHEW P. KURTZ R.C.E. 79546 EXPIRES 09-30-18





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Carlsbad Fire 1906 Arenal Rd. Carlsbad, CA 92009



2800 Third Avenue San Diego, California 92103

100% Schematic Design 06Apr2018 CUP/SUP/V Submittal 20July2018 CUP/SUP/V Resubmittal 05Feb2019 CUP/SUP/V Resubmittal 25Mar2019



ENGINEER OF WORK **Snipes-Dye associates civil engineers and land surveyors** 8348 CENTER DRIVE, STE. G, LA MESA, CA 91942 TELEPHONE (619) 697–9234 FAX (619) 460–2033

MATTHEW P. KURTZ R.C.E. 79546 EXPIRES 09-30-18

Sheet 3Team

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Project No. Drawing No. 1720

C003

STRUCTURAL ABBREVIATIONS

&	AND	EMBED	EMBEDMENT	PERP	PERPENDICULAR
0	AT	EQ	EQUAL	PSI	POUNDS PER SQUARE
#	POUND(S), NUMBER	EW	EACH WAY		INCH
AB	ANCHOR BOLT	(E)	EXISTING	R	RADIUS
ABV	ABOVE	EXP	EXPANSION	RAD	RADIUS
ADDL	ADDITIONAL	EXT	EXTERIOR	REINF	REINFORCED,
ALT	ALTERNATE	FG	FINISH GRADE		REINFORCING
ANCH	ANCHOR	FIN	FINISH	REQD	REQUIRED
APPROX	APPROXIMATE(LY)	FOC	FACE OF CONCRETE	RET	RETAINING
AR	ANCHOR ROD	FT	FOOT	SC	SCALE
ARCH	ARCHITECTURAL	FTG	FOOTING	SCHED	SCHEDULE
BEL	BELOW	FV	FIELD VERIFY	SIM	SIMILAR
BLDG	BUILDING	GALV	GALVANIZE(D)	SP	SPECIAL
ЗМ	BEAM	GR	GRADE	SPCG	SPACING
BOTT	BOTTOM	HDG	HOT DIPPED	SPEC	SPECIFICATION
BRG	BEARING		GALVANIZED	SQ	SQUARE
BTWN	BETWEEN	HK	HOOK	SS	STAINLESS STEEL
CANT	CANTILEVER	HORIZ	HORIZONTAL	STD	STANDARD
CJ	CONSTRUCTION JOINT	HT	HEIGHT	STIFF	STIFFENER
CL	CENTER LINE	ID	INSIDE DIAMETER	STL	STEEL
CLR	CLEAR	INSP	INSPECTION	STRUC	STRUCTURAL
COL	COLUMN	INT	INTERIOR	SYMM	SYMMETRICAL
CONC	CONCRETE	JT	JOINT	T&B	TOP AND BOTTOM
CONN	CONNECTION	LB	POUND	THK	THICK(NESS)
CONST	CONSTRUCTION	LBS	POUNDS	THRU	THROUGH
CONT	CONTINUOUS	LG	LONG	TRANSV	TRANSVERSE
CTR	CENTER	LONG	LONGITUDINAL	TYP	TYPICAL
DBL	DOUBLE	MATL	MATERIAL	UON	UNLESS OTHERWISE
DET	DETAIL	MAX	MAXIMUM		NOTED
DIA	DIAMETER	MIN	MINIMUM	VERT	VERTICAL
DIAG	DIAGONAL	MISC	MISCELLANEOUS	VIF	VERIFY IN FIELD
DIM	DIMENSION	NTS	NOT TO SCALE	W/	WITH
DWG	DRAWING	OC	ON CENTER	WT	WEIGHT
	DOWEL	OD	OUTSIDE DIAMETER		
_A 	EACH	OH	OPPOSITE HAND		
<u>-</u> F	EACH FACE	OPN	OPEN		
	EXPANSION JOINT	OPNG	OPENING		
ILEV	ELEVATION	PL	PLAIE		

STRUCTURAL NOTES AND SPECIAL INSPECTIONS

<u>GENERAL</u>

- 1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF ANY DISCREPANCIES FOUND.
- 2. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ADEQUATE ERECTION, SHORING AND BRACING AS REQUIRED FOR STABILITY OF ALL STRUCTURES AND EMBANKMENTS DURING ALL PHASES OF CONSTRUCTION.
- 3. IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS OR DETAILS ON THE DRAWINGS.
- 4. BEFORE COMMENCING EXCAVATION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF 3. CONTINUOUS INSPECTION SHALL BE PROVIDED DURING THE PERFORMANCE OF WORK EXISTING UNDERGROUND UTILITIES, VALVE PITS OR VAULTS AND SHALL NOT PERFORM WORK THAT WILL DAMAGE THEM OR INTERFERE WITH THEIR SERVICE.
- 5. STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO MECHANICAL OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- 6. THE CONTRACT STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT EXISTING AND NEW STRUCTURES DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING, ET CETERA FOR ALL CONSTRUCTION PHASE LOADS.

REINFORCED CONCRETE

- CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS OF 4,000 PSI, UNLESS OTHERWISE NOTED.
- 2. MIX DESIGN REQUIREMENTS: CEMENT SHALL BE TYPE I/V; MAXIMUM SLUMP SHALL BE 4" (MAXIMUM SLUMP OF 8" SHALL BE PERMITTED AFTER INTRODUCTION OF A WATER-REDUCING ADMIXTURE); MAXIMUM AGGREGATE SIZE SHALL BE 1"; MAXIMUM WATER/CEMENT RATIO SHALL BE 0.52.
- 3. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
- 4. PROVIDE A 3/4" CHAMFER ON ALL EXPOSED CORNERS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 5. ALL COLD JOINTS SHALL BE ROUGHENED AND CLEANED PRIOR TO PLACING NEW CONCRETE. ALL LAITANCE SHALL BE REMOVED AND THE EXISTING SURFACE SHALL BE WETTED IMMEDIATELY PRIOR TO PLACING CONCRETE. STANDING WATER SHALL BE REMOVED.
- 6. CONSTRUCTION JOINTS IN CONCRETE INDICATED WITH A ROUGH, CLEAN SURFACE SHALL HAVE A 1/4" MINIMUM AMPLITUDE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

CONCRETE MASONRY

- 1. CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS IN CONFORMANCE WITH ASTM C90, FM = 2000 PSI.
- 2. MORTAR SHALL BE TYPE S IN CONFORMANCE WITH ASTM C270.
- 3. GROUT SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS OF 2000 PSI. GROUT SHALL HAVE AN ADMIXTURE TO REDUCE SHRINKAGE.

4. ALL CELLS SHALL BE SOLID GROUTED.

5. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1 1/2" BELOW THE TOP OF THE UPPERMOST UNIT.

REINFORCING STEEL

- NON-WELDED STEEL BAR REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60, WELDED STEEL BAR REINFORCING SHALL CONFORM TO ASTM A706.
- 2. WELDING OF REINFORCING STEEL SHALL BE PERFORMED BY A.W.S. QUALIFIED WELDERS IN CONFORMANCE WITH A.W.S. D1.4 USING E90 SERIES ELECTRODES UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 3. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS UNLESS

OTHERWISE NOTED ON THE DRAWINGS:
CONCRETE CAST AGAINST EARTH
FORMED CONCRETE EXPOSED TO EARTH
CONCRETE EXPOSED TO WEATHER

- 4. BAR LAP SPLICE LENGTHS FOR BARS INSTALLED IN CONCRETE SHALL BE 48 BAR
- DIAMETERS UNLESS OTHERWISE NOTED ON THE DRAWINGS. 5. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING STEEL SHALL CONFORM TO THE LATEST EDITION OF ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.

FOUNDATION

1. GEOTECHNICAL EVALUATION, FIRE STATION NO. 2, 1906 ARENAL ROAD, CARLSBAD, CALIFORNIA, PREPARED BY NINYO & MOORE GEOTECHNICAL & ENVIRONMENTAL SERVICES CONSULTANTS, PROJECT NO. 108438001, DATED OCTOBER 18, 2017.

	ALLOWABLE SOIL BEARING PRESSURE;	2,500 PSF
		(4/3 SHORT TERM INCREASE PERMITTED)
	ACTIVE SOIL PRESSURE (LEVEL BACKFILL):	42 PSF/FT
	ALLOWABLE PASSIVE PRESSURE:	300 PSF/FT
	COEFFICIENT OF FRICTION:	0.35
	HORIZONTAL SEISMIC ACCELERATION FACTOR:	18 PSF/FT
DE	SIGN CRITERIA	
1.	DESIGN BUILDING CODE	2016 CALIFORNIA BUILDING CODE
2.	RISK CATEGORY	I
З.	SEISMIC DESIGN CRITERIA:	
	SHORT PERIOD MCE SPECTRAL	
	RESPONSE ACCELERATION, SS	1.070
	1 SECOND PERIOD MCE SPECTRAL	
	RESPONSE ACCELERATION, S1	0.413
	SHORT PERIOD MCE SPECTRAL	
	RESPONSE ACCELERATION, SMS	1.070
	1 SECOND PERIOD MCE SPECTRAL	
	RESPONSE ACCELERATION, SM1	0.573
	SITE CLASS	C
	SEISMIC DESIGN CATEGORY	D
	DESIGN SHORT PERIOD MCE SPECTRAL	
	RESPONSE ACCELERATION, SDS	0.713
	DESIGN I SECUND PERIOD MUE SPECTRAL	0.292
		100
	JEIDIVIIU IIVIFUNTANUE FAUTUN, I	1.00

SPECIAL INSPECTION AND TESTING

- SPECIAL INSPECTION IS REQUIRED PER CHAPTER 17 OF THE 2016 CALIFORNIA BUILDING SUMMARIZED IN THE SCHEDULE. THE OWNER SHALL EMPLOY A SPECIAL INSPECTION APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE START OF WORK. COPIES OF AI REPORTS SHALL BE SUBMITTED TO THE ARCHITECT OF RECORD, STRUCTURAL ENGINE AND CITY BUILDING INSPECTOR IN A TIMELY MANNER.
- THE SPECIAL INSPECTIONS IDENTIFIED ON THE PLANS ARE IN ADDITION TO, AND NOT FOR, THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY A CITY BUILDING INSPECTO
- SPECIAL INSPECTION, UNLESS OTHERWISE NOTED. WHEN WORK IN MORE THAN ONE WORK REQUIRING SPECIAL INSPECTION IS TO BE PERFORMED SIMULTANEOUSLY, OR TH LOCATION OF THE WORK IS SUCH THAT IT CANNOT BE CONTINUOUSLY OBSERVED, IT RESPONSIBILITY OF THE AGENT TO EMPLOY A SUFFICIENT NUMBER OF SPECIAL INSPEC ASSURE THAT ALL WORK IS CONTINUOUSLY INSPECTED IN ACCORDANCE WITH THOSE
- THE SPECIAL INSPECTORS SHALL BE CERTIFIED BY THE CITY OF CARLSBAD BUILDING PERFORM THE CATEGORY OF SPECIAL INSPECTION SPECIFIED.
- THE CONSTRUCTION MATERIALS TESTING LABORATORY SHALL BE APPROVED BY THE -5 CARLSBAD BUILDING DEPARTMENT FOR TESTING OF MATERIALS, SYSTEMS, COMPONEN EQUIPMENT.
- WHERE MATERIALS OR ASSEMBLIES ARE REQUIRED BY THE CALIFORNIA BUILDING COD - 6. LABELED, SUCH MATERIALS AND ASSEMBLIES SHALL BE LABELED BY AN AGENCY APP BUILDING OFFICIAL IN ACCORDANCE WITH SECTION 1703. PRODUCTS AND MATERIALS SHALL BE TESTED, INSPECTED AND LABELED IN ACCORDANCE WITH THE PROCEDURE SECTIONS 1703.5.1 THROUGH 1703.5.3.
- THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY FOR CO ITEMS LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS PRIOR TO COMMENCEMEN THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN: (1) ACKNOWLEI AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPE INSPECTIONS; (2) ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL; (3) PRO EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION; (4) THE METHOD AN OF REPORTING AND DISTRIBUTION OF THE SPECIAL INSPECTION REPORTS; AND (5) IDE QUALIFICATIONS OF THE PERSON OR PERSONS EXERCISING SUCH CONTROL AND THE THE ORGANIZATION.

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		STATEMENT OF SPECIAL INSPECTIONS	
	CBC REF	DESCRIPTION OF TYPE OF INSPECTION REQUIRED, LOCATION, REMARKS, ET CETERA	DESIGN STRENGTH
A CODE AND AS AGENCY L INSPECTION EER OF RECORD, A SUBSTITUTE OR. REQUIRING CATEGORY OF HE GEOGRAPHIC SHALL BE THE CTORS TO E PROVISIONS.	1705.3	CONCRETE CONSTRUCTION. <u>CONTINUOUS INSPECTIONS:</u> INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE; AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE; INSPECTION OF CONCRETE FOR PROPER APPLICATION TECHNIQUES. <u>PERIODIC INSPECTIONS:</u> INSPECTION OF REINFORCING STEEL AND PLACEMENT; VERIFICATION OF USE OF REQUIRED DESIGN MIX; INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES; INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	f'c = 4000 PSI
DEPARTMENT TO CITY OF NTS, AND DE TO BE PROVED BY THE TO BE LABELED S SET FORTH IN ONSTRUCTION OF NT OF WORK. DGEMENT OF CIAL N CONFORMANCE DCEDURES FOR ND FREQUENCY NTIFICATION AND IR POSITION IN	1705.4	CONCRETE MASONRY CONSTRUCTION: LEVEL B SPECIAL INSPECTION PER TABLE 119.2 OF ASCE 530-13 CONTINUOUS INSPECTIONS: THE INSPECTION PROGRAM SHALL VERIFY WELDING OF REINFORCING BARS; GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS; AND PREPARATION OF REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND PRISMS SHALL BE OBSERVED. PERIODIC INSPECTIONS: AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE: PROPORTIONS OF SITE-PREPARED MORTAR; CONSTRUCTION OF MORTAR JOINTS; LOCATION OF REINFORCEMENT, CONNECTORS AND ANCHORAGES. THE INSPECTION PROGRAM SHALL VERIFY: SIZE AND LOCATION OF STRUCTURAL ELEMENTS; TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION; SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT; PROTECTION OF MASONRY DURING COLD WEATHER (BELOW 40F) OR HOT WEATHER (ABOVE 90F). PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE: GROUT SPACE IS CLEAN; PLACEMENT OF REINFORCEMENT, CONNECTORS AND ANCHORAGES; AND CONSTRUCTION OF MORTAR JOINTS. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.	fm = 2000 PSI

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2800 Third Avenue San Diego, California 92103

100% Schematic Design 06Apr2018 CUP Submittal 20July2018



1870 Cordell Cou Suite 202 El Cajon, CA 92020 tel 619 312 6336 aarkengineering.com



Sheets 26 1720 Project No. Drawing No



	DIME	NSION TAE	BLE FO	DR
	<u> </u>	<u>and 180 H</u>	<u>ooks</u>	
BAR	А	В	C	D
SIZE	IN	IN	IN	IN
#3	5	3	6	2 1/4
#4	6	4	8	3
#5	7	5	10	3 3/4
#6	8	6	12	4 1/2
#7	10	7	14	5 1/4
#8	11	8	16	6
#9	15	11 3/4	19	9 1/2
#10	17	13 1/4	22	10 3/4
#11	19	14 3/4	24	12





<u>135</u>



UNLESS OTHERWISE NOTED, THESE DIMENSIONS SHALL BE USED FOR ALL INDICATED HOOKS.

DIMENSION TABLE

1 1/2 | 4 1/4 |

 #4
 2
 4 1/2
 3

 #5
 2 1/2
 5 1/2
 3 3/4

#6 4 1/2 8 4 1/2

2 1/2

#3

FOR 135 HOOKS





WALL JOINT (WHERE OCCURS) 30" SETS @ 12" OC 30" OPTIONAL CONST JT W/ CLEAN, ROUGHENED - #4 EA FACE @ 12" OC MAX LENGTH = FOOTING WIDTH - 6" 1'-0" S (WHERE OCCURS) NOTE: FOOTING AND WALL REINFORCING NOT SHOWN FOR CLARITY.



MASONRY WALL CONTROL JOINTS SCALE: NONE



5 S002



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SPCG "S" (INCHES)	
3	
4	
5	
8	

SPCG "S" (INCHES)	
3	
5	
8	
8	

Section Wall and etails Ŏ ľa ucti Ś ypical

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Carlsbad Fire

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2800 Third Avenue San Diego, California 92103

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Sheets 26 Sheet 6 Team Project No. 1720 Drawing No.

















I AM FAMILIAR WITH THE REQUIREMENTS FOR LANDSCAPE AND IRRIGATION PLANS CONTAINED IN THE CITY OF CARLSBAD'S LANDSCAPE MANUAL AND WATER EFFICIENT LANDSCAPE REGULATIONS. I HAVE PREPARED THIS PLAN IN COMPLIANCE WITH THOSE REGULATIONS AND THE LANDSCAPE MANUAL AND AGREE TO COMPLY WITH ALL REQUIREMENTS WHEN SUBMITTING CONSTRUCTION DOCUMENTS. I CERTIFY THAT THE PLAN IMPLEMENTS THOSE REGULATIONS TO PROVIDE EFFICIENT USE OF WATER. Am

22-

JON POWELL, REGISTERED LANDSCAPE ARCHITECT CA. #2645

MAINTENANCE NOTE

ALL REQUIRED LANDSCAPE, INCLUDING THE R.O.W., SHOWN ON THESE PLANS SHALL BE MAINTAINED IN A DISEASE, WEED AND LITTER FREE CONDITION AT ALL TIMES BY THE CITY OF CARLSBAD

WOOD CHIP MULCH TO -REMAIN BETWEEN CURB & EXISTING CHAIN LINK FENCE 30" (A) TYP (A)48" PROPOSED TYP.(FIRE STATION VISIBILITY AREA (NO LANDSCAPE ELEMENTS OVER 30" IN HEIGHT WITHIN THIS ZONE) ARENAL ROAD 18



BC	TANICAL NAME	COMMON NAME	SIZE	SPACING
E)	CISTING TREES TO BE REMOVED	D		
А	MATURE PINE		PER PLAN	
PF	ROPOSED PLANTING			
TR	<u>EES</u>			
В	CASSIA LEPTOPHYLLA	GOLD MEDALLION TREE	24" BOX	AS SHOWI
Ν	PARKINSONIA ACULEATA	MEXICAN PALO VERDE	24" BOX	AS SHOWI
SH	IRUBS & GROUND COVERS			
С	AGAVE AMERICANA	CENTURY PLANT	5 GAL.	AS SHOWI
D	AGAVE ATTENUATA 'KARA'S STRIPES'	VARIEGATED FOXTAIL AGAVE	5 GAL.	2'-3" O.C.
Е	AGAVE FILIFERA	THREAD-LEAF AGAVE	5 GAL.	AS SHOWI
F	MUHLENBERGIA CAPILLARIS	HAIRY AWN MUHLY	5 GAL.	3' O.C.
G	NASSELLA TENUISSIMA	MEXICAN FEATHER GRASS	1 GAL.	18" O.C.
Н	SALVIA LEUCANTHA 'SANTA BARBARA'	SANTA BARBARA SAGE	5 GAL.	3' O.C.
Ι	PHORMIUM 'BLACK RAGE'	NEW ZEALAND FLAX	5 GAL.	2'-6" O.C.
J	SENECIO MANDRALISCAE	BLUE CHALK STICKS	FLATS	12" O.C
Κ	MYRICA CALIFORNICA	PACIFIC WAX MYRTLE	5 GAL.	AS SHOWI
L	AGAPANTHUS AFRICANUS	LILY OF THE NILE	1 GAL.	18" O.C
М	HARDENBERGIA VIOLACEA	HARDENBERGIA	5 GAL	AS SHOWI

PLANTING NOTES

PLANT LEGEND

1. ALL SHRUB BEDS ARE TO BE MULCHED WITH A MINIMUM OF 3" OF WOOD CHIPS OR

- DECORATIVE GRAVEL AFTER PLANTING. 2. ALL TREES PLANTED WITHIN 5' OF PAVING ARE TO HAVE LINEAR ROOT BARRIERS PLACED AT THE EDGE OF PAVING AND EXTENDING 6' MINIMUM EACH SIDE OF THE
- CENTER OF THE TREE. 3. NO TREES OR SHRUBS EXCEEDING THREE FEET IN HEIGHT AT MATURITY SHALL BE INSTALLED WITHIN TEN FEET OF ANY WATER AND SEWER FACILITIES.

WATER CONSERVATION NOTES

- 1. ALL AREAS SHOWN TO BE PLANTED WILL BE IRRIGATED WITH A FULLY AUTOMATIC, UNDERGROUND IRRIGATION SYSTEM. THIS SYSTEM WILL USE LOW GALLONAGE, LOW PRECIPITATION RATE SPRAY HEADS, ALONG WITH BUBBLER HEADS IN SMALLER AREAS AND DRIP EMITTERS FOR POTTED PLANTS. HEADS WILL BE GROUPED INTO ZONES BASED ON EXPOSURE AND PLANT TYPES.
- AUTOMATIC VALVES WILL CONTROL THE FLOW OF WATER TO EACH ZONE. 2. THE SYSTEM WILL BE CONNECTED TO THE DOMESTIC WATER SUPPLY THROUGH AN APPROVED REDUCED PRESSURE BACKFLOW PREVENTER.
- 3. AN AUTOMATIC RAIN SENSING OVER-RIDE WILL BE CONNECTED TO THE CONTROLLER. 4. INDIVIDUAL HEADS AND ZONES WILL BE ADJUSTED TO MINIMIZE OVERSPRAY ONTO BUILDINGS, WALLS, WALKS AND PAVEMENTS. THE SYSTEM WILL ALSO BE PROGRAMMED TO BE RESPONSIVE TO SEASONAL PLANT NEEDS.
- 5. NO LAWN IS PROPOSED FOR THIS PROJECT. ALL PROPOSED SHRUBS & GROUNDCOVERS ARE DROUGHT TOLERANT
- 6. ALL PROPOSED PLANTS ARE FROM A MEDITERRANEAN TYPE PLANT PALETTE, AND ARE ADAPTED TO THE CARLSBAD CLIMATE. 7. ALL PROPOSED SHRUB AND GROUND COVER AREAS ARE TO RECEIVE 3" OF WOOD CHIP MULCH
- FOLLOWING PLANTING EXCEPT WHERE STONE MULCH IS PROPOSED

MAWA = Maximum Applied Water Allowance

	Eto 2	X Cco	Х	LA X Const = MAWA		
	Where	Eto Cco LA Const GPY	= = = =	Reference Evapotranspiration (CIMIS) Crop Coefficient (100% for MAWA calculation) Landscape Area Constant to convert to gallons per year (GPY) Gallons Per Year		
1.0.0. A	42.9	X 1	Х	4,110 X 0.62 = 109,318 GPY	0.3355 AC.FT/YR.	
EWU	= M	aximum A X Cco	Applie X	ed Water Allowance LA X Const = MAWA		
	Where	Eto Cco LA Const GPY	= = = =	Reference Evapotranspiration (CIMIS) Crop Coefficient (100% for MAWA calculation) Landscape Area Constant to convert to gallons per year (GPY) Gallons Per Year		
P.O.C. "A"						
TURF	<u>42.9</u>	X 0.8	_ X	0 X 0.62 = 0 GPY	0.0000 AC.FT/YR.	
SHRUB & GC	42.9	<u>X 0.2</u>	x	4,110 X 0.62 = 35,264 GPY	0.1082 AC.FT/YR.	
	0.	02		35,264 GPY	0.1082 AC.FT/YR.	

THIS PLAN IS CONCEPTUAL AND SCHEMATIC IN NATURE ONLY. IT IS NOT INTENDED TO BE A FINAL CONSTRUCTION PLAN. THIS PLAN DOES NOT SHOW FINAL CONSTRUCTION DETAILS. STRUCTURAL OR DRAINAGE REQUIREMENTS, FINAL PLANTING LOCATIONS, OR IRRIGATION DESIGN. ADDITIONAL DETAIL MUST BE DEVELOPED IN THESE AREAS PRIOR TO CONSTRUCTION. DPA INC. ASSUMES NO LIABILITY FOR CONSTRUCTION PURSUANT TO THIS PLAN.

NORTH SCALE: 1/16" = 1'-0"

sheet 9	Sheets	26
Team		
Project No.		XXXX

17-017

ept (0 \mathbf{O} Landscape

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Plan

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50 West Washington, Suite 303 n Diego, California 92110 % Schematic Design 06Apr2018 /SUP/Submittal /SUP/Resubmittal 13Feb2019 P/SUP/Resubmittal 25Mar2019

20July2018

Drawing No.



H

200 cubic feet.

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Notes Stop sign, see traffic 15 (E) NCTD Bus Stop Location, to be relocated on other side of Arenal Seee 2/A001 51 (E) +/- 30' Aleppo Pine to remain 56 57 (E) +/- 20' Melaleuca to remain 58 (E) +/- 20' Aleppo pine to be removed 59 (E) +/- 20' Bamboo to remain - On neighboring property 60 (E) +/- 35' Palm Tree to remain - on neighboring Property 71 Tree and tree Grate, See Landscape 73 Keep Clear Striping, see traffic 79 Concrete Curb 80 Concrete Gutter Asphalt driveway, see civil 120 134 Traffic light location 140 Street light, see electrical Legend Exterior Permeable Brick Pavers Permeable Concrete Asphalt #2 on Ъ Landscape S U U Fire Property Line an 92 92 Set back Line Carlsbad 1906 Arenal Ro Carlsbad, CA 9 ----Site Accessible Path of Travel Site 0 Mature Tree, see landscape domus studio architecture domus studio \$ Assorted Planting, see landscape 2150 West Washington, Suite 303 San Diego, California 92110 Enlarged Site Plan Legend / 1" = 10'-0" 100% Schematic Design 06Apr2018 CUP/SUP/V Submittal 20July2018 General Information CUP/SUP/V Resubmittal 13Feb2019 a. Floor Plan Square Footage: 11,779 sf (Gross) See A000 for more information. CUP/SUP/V Resubmittal 25Mar2019 b. See A201 and A202 for building elevations. See A002 for site lighting. c. See A101 and A102 for Storage area locations and Occupancy Schedule for rooms categorized as a storage occupancy. d. See view titles for scale. e. See A201 and A202 for building heights f. See A201 and A202 for Carlsbad Building Height Compliance - Zoning ordinance 21.04.065. g. See A103 for ceiling heights or the height of the underside of the roof. See A002 for trash enclosure height to underside of roof. h. See Occupancy schedule on A101 and A102 for CBC occupancy classifications. i. Construction type V-B, fully sprinklered. Reference A000 for more information. j. This project will not result in the presence of Acutely Hazardous Materials, compressed Sheet 10 Sheets 26 flammable gasses in excess of 1,500 pounds, Flammable liquids in excess of 10,000 gallons, hazardous materials in excess of 500 pounds or 55 gallon, or compressed gas in excess of

k. City Council Policy 44 - Neighborhood Architectural Design Guidelines are not applicable to this commercial project.

Team

Project No.

Drawing No.

1720

A001

I. See A103 for roof plan and A302 for site sections showing Policy 80-6 compliance.



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Notes

- 34 36" Detectable Warning35 Van accessible parking signage
- 35 Van accessible parking signage mounted 60" min. above grade52 (E) Cabinet for traffic signal on concrete pad
- 78 Recycling Dumpster
- 112 Trench Drain, see civil
- 118 Flag Pole
- 123 Permeable concrete pedestrian sidewalk124 Outline of second story above
- 126 Public accessible parking with van access aisle
- 127 EV Public Parking
- 128 Wheel Stop
- 133 Back up generator on pad, see electrical
- 135 Gate Operator136 EV charging station, See Electrical
- 139 Storm drain inlet, see civil
- 299 Rolling vehicular gate
- 815 Wall mounted site lighting, see electrical

<u>Legend</u>

*

Exterior Permeable Brick Pavers

Permeable Concrete

Asphalt

Landscape

Property Line

Set back Line

- - - - - Site Accessible Path of Travel

Mature Tree, see landscape

Assorted Planting, see landscape



3 Trash Enclosure Plan

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1720

A002

Carlsbad Fire Station #2 1906 Arenal Rd. Carlsbad, CA 92009 Enlarged Site Plan

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CUP/SUP/V Resubmittal	13Feb2019
CUP/SUP/V Resubmittal	25Mar2019







Station #2

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CUP/SUP/V Resubmittal	13Feb2019
CUP/SUP/V Resubmittal	25Mar2019

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Team Project No. Drawing No.

1720





ations ion #2 Carlsbad Fire Statio 1906 Arenal Rd. Carlsbad, CA 92009 Site Wall Elev

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CUP/SUP/V Resubmittal	25Mar2019

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1720

A004



- Level 1 0' - 0" ●





Station #2		Elevations
Carlsbad Fire §	1906 Arenal Rd. Carlsbad, CA 92009	Site Wall E

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CUP/SUP/V Resubmittal	25Mar2019

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Team Project No. Drawing No.

1720















CUP 2018-0014 SUP 2018-0009 V 2018-0007 ion #2 Carlsbad Fire Statio 1906 Arenal Rd. Carlsbad, CA 92009 domus studio architecture domus studio 2150 West Washington, Suite 303 San Diego, California 92110 100% Schematic Design 06Apr2018 CUP/SUP/V Submittal 20July2018 CUP/SUP/V Resubmittal 13Feb2019 CUP/SUP/V Resubmittal 25Mar2019

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Details

Site

Team Project No. Drawing No.

1720



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Fire

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2150 West Washington, Suite 303 San Diego, California 92110

100% Schematic Design 06Apr2018

CUP/SUP/V Submittal 20July2018

CUP/SUP/V Resubmittal 13Feb2019

CUP/SUP/V Resubmittal 25Mar2019

General Information

a. Floor Plan Square Footage: 11,779 sf (Gross) See A000 for more information.

b. See A201 and A202 for building elevations. See A002 for site lighting.

c. See A101 and A102 for Storage area locations and Occupancy Schedule for rooms categorized as a storage occupancy.

d. See view titles for scale.

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g. See A103 for ceiling heights or the height of the underside of the roof. See A002 for trash enclosure height to underside of roof.

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Drawing No.	



Notes

123	Permeable concrete pedestrian sidewalk
132	Transformer on concrete pad, see electrical
133	Back up generator on pad, see electrical
235	Steel column, see structural
516	Mop Rack
560	Bollard
562	Extractor
563	Gear Drying Cabinet
564	Fire Pole
566	Work Bench
567	SCBA Fill Station
568	Fire Riser
569	Shelf access ladder to compressor
571	IT Rack
573	TV to display information about the station
591	Ice Machine
832	Utility Sink
837	Floor drain, see Plumbing
839	Water heater, see Plumbing
842	Floor Sink
844	Stacked Washer and Dryer
847	Deionized water system hose reel
854	Switch Gear on 2" house keeping pad
855	Electrical panel
856	Electrical transfer switch and distribution panel
857	Fire alarm control panel

858 Remote generator annunciator Panel

Occupancy Schedule						
Room					Occupancy	
No.	Room Name	Area	Туре	Occupancy	Load Factor	Occupant
101	Public Entry	121 SF	Gross	В	100	2
102	Public RR	69 SF		В		
103	EMS	106 SF		S-2		
104	SCBA	109 SF		S-2		
105	Apparatus Bay	3,551 SF		S-2		
106	DI Water	52 SF		S-2		
107	Electrical	61 SF		S-2		
108	Generator	226 SF		S-2		
109	WH/FR	18 SF		S-2		
110	Water Storage	49 SF		S-2		
111	Shop	85 SF		S-2		
112	Stairs	71 SF		R-2		
113	Laundry	113 SF		R-2		
114	Ice Machine	65 SF		S-2		
116	Pole	51 SF		R-2		
118	Captain's Office	118 SF	Gross	В	100	2
119	Turn Outs	353 SF		S-2		
120	IT	Not Placed		S-2		
121	Hallway	508 SF		R-2		
122	Transformer	157 SF				
125	IT	96 SF				
201	FF/PM Office	Not Placed	Gross	В	100	6
204	Exercise Room	534 SF	Gross	R-2	50	11
205	Fitness Patio	252 SF		R-2		
206	AV	18 SF		R-2		
207	Dining Area	387 SF	Gross	R-2	50	8
208	Kitchen	371 SF	Gross	R-2	50	8
209	Outdoor Patio	1,146 SF		R-2		
210	Storage	11 SF		R-2		
211	Day Room	345 SF	Gross	R-2	50	7
211	FM/PM Office	215 SF				
213	Restroom	91 SF		R-2		
214	Storage	53 SF		R-2		
215	Dorm 1	114 SF	Gross	R-2	100	2
216	Dorm 2	121 SF	Gross	R-2	100	2
217	Restroom	197 SF		R-2		
218	Dorm 3	120 SF	Gross	R-2	100	2
219	Dorm 4	121 SF	Gross	R-2	100	2
220	Dorm 5	119 SF	Gross	R-2	100	2
221	Capt. Dorm	190 SF	Gross	R-2	100	2
222	Capt. Restroom	69 SF		R-2		

General Information

Note: Any room without an occupancy load is considered accessory uses. mation.

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CUP 2018-0014 SUP 2018-0009 V 2018-0007

Station #2 Рlа Fire Floor 92 g Carlsbad | 1906 Arenal Ro Carlsbad, CA 9 First

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Team

1720

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Notes

516	Mop Rack
518	Full height Toilet Partition
553	Double bike decon sauna
564	Fire Pole
573	TV to display information about the station
593	Range
595	BBQ
596	Prep sink and faucet
613	Full height cabinet
618	Toiletry Lockers (12)
619	Work surface with upper and lower cabinets
620	Undercounter cabinetry
635	Dumbbell set and rack
636	Lifting Bench
637	Lift assisted rack and bench
638	Elliptical Machine
652	systems furniture lowers
835	Mop sink

		Occupancy	/ Schedu	le		
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Carlsbad Fire Station #2 1906 Arenal Rd. Carlsbad, CA 92009 Second Floor Plan

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Notes

- 16 A minimum of 17.6 kWdc of photovoltaic panels required to comply with the C.A.P (Ordinance No. CS-347). Design-build contractor to coordinate panel number and location with solar provider and structural engineer
- 117 Wood trellis
- 311 Thermoplastic roofing
- 312 Metal coping cap at parapet wall, typ.
- 315 Walk pads, exact location to be coordinated with location of mechanical and PV
- 317 Roof cricket
- 331 30"x36" Roof access hatch
- 355 Roof drain and overflow814 Condensing units, see mechanical
- old Condensing units, see mechanica

Roof Plan Notes

1. Abbreviations:

DS :	Down Spou

- RD : Roof Drain OF : Overflow Scupper
- TP : Top of Parapet PLY : Top of Plywood

2. All roof construction shown on this sheet is roof assembly R1 of R2 U.N.O. See sheet --/A-- for roof assembly schedule.

3. Minimum roof slopes, including crickets, to be 1/2" per foot u.n.o. Minimum slope at cross falls to be 3/8" per foot.

4. Height indicated on this plan are to top of roof plywood / sheathing unless noted otherwise. Heights are measured from top of main finish floor. (0'-0")

5. Crickets for roof shall be framed with 2x wood members at max. 24" o.c., and 5/8" min. plywood sheathing. See detail --/A-- for more information.

6. Roof drains and overflows to run in wall, U.N.O. See plumbing plans for continuation. See detail --/A-- for overflow termination. Connect roof drains to storm system U.N.O.

7. Primary Roof drainage for roof areas of a building shall be drained by roof drains or gutters. (CPC Sec. 1101.11.1)

8. Secondary roof drainage shall be provided by one of the following methods specified in CPC Sec. 1101.11.2.1 or 1101.11.2.2:

a. Roof Scuppers or Open Side

a.1. Shall prevent the depth of ponding water from exceeding that for which the roof was designed (CPC Sec. 1101.11.2.1)
a.2. Scupper openings shall be a min. 4" high and have a width equal to the circumference of the roof drain required for the area served, sized by CPC Table 11-1 (CPC Sec. 1101.11.2.1)

b. Secondary Roof Drain (overflow drains)
b.1. Shall be located a min. 2" above the roof surface (CPC Sec. 1101.11.2.2)
b.2. Shall be a separate system of piping, independent of the primary roof drainage system (CPC Sec. 1101.11.2.2.1). Overflow drains shall NOT connect to roof drain lines.
b.3. Discharge shall be above grade, in a location observable by the building

occupants or maintenance personnel. (CPC Sec. 1101.11.2.2.1) b.4. Discharge shall be to an approved location. For locations not shown, verify proposed location with architect prior to fabrication / installation.

9. Contractor shall verify equipment locations and size, as well as verify cricket slopes and roof drain / overflow locations prior to installation.

10. Supply and install 16 oz. galv. sheet metal roof jacks for venting, u.n.o.. Vents shall be ganged and routed to backside of roof or within the mechanical well as directed by the architect. Vents shall be 18" min. from both fascia eaves and ridges.

11. Horizontally run conduits or pipes are to be mounted above the roofing membrane per detail --/A--.

12. For pipe/vent roof see details --/A--, --/A--, --/A--.

13. Roof gutters shall be provided with the means to prevent the accumulation of leaves and debris in the gutter. All roof gutters and downspouts shall be constructed of non-combustible materials. (CBC 705A.4)

14. Drip edge flashing used at the free edges of roofing materials shall be non-combustible. (CBC 705A.4.1)

15. Valley flashings shall be not less than 0.019-inch (No. 26 galvanized sheet gage) corrosionresistant metal installed over a minimum 36-inch-wide underlayment consisting of one layer of N0. 72 ASTM cap sheet running the full length of the valley. (CBC 705A.3)

16. Membrane roofing shall be Class 'A' (required) and have a minimum 3 year aged solar reflection and thermal emittance or solar reflection index equal to or greater than the values specified in the voluntary measures under California Green Building Standards Code:

Type R1: Sarnafil S327 polyester reinforced membrane with lacquer coating. place over 1/4" Densdeck, typical at all locations. ICC-ES No. ESR-1157.

Type R2: Claylite (1) piece 'S' Mission roof tile (5.9 lbs per sf) over 2-ply roof felts min. (ICC-ES No. ESR-3523, manufactured by United States tile). At roof pitches less than 3:12, see Specification for additional roof membrane requirements. Tile accessories shall be installed at the eaves, ridges and rakes. See Specifications and keyed notes for more information. Verify color with architect.

Type R3: Built-up Class "A" roof per CBC Sec. 1504, 1505, and Table 1505.1. 4GNC by Johns Manville, (4) ply with mineral surface cap sheet. See Specifications and keyed notes for more information. Also see detail --/A--.



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CUP 2018-0014 SUP 2018-0009 V 2018-0007

Notes 252 Stucco Soffit 253 Gypsum board ceiling directly applied to joists above Stepped Ceiling 254 Sectional Door Track 255 295 Skylight 555 Ceiling mounted exhaust extraction system above (Typ of 3), See Mechanical 853 50' Cable Reel, see electrical **Reflected Ceiling Plan Legend** Gypsum ceiling board with texture, taped, sanded and painted per specifications, provide moister resistant gypsum board at all "wet" locations

Type C Gypsum board Ceiling

Stucco Soffit

Ceiling Mounted Exit Signage

Ceiling access panel per specifications - Paint to match adjacent

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Ceiling Plans

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Floor

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Drawing No.

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1 Reflected Ceiling Plan - Upper Floor

CUP 2018-0014 SUP 2018-0009 V 2018-0007



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1720



4 North 1/8" = 1'-0"



3 East 1/8" = 1'-0"

CUP 2018-0014 SUP 2018-0009 V 2018-0007

Notes

- 36 Right turn only signage Wood Trellis 117
- Window Recess 276
- Door per plan painted to match bronze storefront 291
- 294 Bronze storefront system
- Skylight Sectional Doors per plan 295 296
- 411 Stucco
- Terra cotta exterior tile cladding 418 Stucco reveal
- 419 422
- CMU Site retaining wall, See civil for wall heights Fire Warning Light 565
- Condensing units, see mechanical 814
- Photovoltaic Panels 852



ltions >Ð Ш Building

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Sheet 22 Sheets 26

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Drawing No.

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1720









Notes

117	Wood Trellis Window per plan and schedule
292	Pronze storefront avetem
294	
295	Skylight
411	Stucco
418	Terra cotta exterior tile cladding
419	Stucco reveal
420	Stucco over CMU site wall, see civil
421	Wood veneer
535	Building signage
565	Fire Warning Light
814	Condensing units, see mechanical

Station #2 Fire Carlsbad Fi 1906 Arenal Rd. Carlsbad, CA 920

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Notes

- 117 Wood Trellis 123 Permeable concrete pedestrian sidewalk
- 211 Footing
- 215 Concrete Slab 233
- Painted exposed cross bracing, see structural 235 Steel column, see structural
- 278 four-Fold Door
- 291 Door per plan painted to match bronze storefront
- 295 Skylight 296 Sectional Doors per plan
- 411 Stucco
- 5/8" type X gypsum board Painted, typ 412
- Type C Gypsum board 416 418 Terra cotta exterior tile cladding
- 555 Ceiling mounted exhaust extraction system above (Typ of 3), See Mechanical
- 560 Bollard
- 564 Fire Pole
- 568 Fire Riser
- 569 Shelf access ladder to compressor
- Condensing units, see mechanical 814 Compressed Air Hose Reel 845
- Photovoltaic Panels 852
- 50' Cable Reel, see electrical 853



\frown cti **(**) S Building

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#2 ō Stati Carlsbad Fire 1906 Arenal Rd. Carlsbad, CA 92009

Rendering

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Appendix B: Air Quality Emission Calculations

City of Carlsbad Fire Station No. 2 - San Diego Air Basin, Summer

City of Carlsbad Fire Station No. 2

San Diego Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land	Uses	Size		Metric	Lot Acreage	Floor Surface Area	Population							
Resi	dential	1.00		Dwelling Unit	0.40									
1.2 Other Proj	ect Characterist	tics												
Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (I	Days) 40									
Climate Zone	13			Operational Year	2021									
Utility Company	San Diego Gas & Ele	ectric												
CO2 Intensity (Ib/MWhr)	720.49	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity (Ib/MWhr)	0.006									
1.3 User Enter	3 User Entered Comments & Non-Default Data													
Project Characte	eristics -													
Land Use - Proje	ect acreage is 0.40)1												
Construction Pha	ase - Project-speci	ific timeline												
Off-road Equipm	ent - Site-specific	construction equipment												
Off-road Equipm	ent - Project-speci	ific equipment (worst-ca	se constru	ctio phase equipment)										
Off-road Equipm	ent - Project-speci	ific construction equipme	ent											
Off-road Equipm	ent - Project-speci	ific equipment												
Off-road Equipm	ent - Project-speci	ific equipment												
Off-road Equipm	ent - Site-specific	construction equipment												
Trips and VMT -	Project-specific va	alues												

Demolition -

Grading - Project-specific values

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	200.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	15.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	AcresOfGrading	15.00	0.41
tblGrading	AcresOfGrading	7.50	0.41
tblLandUse	LotAcreage	0.32	0.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Building Construction

tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblProjectCharacteristics	OperationalYear	2018	2021
tblTripsAndVMT	HaulingTripNumber	46.00	100.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	WorkerTripNumber	15.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	50.00
tblTripsAndVMT	WorkerTripNumber	0.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	50.00
tblTripsAndVMT	WorkerTripNumber	0.00	50.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year					lb/d	ay							lb/d	ay		
2019	2.5054	27.2630	14.9650	0.0480	0.8033	0.9147	1.7142	0.1755	0.8426	1.0145	0.0000	4,795.716 6	4,795.7166	1.2547	0.0000	4,827.084 8
2020	11.6046	24.8665	17.1303	0.0519	1.1291	0.8631	1.9587	0.2846	0.7951	1.0489	0.0000	5,091.030 6	5,091.0306	1.3802	0.0000	5,125.535 0
Maximum	11.6046	27.2630	17.1303	0.0519	1.1291	0.9147	1.9587	0.2846	0.8426	1.0489	0.0000	5,091.030 6	5,091.0306	1.3802	0.0000	5,125.535 0

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year					lb/d	lay							lb/c	lay		
2019	2.5054	27.2630	14.9650	0.0480	0.8033	0.9147	1.7142	0.1755	0.8426	1.0145	0.0000	4,795.716 6	4,795.7166	1.2547	0.0000	4,827.084 8
2020	11.6046	24.8665	17.1303	0.0519	1.1291	0.8631	1.9587	0.2846	0.7951	1.0489	0.0000	5,091.030 6	5,091.0306	1.3802	0.0000	5,125.535 0
Maximum	11.6046	27.2630	17.1303	0.0519	1.1291	0.9147	1.9587	0.2846	0.8426	1.0489	0.0000	5,091.030 6	5,091.0306	1.3802	0.0000	5,125.535 0
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/1/2019	12/12/2019	5	30	
2	Site Preparation	Site Preparation	12/13/2019	1/2/2020	5	15	
3	Grading	Grading	1/3/2020	2/13/2020	5	30	
4	Building Construction	Building Construction	2/14/2020	11/19/2020	5	200	
5	Paving	Paving	11/20/2020	12/10/2020	5	15	
6	Architectural Coating	Architectural Coating	12/11/2020	12/17/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.41

Acres of Grading (Grading Phase): 0.41

Acres of Paving: 0

Residential Indoor: 3,645; Residential Outdoor: 1,215; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	1	8.00	158	0.38
Demolition	Graders	1	8.00	187	0.41
Demolition	Off-Highway Trucks	2	6.00	402	0.38
Demolition	Plate Compactors	1	8.00	8	0.43
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Off-Highway Trucks	2	6.00	402	0.38
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Trucks	2	6.00	402	0.38
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Building Construction	Aerial Lifts	1	8.00	63	0.31
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	1	6.00	89	0.20
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Excavators	1	8.00	158	0.38
Paving	Off-Highway Trucks	2	8.00	402	0.38
Paving	Pavers	1	7.00	130	0.42
Paving	Rubber Tired Loaders	1	8.00	203	0.36
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Fugitive Dust					0.3343	0.0000	0.3343	0.0506	0.0000	0.0506			0.0000			0.0000
Off-Road	2.2512	25.1235	12.9857	0.0384		0.9043	0.9043		0.8327	0.8327		3,783.635 0	3,783.6350	1.1898		3,813.379 3
Total	2.2512	25.1235	12.9857	0.0384	0.3343	0.9043	1.2385	0.0506	0.8327	0.8833		3,783.635 0	3,783.6350	1.1898		3,813.379 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Hauling	0.0289	1.0012	0.2161	2.6500e- 003	0.0583	3.7800e- 003	0.0620	0.0160	3.6100e- 003	0.0196		288.4909	288.4909	0.0255		289.1292
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1963	0.1370	1.5471	4.3700e- 003	0.4107	2.9300e- 003	0.4137	0.1090	2.7000e- 003	0.1116		435.0998	435.0998	0.0139		435.4472
Total	0.2253	1.1383	1.7632	7.0200e- 003	0.4690	6.7100e- 003	0.4757	0.1249	6.3100e- 003	0.1312		723.5907	723.5907	0.0394		724.5763

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Fugitive Dust					0.3343	0.0000	0.3343	0.0506	0.0000	0.0506			0.0000			0.0000
Off-Road	2.2512	25.1235	12.9857	0.0384		0.9043	0.9043		0.8327	0.8327	0.0000	3,783.635 0	3,783.6350	1.1898		3,813.379 3
Total	2.2512	25.1235	12.9857	0.0384	0.3343	0.9043	1.2385	0.0506	0.8327	0.8833	0.0000	3,783.635 0	3,783.6350	1.1898		3,813.379 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Hauling	0.0289	1.0012	0.2161	2.6500e- 003	0.0583	3.7800e- 003	0.0620	0.0160	3.6100e- 003	0.0196		288.4909	288.4909	0.0255		289.1292
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1963	0.1370	1.5471	4.3700e- 003	0.4107	2.9300e- 003	0.4137	0.1090	2.7000e- 003	0.1116		435.0998	435.0998	0.0139		435.4472
Total	0.2253	1.1383	1.7632	7.0200e- 003	0.4690	6.7100e- 003	0.4757	0.1249	6.3100e- 003	0.1312		723.5907	723.5907	0.0394		724.5763

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Fugitive Dust					0.0290	0.0000	0.0290	3.1300e- 003	0.0000	3.1300e- 003			0.0000			0.0000	
Off-Road	2.2512	25.1235	12.9857	0.0384		0.9043	0.9043		0.8327	0.8327		3,783.635 0	3,783.6350	1.1898		3,813.379 3	
Total	2.2512	25.1235	12.9857	0.0384	0.0290	0.9043	0.9333	3.1300e- 003	0.8327	0.8358		3,783.635 0	3,783.6350	1.1898		3,813.379 3	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	Ib/day										lb/day					
Hauling	0.0579	2.0025	0.4323	5.2900e- 003	0.1301	7.5600e- 003	0.1376	0.0353	7.2300e- 003	0.0425		576.9818	576.9818	0.0511		578.2583
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1963	0.1370	1.5471	4.3700e- 003	0.4107	2.9300e- 003	0.4137	0.1090	2.7000e- 003	0.1116		435.0998	435.0998	0.0139		435.4472
Total	0.2542	2.1395	1.9793	9.6600e- 003	0.5408	0.0105	0.5513	0.1442	9.9300e- 003	0.1541		1,012.081 6	1,012.0816	0.0650		1,013.705 5

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	Ib/day										lb/day						
Fugitive Dust					0.0290	0.0000	0.0290	3.1300e- 003	0.0000	3.1300e- 003			0.0000			0.0000	
Off-Road	2.2512	25.1235	12.9857	0.0384		0.9043	0.9043		0.8327	0.8327	0.0000	3,783.635 0	3,783.6350	1.1898		3,813.379 3	
Total	2.2512	25.1235	12.9857	0.0384	0.0290	0.9043	0.9333	3.1300e- 003	0.8327	0.8358	0.0000	3,783.635 0	3,783.6350	1.1898		3,813.379 3	
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
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Category					lb/c	lay							lb/d	ay			
Hauling	0.0579	2.0025	0.4323	5.2900e- 003	0.1301	7.5600e- 003	0.1376	0.0353	7.2300e- 003	0.0425		576.9818	576.9818	0.0511		578.2583	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.1963	0.1370	1.5471	4.3700e- 003	0.4107	2.9300e- 003	0.4137	0.1090	2.7000e- 003	0.1116		435.0998	435.0998	0.0139		435.4472	
Total	0.2542	2.1395	1.9793	9.6600e- 003	0.5408	0.0105	0.5513	0.1442	9.9300e- 003	0.1541		1,012.081 6	1,012.0816	0.0650		1,013.705 5	

3.3 Site Preparation - 2020

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Fugitive Dust					0.0290	0.0000	0.0290	3.1300e- 003	0.0000	3.1300e- 003			0.0000			0.0000
Off-Road	2.1297	22.8832	12.6433	0.0384		0.8208	0.8208		0.7559	0.7559		3,700.409 4	3,700.4094	1.1892		3,730.139 8
Total	2.1297	22.8832	12.6433	0.0384	0.0290	0.8208	0.8498	3.1300e- 003	0.7559	0.7590		3,700.409 4	3,700.4094	1.1892		3,730.139 8

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Hauling	0.0527	1.8598	0.4223	5.2200e- 003	0.6894	5.9300e- 003	0.6953	0.1726	5.6800e- 003	0.1782		570.8844	570.8844	0.0503		572.1416
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1835	0.1236	1.4173	4.2300e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		421.3735	421.3735	0.0126		421.6881
Total	0.2362	1.9834	1.8396	9.4500e- 003	1.1002	8.8100e- 003	1.1090	0.2815	8.3400e- 003	0.2898		992.2580	992.2580	0.0629		993.8297

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Fugitive Dust					0.0290	0.0000	0.0290	3.1300e- 003	0.0000	3.1300e- 003			0.0000			0.0000
Off-Road	2.1297	22.8832	12.6433	0.0384		0.8208	0.8208		0.7559	0.7559	0.0000	3,700.409 4	3,700.4094	1.1892		3,730.139 8
Total	2.1297	22.8832	12.6433	0.0384	0.0290	0.8208	0.8498	3.1300e- 003	0.7559	0.7590	0.0000	3,700.409 4	3,700.4094	1.1892		3,730.139 8

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Hauling	0.0527	1.8598	0.4223	5.2200e- 003	0.6894	5.9300e- 003	0.6953	0.1726	5.6800e- 003	0.1782		570.8844	570.8844	0.0503		572.1416
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1835	0.1236	1.4173	4.2300e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		421.3735	421.3735	0.0126		421.6881
Total	0.2362	1.9834	1.8396	9.4500e- 003	1.1002	8.8100e- 003	1.1090	0.2815	8.3400e- 003	0.2898		992.2580	992.2580	0.0629		993.8297

3.4 Grading - 2020

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	lay							lb/d	ay		
Fugitive Dust					0.0145	0.0000	0.0145	1.5600e- 003	0.0000	1.5600e- 003			0.0000			0.0000
Off-Road	2.1297	22.8832	12.6433	0.0384		0.8208	0.8208		0.7559	0.7559		3,700.409 4	3,700.4094	1.1892		3,730.139 8
Total	2.1297	22.8832	12.6433	0.0384	0.0145	0.8208	0.8353	1.5600e- 003	0.7559	0.7575		3,700.409 4	3,700.4094	1.1892		3,730.139 8

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	lay							lb/d	ay		
Hauling	0.0264	0.9299	0.2111	2.6100e- 003	0.0583	2.9700e- 003	0.0612	0.0160	2.8400e- 003	0.0188		285.4422	285.4422	0.0251		286.0708
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1835	0.1236	1.4173	4.2300e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		421.3735	421.3735	0.0126		421.6881
Total	0.2098	1.0535	1.6284	6.8400e- 003	0.4690	5.8500e- 003	0.4748	0.1249	5.5000e- 003	0.1304		706.8158	706.8158	0.0377		707.7589

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Fugitive Dust					0.0145	0.0000	0.0145	1.5600e- 003	0.0000	1.5600e- 003			0.0000			0.0000
Off-Road	2.1297	22.8832	12.6433	0.0384		0.8208	0.8208		0.7559	0.7559	0.0000	3,700.409 4	3,700.4094	1.1892		3,730.139 8
Total	2.1297	22.8832	12.6433	0.0384	0.0145	0.8208	0.8353	1.5600e- 003	0.7559	0.7575	0.0000	3,700.409 4	3,700.4094	1.1892		3,730.139 8

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Hauling	0.0264	0.9299	0.2111	2.6100e- 003	0.0583	2.9700e- 003	0.0612	0.0160	2.8400e- 003	0.0188		285.4422	285.4422	0.0251		286.0708
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1835	0.1236	1.4173	4.2300e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		421.3735	421.3735	0.0126		421.6881
Total	0.2098	1.0535	1.6284	6.8400e- 003	0.4690	5.8500e- 003	0.4748	0.1249	5.5000e- 003	0.1304		706.8158	706.8158	0.0377		707.7589

3.5 Building Construction - 2020

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	ay							lb/d	ay		
Off-Road	0.6780	7.0933	6.6134	0.0116		0.3291	0.3291		0.3039	0.3039		1,103.672 5	1,103.6725	0.3459		1,112.318 9
Total	0.6780	7.0933	6.6134	0.0116		0.3291	0.3291		0.3039	0.3039		1,103.672 5	1,103.6725	0.3459		1,112.318 9

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Hauling	3.9500e- 003	0.1395	0.0317	3.9000e- 004	8.7400e- 003	4.5000e- 004	9.1800e- 003	2.3900e- 003	4.3000e- 004	2.8200e- 003		42.8163	42.8163	3.7700e- 003		42.9106
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1835	0.1236	1.4173	4.2300e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		421.3735	421.3735	0.0126		421.6881
Total	0.1874	0.2631	1.4490	4.6200e- 003	0.4195	3.3300e- 003	0.4228	0.1113	3.0900e- 003	0.1144		464.1899	464.1899	0.0164		464.5987

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	ay							lb/d	ay		
Off-Road	0.6780	7.0933	6.6134	0.0116		0.3291	0.3291		0.3039	0.3039	0.0000	1,103.672 5	1,103.6725	0.3459		1,112.318 9
Total	0.6780	7.0933	6.6134	0.0116		0.3291	0.3291		0.3039	0.3039	0.0000	1,103.672 5	1,103.6725	0.3459		1,112.318 9

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Hauling	3.9500e- 003	0.1395	0.0317	3.9000e- 004	8.7400e- 003	4.5000e- 004	9.1800e- 003	2.3900e- 003	4.3000e- 004	2.8200e- 003		42.8163	42.8163	3.7700e- 003		42.9106
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1835	0.1236	1.4173	4.2300e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		421.3735	421.3735	0.0126		421.6881
Total	0.1874	0.2631	1.4490	4.6200e- 003	0.4195	3.3300e- 003	0.4228	0.1113	3.0900e- 003	0.1144		464.1899	464.1899	0.0164		464.5987

3.6 Paving - 2020

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	lay		
Off-Road	2.2192	22.2028	15.2908	0.0425		0.8542	0.8542		0.7868	0.7868		4,098.772 7	4,098.7727	1.3173		4,131.705 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.2192	22.2028	15.2908	0.0425		0.8542	0.8542		0.7868	0.7868		4,098.772 7	4,098.7727	1.3173		4,131.705 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	lay		
Hauling	0.0527	1.8598	0.4223	5.2200e- 003	0.1165	5.9300e- 003	0.1224	0.0319	5.6800e- 003	0.0376		570.8844	570.8844	0.0503		572.1416
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1835	0.1236	1.4173	4.2300e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		421.3735	421.3735	0.0126		421.6881
Total	0.2362	1.9834	1.8396	9.4500e- 003	0.5272	8.8100e- 003	0.5361	0.1409	8.3400e- 003	0.1492		992.2580	992.2580	0.0629		993.8297

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Off-Road	2.2192	22.2028	15.2908	0.0425		0.8542	0.8542		0.7868	0.7868	0.0000	4,098.772 7	4,098.7727	1.3173		4,131.705 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.2192	22.2028	15.2908	0.0425		0.8542	0.8542		0.7868	0.7868	0.0000	4,098.772 7	4,098.7727	1.3173		4,131.705 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Hauling	0.0527	1.8598	0.4223	5.2200e- 003	0.1165	5.9300e- 003	0.1224	0.0319	5.6800e- 003	0.0376		570.8844	570.8844	0.0503		572.1416
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1835	0.1236	1.4173	4.2300e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		421.3735	421.3735	0.0126		421.6881
Total	0.2362	1.9834	1.8396	9.4500e- 003	0.5272	8.8100e- 003	0.5361	0.1409	8.3400e- 003	0.1492		992.2580	992.2580	0.0629		993.8297

3.7 Architectural Coating - 2020

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Archit. Coating	11.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	11.2631	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Hauling	0.1581	5.5793	1.2668	0.0157	0.3495	0.0178	0.3673	0.0958	0.0170	0.1128		1,712.653 3	1,712.6533	0.1509		1,716.424 8
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1835	0.1236	1.4173	4.2300e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		421.3735	421.3735	0.0126		421.6881
Total	0.3416	5.7029	2.6841	0.0199	0.7602	0.0207	0.7809	0.2047	0.0197	0.2244		2,134.026 8	2,134.0268	0.1634		2,138.112 9

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Archit. Coating	11.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	11.2631	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	lay		
Hauling	0.1581	5.5793	1.2668	0.0157	0.3495	0.0178	0.3673	0.0958	0.0170	0.1128		1,712.653 3	1,712.6533	0.1509		1,716.424 8
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1835	0.1236	1.4173	4.2300e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		421.3735	421.3735	0.0126		421.6881
Total	0.3416	5.7029	2.6841	0.0199	0.7602	0.0207	0.7809	0.2047	0.0197	0.2244		2,134.026 8	2,134.0268	0.1634		2,138.112 9

City of Carlsbad Fire Station No. 2 - San Diego Air Basin, Winter

City of Carlsbad Fire Station No. 2

San Diego Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land	d Uses	Size		Metric	Lot Acreage	Floor Surface Area	Population
Resi	dential	1.00		Dwelling Unit	0.40		
1.2 Other Proj	ect Characteris	tics					
Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (I	Days) 40		
Climate Zone	13			Operational Year	2021		
Utility Company	San Diego Gas & Ele	ectric					
CO2 Intensity (Ib/MWhr)	720.49	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity (Ib/MWhr)	0.006		
1.3 User Enter	red Comments &	& Non-Default Data					
Project Characte	eristics -						
Land Use - Proje	ect acreage is 0.40	1					
Construction Ph	ase - Project-speci	fic timeline					
Off-road Equipm	ent - Site-specific	construction equipment					
Off-road Equipm	ient - Project-speci	fic equipment (worst-ca	se constructio p	hase equipment)			
Off-road Equipm	ient - Project-speci	fic construction equipme	ent				
Off-road Equipm	ent - Project-speci	fic equipment					
Off-road Equipm	ent - Project-speci	fic equipment					
Off-road Equipm	ent - Site-specific	construction equipment					
Trips and VMT -	Project-specific va	llues					
Demolition -							

Grading - Project-specific values

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	200.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	15.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	AcresOfGrading	15.00	0.41
tblGrading	AcresOfGrading	7.50	0.41
tblLandUse	LotAcreage	0.32	0.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblProjectCharacteristics	OperationalYear	2018	2021
tblTripsAndVMT	HaulingTripNumber	46.00	100.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	WorkerTripNumber	15.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	50.00
tblTripsAndVMT	WorkerTripNumber	0.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	50.00
tblTripsAndVMT	WorkerTripNumber	0.00	50.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year					lb/d	ay							lb/c	ay		
2019	2.5327	27.3004	14.9109	0.0477	0.8033	0.9149	1.7143	0.1755	0.8428	1.0146	0.0000	4,759.364 4	4,759.3644	1.2559	0.0000	4,790.760 9
2020	11.6333	24.8996	17.0771	0.0516	1.1291	0.8632	1.9589	0.2846	0.7952	1.0490	0.0000	5,055.428 9	5,055.4289	1.3812	0.0000	5,089.959 5
Maximum	11.6333	27.3004	17.0771	0.0516	1.1291	0.9149	1.9589	0.2846	0.8428	1.0490	0.0000	5,055.428 9	5,055.4289	1.3812	0.0000	5,089.959 5

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year					lb/c	day							lb/e	day		
2019	2.5327	27.3004	14.9109	0.0477	0.8033	0.9149	1.7143	0.1755	0.8428	1.0146	0.0000	4,759.364 4	4,759.3644	1.2559	0.0000	4,790.760 9
2020	11.6333	24.8996	17.0771	0.0516	1.1291	0.8632	1.9589	0.2846	0.7952	1.0490	0.0000	5,055.428 9	5,055.4289	1.3812	0.0000	5,089.959 5
Maximum	11.6333	27.3004	17.0771	0.0516	1.1291	0.9149	1.9589	0.2846	0.8428	1.0490	0.0000	5,055.428 9	5,055.4289	1.3812	0.0000	5,089.959 5
	ROG	NOx	co	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/1/2019	12/12/2019	5	30	
2	Site Preparation	Site Preparation	12/13/2019	1/2/2020	5	15	
3	Grading	Grading	1/3/2020	2/13/2020	5	30	
4	Building Construction	Building Construction	2/14/2020	11/19/2020	5	200	
5	Paving	Paving	11/20/2020	12/10/2020	5	15	
6	Architectural Coating	Architectural Coating	12/11/2020	12/17/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.41

Acres of Grading (Grading Phase): 0.41

Acres of Paving: 0

Residential Indoor: 3,645; Residential Outdoor: 1,215; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	1	8.00	158	0.38
Demolition	Graders	1	8.00	187	0.41
Demolition	Off-Highway Trucks	2	6.00	402	0.38
Demolition	Plate Compactors	1	8.00	8	0.43
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Off-Highway Trucks	2	6.00	402	0.38
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41

Grading	Off-Highway Trucks	2	6.00	402	0.38
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Building Construction	Aerial Lifts	1	8.00	63	0.31
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	1	6.00	89	0.20
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Excavators	1	8.00	158	0.38
Paving	Off-Highway Trucks	2	8.00	402	0.38
Paving	Pavers	1	7.00	130	0.42
Paving	Rubber Tired Loaders	1	8.00	203	0.36
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle	Hauling Vehicle
					_	-			Class	Class
Demolition	6	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	50.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	ay							lb/d	ay		
Fugitive Dust					0.3343	0.0000	0.3343	0.0506	0.0000	0.0506			0.0000			0.0000
Off-Road	2.2512	25.1235	12.9857	0.0384		0.9043	0.9043		0.8327	0.8327		3,783.635 0	3,783.6350	1.1898		3,813.379 3
Total	2.2512	25.1235	12.9857	0.0384	0.3343	0.9043	1.2385	0.0506	0.8327	0.8833		3,783.635 0	3,783.6350	1.1898		3,813.379 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Hauling	0.0298	1.0115	0.2316	2.6000e- 003	0.0583	3.8700e- 003	0.0621	0.0160	3.7000e- 003	0.0197		283.6363	283.6363	0.0265		284.2976
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2220	0.1539	1.4620	4.1000e- 003	0.4107	2.9300e- 003	0.4137	0.1090	2.7000e- 003	0.1116		408.4569	408.4569	0.0132		408.7864
Total	0.2518	1.1654	1.6936	6.7000e- 003	0.4690	6.8000e- 003	0.4758	0.1249	6.4000e- 003	0.1313		692.0932	692.0932	0.0396		693.0840

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	ay							lb/d	ay		
Fugitive Dust					0.3343	0.0000	0.3343	0.0506	0.0000	0.0506			0.0000			0.0000
Off-Road	2.2512	25.1235	12.9857	0.0384		0.9043	0.9043		0.8327	0.8327	0.0000	3,783.635 0	3,783.6350	1.1898		3,813.379 3
Total	2.2512	25.1235	12.9857	0.0384	0.3343	0.9043	1.2385	0.0506	0.8327	0.8833	0.0000	3,783.635 0	3,783.6350	1.1898		3,813.379 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Hauling	0.0298	1.0115	0.2316	2.6000e- 003	0.0583	3.8700e- 003	0.0621	0.0160	3.7000e- 003	0.0197		283.6363	283.6363	0.0265		284.2976
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2220	0.1539	1.4620	4.1000e- 003	0.4107	2.9300e- 003	0.4137	0.1090	2.7000e- 003	0.1116		408.4569	408.4569	0.0132		408.7864
Total	0.2518	1.1654	1.6936	6.7000e- 003	0.4690	6.8000e- 003	0.4758	0.1249	6.4000e- 003	0.1313		692.0932	692.0932	0.0396		693.0840

3.3 Site Preparation - 2019 Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	lay							lb/d	ay		
Fugitive Dust					0.0290	0.0000	0.0290	3.1300e- 003	0.0000	3.1300e- 003			0.0000			0.0000
Off-Road	2.2512	25.1235	12.9857	0.0384		0.9043	0.9043		0.8327	0.8327		3,783.635 0	3,783.6350	1.1898		3,813.379 3
Total	2.2512	25.1235	12.9857	0.0384	0.0290	0.9043	0.9333	3.1300e- 003	0.8327	0.8358		3,783.635 0	3,783.6350	1.1898		3,813.379 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	ay		
Hauling	0.0595	2.0230	0.4632	5.2000e- 003	0.1301	7.7300e- 003	0.1378	0.0353	7.4000e- 003	0.0427		567.2726	567.2726	0.0529		568.5953
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2220	0.1539	1.4620	4.1000e- 003	0.4107	2.9300e- 003	0.4137	0.1090	2.7000e- 003	0.1116		408.4569	408.4569	0.0132		408.7864
Total	0.2815	2.1769	1.9252	9.3000e- 003	0.5408	0.0107	0.5515	0.1442	0.0101	0.1543		975.7294	975.7294	0.0661		977.3816

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	lay							lb/d	lay		
Fugitive Dust					0.0290	0.0000	0.0290	3.1300e- 003	0.0000	3.1300e- 003			0.0000			0.0000
Off-Road	2.2512	25.1235	12.9857	0.0384		0.9043	0.9043		0.8327	0.8327	0.0000	3,783.635 0	3,783.6350	1.1898		3,813.379 3
Total	2.2512	25.1235	12.9857	0.0384	0.0290	0.9043	0.9333	3.1300e- 003	0.8327	0.8358	0.0000	3,783.635 0	3,783.6350	1.1898		3,813.379 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Hauling	0.0595	2.0230	0.4632	5.2000e- 003	0.1301	7.7300e- 003	0.1378	0.0353	7.4000e- 003	0.0427		567.2726	567.2726	0.0529		568.5953
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2220	0.1539	1.4620	4.1000e- 003	0.4107	2.9300e- 003	0.4137	0.1090	2.7000e- 003	0.1116		408.4569	408.4569	0.0132		408.7864
Total	0.2815	2.1769	1.9252	9.3000e- 003	0.5408	0.0107	0.5515	0.1442	0.0101	0.1543		975.7294	975.7294	0.0661		977.3816

3.3 Site Preparation - 2020 Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	lay							lb/d	ay		
Fugitive Dust					0.0290	0.0000	0.0290	3.1300e- 003	0.0000	3.1300e- 003			0.0000			0.0000
Off-Road	2.1297	22.8832	12.6433	0.0384		0.8208	0.8208		0.7559	0.7559		3,700.409 4	3,700.4094	1.1892		3,730.139 8
Total	2.1297	22.8832	12.6433	0.0384	0.0290	0.8208	0.8498	3.1300e- 003	0.7559	0.7590		3,700.409 4	3,700.4094	1.1892		3,730.139 8

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	ay		
Hauling	0.0542	1.8777	0.4502	5.1300e- 003	0.6894	6.0600e- 003	0.6955	0.1726	5.7900e- 003	0.1783		561.0903	561.0903	0.0520		562.3905
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2078	0.1388	1.3362	3.9700e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		395.5660	395.5660	0.0119		395.8637
Total	0.2620	2.0165	1.7864	9.1000e- 003	1.1002	8.9400e- 003	1.1091	0.2815	8.4500e- 003	0.2899		956.6563	956.6563	0.0639		958.2542

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	ay							lb/d	lay		
Fugitive Dust					0.0290	0.0000	0.0290	3.1300e- 003	0.0000	3.1300e- 003			0.0000			0.0000
Off-Road	2.1297	22.8832	12.6433	0.0384		0.8208	0.8208		0.7559	0.7559	0.0000	3,700.409 4	3,700.4094	1.1892		3,730.139 8
Total	2.1297	22.8832	12.6433	0.0384	0.0290	0.8208	0.8498	3.1300e- 003	0.7559	0.7590	0.0000	3,700.409 4	3,700.4094	1.1892		3,730.139 8

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Hauling	0.0542	1.8777	0.4502	5.1300e- 003	0.6894	6.0600e- 003	0.6955	0.1726	5.7900e- 003	0.1783		561.0903	561.0903	0.0520		562.3905
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2078	0.1388	1.3362	3.9700e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		395.5660	395.5660	0.0119		395.8637
Total	0.2620	2.0165	1.7864	9.1000e- 003	1.1002	8.9400e- 003	1.1091	0.2815	8.4500e- 003	0.2899		956.6563	956.6563	0.0639		958.2542

3.4 Grading - 2020 Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	lay							lb/d	ay		
Fugitive Dust					0.0145	0.0000	0.0145	1.5600e- 003	0.0000	1.5600e- 003			0.0000			0.0000
Off-Road	2.1297	22.8832	12.6433	0.0384		0.8208	0.8208		0.7559	0.7559		3,700.409 4	3,700.4094	1.1892		3,730.139 8
Total	2.1297	22.8832	12.6433	0.0384	0.0145	0.8208	0.8353	1.5600e- 003	0.7559	0.7575		3,700.409 4	3,700.4094	1.1892		3,730.139 8

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Hauling	0.0271	0.9388	0.2251	2.5600e- 003	0.0583	3.0300e- 003	0.0613	0.0160	2.9000e- 003	0.0189		280.5451	280.5451	0.0260		281.1953
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2078	0.1388	1.3362	3.9700e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		395.5660	395.5660	0.0119		395.8637
Total	0.2349	1.0776	1.5613	6.5300e- 003	0.4690	5.9100e- 003	0.4749	0.1249	5.5600e- 003	0.1305		676.1111	676.1111	0.0379		677.0590

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	lay							lb/d	ay		
Fugitive Dust					0.0145	0.0000	0.0145	1.5600e- 003	0.0000	1.5600e- 003			0.0000			0.0000
Off-Road	2.1297	22.8832	12.6433	0.0384		0.8208	0.8208		0.7559	0.7559	0.0000	3,700.409 4	3,700.4094	1.1892		3,730.139 8
Total	2.1297	22.8832	12.6433	0.0384	0.0145	0.8208	0.8353	1.5600e- 003	0.7559	0.7575	0.0000	3,700.409 4	3,700.4094	1.1892		3,730.139 8

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Hauling	0.0271	0.9388	0.2251	2.5600e- 003	0.0583	3.0300e- 003	0.0613	0.0160	2.9000e- 003	0.0189		280.5451	280.5451	0.0260		281.1953
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2078	0.1388	1.3362	3.9700e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		395.5660	395.5660	0.0119		395.8637
Total	0.2349	1.0776	1.5613	6.5300e- 003	0.4690	5.9100e- 003	0.4749	0.1249	5.5600e- 003	0.1305		676.1111	676.1111	0.0379		677.0590

3.5 Building Construction - 2020 Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Off-Road	0.6780	7.0933	6.6134	0.0116		0.3291	0.3291		0.3039	0.3039		1,103.672 5	1,103.6725	0.3459		1,112.318 9
Total	0.6780	7.0933	6.6134	0.0116		0.3291	0.3291		0.3039	0.3039		1,103.672 5	1,103.6725	0.3459		1,112.318 9

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Hauling	4.0600e- 003	0.1408	0.0338	3.8000e- 004	8.7400e- 003	4.5000e- 004	9.1900e- 003	2.3900e- 003	4.3000e- 004	2.8300e- 003		42.0818	42.0818	3.9000e- 003		42.1793
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2078	0.1388	1.3362	3.9700e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		395.5660	395.5660	0.0119		395.8637
Total	0.2119	0.2796	1.3700	4.3500e- 003	0.4195	3.3300e- 003	0.4228	0.1113	3.0900e- 003	0.1144		437.6478	437.6478	0.0158		438.0430

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	ay							lb/d	ay		
Off-Road	0.6780	7.0933	6.6134	0.0116		0.3291	0.3291		0.3039	0.3039	0.0000	1,103.672 5	1,103.6725	0.3459		1,112.318 9
Total	0.6780	7.0933	6.6134	0.0116		0.3291	0.3291		0.3039	0.3039	0.0000	1,103.672 5	1,103.6725	0.3459		1,112.318 9

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	lay		
Hauling	4.0600e- 003	0.1408	0.0338	3.8000e- 004	8.7400e- 003	4.5000e- 004	9.1900e- 003	2.3900e- 003	4.3000e- 004	2.8300e- 003		42.0818	42.0818	3.9000e- 003		42.1793
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2078	0.1388	1.3362	3.9700e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		395.5660	395.5660	0.0119		395.8637
Total	0.2119	0.2796	1.3700	4.3500e- 003	0.4195	3.3300e- 003	0.4228	0.1113	3.0900e- 003	0.1144		437.6478	437.6478	0.0158		438.0430

3.6 Paving - 2020 Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/d	ay		
Off-Road	2.2192	22.2028	15.2908	0.0425		0.8542	0.8542		0.7868	0.7868		4,098.772 7	4,098.7727	1.3173		4,131.705 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.2192	22.2028	15.2908	0.0425		0.8542	0.8542		0.7868	0.7868		4,098.772 7	4,098.7727	1.3173		4,131.705 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	lay							lb/c	ay		
Hauling	0.0542	1.8777	0.4502	5.1300e- 003	0.1165	6.0600e- 003	0.1226	0.0319	5.7900e- 003	0.0377		561.0903	561.0903	0.0520		562.3905
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2078	0.1388	1.3362	3.9700e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		395.5660	395.5660	0.0119		395.8637
Total	0.2620	2.0165	1.7864	9.1000e- 003	0.5272	8.9400e- 003	0.5362	0.1409	8.4500e- 003	0.1493		956.6563	956.6563	0.0639		958.2542

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	ay							lb/d	lay		
Off-Road	2.2192	22.2028	15.2908	0.0425		0.8542	0.8542		0.7868	0.7868	0.0000	4,098.772 7	4,098.7727	1.3173		4,131.705 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.2192	22.2028	15.2908	0.0425		0.8542	0.8542		0.7868	0.7868	0.0000	4,098.772 7	4,098.7727	1.3173		4,131.705 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Hauling	0.0542	1.8777	0.4502	5.1300e- 003	0.1165	6.0600e- 003	0.1226	0.0319	5.7900e- 003	0.0377		561.0903	561.0903	0.0520		562.3905
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2078	0.1388	1.3362	3.9700e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		395.5660	395.5660	0.0119		395.8637
Total	0.2620	2.0165	1.7864	9.1000e- 003	0.5272	8.9400e- 003	0.5362	0.1409	8.4500e- 003	0.1493		956.6563	956.6563	0.0639		958.2542

3.7 Architectural Coating - 2020 Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Archit. Coating	11.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	11.2631	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	ay							lb/d	ay		
Hauling	0.1625	5.6330	1.3505	0.0154	0.3495	0.0182	0.3676	0.0958	0.0174	0.1132		1,683.270 9	1,683.2709	0.1560		1,687.171 5
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2078	0.1388	1.3362	3.9700e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		395.5660	395.5660	0.0119		395.8637
Total	0.3703	5.7718	2.6867	0.0194	0.7602	0.0211	0.7813	0.2047	0.0200	0.2248		2,078.836 8	2,078.8368	0.1679		2,083.035 2

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	ay							lb/d	lay		
Archit. Coating	11.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	11.2631	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/c	lay							lb/c	lay		
Hauling	0.1625	5.6330	1.3505	0.0154	0.3495	0.0182	0.3676	0.0958	0.0174	0.1132		1,683.270 9	1,683.2709	0.1560		1,687.171 5
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2078	0.1388	1.3362	3.9700e- 003	0.4107	2.8800e- 003	0.4136	0.1090	2.6600e- 003	0.1116		395.5660	395.5660	0.0119		395.8637
Total	0.3703	5.7718	2.6867	0.0194	0.7602	0.0211	0.7813	0.2047	0.0200	0.2248		2,078.836 8	2,078.8368	0.1679		2,083.035 2

Appendix C: Cultural Resources Assessment CONFIDENTIAL – NOT FOR PUBLIC REVIEW

Appendix D: Paleontological Resources Assessment



BERKELEY CARLSBAD FRESNO IRVINE LOS ANGELES PALM SPRINGS POINT RICHMOND RIVERSIDE ROSEVILLE SAN LUIS OBISPO

March 23, 2018

Brianna Pilkinton Section Manager, Environmental Studies Burns & McDonnell 4225 Executive Square, Suite 500 La Jolla, California 92037

Subject: Paleontological Resources Assessment for the Carlsbad Fire Station No. 2 Project, Carlsbad, San Diego County, California

Dear Ms. Pilkinton:

LSA conducted a paleontological resources assessment for the proposed Carlsbad Fire Station No. 2 Project (project) in Carlsbad, San Diego County, California. The purpose of the assessment was to determine whether any paleontological resources that may be present within the proposed project site might be impacted by project development and to make recommendations to mitigate any potential impacts to those resources. This assessment was conducted in accordance with industry best practices as described by the Society of Vertebrate Paleontology (SVP, 2010).

PROJECT DESCRIPTION AND LOCATION

The proposed project consists of the demolition and replacement of the fire station building at 1906 Arenal Road. The new Fire Station No. 2 will include a two-story structure with living spaces and dormitories situated over the apparatus bay. A parking lot and a wrap-around driveway will be situated on the north and east sides of the building. Current project plans indicate that excavation for the project is expected to extend to approximately 6 feet (ft) to 8 ft and not exceed a depth of 10 ft (personal communication, domusstudio architecture, March 2018).

The project site is bounded by El Camino Real to the west, Arenal Road to the south, and private residences to the northeast. It is depicted on the United States Geological Survey (USGS) *Encinitas, California* 7.5-minute topographic quadrangle map in Township 12 South, Range 4 West, Section 35, San Bernardino Baseline and Meridian (USGS, 1975).

REGULATORY ENVIRONMENT

State of California

Under State law, paleontological resources are protected by the California Environmental Quality Act (CEQA) and Public Resources Code (PRC) Section 5097.5.

California Environmental Quality Act (Public Resources Code 21000 et seq.)

The purpose of CEQA is to provide a Statewide policy of environmental protection. As part of this protection, State and local agencies are required to analyze, disclose, and, when feasible, mitigate the environmental impacts of, or find alternatives to, proposed projects. The *State CEQA Guidelines* (California Code of Regulations [CCR] 15000 et seq.) provide regulations for the implementation of CEQA and include more specific direction on the process of documenting, analyzing, disclosing, and



mitigating environmental impacts of a project. To assist in this process, Appendix G of the *State CEQA Guidelines* provides a sample checklist form that may be used to identify and explain the degree of impact a project will have on a variety of environmental aspects, including paleontological resources (Section V[c]). As stated in Section 15002(b)(1-3) of the *State CEQA Guidelines*, CEQA applies to governmental action, including activities that are undertaken by, financed by, or require approval from a governmental agency.

California Public Resources Code, Section 5097.5

This law protects historic, archaeological, and paleontological resources on public lands within California and establishes criminal and civil penalties for violations. Specifically, PRC Section 5097.5 states that "No person shall knowingly or willfully excavate upon, remove, destroy, injure, or deface any ... paleontological or historical feature, situated on public lands" and that public lands includes lands "... under the jurisdiction of the state, or any city, county, district, authority, or public corporation, or any agency thereof."

City of Carlsbad

Paleontological resources are addressed in City General Plan (City of Carlsbad, 2013) and Municipal Code, relevant excerpts of which are included below.

City of Carlsbad General Plan

The Arts, History, Culture, and Education Element of the General Plan for the City of Carlsbad (City of Carlsbad, 2013), includes the following policies regarding paleontological resources: **7-P.7**.

Implement the City of Carlsbad Cultural Resources Guidelines to avoid or substantially reduce impacts to archaeological and paleontological resources.

7-P.8. During construction of specific development projects, require monitoring of grading, ground-disturbing, and other major earth-moving activities in previously undisturbed areas or in areas with known archaeological or paleontological resources by a qualified professional, as well as a tribal monitor during activities in areas with cultural resources of interest to local Native American tribes. Both the qualified professional and tribal monitor shall observe grading, ground-disturbing, and other earth-moving activities.

7-P.9. Ensure that treatment of any cultural resources discovered during site grading complies with the City of Carlsbad Cultural Resource Guidelines.

7-P.11. Prior to occupancy of any buildings, a cultural resource monitoring report identifying all materials recovered shall be submitted to the City Planner.

City of Carlsbad Municipal Code

The City's Municipal Code, Chapter 22, applies to all historic resources, publicly and privately owned, within the corporate limits of the City. According to Chapter 22.02.020, *Purpose and Intent*, the chapter was developed to:Effect and accomplish the protection, enhancement and perpetuation of

historic resources (that include paleontological resources) that represent or reflect elements of the City's *cultural*, social, economic, political and architectural history

- B. Safeguard the City's historic heritage by encouraging preservation of its historic resources
- C. Stabilize and improve property values
- D. Foster civic pride in the character and accomplishments of the past
- E. Protect and enhance the City's historic attractions for residents, tourists and visitors and serve as a support and stimulus to business and industry
- F. Strengthen the economy of the City
- G. Promote the use of historic districts and landmarks for the education, pleasure and welfare of the people of the City (Ord. NS-433 § 2 (part), 1997: Ord. 9776 § 1 (part), 1985)

Chapter 22.02.050 states that as part of the environmental review of development projects affecting historic structures or archaeological or paleontological sites, as shown on the historic resources inventory or as identified in the environment study, the environment documents shall be referred to the historic preservation commission for review. The commission may review and comment on the environment documents of the referral. The commission shall comment within the public review time limits established by the California Environmental Quality Act (Ord. NS-433 § 2 (part), 1997: Ord. NS-141 § 2, 1991: Ord. 9776 § 1 (part), 1985).

METHODS

LSA examined geologic maps of the project site and reviewed relevant geological and paleontological literature to determine which geologic units are present within the project site and whether fossils have been recovered within the project site or from those or similar geologic units elsewhere in the region. A fossil locality search request was submitted to the San Diego Natural History Museum (SDNHM) in order to determine the status and extent of previously recorded paleontological resources within and surrounding the project site.

RESULTS

Literature Review

The project site is located at the northern end of the Peninsular Ranges Geomorphic Province, a 900-mile long northwest-southeast trending structural block that extends from the Transverse Ranges to the tip of Baja California and includes the Los Angeles Basin (California Geological Survey, 2002; Norris and Webb, 1976). The total width of this province is approximately 225 miles, extending from the Colorado Desert in the east, across the continental shelf to the Southern Channel Islands (Santa Barbara, San Nicolas, Santa Catalina, and San Clemente) in the west (Sharp, 1976). This region is characterized by a series of mountain ranges separated by northwest-trending valleys subparallel to faults branching from the San Andreas Fault (California Geological Survey, 2002; Norris and Webb, 1976). The geology of this province is similar to that of the Sierra Nevada, with granitic rock intruding into the older metamorphic rocks (California Geological Survey, 2002). It contains extensive pre-Cenozoic (older than 66 million years ago [Ma]) igneous and metamorphic rocks covered by Cenozoic (younger than 66 Ma) sedimentary deposits (Norris and Webb, 1976).


Geologic mapping by Kennedy and Tan (2007) indicates the project site contains Old Alluvial Flood Plain Deposits. However, the geotechnical report prepared for the project indicates the project site contains Artificial Fill overlying either Old Alluvial Flood Plain Deposits or the Santiago Formation (Ninyo and Moore, 2017).

Artificial Fill

Artificial Fill consists of sediments that have been removed from one location and transported to another location by human activity, rather than by natural means. The transportation distance can vary from a few feet to many miles, and composition is dependent on the source and purpose. Artificial Fill will sometimes contain modern debris (e.g., asphalt, wood, bricks, concrete, metal, glass, plastic, and plant material). The geotechnical report prepared for the project indicates the project site contains Artificial Fill from the surface to depths of approximately 0.5 ft at the northwestern end to 10 ft at the southeastern end (Ninyo and Moore, 2017)

While Artificial Fill may contain fossils, these fossils have been removed from their original location and are out of stratigraphic context. Therefore, they are not considered important for scientific study. As such, Artificial Fill has no paleontological sensitivity.

Old Alluvial Flood Plain Deposits

The late to middle Pleistocene (11,700–781,000 years ago) Old Alluvial Flood Plain Deposits are composed of moderately well consolidated, poorly sorted mixtures of gravel, sand, silt, and clay that are often dissected by erosional gullies (Kennedy and Tan, 2007). These deposits are generally found adjacent to stream and river channels and represent deposition during flood events. Kennedy and Tan (2007) mapped these deposits over the entire project site. However, the geotechnical report for this project indicates that these deposits form a thin layer only in the northwestern part of the project site that may be encountered from approximately 0.5 ft to 1.5 ft beneath the surface between Artificial Fill and the Santiago Formation (Ninyo and Moore, 2017).

The Old Alluvial Flood Plain Deposits span the latest two North American Land Mammal Ages: the Rancholabrean and the Irvingtonian (240,000 years ago–1.8 Ma) (Bell et al., 2004; Sanders et al., 2009). Fossils have been recovered from similar Rancholabrean and Irvingtonian deposits during excavations for roads, housing developments, and quarries, as well as scientific investigations within Southern California (Jefferson, 1991a, 1991b; Miller, 1971). These fossils include mammoths, mastodons, horses, bison, camels, saber-toothed cats, coyotes, deer, and sloths, as well as smaller animals like rodents, rabbits, birds, reptiles, and fish. As such, these deposits are considered to have high paleontological sensitivity.

Santiago Formation

The Santiago Formation was named for deposits in the northwestern Santa Ana Mountains, where it is composed of marine to nonmarine sediments up to 2,460 ft thick (Kennedy and Tan, 2007; Morton and Miller, 2006; Morton et al., 1976; Woodring and Popenoe, 1945). This formation may be divided into three informal units: a lower unit, member A; a middle unit, member B; and an upper unit, member C (Kennedy and Tan, 2007; Morton et al., 1976; Prothero, 2001; Woodring and Popenoe, 1945). The member A beds are buff and brownish-gray, massive, poorly sorted, and coarse-grained sandstone and conglomerate (Kennedy and Tan, 2007). The middle member B unit consists of gray



and brownish-gray, soft, medium-grained, moderately well-sorted sandstone but is not always present (Kennedy and Tan, 2007). The upper member C beds are gray, coarse-grained sandstone (Kennedy and Tan, 2007). The geotechnical report prepared for this project indicates that the Santiago Formation is present beneath Artificial Fill and may be encountered at depths ranging from approximately 1.5 ft to 10 ft (Ninyo and Moore, 2017).

According to the County of San Diego Guidelines for Determining Significance: Paleontological Resources (County of San Diego, 2009), member C of the Santiago Formation has produced "some of the best preserved assemblages of middle Eocene terrestrial mammals in California" (p. 5). Exposures of this formation around Oceanside, Carlsbad, and Vista contain "a diverse fossil record consisting of marine, estuarine, and terrestrial fossils and fossil assemblages" (p. 6–7). Fossils recovered from this formation in San Diego County include bony fish, frogs, lizards, snakes, turtles, crocodiles, birds, marsupials, insectivores, primates, rodents, rabbits, creodonts, carnivores, condylarths, perissodactyls, and artiodactyls (Golz and Lillegraven, 1977; Mihlbachler and Deméré, 2009; Moscato, 2013; Tomiya, 2011, 2013). Because the Santiago Formation is known to contain scientifically significant paleontological resources, this formation is considered to have high paleontological sensitivity.

Fossil Locality Search

According to the locality search conducted by the SDNHM, there are no known fossil localities within the boundaries of the project or from the Old Alluvial Flood Plain Deposits within one mile of the project site. However, the museum has records of six localities (SDNHM 4333, 5482, 5516, 5744, 6188, 6189) from members B and C of the Santiago Formation within 1 mile of the project site. These localities produced trace fossils (e.g., borings from cyanobacteria and sponges), fossils of various plants (e.g., ginkgo, pine, sequoia, pea, alder, oak, hickory, almond, willow, and sumac), marine invertebrates (e.g., bryozoans, polychaete worms, snails, mussels, oysters, clams, tusk shells, barnacles, and crabs), and marine vertebrates (e.g., cartilaginous and bony fish). One additional locality (SDNHM 6544) within one mile from the project site is from the transitional zone between the Santiago Formation and the underlying Delmar Formation. This locality produced fossils of marine invertebrates (e.g., snails, oysters, and clams) and marine vertebrates (e.g., rays, skates, and bony fish). The results letter from the SDNHM is provided in Attachment B.

RECOMMENDATIONS

The results of the locality search and literature review indicate that the project site contains Artificial Fill, which has no paleontological sensitivity, as well as Old Alluvial Flood Plain Deposits and the Santiago Formation, both of which have high paleontological sensitivity. According the geotechnical report, project excavation will need to remove the Artificial Fill and Old Alluvial Flood Plain Deposits and overexcavate to reach competent material at the same depth throughout much of the project site for construction of the building pad (Ninyo and Moore, 2017). As such, project excavation will extend into the high sensitivity deposits of the Alluvial Flood Plain Deposits and the Santiago Formation, and there is a potential to encounter scientifically significant paleontological resources. Therefore, LSA recommends the following project commitments:

PALEO-1A paleontologist shall be retained to develop a Paleontological Resources Impact
Mitigation Program (PRIMP) for this project. The PRIMP shall be consistent with the



guidelines of the Society of Vertebrate Paleontology and include the methods that will be used to protect paleontological resources that may exist within the project site, as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of grading.

- PALEO-2 Excavation and grading activities in deposits with high paleontological sensitivity (Old Alluvial Flood Plain Deposits and the Santiago Formation) shall be monitored by a paleontological monitor following a PRIMP. No monitoring is required for excavations in deposits with no paleontological sensitivity (Artificial Fill). If paleontological resources are encountered during the course of ground disturbance, the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find in order to assess its significance. In the event that paleontological resources are encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected and a paleontologist should be contacted to assess the find for significance. If determined to be significant, the fossil shall be collected from the field.
- PALEO-3 Collected resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. At the conclusion of the monitoring program, a report of findings shall be prepared to document the results of the monitoring program.

By following the above procedures, potential impacts to significant nonrenewable paleontological resources would be avoided.

Sincerely,

LSA Associates, Inc.

Sarah Richsler

Sarah Rieboldt, Ph.D. Senior Paleontological Resources Manager Cultural and Paleontological Resources Group

Attachments: References A. Figure 1: Project Location and Vicinity Map

B. Results of the Locality Search at the San Diego Natural History Museum



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ATTACHMENT A

FIGURE 1: PROJECT LOCATION AND VICINITY MAP



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ATTACHMENT B

RESULTS OF THE LOCALITY SEARCH AT THE SAN DIEGO NATURAL HISTORY MUSEUM

SAN DIEGO NATURAL HISTORY MUSEUM

22 March 2018

Dr. Sarah Reiboldt LSA 20 Executive Park, Suite 200 Irvine, CA 92614

RE: Paleontological Records Search – Carlsbad Fire Station No. 2 Project (LSA Project Number BUM1802)

Dear Dr. Rieboldt:

thend

This letter presents the results of a paleontological records search conducted for the Carlsbad Fire Station No. 2 project, located at 1906 Arenal Road in the south central portion of the City of Carlsbad, San Diego County, CA. The project site is bordered to the south by Arenal Road, to the west by El Camino Real, and to the north and east by residential development.

A review of published geological maps covering the project site and surrounding area was conducted to determine the specific geologic units underlying the project. Each geologic unit was subsequently assigned a paleontological resource sensitivity following County of San Diego guidelines (Deméré and Walsh, 1993; Stephenson et al., 2009). Published geological reports covering the project area (e.g., Kennedy and Tan, 2007) indicate that the proposed project has the potential to impact Pleistocene-age old alluvial flood plain deposits, as well as the underlying Eocene-age Santiago Formation. These geologic units and their paleontological sensitivity are summarized in detail in the following section.

In addition, a search of the paleontological collection records housed at the San Diego Natural History Museum (SDNHM) was conducted in order to determine if any documented fossil collection localities occur at the project site or within the immediate surrounding area (Figure 1). The SDNHM has 16 recorded fossil localities within 1 mile of the project site. Nine localities are from geologic units that are not expected to be impacted by construction of the project: unassigned late Pleistocene back bay deposits and the Pleistocene-age Bay Point Formation. The remaining seven localities are from members B and C of the Santiago Formation and the transitional Santiago Formation/Delmar Formation zone, and are described in greater detail below.

Geologic Rock Units Underlying the Project Area

Pleistocene old alluvial flood plain deposits – Pleistocene-age (approximately 500,000 to 11,000 years old) old alluvial flood plain deposits (mapped by Kennedy and Tan, 2007, as Qoa) underlie the entire project site at the surface. The SDNHM does not have any fossil localities from old alluvial deposits within a 1-mile radius of the project site. Fossils known from Pleistocene old alluvial flood plain deposits in coastal San Diego County are somewhat rare, but have been collected at several locations. Recovered fossils include skeletal remains of reptiles and birds (e.g., pond turtle, lizard, passenger pigeon, and hawk), small bodied mammals (e.g., mole, shrew, mice, and squirrel), and large-bodied Pleistocene mammals (e.g., ground sloth, wolf, bear, tapir, horse, camel, deer, giant bison, mastodon,



and mammoth) (Deméré and Walsh, 1993). Therefore, these deposits are assigned a moderate paleontological sensitivity.

Santiago Formation – The Santiago Formation underlies Pleistocene alluvial deposits in the vicinity of the project site, and likely occurs at an unknown depth within the project footprint. The middle Eocene-age (approximately 49 to 40 million years old) Santiago Formation has been divided into three informal members in the Encinitas-Carlsbad-Vista area of San Diego County (Wilson, 1972). The SDNHM has six recorded fossil localities from marine deposits of members "B" and "C" of the Santiago Formation within an approximately 1-mile radius of the project site. The localities produced trace fossils (e.g., borings produced by cyanobacteria, sponge borings) and fossilized impressions or remains of plants (e.g., ginkgo, pine, sequoia, pea, alder, oak, hickory, almond, willow, sumac, and other vascular and flowering plants), marine invertebrates (e.g., bryozoans, polychaete worms, snails, mussels, oysters, clams, tusk shells, barnacles, crabs,), and marine vertebrates (e.g., cartilaginous and bony fish). One additional locality, assigned to the transitional zone between the Santiago Formation and underlying early Eocene-age Delmar Formation, yielded marine invertebrates (e.g., snails, oysters, and clams) and marine vertebrates (e.g., rays, skates, and bony fish). Both members "B" and "C" of the Santiago Formation have produced scientifically important marine and estuarine invertebrate fossil remains, as well as terrestrial vertebrate fossil remains (Deméré and Walsh, 1993). The Santiago Formation has produced significant terrestrial fossil vertebrate localities in northern San Diego County, and is considered to have a high paleontological sensitivity (Deméré and Walsh, 1993).

Summary and Recommendations

The high paleontological sensitivity of the Santiago Formation and moderate paleontological sensitivity of Pleistocene alluvial flood plain deposits in San Diego County (Deméré and Walsh, 1993; Stephenson et al., 2009), as well as the presence of fossil localities near the project site, suggest the potential for construction of the proposed project to result in impacts to paleontological resources. Any proposed excavation activities that extend deep enough to encounter previously undisturbed deposits of these geologic units have the potential to impact the paleontological resources preserved therein. For these reasons, implementation of a complete paleontological resource mitigation program during ground-disturbing activities is recommended.

The fossil collection locality information contained within this paleontological records search should be considered private and is the sole property of the San Diego Natural History Museum. Any use or reprocessing of information contained within this document beyond the scope of the Carlsbad Fire Station No. 2 project is prohibited.

If you have any questions concerning these findings please feel free to contact me at 619-255-0321 or kmccomas@sdnhm.org.

Sincerely, Chill Ch

Katie McComas Paleontology Collections Assistant San Diego Natural History Museum

Enc: Figure 1: Project map Appendix: List of SDNHM fossil localities in the vicinity of the project

Literature Cited

- Deméré, T.A., and Walsh, S.L. 1993. Paleontological Resources, County of San Diego. Prepared for the San Diego Planning Commission: 1–68.
- Kennedy, M.P., and Tan, S.S. 2007. Geologic Map of the Oceanside 30' x 60' Quadrangle, California. California Geological Survey, Regional Geologic Map Series 1:100,000 scale, map no. 2.
- Stephenson, B., and seven others. 2009. County of San Diego Guidelines for determining significance, paleontological resources. Land Use and Environment Group, Department of Planning and Land Use, Department of Public Works, 46 p.
- Wilson, K.L. 1972. Eocene and related geology of a portion of the San Luis Rey and Encinitas quadrangles, San Diego County, California. Unpublished M.A. thesis, University of California, Riverside, 135 p.

Appendix E: Ninyo & Moore Hazardous Building Materials Survey

Hazardous Building Materials Survey Carlsbad Fire Station #2 1906 Arenal Road Carlsbad, California

City of Carlsbad 1635 Faraday Avenue | Carlsbad, California 92008

April 27, 2018 | Project No. 108551001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS





April 27, 2018 Project No. 108551001

Mr. Steven Stewart City of Carlsbad, Municipal Projects Manager 1635 Faraday Avenue Carlsbad, California 92008

Subject: Hazardous Building Materials Survey Fire Station No. 2 1906 Arenal Road Carlsbad, California CA1293 – Task No. 10

Dear Mr. Stewart:

In accordance with your request, Ninyo & Moore has performed a hazardous building materials (HBM) survey for the Fire Station #2 building located at 1906 Arenal Road in Carlsbad, California (subject building). The attached report presents our methodology, findings, and recommendations regarding the HBMs at the subject building.

We appreciate the opportunity to be of service to you on this important project.

Respectfully submitted, **NINYO & MOORE**

Mellaid

Nicolas J. Carpenter, CAC# 12-4867 Senior Project Environmental Scientist

NJC/SJW/gg

Distribution: (1) Addressee (via e-mail)

Stephen J. Waide, CIH, CSP Principal Environmental Scientist

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- A Suspect Asbestos-Containing Materials Sampling Protocol
- B Laboratory Analytical Report and Chain-of-Custody Records
- C XRF Testing Methodology
- D CDPH Form 8552 Lead Hazard Evaluation Report

1 INTRODUCTION

Ninyo & Moore has conducted a HBM survey for the subject building addressed 1906 Arenal Road, within the City of Carlsbad and County of San Diego, California (Figure 1). Our survey included an asbestos-containing materials (ACMs) survey, a lead-containing surfaces (LCSs) survey of materials and/or surfaces, visual identification and quantification of building materials potentially falling under the California Department of Toxic Substances Control (DTSC) Universal Waste Rule (UWR) and other potential hazardous building materials.

For the purposes of this assessment, LCS refers to both lead-based paint, as defined by the California Department of Public Health (CDPH) and U.S. Department of Housing and Urban Development (HUD), and other potential lead-containing materials, including, but not limited to, ceramic tile and porcelain bathroom fixtures. The survey was performed in accordance with established guidelines for the assessment of ACM and LCS, and is based upon conditions of the subject building at the time of the surveying activities.

2 OBJECTIVE AND SCOPE OF SERVICES

The purpose of this report is to provide information regarding the current site conditions to assist the City of Carlsbad in implementing future site improvements to the subject building. Our scope of work performed for the study is identified below.

- Conducted a visual reconnaissance of the subject building to document homogeneous areas and locate suspect ACM, LCS, building materials potentially falling under the UWR, and other potential hazardous building materials.
- Collected 41 bulk samples of suspect ACMs and submitted them to an independent laboratory for analysis of asbestos content. Samples were analyzed utilizing the Environmental Protection Agency (EPA) recommended method of polarized light microscopy (PLM) in accordance with EPA Method 600/R-93/116 July 93.
- Collected 70 x-ray fluorescence (XRF) readings of potential LCS.
- Visually assessed building materials potentially falling under the UWR, including, but not limited to non-incandescent light bulbs, mercury-containing thermostat triggers, batteries, and electronic devices. Other potentially hazardous building materials, including, but not limited to, potential polychlorinated biphenyl-containing light ballasts, potential tritiumcontaining exit signs, potential americium-containing smoke detectors, and potential Freon[™]-containing air conditioning units and refrigerators, were noted, if observed.
- Prepared sample location maps showing locations where suspect ACM were collected and locations of XRF readings of surfaces with lead concentrations in excess of 1.0 milligram per square centimeter (mg/cm²), if encountered.

 Prepared this HBM survey report presenting our data and summarizing our findings and recommendations regarding ACM, LCS, and other potential hazardous building materials for the subject building.

3 SITE DESCRIPTION

The survey encompassed Fire Station #2 in Carlsbad, California (Figure 2). The following table describes the buildings assessed during our assessment.

Bldg.	Approx. Date of Construct ion	Approx. SF	Roof Constructi on	Found ation	Flooring Materials	Interior Framing	Ceiling Finishes	Wall Finishes	
1906	Unknown	4,675	BURM	С	C, CPT, L	B, W	ACP, DW	B, CT, DW	
NOTES: ACP = acoustic ACT = acoustic $B = brickBURM = built-tC = concreteCT = ceramic t$	c ceiling panel c ceiling tile up roofing men ile	nbrane	CPT = carpetDW = drywaFB = fireproorP = plasterL = linoleumRM = remnaS = stucco	et II ofing Int flooring r	nastic	SOAC = spray-on acoustic ceiling T = terrazzo VFT = vinyl floor tile W = wood WP = wood panel			

4 PHYSICAL LIMITATIONS

Survey activities were limited to the aboveground structures. Underground utilities, such as suspect cementious water lines or suspect insulated/coated gas or electrical lines, were not assessed during survey activities.

Physical limitations, such as inaccessible rooms, were not encountered during survey activities. However, since non-destructive sampling techniques were used, there is a possibility that additional suspect materials and/or surfaces may be encountered in inaccessible areas (e.g., interstitial wall and ceiling spaces and canopy soffits) during building renovation and/or demolition activities. For instance, untested thermal system insulation may be present within wall and ceiling cavities and behind plumbing and heating fixtures (e.g., sinks, boilers, and radiators). Suspect materials and/or surfaces encountered during building renovation and/or demolition activities that have not been assessed either may be assumed to be asbestosand/or lead-containing and handled accordingly, or may be sampled and analyzed to assess whether they are asbestos- and/or lead-containing.

5 SAMPLE COLLECTION AND ANALYSES

In April 2018, the subject building was assessed for the presence of ACM, LCS, and other potential hazardous building materials. The ACM and LCS surveys followed EPA guidelines, or

industry standards, within the limitations of the scope of this assessment. Survey activities are discussed below.

5.1 Asbestos-Containing Materials Survey

The asbestos survey was performed by a Certified Site Surveillance Technician, under the supervision of a Certified Asbestos Consultant. Survey activities included a preliminary visual assessment and bulk sampling of suspect ACMs. Representative samples of suspect ACMs were collected after identification of homogeneous sampling areas (areas in which the materials are uniform in color, texture, construction or application date, and general appearance). Material type, location, condition, and friability were noted for each homogeneous area. For the purposes of the assessment, the subject building was treated as a homogeneous area. Forty-one samples of suspect ACMs were collected, using EPA-recommended sampling procedures (Appendix B).

The suspect ACM samples were delivered to EMSL Analytical (EMSL) of San Diego, California for analysis. EMSL is accredited in the National Voluntary Laboratory Accreditation Program for bulk asbestos fiber analysis. The samples were analyzed for the presence and quantification of asbestos fibers, using PLM with dispersion staining, in accordance with EPA Method 600/R-93/116 July 93. Due to material layering, sixty-four separate PLM analyses were performed. The lower limit of reliable detection for asbestos using the PLM method is approximately 1% by weight. Currently, the EPA and the State of California stipulate that materials containing greater than 1% asbestos constitute an ACM and the State of California stipulates that a material containing greater than 0.1% asbestos constitutes an asbestos-containing construction material (ACCM).

Building materials that were sampled and analyzed for the presence of asbestos in this survey are presented in the attached Table 1, and the locations from which bulk asbestos samples were collected during this survey are shown on Figure 3. Copies of the laboratory analytical report and chain-of-custody records for this survey are presented in Appendix B.

5.2 Lead-Containing Surfaces Survey

Ninyo & Moore's objective was to test suspect lead-containing surfaces observed in the subject buildings and to assess the condition of surfaces found to be lead-containing. For the purposes of this assessment, LCS refers to both lead-based paint, as defined by CDPH and HUD, and other potential lead-containing materials, including, but not limited to, ceramic tile and porcelain bathroom fixtures.

The testing was conducted by a CDPH-certified Lead Inspector/Assessor using a portable NITON XLp 300A XRF spectrum analyzer in accordance with accepted environmental science and engineering practices for renovation projects. The testing methodology utilized is presented in Appendix D. Seventy XRF readings (including calibrations) were collected during the survey. Building components that were tested for the presence of lead during this survey are presented in the attached Table 3. The XRF testing orientation (A, B, C, and D wall orientations) utilized during the testing and locations of XRF readings in excess of 1.0 mg/cm², the regulatory standard for lead in surface coatings, are depicted on Figure 3.

Surfaces with a lead content greater than 1.0 mg/cm², or 0.5% by weight, are summarized in Table 4, including the locations of the LCS. A copy of CDPH form 8552 "Lead Hazard Evaluation Report" for the subject building is included in Appendix E.

5.3 Other Potential Hazardous Building Materials

Ninyo & Moore performed a visual assessment of building materials potentially falling under the UWR, including, but not limited to, non-incandescent light bulbs, mercury-containing thermostat triggers, batteries, and electronic devices. Other potentially hazardous building materials, including, but not limited to, potential polychlorinated biphenyl-containing light ballasts, potential tritium-containing exit signs, potential americium-containing smoke detectors, and potential Freon[™]-containing air conditioning units and refrigerators, were noted, if observed. In accordance with the scope of work, positive identification of the suspect hazardous material, via analytical testing, was not performed. Other potentially hazardous building materials are summarized in Table 5.

6 FINDINGS AND RECOMMENDATIONS

The findings of these surveys are based on our visual observations and analysis of suspect building materials. Our findings are presented below.

6.1 Asbestos

Based on the analytical results from this survey, ACMs are located at the subject building. ACMs are summarized in Table 2. Materials, which were not sampled as part of this assessment and that are uniform in color, texture, construction or application date, and/or general appearance to materials found to be asbestos-containing, should be presumed to be asbestos-containing.

The identified ACMs should not be disturbed. Prior to building renovation and/or demolition activities, a licensed asbestos abatement contractor should remove the ACMs in accordance with federal, state and local regulations. It is the contractor's responsibility to confirm ACM locations and quantities prior to bid submittals and initiating renovation and/or demolition activities for the subject building.

Should additional suspect materials, not sampled or assessed in this report, be uncovered during building renovation and/or demolition: (a) samples of suspect materials should be collected for laboratory analysis, and all activities that may impact the materials should cease until laboratory analytical results are reviewed; or (b) the materials should be assumed to be asbestos-containing and handled as such. Note that any work involving the disturbance of materials containing asbestos should be performed using appropriate work practices, and be conducted by, and under the supervision of, properly trained, experienced, and certified personnel.

6.2 Lead-Containing Surfaces

Based on the results of the XRF assays collected during this survey, surfaces containing concentrations of lead greater than or equal to 1.0 mg/cm² or 0.5%, by weight, were identified at the subject building. Surfaces with a lead content exceeding the regulatory standard for lead in surface coatings are summarized in Table 4.

The identified LCSs should be handled by an appropriately trained and licensed contractor, in accordance with all federal, state, and local regulations. Prior to building renovation and/or demolition activities, a licensed contractor, using CDPH-certified personnel, should perform the LCS abatement, in accordance with local, state, and federal regulations. It is the contractor's responsibility to confirm LCS quantities and locations prior to bid submittals and initiating renovation and/or demolition activities for the subject building. The Contractor is also responsible for waste characterization for all materials removed from the subject building.

Please note that disturbing surfaces containing lead concentrations below the LCS criteria, as defined by CDPH and HUD, (e.g., lead concentrations less than 1.0 mg/cm², or 0.5% by weight) may still trigger the California Occupational Safety and Health Administration (Cal-OSHA) Lead in Construction standard (e.g., Title 8, CCR Section 1532.1). In addition, please note that LCS condition was based upon Ninyo & Moore's visual observations during survey activities and, as some of the identified LCS are located on the exterior of the subject buildings, LCS conditions may further deteriorate prior to renovation and/or demolition activities.

Should suspect surfaces, not sampled or assessed in this report, be uncovered during building renovation and/or demolition: (a) samples of suspect surfaces should be collected for laboratory analysis and/or XRF testing of the suspect surfaces, and all activities that impact the suspect surfaces should cease until laboratory analytical results are reviewed and/or XRF testing results become available; or (b) the surfaces should be assumed to contain concentrations of lead greater than or equal to 1.0 mg/cm², or 0.5% by weight, and handled as such.

6.3 Other Potential Hazardous Building Materials

A visual assessment and quantification of all UWR and other potential hazardous building materials that could be impacted by renovation and/or demolition activities was performed. Other potential hazardous building materials observed throughout the subject buildings are summarized in Table 5 and include:

- Fluorescent light tubes and associated ballasts,
- Non-incandescent lights,
- Potential americium-containing smoke detectors,
- Potential Freon[™]-containing air-conditioning units,
- Potential tritium-powered exit signs.

Prior to renovation and/or demolition activities that could potentially disturb these materials, building materials falling under the UWR and other potential hazardous building materials should be removed and properly recycled or disposed of by a licensed contractor, in accordance with federal, state, and local regulations. It is the contractor's responsibility to confirm miscellaneous hazardous building materials quantities and locations present prior to bid submittals and initiating renovation and/or demolition activities for the subject building. The Contractor is also responsible for waste characterization for all materials removed from the subject building.

7 LIMITATIONS

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited sampling and chemical analysis. Further assessment of potential adverse environmental impacts may be accomplished by conducting a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the areas evaluated. However, if additional suspect building materials are encountered during demolition activities, these materials should be sampled by qualified personnel and analyzed for content prior to further disturbance. In addition, please note that quantities of impacted building materials are approximate. It is the contractor's responsibility to confirm quantities present.

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard of care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory that is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results. Please note the laboratory analytical report states "Due to the magnification limitations inherent in PLM, asbestos fibers below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testings by transmission electron microscopy to confirm asbestos quantities."

Our findings, opinions, and recommendations are based on an analysis of the observed site conditions. It should be understood that the conditions of a site can change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

FIGURES

Ninyo & Moore | 1906 Arenal Road, Carlsbad, California | 108551001 | April 27, 2018



Ninyo & **Moore** Geotechnical & Environmental Sciences Consultants

CITY OF CARLSBAD, FIRE STATION NO. 2 1906 ARENAL ROAD, CARLSBAD, CALIFORNIA

108551001 | 4/18



SAMPLE LOCATIONS

CITY OF CARLSBAD, FIRE STATION NO. 2 1906 ARENAL ROAD, CARLSBAD, CALIFORNIA

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TABLES

Ninyo & Moore | 1906 Arenal Road, Carlsbad, California | 108551001 | April 27, 2018

Table 1 - A	sbestos Survey	Results						
Sample No.	Bidg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity ⁽¹⁾	Friable Y/N	Condition	Asbestos Content
ASB-001A	Fire Station #2	Roof	Southwest area - upper roof	Black roof felt		N/A	N/A	ND
ASB-001B	Fire Station #2	Roof	Southwest area - upper roof	Tan insulation		N/A	N/A	ND
ASB-002A	Fire Station #2	Roof	Southeast area - upper roof	Black roof felt		N/A	N/A	ND
ASB-002B	Fire Station #2	Roof	Southeast area - upper roof	Tan insulation		N/A	N/A	ND
ASB-003A	Fire Station #2	Roof	Northwest area - upper roof	Black roof felt		N/A	N/A	ND
ASB-003B	Fire Station #2	Roof	Northwest area - upper roof	Tan insulation		N/A	N/A	ND
ASB-004A	Fire Station #2	Roof	Northwest area - lower roof	Black roof felt		N/A	N/A	ND
ASB-004B	Fire Station #2	Roof	Northwest area - lower roof	Tan insulation		N/A	N/A	ND
ASB-005A	Fire Station #2	Roof	South area - lower roof	Black roof felt		N/A	N/A	ND
ASB-005B	Fire Station #2	Roof	South area - lower roof	Tan insulation		N/A	N/A	ND
ASB-006A	Fire Station #2	Roof	East area - lower roof	Black roof felt		N/A	N/A	ND
ASB-006B	Fire Station #2	Roof	East area - lower roof	Tan insulation		N/A	N/A	ND
ASB-007A	Fire Station #2	Roof	West area - upper roof	Silver paint		N/A	N/A	ND
ASB-007B	Fire Station #2	Roof	West area - upper roof	Black roof penetration mastic		N/A	N/A	ND
ASB-008	Fire Station #2	Roof	Northwest area - upper roof	Black roof penetration mastic	50 SF	N	Good	4% Chrysotile
ASB-009	Fire Station #2	Roof	Northwest area - upper roof	Northwest area - upper roof White/black/silver roof N/A N//		N/A	ND	
ASB-010	Fire Station #2	Roof	Central area - lower roof	Black roof penetration mastic		N/A	N/A	ND
ASB-011	Fire Station #2	Roof	Central area - lower roof	Black roof penetration mastic		N/A	N/A	ND
ASB-012	Fire Station #2	Roof	West area - upper roof	Gray/white bolt caulking		N/A	N/A	ND
ASB-013	Fire Station #2	Roof	South area - lower roof	Gray/white/silver bolt caulking		N/A	N/A	ND
ASB-014	Fire Station #2	Roof	North area - upper roof	Gray/white/silver bolt caulking		N/A	N/A	ND
ASB-015	Fire Station #2	Exterior	South window	Gray window caulking		N/A	N/A	ND
ASB-016	Fire Station #2	Exterior	North wall (between slab and building)	Gray caulking		N/A	N/A	ND
ASB-017	Fire Station #2	Exterior	East wall (between slab and building)	Gray caulking		N/A	N/A	ND
ASB-018	Fire Station #2	Exterior	South wall (between slab and building)	Gray caulking		N/A	N/A	ND
ASB-019	Fire Station #2	Bedroom 1	South floor	White/black/yellow carpet glue with mastic	1,050 SF	N	Good	2% Chrysotile
ASB-020	Fire Station #2	Office	North floor	White/black/yellow carpet glue with mastic	See ASB- 019	Ν	Good	2% Chrysotile

Table 1 - As	sbestos Survey	Results						
Sample No.	Bldg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity ⁽¹⁾	Friable Y/N	Condition	Asbestos Content
ASB-021	Fire Station #2	Hallway	Central floor	White/black/yellow carpet glue with mastic	See ASB- 019	N	Good	2% Chrysotile
ASB-022A	Fire Station #2	Kitchen	West floor	Beige sheet flooring		N/A	N/A	ND
ASB-022B	Fire Station #2	Kitchen	West floor	Yellow mastic		N/A	N/A	ND
ASB-023A	Fire Station #2	Kitchen	East floor	Beige sheet flooring		N/A	N/A	ND
ASB-023B	Fire Station #2	Kitchen	East floor	Clear mastic		N/A	N/A	ND
ASB-024	Fire Station #2	Kitchen	Northeast floor	Beige sheet flooring		N/A	N/A	ND
ASB-025A	Fire Station #2	Lounge	North wall	White drywall		N/A	N/A	ND
ASB-025B	Fire Station #2	Lounge	North wall	White joint compound		N/A	N/A	ND
ASB-026A	Fire Station #2	Gym	South wall	White drywall		N/A	N/A	ND
ASB-026B	Fire Station #2	Gym	South wall	White joint compound		N/A	N/A	ND
ASB-027A	Fire Station #2	Tool room	West wall	White drywall		N/A	N/A	ND
ASB-027B	Fire Station #2	Tool room	West wall	White joint compound		N/A	N/A	ND
ASB-027C	Fire Station #2	Tool room	West wall	Beige drywall tape		N/A	N/A	ND
ASB-027D	Fire Station #2	Tool room	West wall	White texture		N/A	N/A	ND
ASB-028A	Fire Station #2	Bay area	Northeast wall	White drywall		N/A	N/A	ND
ASB-028B	Fire Station #2	Bay area	Northeast wall	White joint compound		N/A	N/A	ND
ASB-029A	Fire Station #2	Bedroom 3	South wall	White drywall		N/A	N/A	ND
ASB-029B	Fire Station #2	Bedroom 3	South wall	White joint compound		N/A	N/A	ND
ASB-030A	Fire Station #2	Office	North ceiling	White drywall		N/A	N/A	ND
ASB-030B	Fire Station #2	Office	North ceiling	White joint compound	11,075 SF	N	Good	2% Chrysotile
ASB-031A	Fire Station #2	Bay area	East ceiling	White drywall		N/A	N/A	ND
ASB-031B	Fire Station #2	Bay area	East ceiling	White joint compound	See ASB- 030B	N	Good	2% Chrysotile
ASB-032A	Fire Station #2	Gym	North ceiling	White drywall		N/A	N/A	ND
ASB-032B	Fire Station #2	Gym	North ceiling	White joint compound		N/A	N/A	ND
ASB-032C	Fire Station #2	Gym	North ceiling	Beige drywall tape		N/A	N/A	ND
ASB-032D	Fire Station #2	Gym	North ceiling	White texture		N/A	N/A	ND
ASB-033	Fire Station #2	Hallway	Northwest ceiling	White drywall		N/A	N/A	ND
ASB-034A	Fire Station #2	Restroom	South ceiling	White drywall		N/A	N/A	ND
ASB-034B	Fire Station #2	Restroom	South ceiling	White joint compound	See ASB- 030B	N	Good	<1% Chrysotile
ASB-035	Fire Station #2	Hallway	West wall	Beige covebase glue		N/A	N/A	ND
ASB-036	Fire Station #2	Bedroom 1	South wall	Beige covebase glue		N/A	N/A	ND

Table 1 - As	Table 1 - Asbestos Survey Results												
Sample No.	Bidg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity ⁽¹⁾	Friable Y/N	Condition	Asbestos Content					
ASB-037	Fire Station #2	Office	North wall	Beige covebase glue		N/A	N/A	ND					
ASB-038	Fire Station #2	Gym	South ceiling	2'x4' white acoustic ceiling panel		N/A	N/A	ND					
ASB-039	Fire Station #2	Gym	West ceiling	2'x4' white acoustic ceiling panel		N/A	N/A	ND					
ASB-040	Fire Station #2	Gym	East ceiling	2'x4' white acoustic ceiling panel		N/A	N/A	ND					
ASB-041A	Fire Station #2	Attic	West area - above hallway	Brown insulation		N/A	N/A	ND					
ASB-041B	Fire Station #2	Attic	West area - above hallway	Brown tape		N/A	N/A	ND					

NOTES:

Bulk asbestos sample analysis via USEPA 600/R-93/116 method using polarized light microscopy, unless otherwise noted.

⁽¹⁾ = Material quantities are approximate and are not intended to be used or interpreted as actual quantities. It is the contractor's responsibility to confirm material quantities prior to bid submittals and initiating renovation and/or demolition activities at the site.

HVAC = Heating, ventilation and air conditioning

EA = Each

LF = Linear feet

SF = Square feet

N/A = Not applicable

ND = None detected

Table 2 - Summary of Asbestos-Containing Materials													
Sample No.(s)	ACM Location ⁽¹⁾	ACM Description	Approx. Quantity ⁽²⁾	Friable Y/N	Condition	Asbestos Content							
1906 Arenal Road													
ASB-008	Roof throughout	Roof penetration mastic	50 SF	N	Good	4% Chrysotile							
ASB-019, ASB-020, and ASB-021	Bedrooms 1-5, Living Room, Office, Lobby, and Hallways - floors throughout	White/black/yellow carpet glue with mastic	1,050 SF	N	Good	2% Chrysotile							
ASB-030B, ASB-031B, and ASB-034B	Ceilings throughout	White joint compound	11,075 SF	N	Good	<1-2% Chrysotile							

NOTES:

⁽¹⁾ = ACM locations are based upon Ninyo & Moore's visual observations during survey activities. Materials that are uniform in color, texture, construction or application date, and/or general appearance to materials found to be asbestos-containing, should be presumed to be asbestos-containing.

⁽²⁾ = Material quantities are approximate and are not intended to be used or interpreted as actual quantities. It is the contractor's responsibility to confirm material quantities prior to bid submittals and initiating renovation and/or demolition activities at the site.

EA = Each

LF = Linear feet

SF = Square feet

Table 3 - XRF Data Sheet												
Reading No.	Building	Floor	Sid e	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity (1)	Lead Reading (mg/cm ²)	Precision (+/- mɑ/cm²)
1					Standard Calibration 1.04	4 +/- 0.06 ma	/cm2		INCOM		1.08	0.1
2					Standard Calibration 1.04	4 +/- 0.06 ma	/cm2		INCOM		1.07	0.1
3					Standard Calibration 1.04	4 +/- 0.06 ma	/cm2		POS		1.31	0.19
4	Fire Station #2	1	A	Exterior	Wall	Stucco	Intact	Tan	NEG		< LOD	0.02
5	Fire Station #2	1	Α	Exterior	Wall	Stucco	Intact	Brown	NEG		< LOD	0.11
6	Fire Station #2	1	Α	Exterior	Wall frame	Metal	Intact	Brown	NEG		< LOD	0.16
7	Fire Station #2	1	Α	Exterior	Wall	Brick	Intact	Brown	NEG		< LOD	0.72
8	Fire Station #2	1	Α	Exterior	Wall shingles	Wood	Intact	Brown	NEG		< LOD	0.06
9	Fire Station #2	1	Α	Exterior	Window frame	Metal	Intact	Black	NEG		< LOD	0.01
10	Fire Station #2	1	Α	Exterior	Roof flashing	Metal	Intact	Brown	NEG		< LOD	0.13
11	Fire Station #2	1	D	Exterior	Door	Wood	Intact	Tan	NEG		< LOD	0.03
12	Fire Station #2	1	D	Exterior	Door frame	Metal	Intact	Brown	NEG		< LOD	0.01
13	Fire Station #2	1	D	Exterior	Rollup door	Metal	Intact	White	NEG		< LOD	0.01
14	Fire Station #2	1	D	Exterior	Wall	Stucco	Intact	Brown	NEG		< LOD	0.14
15	Fire Station #2	1	D	Exterior	Wall shingles	Wood	Intact	Brown	NEG		< LOD	0.15
16	Fire Station #2	1	В	Exterior	Wall shingles	Wood	Intact	Brown	NEG		< LOD	0.01
17	Fire Station #2	1	В	Exterior	Window frame	Metal	Intact	Black	NEG		< LOD	0.01
18	Fire Station #2	1	В	Exterior	Rollup door	Metal	Intact	White	NEG		< LOD	0.08
19	Fire Station #2	1	В	Exterior	Wall shingles	Wood	Intact	Brown	NEG		0.02	0.01
20	Fire Station #2	1	В	Exterior	Flag pole	Metal	Intact	White	NEG		< LOD	0.13
21	Fire Station #2	1	В	Exterior	Door	Wood	Intact	White	NEG		0.21	0.09
22	Fire Station #2	1	C	Exterior	Post	Metal	Intact	Yellow	NEG		< LOD	0.11
23	Fire Station #2	1	D	Exterior	Rollup door frame	Wood	Intact	Brown	NEG		< LOD	0.15
24	Fire Station #2	1	A	Exterior	Fence	Metal	Intact	Black	NEG		< LOD	0.02
25	Fire Station #2	1	A	Bedroom 1	Wall	Drywall	Intact	White	NEG		< LOD	0.07
26	Fire Station #2	1	A	Bedroom 2	Wall	Drywall	Intact	White	NEG		< LOD	0.59
27	Fire Station #2	1	A	Bedroom 3	Wall	Drywall	Intact	White	NEG		0.04	0.01
28	Fire Station #2	1	A	Bedroom 4	Wall	Drywall	Intact	White	NEG		0.07	0.02
29	Fire Station #2	1	Α	Bedroom 5	Wall	Drywall	Intact	White	NEG		0.04	0.01
30	Fire Station #2	1	Α	Bedroom 5	Cabinet	Wood	Intact	Blue	NEG		0.63	0.15
31	Fire Station #2	1	Α	Bedroom 5	Cabinet	Wood	Intact	Brown	NEG		0.10	0.02
32	Fire Station #2	1	Α	Bedroom 4	Cabinet	Wood	Intact	Brown	NEG		0.16	0.05
33	Fire Station #2	1	Α	Bedroom 3	Cabinet	Wood	Intact	Brown	NEG		0.64	0.16
34	Fire Station #2	1	С	Bedroom 2	Cabinet	Wood	Intact	Brown	NEG		0.35	0.13
35	Fire Station #2	1	В	Bedroom 1	Cabinet	Wood	Intact	Brown	NEG		0.22	0.07

Table 3 - XRF Data Sheet												
Reading No.	Building	Floor	Sid e	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity (1)	Lead Reading (mg/cm ²)	Precision (+/- mg/cm ²)
36	Fire Station #2	1	В	Office	Cabinet	Wood	Intact	White	NEG		0.51	0.21
37	Fire Station #2	1	Α	Office	Casework	Wood	Intact	White	NEG		0.26	0.07
38	Fire Station #2	1	Α	Office	Countertop	Wood	Intact	White	POS	40 SF	2.03	0.58
39	Fire Station #2	1	A	Office	Ceiling	Concrete	Intact	White	NEG		0.07	0.02
40	Fire Station #2	1	A	Lounge	Ceiling	Concrete	Intact	White	NEG		0.60	0.1
41	Fire Station #2	1	A	Kitchen	Ceiling	Concrete	Intact	White	NEG		0.56	0.19
42	Fire Station #2	1	A	Hallway	Ceiling	Concrete	Intact	White	NEG		0.04	0.01
43	Fire Station #2	1	Α	Bedroom 3	Ceiling	Drywall	Intact	White	POS	500 SF	2.58	0.1
44	Fire Station #2	1	Α	Bedroom 3	Door	Wood	Intact	White	POS	5 EA	4.46	0.1
45	Fire Station #2	1	A	Bedroom 3	Door frame	Metal	Intact	Brown	NEG		< LOD	0.19
46	Fire Station #2	1	В	Restroom	Wall tile	Ceramic	Intact	White	NEG		0.34	0.1
47	Fire Station #2	1	Α	Restroom	Floor tile	Ceramic	Intact	Pink	POS	150 SF	4.39	0.1
48	Fire Station #2	1	В	Restroom	Stall door	Wood	Intact	Pink	POS	2 EA	4.91	1.63
49	Fire Station #2	1	С	Restroom	Wall	Drywall	Intact	White	NEG		0.55	0.13
50	Fire Station #2	1	C	Restroom	Wall	Brick	Intact	White	POS	125 SF	8.96	2.64
51	Fire Station #2	1	C	Restroom	Countertop	Ceramic	Intact	White	POS	25 SF	12.70	3.9
52	Fire Station #2	1	C	Restroom	Cabinet	Wood	Intact	Pink	POS	35 SF	13.71	1.11
53	Fire Station #2	1	С	Bay area	Wall	Brick	Intact	White	POS	1,800 SF	43.27	19.69
54	Fire Station #2	1	c	Bay area	Wall	Brick	Intact	Grey	POS	See Reading 53	85.72	3.15
55	Fire Station #2	1	В	Bay area	Wall	Drywall	Intact	Grey	NEG		< LOD	0.01
56	Fire Station #2	1	В	Bay area	Wall	Drywall	Intact	White	NEG		< LOD	0.01
57	Fire Station #2	1	В	Bay area	Ceiling	Drywall	Intact	White	NEG		< LOD	0.08
58	Fire Station #2	1	В	Bay area	Ceiling beam	Wood	Intact	Brown	NEG		< LOD	0.05
59	Fire Station #2	1	В	Tool room	Cabinet	Wood	Intact	Beige	NEG		< LOD	0.05
60	Fire Station #2	1	D	Tool room	Cabinet	Wood	Intact	Beige	NEG		< LOD	0.01
61	Fire Station #2	1	Α	Tool room	Cabinet	Wood	Intact	Beige	NEG		< LOD	0.07
62	Fire Station #2	1	В	Gym	Cabinet	Wood	Intact	Beige	NEG		< LOD	0.01
63	Fire Station #2	1	В	Gym	Wall	Drywall	Intact	Red	NEG		< LOD	0.07
64	Fire Station #2	1	В	Gym	Wall	Drywall	Intact	White	NEG		< LOD	0.01
65	Fire Station #2	1	A	Restroom	Toilet	Porcelain	Intact	White	NEG		< LOD	0.09

Table 3 ·	Table 3 - XRF Data Sheet											
Reading No.	Building	Floor	Sid e	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity (1)	Lead Reading (mg/cm ²)	Precision (+/- mg/cm ²)
66	Fire Station #2	1	D	Restroom	Sink	Porcelain	Intact	White	NEG		< LOD	0.8
67	Fire Station #2	1	D	Restroom	Urinal	Porcelain	Intact	White	NEG		< LOD	0.08
68					Standard Calibration 1.04	1 +/- 0.06 mg/	/cm2		POS		0.90	0.12
69					Standard Calibration 1.04 +/- 0.06 mg/cm2						1.01	0.1
70					Standard Calibration 1.04	1 +/- 0.06 mg/	/cm2		POS		0.98	0.1

NOTES:

XRF assays were collected using a portable NITON XLp 300A XRF spectrum analyzer.

⁽¹⁾ = Surface quantities are approximate and are not intended to be used or interpreted as actual quantities. It is the contractor's responsibility to confirm material quantities prior to bid submittals and initiating renovation and/or demolition activities at the site.

RR = Restroom POS = POS NEG = NEG INCOM = Incomplete EA = Each LF = Linear feet mg/cm^2 = milligrams per square centimeter
Table 4 - Summary of	Lead-Containing Surfaces ⁽¹⁾						
Reading No.(s)	Room / Area ⁽²⁾	Source / Component	Substrate	Condition	Color(s)	Lead Reading(s) (mg/cm²)	Approximate Quantity ⁽³⁾
		FIRE STATION #2					
38	Office	Desk	Wood	Intact	White	2.03	40 SF
43	Bedrooms 1-5 - ceiling throughout	Ceiling	Drywall	Intact	White	2.58	500 SF
44	Bedrooms 1-5 - doorways throughout	Door	Wood	Intact	White	4.46	5 EA
47	Restroom - floor throughout	Floor tile	Ceramic	Intact	Pink	4.39	150 SF
48	Restroom stalls	Stall door	Wood	Intact	Pink	4.91	2 EA
50	Restroom - east wall	Wall	Brick	Intact	White	8.96	125 SF
51	Restroom - north wall	Countertop	Ceramic	Intact	White	12.70	25 SF
52	Restroom - north wall	Cabinet	Wood	Intact	Pink	13.71	35 SF
53 and 54	Bay area - west wall	Wall	Brick	Intact	White/ Grey	43.27-85.72	1,800 SF

NOTES:

⁽¹⁾ = Note that the LCS in this table are materials that meet or exceed the criteria of CDPH. LCS in this table does not necessarily identify all materials that could contain lead at concentrations less than 1.0 mg/cm² or 5,000 milligrams per kilogram (mg/kg), which could trigger the Cal-OSHA lead in construction standard.

⁽²⁾ = LCS locations are based upon Ninyo & Moore's visual observations during survey activities.

⁽³⁾ = Surface quantities are approximate and are not intended to be used or interpreted as actual quantities. It is the contractor's responsibility to confirm material quantities prior to bid submittals and initiating renovation and/or demolition activities at the site.

EA = Each

SF = Square feet

 mg/cm^2 = milligrams per square centimeter

Table 5 - Summary	y of Other	Potential	Hazardou	s Buildin	g Materials	\$							
Material Location	Fluorescent Light Tubes	Fluorescent Light Ballasts	Non- Incandescent Lights	Smoke Detectors	Mercury Thermostats and Switches	A/C Units	Tritium- Powered Exit Signs	Freon Refrig. Systems	Wet Transformers	Cooling Towers	Lead Acid Batteries	Halon Fire Suppression Systems	Other
					F	IRE STATIO	ON #2						
Exterior			14										
Bedroom 1	4	2					1						
Bedroom 2			1										
Bedroom 3			1										
Bedroom 4			1										
Bedroom 5			1										
Kitchen	12	6											
Lounge			8										
Office	4	2											
Restroom	8	4	10										
Bay area	26	13											
Tool room	12	6											
Gym	6	4											
Hallway	2	1	7	3			4						

NOTES:

Material quantities are approximate and are not intended to be used or interpreted as actual quantities. It is the contractor's responsibility to confirm material quantities prior to bid submittals and initiating renovation and/or demolition activities at subject site.

A/C = Air Conditioning

APPENDIX A

Suspect Asbestos-Containing Materials Sampling Protocol

Ninyo & Moore | 1906 Arenal Road, Carlsbad, California | 108551001 | April 27, 2018

APPENDIX A

SUSPECT ASBESTOS-CONTAINING MATERIALS SAMPLING PROTOCOL

Personal Protection Equipment

Inhalation of asbestos fibers during asbestos survey poses a serious health and safety hazard, the use of personal protection equipment (PPE) by building inspectors is recommended during sampling activities. Our building inspectors generally wear a respirator (either a full- or half-face mask) equipped with high-efficiency disposable filter cartridges. If utilized, full-face masks will also prevent eye irritation from dust, fibers, and debris released during sampling activities. When necessary, disposable clothing is worn during sampling activities. Our building inspectors utilize plastic bags to handle the disposal of drop cloths, protective clothing, wet cloths, and debris.

Sampling Equipment

Our building inspectors will need various tools and materials to accomplish their sampling tasks, including those listed below:

- a ladder to access areas and a flash light to aid visibility,
- airtight, sampling containers (e.g., resealable plastic bags),
- a plastic spray bottle, filled with amended water, to wet the material to be sampled,
- plastic drop cloths to spread beneath the area to be sampled,
- a utility knife, linoleum cutter, or other tool appropriate for collecting samples,
- a caulking gun and compound for filling holes once a sample has been extracted,
- spray acrylic or adhesive to encapsulate the small areas from which samples were collected,
- duct tape for repairing thermal system insulation jackets,
- cloths and cleaner for decontaminating tools,
- a vacuum cleaner equipped with high efficiency particulate air (HEPA) filters, when necessary,
- indelible ink pen for labeling sample containers, and
- camera for photographic documentation, and
- Chain-of-Custody documentation forms.

Sampling Procedures

ACMs are divided into three categories: Surfacing materials, Thermal System Insulation (TSI), and Miscellaneous materials. The procedures for sampling these three types of materials are as follows:

Surfacing Materials

- 1. Select a location where the material has been previously damaged or a low profile area.
- 2. Spread a plastic drop cloth on the floor and set up other equipment, (e.g., ladder).
- 3. Put on protective equipment (respirator at all times when sampling friable material and protective clothing, when needed).
- 4. Moisten area where sample is to be collected (spray the area with amended water).
- 5. Collect sample using a clean knife or other tool appropriate to cut out or scrape off a small piece of the material. Care is taken to ensure that all layers of material are collected, without disturbing any adjacent material.
- 6. Place the sample in the labeled container and tightly seal it.
- 7. Wipe the exterior of the container with a wet wipe to remove any residue which may have adhered to the container it during sampling.
- 8. Clean tools with wet wipes and vacuum area with a HEPA vacuum to clean all debris.
- 9. Fill hole with caulking compound or appropriate filler (to minimize subsequent fiber release and for appearance).
- 10. Label container with its sample identification number and fill out location and type of material being sampled on a Chain-of-Custody documentation form.
- 11. Mark the location and sample identification number on the sample location map.
- 12. Repeat the above steps at each sample location. Place sample containers in plastic bags.
- 13. Discard protective clothing, rags, and drop cloth in a plastic bag.

Thermal System Insulation

Sampling TSI follows the same procedural sequence as laid out above. Obtain samples from exposed or damaged areas, if possible. However, random sampling will require sampling of some intact material. Sampling holes can be patched with plastic spackling, caulk, or fibrous glass.

Miscellaneous Materials

Sampling miscellaneous materials follows the same procedural sequence as laid out above, making sure that a cross section of the materials have been obtained.

Forwarding Samples to Laboratory

The samples are transferred, using standard chain-of-custody procedures, to a laboratory accredited in the National Voluntary Laboratory Accreditation Program (NVLAP), for bulk asbestos fiber analysis. The samples are analyzed using polarized light microscopy with dispersion staining (PLM/ds) for the presence and quantification of asbestos fibers, in general accordance with either United States Environmental Protection Agency (USEPA) Method 600/M4-82-020 or USEPA Method 600/R-93/116. The lower limit of reliable detection for asbestos using the PLM/ds method is approximately 1% by volume. California regulations require certain worker protection standards and have certain contractor requirements for disturbing those materials having an asbestos content of greater than one tenth of 1% (0.1%).

Ninyo & Moore

APPENDIX B

Laboratory Analytical Report and Chain-Of-Custody Records

Ninyo & Moore | 1906 Arenal Road, Carlsbad, California | 108551001 | April 27, 2018



Attention: Brian Ford

Ninyo & Moore

5710 Ruffin Road

San Diego, CA 92123

http://www.EMSL.com / sandiegolab@emsl.com

EMSL Order: 431801794 Customer ID: 32NIN63 Customer PO: Project ID:

 Phone:
 (858) 761-7067

 Fax:
 (858) 576-9600

 Received Date:
 04/02/2018 12:45 PM

 Analysis Date:
 04/07/2018

 Collected Date:

Project: CARLSBAD FIRESTATION #2/108551001

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbe	stos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
ASB-001-Felt 431801794-0001	SW AREA UPPER ROOF/ROOF ASSEMBLY	Black Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
ASB-001-Insulation	SW AREA UPPER ROOF/ROOF	Tan Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
ASB-002-Felt	SE AREA UPPER ROOF/ROOF ASSEMBLY	Black Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
ASB-002-Insulation	SE AREA UPPER ROOF/ROOF ASSEMBLY	Tan Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
ASB-003-Felt	NW AREA UPPER ROOF/ROOF	Black Fibrous	3% Cellulose 20% Glass	77% Non-fibrous (Other)	None Detected
ASB-003-Insulation	NW AREA UPPER ROOF/ROOF ASSEMBLY	Tan Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
ASB-004-Felt	NW AREA LOWER ROOF/ROOF ASSEMBLY	Black Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
ASB-004-Insulation	NW AREA LOWER ROOF/ROOF ASSEMBLY	Tan Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
ASB-005-Felt	S AREA ROOF ASSEMBLY	Black Fibrous Homogeneous	3% Cellulose 20% Glass	77% Non-fibrous (Other)	None Detected
ASB-005-Insulation	S AREA ROOF ASSEMBLY	Tan Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
ASB-006-Felt	E AREA ROOF ASSEMBLY	Black Fibrous Homogeneous	7% Cellulose 15% Glass	78% Non-fibrous (Other)	None Detected
ASB-006-Insulation	E AREA ROOF ASSEMBLY	Tan Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
ASB-007-Silver Paint	W AREA UPPER ROOF ROOF PEN MASTIC	Silver Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-007-Mastic	W AREA UPPER ROOF ROOF PEN MASTIC	Black Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
ASB-008 431801794-0008	NW AREA UPPER ROOF ROOF PEN MASTIC	Black Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
ASB-009	NW AREA UPPER ROOF ROOF PEN	White/Black/Silver Fibrous	5% Cellulose	95% Non-fibrous (Other)	None Detected
	IVIAG LIC	nomoyeneous			



7916 Convoy Court,Building 4, Suite A San Diego, CA 92111 Tel/Fax: (858) 499-1303 / (858) 499-1304 http://www.EMSL.com / sandiegolab@emsl.com

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbe	estos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
ASB-010	CENTRAL AREA	Black Fibrous	3% Cellulose	97% Non-fibrous (Other)	None Detected
431801794-0010	ROOF PEN MASTIC	Homogeneous			
ASB-011	CENTRAL AREA LOWER ROOF	Black Fibrous	10% Cellulose	90% Non-fibrous (Other)	None Detected
431801794-0011	ROOF PEN MASTIC	Homogeneous			
ASB-012	W AREA UPPER ROOF COLT	Gray/White Non-Fibrous		100% Non-fibrous (Other)	None Detected
431801794-0012	CAULKING	Homogeneous			
ASB-013	S AREA LOWER ROOF COLT	Gray/White/Silver Non-Fibrous		100% Non-fibrous (Other)	None Detected
431801794-0013		Homogeneous			New Datastad
ASB-014	ROOF COLT	Non-Fibrous		100% Non-fibrous (Other)	None Detected
		Grav		100% Non fibrous (Other)	None Detected
431801794-0015	CAULKING	Non-Fibrous Homogeneous			None Delected
ASB-016	N BETWEEN	Grav		100% Non-fibrous (Other)	None Detected
431801794-0016	CONCRETE SLAB & BLDG CAULKING	Non-Fibrous Homogeneous			
ASB-017	E BETWEEN	Grav		100% Non-fibrous (Other)	None Detected
431801794-0017	CONCRETE SLAB & BLDG CAULKING	Non-Fibrous Homogeneous			
ASB-018	S BETWEEN	Gray		100% Non-fibrous (Other)	None Detected
431801794-0018	CONCRETE SLAB & BLDG CAULKING	Non-Fibrous Homogeneous			
ASB-019	BEDROOM 1 S AREA	White/Black/Yellow		98% Non-fibrous (Other)	2% Chrysotile
431801794-0019	CARPET GLUE W/MASTIC	Non-Fibrous Heterogeneous			
ASB-020	OFFICE N AREA CARPET GLUE	White/Black/Yellow Non-Fibrous		98% Non-fibrous (Other)	2% Chrysotile
431801794-0020	W/MASTIC	Heterogeneous			
ASB-021	HALLWAY CENTRAL AREA CARPET	White/Black/Yellow Non-Fibrous		98% Non-fibrous (Other)	2% Chrysotile
431801794-0021	GLUE W/MASTIC	Heterogeneous			
ASB-022-Sheet Flooring	KITCHEN WAREA SHEET FLOORING	Beige Fibrous	15% Cellulose	85% Non-fibrous (Other)	None Detected
431801794-0022		Vallass			New Petersted
ASB-022-Mastic	SHEET FLOORING	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ACD 022 Cheat Flooring		Baiga	150/ Collulana	95% Non fibrous (Other)	None Detected
431801794-0023	SHEET FLOORING	Fibrous Homogeneous	15% Cellulose		None Delected
ASB-023-Mastic	KITCHEN E AREA	Clear		100% Non-fibrous (Other)	None Detected
431801794-0023A	SHEET FLOORING	Non-Fibrous Homogeneous			
ASB-024	KITCHEN NE AREA	Beige	15% Cellulose	85% Non-fibrous (Other)	None Detected
431801794-0024	SHEET FLOORING	Fibrous Homogeneous			
ASB-025-Drywall	LOUNGE N AREA	White	<1% Cellulose	100% Non-fibrous (Other)	None Detected
2	DW WALL W/JC &	Fibrous	<1% Glass	· · ·	
431801794-0025	TAPE	Heterogeneous			



Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample Description Appearance % FBrous % Non-FBrous (Other) None Detected Compound LOUNGE NAREA None FBrous (Other) None Detected None Detected Sample Scales-Compound UVML WJC & Non-FBrous (Other) None Detected None Detected Sample Scales-Compound WALL WJC & TAPE None Detected None Detected Sample Acade WALL WJC & TAPE None Detected None Detected Sample Acade WALL WJC & TAPE None Detected None Detected Sample Acade WALL WJC & TAPE None Detected None Detected Sample Acade TOOL RAU WAREA White <100% Non-fibrous (Other) None Detected Sample Acade TOOL RAU WAREA White <100% Non-fibrous (Other) None Detected Sample Acade TOOL RAU WAREA White <100% Non-fibrous (Other) None Detected Sample Acade TOOL RAU WAREA White <100% Non-fibrous (Other) None Detected Sample Acade TOOL RAU WAREA White 100% Non-fibrous (Other) None Detected Sample Acad				Non-Asbe	stos	Asbestos
ASB-025-Initit LUNNEL NAFEA White 100% Non-Brous (Other) None Detected ASB-025-Opymall CM AFEA DW Firms <1% Celulose 100% Non-Brous (Other) None Detected ASB-025-Opymall CM AFEA DW WALL WUG & TAFE Firms <1% Celulose 100% Non-Brous (Other) None Detected ASB-025-Opymall COL RM VAREA White <1% Celulose 100% Non-Brous (Other) None Detected ASB-025-Opymall COL RM VAREA White <1% Glass 100% Non-Brous (Other) None Detected ASB-027-Opymall COL RM VAREA White <1% Glass 100% Non-Brous (Other) None Detected ASB-027-Torpe COL RM VAREA White <1% Glass 100% Non-Brous (Other) None Detected ASB-027-Torpe COL RM VAREA White 100% Non-Brous (Other) None Detected ASB-027-Torpe TOOL RM VAREA White 100% Non-Brous (Other) None Detected ASB-027-Torpe TOOL RM VAREA Non-Frous 100% Non-Brous (Other) None Detected ASB-027-Torpe TOOL RM VAREA White 100% Non-Brous (Other) None Detected ASB-027-Torpe TOOL RM VAREA White 100% Non-Brous (Other) None Detected ASB-027-Torpe TOOL RM VAR	Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
Compound TAPE With Instrumentation (MILL MUL & TAPE Information (MILL & TAPE Informatio (MILL & TAPE Information (MILL & TAPE Information (MILL & TAPE	ASB-025-Joint	LOUNGE N AREA	White		100% Non-fibrous (Other)	None Detected
Instrume Instrume Instrume Instrume ASB-025-Drywall CVM S AREA DW WALL WUG & TAPE *1% Callulase 100% Non-Btrous (Other) None Detected ASB-025-Drywall CVM S AREA DW WALL WUG & TAPE White 100% Non-Btrous (Other) None Detected ASB-025-Drywall TOOL RM W AREA White 100% Non-Btrous (Other) None Detected ASB-027-Drywall TOOL RM W AREA White 100% Non-Btrous (Other) None Detected ASB-027-Drywall TOOL RM W AREA White 100% Non-Btrous (Other) None Detected ASB-027-Drywall TOOL RM W AREA White 100% Non-Btrous (Other) None Detected AsB-027-Trape TOOL RM W AREA Horrogeneous 100% Non-Btrous (Other) None Detected Signma Association TAPE Horrogeneous 100% Non-Btrous (Other) None Detected Signma Association TAPE Horrogeneous 100% Non-Btrous (Other) None Detected Signma Association TAPE Horrogeneous 100% Non-Btrous (Other) None Detected Signma Associatin Association TAPE <t< td=""><td>Compound</td><td>DW WALL W/JC &</td><td>Non-Fibrous</td><td></td><td></td><td></td></t<>	Compound	DW WALL W/JC &	Non-Fibrous			
ASB-026-Drywall CVY IS AREA DW WALL WUC & TAPE Winit Homogeneous <1% Cellulose 100% Non-fbrous (Other) Nane Detected strams-relation CVY IS AREA DW WALL WUC & TAPE Winit Non-Fbrous 100% Non-fbrous (Other) Nane Detected strams-relation CVY IS AREA DW WALL WUC & TAPE Winit Non-Fbrous 100% Non-fbrous (Other) Nane Detected strams-relation TOOL RM WAREA Winit Participation 100% Non-fbrous (Other) Nane Detected Strams-relation TAPE Homogeneous 100% Non-fbrous (Other) Nane Detected Strams-relation TAPE Homogeneous 100% Non-fbrous (Other) Nane Detected Strams-relation DW WALL WUC & Non-Fbrous 100% Non-fbrous (Other) Nane Detected strams-relation TAPE Homogeneous 100% Non-fbrous (Other) Nane Detected </td <td>431801794-0025A</td> <td></td> <td>nomogeneous</td> <td></td> <td></td> <td></td>	431801794-0025A		nomogeneous			
WALL WUG & TAPE Fibrous ASB.026-Joint GYM S AREA DW While 100% Non-fibrous (Other) None Detected ASB.026-Joint GYM S AREA DW While <1% Glass	ASB-026-Drywall	GYM S AREA DW	White	<1% Cellulose	100% Non-fibrous (Other)	None Detected
Homogeneous ABS-025-Joint CVM & AREA DW Nnin Fibrous 100% Non-fibrous (Other) None Detected ABS-025-Joint TOOL RN W AREA While <1% Glass	,	WALL W/JC & TAPE	Fibrous			
ASB-022-Dinywall VM S AREA DW Vnie 100% Non-fbrous (Other) None Detected ASB-027-JOnywall TOOL RM W AREA Mine Provide ASB-027-Jonywall TOOL RM W AREA Mine Provide ASB-027-Jonywall TOOL RM W AREA Mine Provide Monogeneous ASB-027-Jonywall TOOL RM W AREA Mine Monogeneous ASB-027-Jonywall TAPE ASB-027-Jonywall NU CA ASB-027-Jonywall NU CA Monogeneous ASB-027-Jonywall NU CA ASB-027-Jonywal	431801794-0026		Homogeneous			
Compound while runds as ref procession of the runds as ref p	ASB-026-Joint	GYM S AREA DW	White		100% Non-fibrous (Other)	None Detected
ASB-027-Dywall DOL RM W AREA Monogeneous - 1% Glass 100% Non-fibrous (Other) None Detected Organization of the sector of the sec	Compound	WALL W/JC & TAPE	Homogeneous			
ASB-027-Drywall DVW ALL WUG & TAPE White Priorous <1% Glass 100% Non-Fibrous (Other) None Detected SSB-027-Jong TAPE Hornogeneous 100% Non-Fibrous (Other) None Detected SSB-027-Jong DVW WALL WUG & TAPE None-Fibrous Hornogeneous 100% Non-Fibrous (Other) None Detected SSB-027-Jong DVU WALL WUG & TAPE Beige Broose 90% Cellulose 10% Non-Fibrous (Other) None Detected SSB-027-Tape TOOL RM WAREA DW WALL WUG & None-Fibrous Beige Broose 90% Cellulose 10% Non-fibrous (Other) None Detected SSB-027-Tape TOOL RM WAREA DW WALL WUG & None-Fibrous None-Fibrous 100% Non-fibrous (Other) None Detected SSB-027-Texture TOOL RM WAREA DW WALL WUG & None-Fibrous None-Fibrous 100% Non-fibrous (Other) None Detected SSB-027-Jonywall BAY AREA NE AREA DW WALL WUG & None-Fibrous None-Fibrous 100% Non-fibrous (Other) None Detected SSB-027-Jonywall BEDROOM 3 S AREA None-Fibrous None-Fibrous 100% Non-fibrous (Other) None Detected SSB-027-Jonywall BEDROOM 3 S AREA None-Fibrous None-Fibrous 100% Non-fibro	431801794-0026A					
Stremma DW WALL WUG & ASB-027-Joint Fibrous ASB-027-Joint TOOL RM WAREA Monogeneous White Homogeneous 100% Non-fibrous (Other) None Detected stremma TAPE Homogeneous 10% Son-fibrous (Other) None Detected stremma TOOL RM WAREA BSB-027-Tape TOOL RM WAREA Homogeneous Seg 90% Cellulose 10% Non-fibrous (Other) None Detected SSB-027-Tape TOOL RM WAREA DW WALL WUG & Non-Fibrous Seg 100% Non-fibrous (Other) None Detected SSB-027-Tapiture TOOL RM WAREA DW WALL WUG & Non-Fibrous Non-Fibrous (Other) None Detected ASB-027-Tapet TOOL RM WAREA Non-Fibrous Non-Fibrous (Other) None Detected SSB-027-Daywall BAY AREA NE AREA Non-Fibrous Non-Fibrous (Other) None Detected ASB-028-Joint BAY AREA NE AREA Homogeneous 100% Non-fibrous (Other) None Detected STREMMA TAPE Homogeneous 100% Non-fibrous (Other) None Detected STREMMA EBORODI 3 S AREA Homogeneous Yike Giase 100% Non-fibrous (Other) None Detected STREMMA Stremma 100	ASB-027-Drywall	TOOL RM W AREA	White	<1% Glass	100% Non-fibrous (Other)	None Detected
Standsout InPLE Indiageneous SSB-027-Joint TOOL RM WAREA White 100% Non-fbrous (Other) None Detected SSB-027-Joint DOU RM WAREA Belge 90% Cellulose 10% Non-fbrous (Other) None Detected SSB-027-Taple TOOL RM WAREA Belge 90% Cellulose 100% Non-fbrous (Other) None Detected SSB-027-Texture TOOL RM WAREA White 100% Non-fbrous (Other) None Detected SSB-027-Texture TOOL RM WAREA White 100% Non-fbrous (Other) None Detected SSB-027-Texture TOOL RM WAREA White 100% Non-fbrous (Other) None Detected SSB-027-Texture TOOL RM WAREA White 100% Non-fbrous (Other) None Detected SSB-027-Texture TAPE Homogeneous 100% Non-fbrous (Other) None Detected SSB-029-Toynall BAY AREA NEAREA White 100% Non-fbrous (Other) None Detected SSB-029-Toynall BEDROOM 3 S AREA White 100% Non-fbrous (Other) None Detected SSB-029-Toynall BEDROOM 3 S AREA White <t< td=""><td>421801704 0027</td><td>DW WALL W/JC &</td><td>Fibrous</td><td></td><td></td><td></td></t<>	421801704 0027	DW WALL W/JC &	Fibrous			
ASB-12/1 Joint IOUE NW WARAA Write TAPE Other Brous ASB-027-Tape TOOL RM WAREA Beige 90% Cellulose 10% Non-fbrous (Other) None Detected ASB-027-Tape TOOL RM WAREA Beige 90% Cellulose 10% Non-fbrous (Other) None Detected ASB-027-Tape TOOL RM WAREA Homogeneous 100% Non-fbrous (Other) None Detected ASB-027-Tape TOOL RM WAREA Homogeneous 100% Non-fbrous (Other) None Detected ASB-027-Tape TOOL RM WAREA Write 100% Non-fbrous (Other) None Detected ASB-028-Tape TAPE Homogeneous 100% Non-fbrous (Other) None Detected ASB-028-Joint BAY AREA NE AREA Write 100% Non-fbrous (Other) None Detected ASB-028-Joint BEDROOM 3 SAREA Write <1% Cellulose	431801794-0027		Nultrite		400% New Sharve (Other)	Nexe Detected
TAPE Homogeneous ASB-027-Tape DDV (RM W AREA DW WALL WUC & 491601794-00275 Beige TAPE 90% Cellulose 10% Non-fibrous (Other) None Detected 491601794-00275 TAPE Homogeneous 100% Non-fibrous (Other) None Detected 491601794-00275 TAPE Homogeneous 100% Non-fibrous (Other) None Detected 491601794-00275 TAPE Homogeneous 100% Non-fibrous (Other) None Detected 491601794-00276 TAPE Homogeneous 100% Non-fibrous (Other) None Detected 491601794-00276 TAPE Homogeneous 100% Non-fibrous (Other) None Detected 491601794-00276 TAPE Homogeneous 100% Non-fibrous (Other) None Detected 491601794-00284 TAPE Homogeneous 100% Non-fibrous (Other) None Detected 491601794-00284 TAPE Homogeneous 100% Non-fibrous (Other) None Detected 491601794-00284 TAPE White <1% Cellulose	ASB-027-Joint Compound	DW WALL W/JC &	Non-Fibrous		100% Non-fibrous (Other)	None Detected
distantian distantian distantian distantian distantian ASB-027.Tape TOOL RM W AREA DW WALL WUC & ASB-027.Texture TOOL RM W AREA DW WALL WUC & DW WALL WUC & ASB-022.Texture TOOL RM W AREA DW WALL WUC & DW WALL WUC & ASB-022.Drywall White DW WALL WUC & ASB-022.Drywall 100% Non-fibrous (Other) None Detected ASB-027.Texture TOOL RM W AREA NE AREA DW WALL WUC & ASB-022.Drywall White DW WALL WUC & ASB-022.Drywall Non-Fibrous TAPE 100% Non-fibrous (Other) None Detected ASB-023.Drywall BAY AREA NE AREA Mono-Fibrous TAPE White Homogeneous 100% Non-fibrous (Other) None Detected SSB-023.orbit BAY AREA NE AREA Mono-Fibrous TAPE White Homogeneous 100% Non-fibrous (Other) None Detected SSB-023.orbit BEDROOM 3 S AREA TAPE White Homogeneous 100% Non-fibrous (Other) None Detected SSB-023.orbit BEDROOM 3 S AREA TAPE White Homogeneous 100% Non-fibrous (Other) None Detected SSB-023.orbit BEDROOM 3 S AREA TAPE White Homogeneous 100% Non-fibrous (Other) None Detected SSB-030.orbit OFFICE N AREA DW TAPE White Homogeneous 100% Non-fibrous (Other) None Detected	compound	TAPE	Homogeneous			
ASB-027-Tape TOOL RM WAREA Buy WALL WUG & ATRE778-40076 Beige Fibrous 90% Cellulose 10% Non-fibrous (Other) None Detected ASB-027-Texture TOOL RM WAREA DW WALL WUG & ASB-027-Texture TOOL RM WAREA DW WALL WUG & Non-Fibrous Mone Detected 100% Non-fibrous (Other) None Detected 4576978-40027 TAPE Homogeneous 100% Non-fibrous (Other) None Detected 4576978-40028 BEDROOM 3 S AREA VMUL WUG & Fibrous <1% Cellulose	431801794-0027A					
strep TAPE Homogeneous ASB-027-Texture TOOL RM WAREA While 100% Non-fibrous (Other) None Detected ASB-027-Texture TAPE Homogeneous 100% Non-fibrous (Other) None Detected ASB-027-Texture TAPE Homogeneous 100% Non-fibrous (Other) None Detected ASB-028-Drywall BAY AREA NE AREA White 100% Non-fibrous (Other) None Detected ASB-028-Joint BAY AREA NE AREA White 100% Non-fibrous (Other) None Detected Compound TAPE Homogeneous 100% Non-fibrous (Other) None Detected ASB-029-Drywall BEDROOM 3 SAREA White <1% Cellulose	ASB-027-Tape	TOOL RM W AREA	Beige	90% Cellulose	10% Non-fibrous (Other)	None Detected
ASB-027-Texture TOOL RM W AREA DW WALL WUC & Non-Fibrous ASB-028-Drywall BAY AREA RE AREA DW WALL WUC & Non-Fibrous TAPE Homogeneous ASB-028-Joint BAY AREA RE AREA ASB-028-Joint BAY AREA RE AREA TAPE Homogeneous ASB-028-Joint BAY AREA RE AREA TAPE Homogeneous ASB-029-Joint BAY AREA RE AREA White Non-Fibrous TAPE Homogeneous ASB-029-Joint BAY AREA RE AREA White State Sta	431801794-0027B	DW WALL W/JC &	Fibrous			
INDUCE DW WALL WUG & NON-Fibrous INDUCE	ASB-027-Texture		White		100% Non-fibrous (Other)	None Detected
system TAPE Homogeneous ASB-028-Drywall BAY AREA NE AREA DW WALL WJC & Non-Fibrous Non-Fibrous 100% Non-fibrous (Other) None Detected system TAPE Homogeneous 100% Non-fibrous (Other) None Detected SSB-028-Joint BAY AREA NE AREA DW WALL WJC & TAPE White 100% Non-fibrous (Other) None Detected Compound DW WALL WJC & TAPE White <1% Cellulose		DW WALL W/JC &	Non-Fibrous			
ASB-028-Drywall BAY AREA NE AREA TAPE White Non-Fibrous 100% Non-fibrous (Other) None Detected 431801794-0023 TAPE Non-Fibrous 100% Non-fibrous (Other) None Detected ASB-028-Joint BAY AREA NE AREA TAPE White None-Fibrous 100% Non-fibrous (Other) None Detected 21801794-0023 TAPE Non-Fibrous 100% Non-fibrous (Other) None Detected ASB-029-Drywall BEDROOM 3 S AREA DW WALL WJC & TAPE White <1% Cellulose <1% Glass	431801794-0027C	TAPE	Homogeneous			
Assertion DW WALL W/JC & Non-Fibrous ASB-028-Joint BAY AREA NE AREA DW WALL W/JC & Non-Fibrous Assertion White Non-Fibrous 100% Non-fibrous (Other) None Detected ASB-028-Joint BEDROOM 3 S AREA Momogeneous 100% Non-fibrous (Other) None Detected ASB-029-Drywall BEDROOM 3 S AREA DW WALL W/JC & Fibrous <1% Cellulose Fibrous 100% Non-fibrous (Other) None Detected ASB-029-Drywall BEDROOM 3 S AREA DW WALL W/JC & Fibrous <1% Cellulose Fibrous 100% Non-fibrous (Other) None Detected ASB-029-Drywall BEDROOM 3 S AREA DW WALL W/JC & Fibrous Non-Fibrous 100% Non-fibrous (Other) None Detected Compound DW WALL W/JC & Fibrous TAPE Homogeneous 100% Non-fibrous (Other) None Detected 431801784-0029 CFICE N AREA DW TAPE White <1% Cellulose	ASB-028-Drywall	BAY AREA NE AREA	White		100% Non-fibrous (Other)	None Detected
ASB-028-Joint CAPE AREA Non-Fibrous Ann-Fibrous Ann-Fi	431801704-0028	DW WALL W/JC &	Non-Fibrous			
AGD-020-00111 DW WALL WIJC & Non-Fibrous TAPE Homogeneous 31501794-0029 ASB-029-Drywall BEDROOM 3 S AREA DW WALL WIJC & Fibrous TAPE Homogeneous 31501794-0029 TAPE Homogeneous 31501794-0029 ASB-030-Drywall OFFICE N AREA DW CEILING WIJC & Fibrous TAPE Homogeneous 31501794-0029 ASB-030-Drywall OFFICE N AREA DW CEILING WIJC & Fibrous TAPE Homogeneous 31501794-0029 ASB-030-Joint OFFICE N AREA DW CEILING WIJC & Fibrous TAPE Homogeneous 31501794-0029 ASB-031-Joint DAY AREA E AREA DW CEILING WIJC & Fibrous TAPE Homogeneous 31501794-0021 ASB-031-Joint DAY AREA E AREA DW CEILING WIJC & Fibrous TAPE Homogeneous 31501794-0021 ASB-031-Joint DAY AREA E AREA DW CEILING WIJC & Fibrous TAPE Homogeneous 31501794-0021 ASB-031-Joint DAY AREA E AREA DW CEILING WIJC & Fibrous TAPE Homogeneous 31501794-0021 ASB-032-Joint CYM N AREA DW CEILING WIJC & Fibrous TAPE Homogeneous 31501794-0022 ASB-032-JOINT CYM N AREA DW CEILING WIJC & Fibrous TAPE Homogeneous ASB-032-JOINT CYM N AREA DW CH CEILING WIJC & Fibrous	ASB 028 loint		White		100% Non-fibrous (Other)	None Detected
TAPE Homogeneous #31801784-0028A Momogeneous ASB-029-Drywall BEDROOM 3 S AREA DW WALL W/JC & Homogeneous White <1% Cellulose Fibrous 100% Non-fibrous (Other) None Detected ASB-029-Joint Compound BEDROOM 3 S AREA DW WALL W/JC & TAPE White Non-Fibrous 100% Non-fibrous (Other) None Detected ASB-029-Joint Compound DW WALL W/JC & TAPE White Non-Fibrous 100% Non-fibrous (Other) None Detected 431801784-0029A OFFICE N AREA DW Compound Vite Homogeneous <1% Cellulose	Compound	DW WALL W/JC &	Non-Fibrous			None Delected
43/16/1794-0034 ASB-029-Drywall BEDROOM 3 S AREA DW WALL W/JC & Fibrous <1% Cellulose 1% Glass 100% Non-fibrous (Other) None Detected ASB-029-Joint BEDROOM 3 S AREA White Homogeneous 100% Non-fibrous (Other) None Detected ASB-029-Joint BEDROOM 3 S AREA DW WALL W/JC & Non-Fibrous TAPE Non-Fibrous 100% Non-fibrous (Other) None Detected ASB-030-Drywall OFFICE N AREA DW CELLING W/JC & Fibrous Yinte <1% Cellulose		TAPE	Homogeneous			
ASB-029-Drywall BEDROOM 3 S AREA White <1% Callulose 100% Non-fibrous (Other) None Detected	431801794-0028A					
AstBot794-0029 TAPE Homogeneous ASB-029-Joint Compound BEDROOM 3 S AREA DW WALL W/JC & TAPE White Homogeneous 100% Non-fibrous (Other) None Detected 431801794-0020 OFFICE N AREA DW CELLING W/JC & 13801794-0020 OFFICE N AREA DW CELLING W/JC & TAPE White Homogeneous <1% Cellulose	ASB-029-Drywall	BEDROOM 3 S AREA	White	<1% Cellulose	100% Non-fibrous (Other)	None Detected
ASB-029-Joint Compound BEDROOM 3 S AREA DW WALL W/JC & TAPE White Non-Fibrous 100% Non-fibrous (Other) None Detected 431801794-00294 ASB-030-Drywall OFFICE N AREA DW CEILING W/JC & TAPE White Homogeneous <1% Cellulose	431801794-0029	TAPE	Homogeneous			
Compound TAPE DW WALL W/JC & TAPE Non-Fibrous Homogeneous 431801794-00204 OFFICE N AREA DW CEILING W/JC & TAPE White Fibrous <1% Cellulose	ASB-029-Joint	BEDROOM 3 S AREA	White		100% Non-fibrous (Other)	None Detected
TAPE Homogeneous 431801794-00294 ASB-030-Drywall OFFICE N AREA DW CEILING W/JC & Homogeneous Vhite <1% Cellulose	Compound	DW WALL W/JC &	Non-Fibrous			
431801794-00294 OFFICE N AREA DW CEILING W/JC & Homogeneous White Fibrous <1% Cellulose		TAPE	Homogeneous			
ASB-030-DifyWali OFFICE NAREA DW Witte CELING WJC & Fibrous 431801794-0030 TAPE Homogeneous ASB-030-Joint OFFICE N AREA DW White Non-Fibrous TAPE Homogeneous 431801794-0030A ASB-031-Drywall BAY AREA E AREA White Fibrous AND-Fibrous AND-Fibrous Cother) None Detected Mile State	431801794-0029A		\M/bita		100% Non fibrous (Other)	None Detected
431801794-0030 TAPE Homogeneous ASB-030-Joint Compound OFFICE N AREA DW CELLING W/JC & TAPE White Non-Fibrous Homogeneous 98% Non-fibrous (Other) 2% Chrysotile 431801794-00304 ASB-031-Drywall BAY AREA E AREA DW CELLING W/JC & TAPE White Homogeneous <1% Glass	ASB-030-Drywall	CEILING W/JC &	Fibrous		100% Non-Indious (Other)	None Delected
ASB-030-Joint Compound OFFICE N AREA DW CEILING W/JC & TAPE White Non-Fibrous Homogeneous 98% Non-fibrous (Other) 2% Chrysotile 431801794-00304	431801794-0030	TAPE	Homogeneous			
Compound CEILING W/JC & TAPE Non-Fibrous Homogeneous 431801794-0030A 431801794-0030A ASB-031-Drywall BAY AREA E AREA DW CEILING W/JC & Fibrous Homogeneous 100% Non-fibrous (Other) None Detected 431801794-0031 TAPE Homogeneous 2% Chrysotile ASB-031-Joint BAY AREA E AREA TAPE White 98% Non-fibrous (Other) 2% Chrysotile Compound DW CEILING W/JC & Non-Fibrous TAPE Non-Fibrous Homogeneous 98% Non-fibrous (Other) 2% Chrysotile ASB-031-Joint BAY AREA DW CEILING W/JC & Non-Fibrous TAPE Non-Fibrous Homogeneous 98% Non-fibrous (Other) 2% Chrysotile 431801794-0031A ASB-032-Drywall GYM N AREA DW Khite <1% Glass	ASB-030-Joint	OFFICE N AREA DW	White		98% Non-fibrous (Other)	2% Chrysotile
IAPE Homogeneous 431801794-0030A ASB-031-Drywall BAY AREA E AREA DW CEILING W/JC & TAPE White Homogeneous <1% Glass	Compound	CEILING W/JC &	Non-Fibrous			
ASB-031-Drywall BAY AREA E AREA White Fibrous Homogeneous ASB-031-Joint DW CEILLING W/JC & Fibrous Homogeneous ASB-031-Joint DW CEILLING W/JC & Non-Fibrous Homogeneous ASB-031-Joint DW CEILLING W/JC & Non-Fibrous Homogeneous ASB-032-Drywall GYM N AREA DW White Fibrous Homogeneous ASB-032-Drywall GYM N AREA DW White Homogeneous ASB-032-Joint CEILING W/JC & Fibrous Homogeneous ASB-032-Joint GYM N AREA DW White Homogeneous ASB-032-Joint CEILING W/JC & Fibrous Homogeneous ASB-032-Joint CEILING W/JC & Non-Fibrous ASB-032-JOINT CEILING W/JC & NON-FIBRO	431801794-00304	IAPE	Homogeneous			
ASB-031-Joint BAY AREA E AREA White 98% Non-fibrous (Other) 2% Chrysotile ASB-031-Joint BAY AREA E AREA White 98% Non-fibrous (Other) 2% Chrysotile ASB-031-Joint DW CEILING W/JC & Non-Fibrous Non-Fibrous 98% Non-fibrous (Other) 2% Chrysotile ASB-031-Joint DW CEILING W/JC & Non-Fibrous Homogeneous 100% Non-fibrous (Other) None Detected 431801794-0031A ASB-032-Drywall GYM N AREA DW White <1% Glass	ASB-031-Drywall	BAY AREA E AREA	White	<1% Glass	100% Non-fibrous (Other)	None Detected
431801794-0031 TAPE Homogeneous ASB-031-Joint Compound BAY AREA E AREA DW CEILING W/JC & TAPE White Non-Fibrous Homogeneous 98% Non-fibrous (Other) 2% Chrysotile 431801794-0031A		DW CEILING W/JC &	Fibrous	170 01000		
ASB-031-Joint Compound DW CEILING W/JC & Non-Fibrous Homogeneous Homogeneous CellLING W/JC & Fibrous Homogeneous CellLING W/JC & Fibrous Homogeneous CellLING W/JC & Fibrous Kenter Kent	431801794-0031	TAPE	Homogeneous			
Compound DW CEILING W/JC & Non-Fibrous TAPE Non-Fibrous Homogeneous 431801794-0031A ASB-032-Drywall GYM N AREA DW CEILING W/JC & Fibrous Vhite <1% Glass	ASB-031-Joint	BAY AREA E AREA	White		98% Non-fibrous (Other)	2% Chrysotile
431801794-0031A ASB-032-Drywall GYM N AREA DW CEILING W/JC & Homogeneous White <1% Glass 100% Non-fibrous (Other) None Detected 431801794-0032 TAPE Homogeneous 100% Non-fibrous (Other) None Detected ASB-032-Joint GYM N AREA DW CEILING W/JC & TAPE White 100% Non-fibrous (Other) None Detected ASB-032-Joint GYM N AREA DW CEILING W/JC & TAPE Mon-Fibrous Homogeneous 100% Non-fibrous (Other) None Detected	Compound	DW CEILING W/JC &	Non-Fibrous			
ASB-032-Drywall GYM N AREA DW CEILING W/JC & TAPE White Fibrous <1% Glass 100% Non-fibrous (Other) None Detected 431801794-0032 TAPE Homogeneous 100% Non-fibrous (Other) None Detected ASB-032-Joint GYM N AREA DW CEILING W/JC & TAPE White 100% Non-fibrous (Other) None Detected Compound CEILING W/JC & TAPE Non-Fibrous Homogeneous 100% Non-fibrous (Other) None Detected 431801794-0032A Ceiling W/JC & TAPE Non-Fibrous Homogeneous 100% Non-fibrous (Other) None Detected	431801794-0031A		riomogeneous			
CEILING W/JC & TAPE Fibrous Homogeneous 431801794-0032 GYM N AREA DW Homogeneous ASB-032-Joint Compound GYM N AREA DW White 100% Non-fibrous (Other) None Detected Compound CEILING W/JC & TAPE Non-Fibrous Homogeneous Non-Fibrous None Detected 431801794-0032A V V V V	ASB-032-Drywall	GYM N AREA DW	White	<1% Glass	100% Non-fibrous (Other)	None Detected
431801794-0032 IAPE Homogeneous ASB-032-Joint GYM N AREA DW White 100% Non-fibrous (Other) None Detected Compound CEILING W/JC & TAPE Non-Fibrous Homogeneous Homogeneous 431801794-0032A Homogeneous Homogeneous Homogeneous	-	CEILING W/JC &	Fibrous			
ASB-032-Joint GYM N AREA DW White 100% Non-fibrous (Other) None Detected Compound CEILING W/JC & Non-Fibrous TAPE Homogeneous 431801794-0032A	431801794-0032	IAPE	Homogeneous			
431801794-0032A CELENING WING & NOTH INFORM TAPE Homogeneous	ASB-032-Joint		White Non-Fibrous		100% Non-fibrous (Other)	None Detected
431801794-0032A	Compound	TAPE	Homogeneous			
	431801794-0032A		-			

(Initial report from: 04/07/2018 19:57:39



7916 Convoy Court,Building 4, Suite A San Diego, CA 92111 Tel/Fax: (858) 499-1303 / (858) 499-1304 http://www.EMSL.com / sandiegolab@emsl.com

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbe	stos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
ASB-032-Tape	GYM N AREA DW CEILING W/JC & TAPE	Beige Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
ASB-032-Texture	GYM N AREA DW CEILING W/JC & TAPE	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-033 431801794-0033	HALLWAY NW AREA DW CEILING W/JC & TAPE	White Fibrous Homogeneous	<1% Glass	100% Non-fibrous (Other)	None Detected
No joint compound present	in sample.				
ASB-034-Drywall	RR S AREA DW CEILING W/JC & TAPE	White Fibrous Homogeneous	<1% Glass	100% Non-fibrous (Other)	None Detected
ASB-034-Joint Compound	RR S AREA DW CEILING W/JC & TAPE	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
431801794-0034A					
ASB-035 431801794-0035	HALLWAY W AREA COVEBASE GLUE	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-036	BEDROOM 1 S AREA COVEBASE GLUE	Beige Non-Fibrous		100% Non-fibrous (Other)	None Detected
ASB-037 431801794-0037	OFFICE N AREA COVEBASE GLUE	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-038	GYM S AREA 2X4 ACP	White Fibrous	40% Cellulose	60% Non-fibrous (Other)	None Detected
ASB-039 431801794-0039	GYM W AREA 2X4 ACP	White Fibrous	60% Cellulose	40% Non-fibrous (Other)	None Detected
		White		40% Non fibrous (Other)	None Detected
431801794-0040	ACP	Fibrous Homogeneous			None Delected
ASB-041-Insulation	ATTIC W AREA HALLWAY	Brown Fibrous	80% Min. Wool	20% Non-fibrous (Other)	None Detected
431801/94-0041		nomogeneous	00/ 0 - 11 - 1		New Peterted
431801794-0041A	ATTIC WAREA HALLWAY INSULATION	Brown Fibrous Homogeneous	5% Min. Wool	92% Non-Tidrous (Utner)	None Detected

Analyst(s)

Ericka Lomibao (64)

Maciah

Mariah Curran, Laboratory Manager or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. San Diego, CA NVLAP Lab Code 200855-0, CA ELAP 2713

Initial report from: 04/07/2018 19:57:39

ASBESTOS	BULK	SAMPI	LE DATA	SHEET		#431801794	S	heet 1 of	
Ninyo & Moore 5710 Ruffin Roa	σ	Project Na Project No	ame : Carlsb: .: 108551001	ad FireStation	#2	Sampled By: BKF Sampled Bv:	Laborato EMSL	ž	
San Diego, CA 5	32123	Project Ma	anager: NJC	-		5//8/1	7916 Con	voy Court	, Suite A
Tel: (858) 576-1000 Fax: (858) 576-9600		Site Addre	ess: 1906 Arer Carlsbad, CA	חal Koad ∖		Date Sampled: 4/ 4 / 0	5an Diego Tei: (858) 49	0, CA 921 9-1303	_
CHAIN OF CUSTOD	Y INFORMA	TION:							
Relinquishe	ed By: (sign/p	print)	Company	Date	Time(24 hr.)	Received By: (sign/print)		Labo	ratory
N. N	Seve	Croin	Ninyo&Moore	4/2/18	Jorgs	en letro		2-121	-19
•	1								
Sample ID	Building Number	Room Number		Sample Loca	tion	Sample Description	Quantity (SF/LF/E	Friable (Y/N)	Condition
ASB-001	Fr 6 URGHAZZO	list	South.	alert 2.	el tot	ROOF ASSEMBIN			
ASB-002	}	>	South	East AR	EA 1	Reel HSENDIN			
ASB-003	\sim		NORTH	le lest mi	red V	•			
ASB-004	\langle	~	1/02 Hu	ulest are	for Reef				
ASB-005			Salth	ARCH					į
ASB-006		<u> </u>	בהיצא	AREN					
ASB-007	_	\checkmark	a lest	1205	upper Rest	Roof Tertestantion withstre			
ASB-008		\checkmark	Narth.	alast 121	1018				
ASB-009	\checkmark	~	North.	whest are	2 × ×	-		-	
ASB-010	\langle	<i></i>	Centra	w/ della	faura +				
ASB-011	\sim		Certh	24/ 220	so V				
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ASB-013	-	~~~	USOUTH	ARCO	t Roof			2	
ASB-014			North	LIZCH	uplant.	$\mathbf{>}$			
ASB-015	\geq	Exterior	كرروك	1, ARCA		Window Crapterity			

OrderID: 431801794

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Page 1 Of 3

Asbestos Sample

ASBESTOS	BULK	SAMPL	LE DATA	SHEET	ļ	#43180179	4	neet 2 of	2
Ninyo & Moore		Project N _i	ame : Carlsb	ad FireStation	#2	Sampled By: BKF	Laborator	<u>خ</u> ا	
5710 Ruffin Road		Project No).: 108551001			Sampled By:	EMSL	ı	
San Diego, CA 9.	2123	Project Ma	anager: NJC				7916 Conv	oy Court	, Suite A
Tel: (858) 576-1000 Fax: (858) 576-9600		Site Addre	SS: 1906 Are Carlsbad, C/	nai Koad A		Date Sampled: 7/ -// -	San Diego Tel: (858) 499	, CA 921 9-1303	11
CHAIN OF CUSTOD'	Y INFORMA	TION:							
Relinquishe	d By: (sign/p	rint)	Company	Date	Time(24 hr)	Received By: (sign/print)		Labo	bratory
$\mathcal{J}_{-}\mathcal{J}$	V BRI	(HITORY)	Ninyo&Moore	4/2/13					
	1								
Sample ID	Building Number	Room Number		Sample Loca	tion	Sample Description	Quantity (SF/LF/E	Friable (Y/N)	Condition
ASB-016	APOL A	Extense	nlas Hi	1 beta	secri Concack	Cau/1/1113			
ASB-017	Ś		454-5						
ASB-018	\langle		South			\checkmark			
ASB-019	~	Bed Par	Serth	ARCH		Cange & Cillic Workshic			
ASB-020	\checkmark	office	NORTH	21252					
ASB-021		Hullany	Carta	A RRE		\sim			
ASB-022		Ritchen	a lest	DRCH		Speet Floornes			
ASB-023			East	1262					
ASB-024		>	Narth	Cart a	2511	\mathbf{i}			
ASB-025		Counge	Wart	h ARCH		Disyestell Wall Constant	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
ASB-026		Grym	Seuth	RREN					
ASB-027		Took	Werst	RREN					
ASB-028	~	13.44	Jeatho	Full Arec	23				
ASB-029		ALG RA	South	ARCA	~	$\overline{\ }$		{	
ASB-030	.>	office	1-lozti	1 12 CM		DRYWALL Certury / Com			

OrderID: 431801794

Page 2 Of 3

Asbestos Sample

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Asbestos Sample

OrderID: 431801794

APPENDIX C

XRF Testing Methodology

XRF TESTING METHODOLOGY

To assess the painted surfaces for future contractor worker safety, x-ray fluorescence (XRF) testing technologies were utilized. The testing was conducted in general accordance with the following regulation: *Title 17, California Code of Regulations, Division 1, Chapter 8, Accreditation Certification, and Work Practice in Lead Related Construction, Section 36000.*

After a visual assessment, accessible painted surfaces were screened for lead content with a NITON XLp 300A XRF spectrum analyzer. XRF readings were taken using the standard paint mode. Standard paint mode measurements have no predetermined testing length, and automatically adjust to account for various types of substrates and material's densities. In the standard paint mode, the NITON 300A XLp XRF collects an XRF assay until either a K-shell or L-shell result is indicated as either positive or negative, compared to the threshold level based on the current precision of the test. Correction for paint matrix and substrate effects is performed automatically by the XRF analyzer.

XRF readings were made on testing combinations in all room equivalents in an effort to test typical materials that are representative of the room equivalent. Testing combinations were tested non-destructively by holding the shutter of the XRF against the surface being tested. At each XRF assay location, the trigger is depressed to open the shutter, and one reading was made using the standard paint testing mode. Results of each assay were recorded in the memory of the XRF spectrum analyzer and downloaded via the software provided by the manufacturer. In addition, the results of each assay were read and recorded on the XRF Data Sheet field data sheet.

The XRF testing orientation is depicted on the attached sample location maps. The "A" direction was initially assigned to the direction of the street, and the subsequent directions ("B", "C", and "D") were assigned clockwise from the "A" direction. Should the subject site be located on the corner of two streets, the "A" direction is assigned to the direction of the street address of the subject site.

To ensure that the XRF equipment was working properly, various quality control tests were performed before, during, and after the on-site work. At the beginning of the work day, three start up validation measurements were made in the K and L calibration mode, using the calibration check standard associated with the particular XRF that was used. This painted standard contains a known quantity of lead and allows the XRF operator to determine whether the instrument is functioning within acceptable tolerance ranges for accuracy and precision, as determined by the manufacturer. Calibration checks were generally collected on the red 1.06 mg/cm² and/or yellow 1.57 mg/cm² Standard Reference Material (SRM) paint film, developed by the National Institute of Standards and Technology (NIST).

In addition to the three starts up tests, calibration readings are collected between each building, after four hours, and at the completion of XRF testing. Results of each calibration reading were recorded within the memory of the XRF spectrum analyzer and on the XRF Data Sheet. The quality control tests taken during testing at the subject site were within the acceptable performance range prescribed by the XRF equipment manufacturer. Documentation of the quality control calibration check is included in the XRF Data Sheet, Table 3.



APPENDIX D

CDPH Form 8552 - Lead Hazard Evaluation Report

Ninyo & Moore | 1906 Arenal Road, Carlsbad, California | 108551001 | April 27, 2018

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation	4/2/18		
Section 2 - Type of Lead Hazard Evaluation	(Check one box only)		·····
Lead Inspection Risk assessment	Clearance Inspection	Other (specify)	
Section 3 - Structure Where Lead Hazard Ex	valuation Was Conducted		
Address [number, street, apartment (if applicable)]	Station City	County San D	$\begin{array}{c} \text{Zip Code} \\ 92009 \end{array}$
Construction date (year) Type of structure		Children living in s	tructure?
Multi-unit buik	ding 🔄 School or dayca	are 🗌 🗌 Yes [No
ZINKAOWA Single family	dwelling Other Fire	STAtion Don't Kno	w
Section 4 - Owner of Structure (if business/	agency, list contact person)		
Name MR. Steven Stewart Address [number, street, apartment (if applicable)] 1635 FARADAY AVE	CITY OF Carlsbad City City City Carlsbad	Telephone number 766-60 State	2 - 2.720 Zip Code 92008
Section 5 - Results of Lead Hazard Evaluati	on (check all that apply)		
No lead-based paint detected	act lead-based paint detected	Deteriorated l	ead-based paint detected
No lead hazards detected Lead-contam	inated dust found	ontaminated soil found	Other
Section 6 — Individual Conducting Lead Haz	ard Evaluation		
Name		Telephone number	
BRIAN FORD - NINYOANDMOO	RE	8587617067	
Address [number, street, apartment (if applicable)]	City	State	Zip Code
2028 CLEARWATER PLACE	CHULA VISTA	A CA	91913
CDPH certification number	Signature	<u> </u>	Date
17260	Brian F	Ford	
	I		

Section 7 - Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;

B. Each testing method, device, and sampling procedure used;

C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health Childhood Lead Poisoning Prevention Branch Reports 850 Marina Bay Parkway, Building P, Third Floor Richmond, CA 94804-6403 Fax: (510) 620-5656

5710 Ruffin Road | San Diego, California 92123 | p. 858.576.1000

SAN DIEGO | IRVINE | LOS ANGELES | FONTANA | OAKLAND | SAN FRANCISCO | SACRAMENTO SAN JOSE | PHOENIX | TUCSON | PRESCOTT | LAS VEGAS | DENVER | BROOMFIELD | HOUSTON

www.ninyoandmoore.com

Appendix F: Noise Study for Demolition and Construction of Fire Station No. 2

Memorandum



Date:January 30, 2019To:Brianna PilkintonFrom:Ian BreweSubject:City of Carlsbad Noise Study for Demolition and Construction of Fire Station
Number 2

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) has conducted a demolition and construction noise study for the Fire Station Number (No.) 2 Project (Project) located on El Camino Real and Arenal Road in the City of Carlsbad, California. The Project site is currently developed with an existing fire station, which will be demolished and reconstructed to meet the needs of the Carlsbad Fire Department. An aerial image of the project site is provided in Appendix A. Construction is estimated to be approximately 12-18 months in duration with the Fire Station No. 2 operational by 2021. The purpose of this study is to identify the applicable standards and to establish and estimate construction noise for the Project.

EXISTING ENVIRONMENT

The Project site is located on El Camino Real within a 70 A-weighted decibel (dBA) Community Noise Equivalent Level (CNEL) existing noise contour, according to the Noise Element to City of Carlsbad General Plan¹ (General Plan) as provided in Appendix B. The Project site is located outside of the 60 dBA CNEL noise contours of the McClellan-Palomar Airport. Existing ambient noise of the Project site is expected to be dominated by traffic noise from El Camino Real. The value of 70 dBA CNEL will be used to represent the ambient noise levels attributed to El Camino Real in the Project area.

APPLICABLE REGULATIONS

The State of California allows each local jurisdiction to determine acceptable interior and exterior noise levels by land use. The Project will generate construction noise within the city limits of Carlsbad. The City of Carlsbad Municipal Code² (Municipal Code) does not have a quantitative noise restriction for construction noise; however, it does have limitations on construction hours:

8.48.010 Construction hours limitations.

It shall be unlawful to operate equipment or perform any construction in the erection, demolition, alteration, or repair of any building or structure or the grading or excavation of land during the following hours, except as hereinafter provided:

A. After 6:00 p.m. on any day, and before 7:00 a.m., Monday through Friday, and before 8:00 a.m. on Saturday;

¹ http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=24093

² http://www.qcode.us/codes/carlsbad/



January 30, 2019 Page 2

- B. All day on Sunday; and
- C. On any federal holiday.

According to the City of Carlsbad Noise Guidelines Manual³, the following conditions may be applied to minimize noise impacts of the Project:

C.1 Prior to project approval, the project proponent may be required to produce evidence acceptable to the City that:

- a) All construction vehicles, or equipment, fixed or mobile, operated within 1,000 feet of a dwelling or noise sensitive use shall be equipped with properly operating and maintained mufflers.
- *b)* Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings and other noise sensitive receptors.

CONSTRUCTION SOUND LEVELS

Burns & McDonnell estimated the noise levels during each phase of construction for the Project. Sound levels for each piece of construction equipment were used to calculate the average hourly A-weighted sound level and the CNEL. Sound levels for each construction phase were estimated at the nearest receiver, located an average of 50 feet northeast from the center of the Project site. Sound levels for each piece of equipment were referenced from the City of Carlsbad Noise Guidelines Manual and daily usage factors were referenced from Caltrans Technical Noise Supplement to the Traffic Noise Protocol (September 2013)⁴. Table 1 provides hourly sound pressure levels, CNEL for daytime operation, and sound level increase over the existing ambient noise for each construction phase assuming all equipment is in use for the defined amount of time in each hour of the workday. CNEL levels are calculated for the maximum allowable construction of 11 hours of daytime activity from 7:00 a.m. to 6:00 p.m. Appendix C provides assumptions and calculations for each construction equipment sound pressure level.

³ http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=24094

⁴ http://www.dot.ca.gov/env/noise/docs/tens-sep2013.pdf



Phase	Equipment	Distance to Nearest Receiver	Hourly Average Sound Pressure Level (dBA)	Sound Pressure Level for Daytime Operation (dBA CNEL) ^a	Assumed Ambient (dBA	Logarithmic Sum of Operational and Assumed Ambient (dBA	Increase to Ambient
FilaSe	Equipment	(ieet)	(UBA)	(UBA CNEL)	CNEL)	CNEL	(UBA CNEL)
Demolition/ Earthwork	Compactor (1), Excavator (1), Grader (1), Haul Truck (1), Loader (1), Water Truck (1)	50	92.6	89.2	70.0	89.3	19.3
Underground Utilities	Excavator (1), Haul Truck (1), Loader (1), Water Truck (1)	50	91.1	87.7	70.0	87.8	17.8
Foundations	Concrete mixer truck (1), Excavator (1)	50	88.0	84.6	70.0	84.8	14.8
Framing Contractor	Crane (1), Forklift (1), Scissor Lifts (1)	50	80.1	76.7	70.0	77.5	7.5
Electrical	Crane (1), Forklift (1)	50	80.0	76.7	70.0	77.5	7.5
Plumbing	Forklift (1)	50	51.0	47.6	70.0	70.0	0.0
HVAC	Crane (1), Forklift (1)	50	80.0	76.7	70.0	77.5	7.5
Roofing	Crane (1), Forklift (1), Scissor Lifts (1)	50	80.1	76.7	70.0	77.5	7.5
Interior Finishing	Forklift (1)	50	51.0	47.6	70.0	70.0	0.0
Paving	Haul Truck (1), Paver (1)	50	88.5	85.2	70.0	85.3	15.3
Exterior Concrete	Concrete mixer truck (1), Paver (1)	50	87.2	83.8	70.0	84.0	14.0
Landscaping	Excavator (1), Loader (1), Water Truck (1)	50	89.9	86.5	70.0	86.6	16.6

Table 1: Estimated Noise Levels by Construction Phases

(a) Daytime operation from 7:00 a.m. to 6:00 p.m.

(b) Ambient CNEL attributed to El Camino Real

(c) Logarithmic addition as defined in the City of Carlsbad Noise Guidelines Manual⁵

⁵ http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=24094



January 30, 2019 Page 4

CONCLUSION

The Municipal Code restricts hours of operation for construction but does not state a numerical noise restriction. Impacts to nearby residential receivers will range from an hourly average of 51.0 dBA during interior finishing and plumbing to 92.6 dBA during demolition. All noise calculations assume all equipment is in use for the defined amount of time during allowable daytime hours of 7:00 a.m. to 6:00 p.m. The Project will be in compliance with the Municipal Code and General Plan if: Project activities are performed during hours of allowable construction noise; the contractor operates equipment with appropriate mufflers; and equipment is located as far from residential receivers as practical.

Attachments:

Appendix A - Project Site Appendix B - Existing Noise Contours Appendix C - Sound Calculation Data

APPENDIX A - PROJECT SITE



Scale in Feet

APPENDIX B - EXISTING NOISE CONTOURS



APPENDIX C - SOUND CALCULATION DATA

Appendix C Sound Calculation Data

Equipment	Quantity	Reference Sound Level at 50 ft	Distance (ft)	Usage %	Hourly Average Sound Level (dBA)
Demolition/ Earthwork					
Compactor	1	80	50	20	73.0
Excavator	1	91	50	40	87.0
Grader	1	91	50	40	87.0
Haul Truck	1	89	50	40	85.0
Loader	1	86	50	40	82.0
Water Truck	1	89	50	40	85.0
Average Hourly Sound Level					92.6
Underground Utilities					
Excavator	1	91	50	40	87.0
Haul Truck	1	89	50	40	85.0
Loader	1	86	50	40	82.0
Water Truck	1	89	50	40	85.0
Average Hourly Sound Level					91.1
Foundations					
Concrete mixer truck	1	85	50	40	81.0
Excavator	1	91	50	40	87.0
Average Hourly Sound Level					88.0
Framing Contractor					
Crane	1	88	50	16	80.0
Forklift	1	55	50	40	51.0
Scissor Lifts	1	55	50	40	51.0
Average Hourly Sound Level					80.1
Electrical					
Crane	1	88	50	16	80.0
Forklift	1	55	50	40	51.0
Average Hourly Sound Level					80.0
Plumbing					
Forklift	1	55	50	40	51.0
Average Hourly Sound Level					51.0
HVAC					
Crane	1	88	50	16	80.0
Forklift	1	55	50	40	51.0
Average Hourly Sound Level					80.0
Roofing					
Crane	1	88	50	16	80.0
Forklift	1	55	50	40	51.0
Scissor Lifts	1	55	50	40	51.0
Average Hourly Sound Level					80.1
Interior Finishing					
Forklift	1	55	50	40	51.0
Average Hourly Sound Level					51.0

Appendix C Sound Calculation Data

Equipment	Quantity	Reference Sound Level at 50 ft	Distance (ft)	Usage %	Hourly Average Sound Level (dBA)		
Paving							
Haul Truck	1	89	50	40	85.0		
Paver	1	89	50	50	86.0		
Average Hourly Sound Level					88.5		
Exterior Concrete							
Concrete mixer truck	1	85	50	40	81.0		
Paver	1	89	50	50	86.0		
Average Hourly Sound Level					87.2		
Landscaping							
Excavator	1	91	50	40	87.0		
Loader	1	86	50	40	82.0		
Water Truck	1	89	50	40	85.0		
Average Hourly Sound Level					89.9		

Appendix G: Traffic Impact Study

Memorandum



Date:	March 23, 2018
To:	Brianna Pilkinton
From:	Ronnie Williams, PTOE
Subject:	Fire Station Number 2 Construction Traffic Impacts

INTRODUCTION

The purpose of this memorandum is to detail potential traffic impacts due to construction of fire station number 2 (fire station) in Carlsbad, California. This assessment addresses existing roadway conditions as well as expected roadway conditions under construction. Construction of the fire station No. 2 building is anticipated to be complete by the year 2020.

METHODOLOGY

Existing traffic conditions were analyzed using Synchro 10 for intersection analyses. Synchro analyzes data based on the *Highway Capacity Manual* (HCM) 2010, Chapters 19 and 20 methodologies. The HCM requires four parameters: peak hour factor (PHF), percentage of trucks on the roadway system, existing roadway geometry, and traffic volumes. The PHF is the ratio of total hourly volume to the peak 15-minute flow rate within the hour. Lower PHFs correspond to greater variability of flow within the peak hour, while higher PHFs indicate less flow variation. Average approach PHF and percent heavy vehicles were determined by traffic counts.

Intersection traffic operations were evaluated using the Level of Service (LOS) concept outlined in the HCM. LOS is defined by the average control delay per vehicle in a peak 15-minute analysis period for intersections. HCM defines control delay "as the total time that elapses from the time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line". Ranges in control delay which correspond to LOS for Two-Way Stop Controlled (TWSC) and All-Way Stop Controlled (AWSC) intersections are listed in Table 1. LOS D is typically considered acceptable for peak hour conditions in suburban areas. Ranges in control delay which correspond to LOS for signalized intersections are listed in Table 2.

LOS	Average Control Delay (seconds/vehicle)
А	0-10
В	>10-15
С	>15-25
D	>25-35
Е	>35-50
F	>50 or v/c > 1.0

Table 1: LOS Criteria for TWSC and AWSC Intersections

Source: HCM 2010, Exhibits 19-1 and 20-2: Level of Service Criteria (Automobile Mode)



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LOS	Average Control Delay (seconds/vehicle)
А	0-10
В	>10-20
С	>20-35
D	>35-55
Е	>55-80
F	>80 or v/c > 1.0

 Table 2: LOS Criteria for Signalized Intersections

Source: HCM 2010 Exhibits 18-4: Level of Service Criteria (Automobile Mode)

SITE LOCATION / STUDY AREA

The fire station building is located at the intersection of El Camino Real and Arenal Road and lies between El Camino Real and Estrella De Mar Road. The fire station maintains a single access point to Arenal Road. The study area includes the adjacent intersections east and west of the fire station. Traffic counts were performed for the following study intersections:

- 1. El Camino Real & Arenal Road (Signalized)
- 2. Estrella De Mar Road & Arenal Road (Two-Way Stop Controlled)

Field traffic counts are included in Attachment A.

CONSTRUCTION TRIP GENERATION

The most significant period of construction activities is anticipated to result in 25 laborer trips in both the morning and evening peak hours. For the purposes of the traffic assessment, it is anticipated that the construction activities result in an influx of 25 vehicles entering the project site during the morning peak hour and 25 vehicles exiting the project site during the evening peak hour to represent a worse-case scenario. Construction activity trip distribution was determined through assessment of the existing condition peak hour traffic volume counts. Construction trips are anticipated to utilize El Camino Real and were distributed to the north and south via El Camino Real based on a volume weighting of existing day traffic counts.

TRAFFIC ANALYSIS

Morning and evening peak hour traffic counts were analyzed to determine existing morning and evening peak hour traffic conditions. Peak hour time periods were determined through assessing periods of most significant traffic volumes over four consecutive 15-minute time intervals. The morning peak hour was measured to be 7:30AM to 8:30AM and the evening peak hour was



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measured to be 4:45PM to 5:45 PM. The Synchro signalized intersection optimization tool was utilized to determine signalized phasing splits.

During the periods of the intersection traffic counts, which took place February 8, 2018 for a period of 24 hours there were no pedestrian or bicycle usage during the peak vehicle hours of 7:45 am to 8:45 am and 4:45 pm to 5:45 pm. As such, the traffic count study focused on the automobile mode and impact to automobile LOS. Other modes of roadway users were observed during off-peak periods, with total pedestrian usage being 53 pedestrians at the El Camino Real & Arenal Road intersection. The peak pedestrian usage of the El Camino Real & Arenal Road intersection was found to occur between 6:00 am to 7:00 am when 8 pedestrians utilized the intersections crosswalks. Total bicycle usage was found to include 14 bicyclists during the traffic count period, with none present during the peak vehicular time periods.

Table 3 below details existing condition LOS evaluations and vehicular delays for each approach of the study intersections. Detailed Synchro reports are included in Attachment B.

				Approa	ich Leg		
Intersection	Metric	Overall	EB	WB	NB	SB	
Signalized							
El Camino Real	LOS	C (C)	C (C) E (E)		B (B)	D (C)	
& Arenal Road	Delay (sec)	27.8 (24.7)	64.3 (66.5)	61.1 (66.5)	12.6 (14.2)	37.5 (32.8)	
Two-Way Stop Co	ontrolled						
Estrella De Mar	LOS	#	A (A)	A (A)	*	*	
Road & Arenal Road	Delay (sec)	#	9.0 (9.2)	9.5 (9.6)	4.9 (5.2)	SB D (C) 37.5 (32.8) * 2) 0.0 (0.0) A (A) 8.9 (9.2)	
Fire Station No2	LOS	#	*	*	N/A	A (A)	
& Arenal Road	Delay (sec)	#	0.0 (0.0)	0.0 (0.0)	N/A	8.9 (9.2)	

 Table 3: Existing Conditions Intersection Performance Results [AM(PM)]

*Per HCM 2010 Chapter 19, Overall Results not applicable to Two-Way Stop Controlled Intersections #Represents TWSC Free-Flow Approach

As shown in Table 3 above, the intersection of El Camino Real and Arenal Road currently operates at an overall LOS C during both the morning and evening peak hours with eastbound and westbound approaches of Arenal Road operating at LOS E. Stop controlled approaches to the intersection of Estrella De Mar Road and Arenal Road currently operate at LOS A.



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The SANTEC/ ITE Guidelines state that the measure of significant impact to intersection performance as a resulting delay increase of vehicular delay by 2.0 seconds. Table 4 below, details construction condition LOS evaluations and vehicular delays for each approach of the study intersections. Detailed Synchro reports are included in Attachment B. As shown in Table 4, no significant impact is anticipated to each of the study intersections in considering peak construction activities. The southbound approach of El Camino Real and Arenal Road degrades from a LOS C to LOS D in the evening peak hour; however, the overall intersection performance remains at LOS C. The overall intersection and approach delay results in an increase of less than 2.0 seconds.

			Approach Leg								
Intersection	Metric	Overall	EB	WB	NB	SB					
Signalized											
El Camino Real	LOS	C (C)	E (E)	E (E)	B (B)	D (D)					
& Arenal Road	Delay (sec)	28.3 (25.4)	64.3 (65.0)	61.1 (66.7)	13.5 (14.8)	37.7 (33.4)					
Two-Way Stop Co	ontrolled										
Estrella De Mar	LOS	#	A (A)	A (A)	*	*					
Road & Arenal Road	Delay (sec)	#	9.0 (9.2)	9.5 (9.6)	4.9 (5.2)	SB) D (D) 37.7) (33.4) * 2) 0.0 (0.0) A 9.1 (8.9)					
Fire Station No2	LOS	#	*	*	N/A	А					
& Arenal Road	Delay (sec)	#	2.0 (0.0)	0.0 (0.0)	N/A	9.1 (8.9)					

Table 4: Peak Construction Conditions Intersection Performance Results [AM(PM)]

*Per HCM 2010 Chapter 19, Overall Results not applicable to Two-Way Stop Controlled Intersections *Represents TWSC Free-Flow Approach

El Camino Real with Arenal Road - TMC

Tue Feb 27, 2018 Full Length (12AM-12AM (+1)) All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496076, Location: 33.094629, -117.267819



GEWALT HAMILTON ASSOCIATES, INC. Provided by: Gewalt Hamilton Associates Inc.

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Arenal	Rd					Arenal R	d ,				El Cami	no Real				E	El Camin	no Real					
Direction	Eastboi	una	D		A	אר יע	westbou	na	D	TT	Ann Dali	Northbo	una	D	T	A D	2	southbo	una	D	TT	A	שב - ח	T- 4
1 ime	L	1	R	U	Арр	Pea≁	L	1	R	U	App Ped*	L	1	R	U	App Pe	a≁	L	1	R	U	Арр	Pea≁	Int
2018-02-27 12:00 AM	0	0	1	0	1	0	0	0	2	0	2 0	2	19	0	0	21	0	1	6	0	0	7	1	31
12:00 AM	0	0	0	0	0	0	0	0		0	2 0 0 0		15	1	1	12	0	0	11	0	0	, 11	1	22
12.13AM	0	0	0	0	0	0	1	0	0	0	1 0	1	10	0	1	12	0	1	11	1	0	14	0	23
12:30AM	0	0	0	0	0	0	1	0	0	0	1 0	1	10	0	0	19	0	1	12	1	0	14	0	34
12:45 AM	0	0	0	0	0	0	0	0	3	0	3 0	0	18	0	0	18	0	0	10	1	0	10	1	31
Hourly I otal	0	0	1	0	1	0	1	0	5	0	6 0	4	64	1	1	70	0	2	39	1	0	42	1	119
1:00AM	0	0	0	0	0	0	0	0	0	0	0 0	0	19	1	0	20	0	0	2	0	0	2	0	22
1:15AM	0	0	0	0	0	0	0	0	0	0	0 0	0	10	0	0	10	0	1	7	0	0	8	0	18
1:30AM	0	0	0	0	0	0	0	0	0	0	0 0	0	6	0	0	6	0	0	5	0	0	5	0	11
1:45AM	0	0	1	0	1	0	0	0	1	0	1 0	0	6	0	0	6	0	1	2	0	0	3	0	11
Hourly Total	0	0	1	0	1	0	0	0	1	0	1 0	0	41	1	0	42	0	2	16	0	0	18	0	62
2:00AM	0	0	0	0	0	0	1	0	0	0	1 0	0	5	0	0	5	0	0	6	0	0	6	0	12
2:15AM	0	0	0	0	0	0	0	0	2	0	2 0	0	2	0	0	2	0	0	3	0	0	3	0	7
2:30AM	0	0	0	0	0	0	0	0	0	0	0 0	1	9	1	0	11	0	0	7	0	0	7	0	18
2:45AM	0	0	1	0	1	0	0	0	0	0	0 0	0	2	0	0	2	0	0	7	0	0	7	0	10
Hourly Total	0	0	1	0	1	0	1	0	2	0	3 0	1	18	1	0	20	0	0	23	0	0	23	0	47
3:00AM	0	0	0	0	0	0	0	0	0	0	0 0	1	4	0	0	5	0	0	8	0	0	8	0	13
3:15AM	0	0	0	0	0	0	0	0	1	0	1 0	0	7	0	0	7	0	1	7	0	0	8	0	16
3:30AM	0	0	1	0	1	0	1	0	1	0	2 0	0	3	0	0	3	0	0	12	0	0	12	0	18
3:45AM	0	0	1	0	1	0	0	0	1	0	1 0	0	12	0	0	12	0	1	15	0	0	16	0	30
Hourly Total	0	0	2	0	2	0	1	0	3	0	4 0	1	26	0	0	27	0	2	42	0	0	44	0	77
4:00AM	0	1	1	0	2	0	1	0	0	0	1 0	2	8	0	1	11	0	0	26	1	0	27	0	41
4:15 AM	0	0	2	0	2	0	1	0	0	0	1 0	0	7	0	0	7	0	0	18	0	0	18	0	28
4:30 AM	0	0	- 4	0	4	0	0	0	1	0	1 0	0	20	0	0	20	0	2	45	0	0	47	0	72
4.45 AM	n	0	-1	0	 2	0	0	0	1	0	1 0	0	25	1	0	26	0	- 1	8/	0	0	85	0	115
Hourly Total	0	1	10	0	11	0	2	0	2	0	4 0	2	60	1	1	64	0	3	173	1	0	177	0	256
5:00 AM	0	0	10	0	- 11	0	2	0	2	0	4 0	2	25	2	1	204	0	0	69	0	0	69	0	230
5.00AM	0	0	2	0		0	1	0	1	0	3 0	0	2.5	2	0	20	0	2	E 0	0	0	60	0	100
5.13AM	0	0	12	0	12	0	2	0	0	0	3 0	1	20	0	0	07	0	2	07	0	1	100	2	201
5.30AW	0	0	12	0	12	0	2	0	1	0	2 0	2	112	2	0	07	0	2	97	0	1	145	2	201
5:45 AM	0	0	9	0	9	0	1	0	2	0	2 0	3	250	2	1	200	0	0	145	0	1	145	0	2/3
Houriy Total	0	0	24	0	24	0	0	0	2	0	8 0	4	259	4	1	268	1	4	308	0	1	3/3	2	0/3
6:00AM	0	0	11	0	11	0	3	1	2	0	6 0	0	100	2	0	102	1	1	210	0	0	211	4	330
6:15AM	0	0	16	0	16	0	5	0	3	0	8 1	2	134	1	0	137	0	6	269	1	0	276	0	437
6:30AM	0	0	12	0	12	0	4	2	4	0	10 0	1	190	3	0	194	1	6	332	0	0	338	0	554
6:45AM	0	0	18	0	18	0	8	1	12	0	21 0	3	211	2	1	217	0	1	443	0	1	445	1	701
Hourly Total	0	0	57	0	57	0	20	4	21	0	45 1	6	635	8	1	650	2	14	1254	1	1	1270	5	2022
7:00AM	0	1	21	0	22	0	10	0	0	0	10 0	1	254	7	0	262	0	10	589	2	0	601	0	895
7:15AM	1	0	18	0	19	0	10	0	7	0	17 0	4	338	6	0	348	0	8	688	1	1	698	2	1082
7:30AM	0	0	29	0	29	0	8	0	10	0	18 0	5	394	2	0	401	0	11	595	0	0	606	0	1054
7:45AM	0	1	30	0	31	0	12	0	9	0	21 0	7	525	9	1	542	0	14	612	1	1	628	0	1222
Hourly Total	1	2	98	0	101	0	40	0	26	0	66 0	17	1511	24	1	1553	0	43	2484	4	2	2533	2	4253
8:00AM	0	1	34	0	35	0	9	0	6	0	15 0	8	499	3	1	511	0	6	570	2	0	578	0	1139
8:15AM	0	1	27	0	28	0	8	0	5	0	13 0	9	482	9	2	502	0	9	532	1	0	542	0	1085
8:30AM	1	0	26	0	27	0	14	0	8	0	22 0	11	426	6	0	443	0	6	511	1	0	518	0	1010
8:45AM	1	2	23	0	26	0	7	1	5	0	13 0	11	429	8	2	450	0	16	473	2	0	491	0	980
Hourly Total	2	4	110	0	116	0	38	1	24	0	63 0	39	1836	26	5	1906	0	37	2086	6	0	2129	1	4214
9:00AM	0	0	24	0	24	0	3	0	2	0	5 0	5	440	7	0	452	0	4	419	0	1	424	0	905
9:15AM	1	0	25	0	26	0	9	1	7	0	17 0	1	359	7	1	368	0	4	392	0	1	397	0	808
9:30AM	2	0	19	0	21	0	6	0	8	0	14 0	12	356	5	1	374	0	6	355	0	1	362	1	771
9:45AM	1	0	20	0	21	0	5	0	3	0	8 0	7	306	5	0	318	0	7	375	0	0	382	0	729
Hourly Total	4	0	88	0	92	0	23	1	20	0	44 0	25	1461	24	2	1512	0	21	1541	0	3	1565	1	3213
10:00AM	1	0	25	0	26	0	10	0	5	0	15 0	13	279	6	0	298	0	7	330	1	0	338	0	677
10:15 AM	0	0	24	0	24	0	3	0	13	0	16 0	12	277	11	0	300	0	13	324	1	0	338	2	678
10:30AM	0	0	21	0	21	0	7	0	6	0	13 0	15	272	5	1	293	0	10	332	1	0	343	1	670
10:45AM	1	0	20	0	21	0	5	1	9	0	15 0	8	294	7	4	313	0	7	353	2	2	364	0	713
Hourly Total	2	0	90	0	92	0	25	1	33	0	59 0	48	1122	29	5	1204	0	37	1339	5	2	1383	3	2738
11:00AM	1	0	11	0	12	0	6	1	11	0	18 0	21	273	8	1	303	0	3	349	2	1	355	1	688
11:15AM	0	0	8	0	8	0	12	0	7	0	19 1	16	283	5	2	306	0	8	371	2	0	381	1	714
11:30AM	1	0	19	0	20	0	5	1	3	0	9 1	13	335	5	0	353	0	4	346	0	2	352	1	734
11:45 AM	0	0	20	0	20	0	7	1	5	0	13 0	15	313	7	5	340	0	7	352	0	0	359	0	732
Hourly Total	2	0	58	0	60	0	30	3	26	0	59 2	65	1204	25	8	1302	0	22	1418	4	3	1447	3	2868
12:00PM	0	0	13	0	13	0	13	13	7	0	33 0	18	323	5	1	347	0	5	376	0	0	381	0	774
12:15PM	1	0	23	0	24	0	6	10	6	0	22 0	21	323	6	3	353	0	5	374	1	0	380	0	779
12:30PM	0	0	11	0	11	0	7	8	11	0	26 0	17	342	5	3	367	0	4	335	0	1	340	0	744
12:45PM	0	0	22	0	22	0	6	7	7	0	20 1	22	327	6	4	359	0	6	325	3	1	335	0	736
Hourly Total	1	0	69	0	70	0	32	38	31	0	101 1	78	1315	22	11	1426	0	20	1410	4	2	1436	0	3033
1:00PM	1	1	12	0	14	0	9	1	12	0	22 0	17	399	4	2	422	0	4	345	2	2	353	0	811
1:15PM	1	1	9	0	11	0	5	0	4	0	9 0	22	375	6	1	404	0	2	362	2	0	366	0	790
1:30PM	0	0	17	0	17	0	8	0	8	0	16 0	21	366	10	2	399	0	6	342	1	2	351	0	783

1 of 9
Attachment A

Leg	Arenal	Rd					Arenal I	Rd					El Cami	no Rea	1				El Camin	no Rea	ıl				
Direction Time	Lastbo	ind T	R	U	Арр	Ped*	Westboi L	ind T	R	U	App	Ped*	L	una T	R	U	Арр	Ped*	Southbo	una T	R	U	Арр	Ped*	Int
	1			-			1			-			1			-									
1:45PM	0	0	20	0	20	0	3	1	10	0	14	2	16	336	4	2	358	0	8	356	0	4	368	2	760
Hourly Total	2	2	58	0	62	0	25	2	34	0	61	2	76	1476	24	7	1583	0	20	1405	5	8	1438	2	3144
2:00PM	3	0	15	0	18	0	5	1	8	0	14	0	18	367	9	2	396	0	7	365	2	0	374	0	802
2:13PM 2:30PM	2	0	21	0	21	2	3	0	9	0	13	2	20	439	2	1	451	1	3	375	2	0	380	0	865
2:45PM	0	2	20	0	22	0	5	0	6	0	11	0	15	411	15	1	442	0	5	412	1	2	420	1	895
Hourly Total	5	2	76	0	83	2	20	1	31	0	52	2	62	1573	28	5	1668	1	18	1536	6	2	1562	1	3365
3:00PM	0	1	20	0	21	1	9	0	11	0	20	0	19	471	3	2	495	0	6	473	1	0	480	0	1016
3:15PM	0	1	14	0	15	1	6	0	6	0	12	0	21	492	8	3	524	0	4	482	1	1	488	0	1039
3:30PM	0	0	18	0	18	0	8	0	10	0	18	0	23	472	10	0	505	0	3	440	1	0	444	0	985
3:45PM	1	0	11	0	12	2	3	0	7	0	10	0	26	507	8	1	542	1	6	478	1	3	488	1	1052
Hourly Total	1	2	15	0	16	4	26	0	34	0	60	0	89	1942	29	6	2066	1	19	1873	4	4	1900	1	4092
4:00PM		1	15	0	10	0	12	2	3	0	23	1	22	537	0 9	2	570	0	5	554		1	561	0	1029
4:30PM	0	1	14	0	15	0	10	3	7	0	20	0	23	525	6	2	556	0	10	483	0	2	495	0	1086
4:45PM	0	1	13	0	14	0	8	0	9	0	17	0	22	560	8	1	591	0	5	579	5	0	589	0	1211
Hourly Total	1	3	54	0	58	1	35	6	30	0	71	1	86	2117	31	6	2240	0	27	2072	8	3	2110	0	4479
5:00PM	1	0	20	0	21	0	9	0	5	0	14	0	28	498	10	1	537	0	5	524	4	0	533	0	1105
5:15PM	1	1	15	0	17	0	3	1	10	0	14	0	31	587	10	3	631	0	1	601	1	1	604	0	1266
5:30PM	0	0	18	0	18	0	12	0	5	0	17	0	25	532	12	0	569	0	9	564	1	0	574	0	1178
5:45PM	1	0	16	0	72	0	9	1	20	0	19	0	105	2122	14	1	2280	0	9	2256	2	1	578	0	1166
6:00PM	0	0	17	0	17	0	33	2	29	0	6	0	22	436	18	0	476	0	24	435	2	2	442	0	94713
6:15PM	1	1	11	0	13	0	5	3	7	0	15	0	21	458	6	3	488	0	3	392	2	0	397	0	913
6:30PM	1	1	16	0	18	0	8	2	6	0	16	0	18	393	8	1	420	0	3	371	1	0	375	0	829
6:45PM	0	0	14	0	14	0	2	0	10	0	12	0	11	350	9	3	373	0	5	281	0	0	286	0	685
Hourly Total	2	2	58	0	62	0	18	5	26	0	49	0	72	1637	41	7	1757	0	14	1479	5	2	1500	0	3368
7:00PM	0	1	10	0	11	1	6	0	5	0	11	0	17	294	7	4	322	1	3	217	1	1	222	0	566
7:15PM	0	0	6	0	6	0	5	0	6	0	11	0	8	307	9	1	325	0	4	203	1	0	208	0	550
7:30PM	0	0	3	0	3	0	4	1	- 6	0		0	16	235	8	2	261	0	3	1/1	1	1	175	1	450
Hourly Total	0	1	27	0	28	1	17	1	20	0	38	0	52	1045	32	7	1136	1	13	760	3	2	778	1	1980
8:00PM	1	0	6	0	7	0	5	0	3	0	8	0	16	210	4	0	230	0	4	108	0	0	112	0	357
8:15PM	0	0	4	0	4	0	2	0	2	0	4	0	4	201	5	1	211	0	3	144	0	0	147	0	366
8:30PM	2	2	1	0	5	0	1	0	3	0	4	0	9	164	1	0	174	0	0	130	0	0	130	0	313
8:45PM	0	0	2	1	3	0	6	0	1	0	7	0	13	172	3	0	188	0	1	105	0	0	106	0	304
Hourly Total	3	2	13	1	19	0	14	0	9	0	23	0	42	747	13	1	803	0	8	487	0	0	495	0	1340
9:00PM	0	1	2	0	3	0	1	1	2	0	4	0	8	144	2	0	154	0	1	151	0	0	152	0	313
9:15PM	0	0	3	0	3	0	0	0	5	0	9	1	3	131	7	0	101	1	1	70	1	0	92	1	262
9:45PM	0	0	1	0	1	0	2	0	2	0	4	0	14	116	3	0	133	0	1	50	0	0	51	0	189
Hourly Total	0	1	8	0	9	0	7	1	15	0	23	1	31	541	17	0	589	1	5	361	1	0	367	1	988
10:00PM	1	0	1	0	2	0	0	0	1	0	1	0	3	126	1	0	130	0	3	46	0	0	49	0	182
10:15PM	0	0	1	0	1	0	0	0	5	0	5	0	6	85	2	0	93	0	3	32	2	0	37	0	136
10:30PM	0	0	3	0	3	0	2	0	1	0	3	0	2	84	1	0	87	0	1	38	0	0	39	0	132
10:45PM	0	1	1	0	2	0	1	0	2	0	3	0	3	53	0	0	56	0	1	36	0	1	38	0	99
Hourly Total	1	1	6	0	8	0	3	0	9	0	12	0	14	348	4	0	366	0	8	152	2	1	163	0	549
11:00PM 11:15PM	0	0	2	0	2	0	2	0	1	0	2	0	2	51 47	2	0	29	0	0	29	0	0	29	0	91 64
11:30PM	0	0	2	0	2	0	0	1	0	0	1	0	0	34		0	35	0	0	21	0	0	21	0	59
11:45PM	0	0	1	0	1	0	0	0	1	0	- 1	0	0	30	0	0	30	0	0	15	0	0	15	0	47
Hourly Total	0	0	6	0	6	0	2	1	2	0	5	0	8	157	5	0	170	0	0	80	0	0	80	0	261
Total	30	24	1047	1	1102	9	419	67	435	0	921	12	927	23268	436	80	24711	7	363 2	24654	68	37	25122	25	51856
% Approach	2.7%	2.2% 9	95.0%	0.1%	-	-	45.5%	7.3%	47.2% ()%	-	-	3.8%	94.2%	1.8%	0.3%	-	-	1.4% 9	98.1%	0.3%	0.1%	-	-	-
% Total	0.1%	0%	2.0%	0%	2.1%	-	0.8%	0.1%	0.8% ()%	1.8%	-	1.8%	44.9%	0.8%	0.2%	47.7%	-	0.7% 4	47.5%	0.1%	0.1% 4	48.4%	-	-
Lights	30	24	1041	1	1096	-	411	64	426	0	901	-	925	22863	423	78	24289	-	357 2	24235	68	37	24697	-	50983
% Lights	100% 1	100% 9	99.4%	100% 9	99.5%	-	98.1% 9	15.5%	97.9% (1% S	97.8%	-	99.8%	98.3%	97.0% 9	97.5%	98.3%	-	98.3% 9	98.3%	100%	100%	98.3%	-	98.3%
Trucks	0	0	0	0	0	-	2	0	1	0	3	-	0	97	1	0	98	-	0	101	0	0	101	-	202
% Artic ulate d																									
Trucks	0%	0%	0%	0%	0%	-	0.5%	0%	0.2% ()%	0.3%	-	0%	0.4%	0.2%	0%	0.4%	-	0%	0.4%	0%	0%	0.4%	-	0.4%
Buses and Single-Unit																									
Trucks	0	0	6	0	6	-	6	3	8	0	17	-	2	308	12	2	324	-	6	318	0	0	324	-	671
% Buses and																									
Single-Unit	0%	0%	0.6%	0%	0.5%	-	1.4%	4.5%	1.8%)%	1.8%	-	0.2%	1.3%	2.8%	2.5%	1.3%	_	1.7%	1.3%	0%	0%	1.3%	-	1.3%
Pedestrians	-				-	9				-		12						7			-			25	1.0 /0
% Pedestrians	-	-	-	-	- 3	100%	-	-	-	-	- 1	00%	-	-	-	-	-	100%	-	-	-	-	- 3	100%	-



Attachment A

625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Tue Feb 27, 2018 AM Peak (Feb 27 2018 7:30AM - 8:30AM) All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496076, Location: 33.094629, -117.267819

GEWALT HAMILTON ASSOCIATES, INC. Provided by: Gewalt Hamilton Associates Inc.

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

-																									
Leg	Ar	enal Rd					Arenal	Rd					El Can	nino Re	al				El Car	nino Re	al				l I
Dire ction	Ea	stbound					Westbo	ound					Northb	oound					South	bound					ĺ
Time	1	L T	R	U	Арр	Ped*	L	Т	R	U	Арр	Ped*	L	Т	R	U	Арр	Ped*	L	Т	R	U	Арр	Ped*	Int
2018-02-27				_		_		_		_			_		_	-					_	-			
7:30AM		0 0	29	0	29	0	8	0	10	0	18	1	5	394	2	0	401	1	11	595	0	0	606	1	1054
7:45AM		0 1	30	0	31	. 0	12	0	9	0	21	0	7	525	9	1	542	0	14	612	1	1	628	0	1222
8:00AM	_	0 1	34	0	35	0	9	0	6	0	15	1	8	499	3	1	511	0	6	570	2	0	578	1	1139
8:15AM	(0 1	27	0	28	0	8	0	5	0	13	0	9	482	9	2	502	0	9	532	1	0	542	0	1085
Total	(0 3	120	0	123	0	37	0	30	0	67	2	29	1900	23	4	1956	1	40	2309	4	1	2354	2	4500
% Approach	0%	6 2.4%	97.6%	0%			55.2%	0%	44.8%	0%	-	-	1.5%	97.1%	1.2%	0.2%	-	-	1.7%	98.1%	0.2%	0%	-	-	-
% Total	0%	6 0.1%	2.7%	0%	2.7%		0.8%	0%	0.7%	0%	1.5%	-	0.6%	42.2%	0.5%	0.1%	43.5%	-	0.9%	51.3%	0.1%	0%	52.3%	-	-
PHF		-0.750	0.882	-	0.879	-	0.771	-	0.750	-	0.798	-	0.806	0.905	0.639	0.500	0.902	-	0.714	0.943	0.500	0.250	0.937	-	0.921
Lights	1	0 3	120	0	123	-	36	0	30	0	66	-	29	1862	23	3	1917	-	40	2277	4	1	2322	-	4428
% Lights	0%	6 100%	100%	0%	100%		97.3%	0%	100%	0%	98.5%	-	100%	98.0%	100%	75.0%	98.0%	-	100%	98.6%	100%	100%	98.6%	-	98.4%
Articulated																									<u> </u>
Trucks		0 0	0	0	0	-	0	0	0	0	0	-	0	9	0	0	9	-	0	9	0	0	9	-	18
% Articulated																									
Trucks	0%	6 0%	0%	0%	0%		0%	0%	0%	0%	0%	-	0%	0.5%	0%	0%	0.5%	-	0%	0.4%	0%	0%	0.4%	-	0.4%
Buses and																									1
Trucks		0 0	0	0	0	-	1	0	0	0	1	-	0	29	0	1	30	-	0	23	0	0	23	-	54
% Buses and																									
Single-Unit																									ĺ
Trucks	0%	6 0%	0%	0%	0%		2.7%	0%	0%	0%	1.5%	-	0%	1.5%	0%	25.0%	1.5 %	-	0%	1.0%	0%	0%	1.0%	-	1.2%
Pedestrians			-			- 0	-	-	-	-	-	2	-	-	-	-		1	-	-	-	-	-	2	
% Pedestrians			-				-	-	-	-	-	100%	-	-	-	-	-	100%		-	-	-	-	100%	-



Attachment A



Tue Feb 27, 2018 Midday Peak (Feb 27 2018 1:45PM - 2:45PM) All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496076, Location: 33.094629, -117.267819

GEWALT HAMILTON ASSOCIATES, INC. Provided by: Gewalt Hamilton Associates Inc.

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Arena	al Rd					Arenal	Rd					El Car	nino Re	al				El Car	nino Re	al				
Dire ction	Eastb	ound					Westb	ound					North	bound					South	bound					
Time	I	. T	R	U	Арр	Ped*	L	Т	R	U	Арр	Ped*	L	. Т	R	U	Арр	Ped*	L	Т	R	U	Арр	Ped*	Int
2018-02-27 1:45PM	0	0	20	0	20	0	3	1	10	0	14	2	16	336	4	2	358	0	8	356	0	4	368	2	760
2:00PM	3	0	15	0	18	0	5	1	8	0	14	0	18	367	9	2	396	0	7	365	2	0	374	0	802
2:15PM	0	0	21	0	21	0	7	0	8	0	15	0	20	356	2	1	379	0	3	384	1	0	388	0	803
2:30PM	2	0	20	0	22	2	3	0	9	0	12	2	9	439	2	1	451	1	3	375	2	0	380	0	865
Total	5	0	76	0	81	2	18	2	35	0	55	4	63	1498	17	6	1584	1	21	1480	5	4	1510	2	3230
% Approach	6.2%	0%	93.8%	0%	-	-	32.7%	3.6%	63.6%	0%	-	-	4.0%	94.6%	1.1%	0.4%	-	-	1.4%	98.0%	0.3%	0.3%	-	-	-
% Total	0.2%	0%	2.4%	0%	2.5%	-	0.6%	0.1%	1.1%	0%	1.7%	-	2.0%	46.4%	0.5%	0.2%	49.0%	-	0.7%	45.8%	0.2%	0.1%	46.7%	-	-
PHF	0.417	-	0.905	-	0.920	-	0.643	0.500	0.875	-	0.917	-	0.788	0.853	0.472	0.750	0.878	-	0.656	0.964	0.625	0.250	0.973	-	0.934
Lights	5	0	75	0	80	-	17	2	35	0	54	-	63	1470	15	6	1554	-	21	1458	5	4	1488	-	3176
% Lights	100%	0%	98.7%	0%	98.8%	-	94.4%	100%	100%	0%	98.2%	-	100%	98.1%	88.2%	100%	98.1%	-	100%	98.5%	100%	100%	98.5%	-	98.3%
Artic ulate d T ruc ks	0	0	0	0	0	-	1	0	0	0	1	-	0	8	0	0	8	-	0	5	0	0	5	-	14
% Artic ulate d T ruc ks	0%	0%	0%	0%	0%	-	5.6%	0%	0%	0%	1.8%	-	0%	0.5%	0%	0%	0.5%	-	0%	0.3%	0%	0%	0.3%	-	0.4%
Buses and Single-Unit Trucks	0	0	1	0	1	-	0	0	0	0	0	-	0	20	2	0	22	-	0	17	0	0	17	-	40
% Buses and Single-Unit Trucks	0%	0%	1.3%	0%	1.2%	-	0%	0%	0%	0%	0%	_	0%	1.3%	11.8%	0%	1.4 %	_	0%	1.1%	0%	0%	1.1%	-	1.2%
Pedestrians			-	-	-	2	-	-	-	-	-	4	-		-	-	-	1	-	-	-	-		2	
% Pedestrians			-	-	-	100%	-	-	-	-	-	100%	-		-	-	-	100%	-	-	-	-	-	100%	-

Tue Feb 27, 2018 Midday Peak (Feb 27 2018 1:45PM - 2:45PM) All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements





Tue Feb 27, 2018 PM Peak (Feb 27 2018 4:45PM - 5:45PM) - Overall Peak Hour All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496076, Location: 33.094629, -117.267819 **GEAR GEWALT HAMILTON** ASSOCIATES, INC. Provided by: Gewalt Hamilton Associates Inc.

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Arenal Rd El Camino Real El Camino Real Le g Arenal Rd Dire ction Eastbound Westbound Northbound Southbound Time L Т R U App Ped* Int 2018-02-27 4:45PM 0 13 0 8 0 9 0 22 560 8 591 5 579 5 0 589 1211 14 0 17 0 1 0 0 5:00PM 1 0 20 0 21 0 9 0 5 0 14 0 28 498 10 1 537 0 5 524 4 0 533 0 1105 5:15PM 1 1 15 0 17 1 3 1 10 0 14 0 31 587 10 3 631 0 1 601 1 1 604 0 1266 5:30PM 0 0 0 5 0 0 25 532 0 9 0 574 0 1178 18 0 18 12 0 17 12 0 569 564 1 Total 2 2 66 0 70 1 32 1 29 0 62 0 106 2177 40 5 2328 0 20 2268 11 1 2300 0 4760 % Approach 2.9% 2.9% 94.3% 0% 51.6% 1.6% 46.8% 0% 4.6% 93.5% 1.7% 0.2% 0.9% 98.6% 0.5% 0% 2.2% 45.7% 0.8% 0.1% 48.9% 0% 1.4% 0% 1.5% 0.7% 0% 0.6% 0% 1.3% 0.4% 47.6% 0.2% 0% 48.3% % Total 0% 0.940 **PHF** 0.500 0.500 0.825 - 0.833 0.667 0.250 0.725 - 0.912 0.855 0.927 0.833 0.417 0.922 0.556 0.943 0.550 0.250 0.952 Lights 2 2 66 0 70 32 29 0 62 106 2153 40 5 2304 20 2255 11 1 2287 4723 1 % Lights 100% 100% 100% 0% 100% 100% 100% 100% 0% **100%** 100% 98.9% 100% 100% **99.0%** 100% 99.4% 100% 100% **99.4%** 99.2% Artic ulate d 0 0 0 0 0 0 0 0 0 Trucks 0 0 0 0 3 0 3 1 0 0 1 4 % Artic ulate d 0% 0% 0% 0% 0% 0% 0% 0% 0% 0.1% 0% 0% 0.1% 0% 0% 0% 0% 0% 0.1% 0% 0% Trucks Buses and Single-Unit 0 0 0 0 0 0 0 0 0 0 21 0 0 0 12 0 0 12 33 Trucks 0 21 % Buses and Single-Unit 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 1.0% 0% 0% 0.9% 0% 0.5% 0% 0% 0.5% 0.7% T ruc ks Pedestrians 0 0 0 % Pedestrians

NALT HAMILTON

ASSOCIATES, INC. Provided by: Gewalt Hamilton Associates Inc.

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Tue Feb 27, 2018 PM Peak (Feb 27 2018 4:45PM - 5:45PM) - Overall Peak Hour All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496076, Location: 33.094629, -117.267819



Tue Feb 27, 2018 Full Length (12AM-12AM (+1)) All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496077, Location: 33.094421, -117.266561 **GHA GEWALT HAMILTON** ASSOCIATES, INC. Provided by: Gewalt Hamilton Associates Inc.

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Le g Direction	Arenal Rd						Arenal R	d n d					Estrella D Northhous	e Mar	Rd				Estre lla Southbo	De Mar	Rd			
Time	L	u T	R	U	Ann	Ped*	Westbou L	т	R	U	App	Ped*	INOPUTIDOUI	T	R	U	App	Ped*	South Do	T	R	U	App Ped*	Int
2018-02-27	0	0	1	0	1	0	0	0	0	0		0	2	0	1	0	<u>, 446</u>	0	0	0	0	0	0 0	
12:15AM	1	0	0	0	1	0	2	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0 0	4
12:30AM	0	0	1	0	1	0	1	0	0	0	1	0	0	0	2	0	2	0	0	0	0	0	0 0	4
12:45AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0 0	3
Hourly Total	1	0	2	0	3	0	3	0	0	0	3	0	5	0	4	0	9	0	0	0	0	0	0 0	15
1:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0
1:15AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	1
1:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0
1:45AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0 0	1
	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0 0	2
2:15AM	0	0	0	0	0	0	1	0	0	0	1	0	2	0	1	0	3	0	0	0	0	0	0 0	4
2:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0
2:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0
Hourly Total	0	0	1	0	1	0	1	0	0	0	1	0	3	0	1	0	4	0	0	0	0	0	0 0	6
3:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0
3:15AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0 0	2
3:30AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1 0	2
3:45AM	0	0	1	0	1	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0 0	3
Houriy Total	0	0	2	0	2	0	1	0	0	0	1	0	3	0	0	0	3	0	0	0	1	0	1 U	/
4:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1 0	1
4:30AM	0	0	2	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0 0	3
4:45AM	0	0	2	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0 0	3
Hourly Total	0	0	4	0	4	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	1	0	1 0	7
5:00AM	1	0	1	0	2	0	0	0	0	0	0	0	0	1	1	0	2	0	0	1	1	0	2 0	6
5:15AM	0	1	1	0	2	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	2	0	2 0	6
5:30AM	0	0	2	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	2 0	5
5:45AM	0	0	2	0	2	0	1	0	0	0	1	0	1	0	0	0	1	0	0	2	1	0	3 0	7
Hourly Total	1	1	6	0	8	0	3	0	0	0	3	0	2	1	1	0	4	0	0	3	6	0	9 0	24
6:00AM	0	0	7	0	7	1	0	1	0	1	2	1	3	0	0	0	4	0	0	1	0	0	5 0	10
6:30AM	0	1	7	0	8	0	1	0	0	0	1	1	3	0	1	0	4	0	0	1	5	0	<u> </u>	17
6:45AM	0	0	3	0	3	0	1	1	0	0	2	1	5	0	3	0	8	0	0	1	14	0	15 0	28
Hourly Total	0	1	19	1	21	1	3	2	0	1	6	4	12	1	5	1	19	0	0	3	31	0	34 0	80
7:00AM	4	0	10	0	14	0	1	0	0	0	1	0	3	1	0	0	4	0	0	1	8	0	9 0	28
7:15AM	4	2	6	0	12	0	1	0	0	0	1	0	4	1	2	0	7	0	0	2	15	0	17 0	37
7:30AM	2	0	9	1	12	0	2	2	0	0	4	0	8	2	0	0	10	0	0	6	7	0	13 0	39
7:45AM	2	2	20	0	24	1	0	0	0	0	0	1	6	0	2	1	9	1	0	3	10	0	13 0	46
Hourly I otal	12	4	45	1	62	1	4	2	0	0	5	1	21	4	4	1	30	1	0	12	40	0	52 U	150
8.15 AM	6	0	12	0	10	0	1	0	0	0	1	2	7	0	2	0	10	0	0	5	5	0	10 0	30
8:30AM	4	0	9	0	13	0	4	0	0	0	4	4	8	1	2	0	10	0	0	4	12	0	16 0	44
8:45AM	4	5	17	0	26	0	3	1	1	0	5	0	2	1	2	0	5	0	0	5	14	0	19 0	55
Hourly Total	17	5	45	0	67	0	11	1	1	0	13	6	22	2	9	0	33	0	0	17	43	0	60 0	173
9:00AM	6	0	5	0	11	0	1	0	0	0	1	0	2	2	1	0	5	0	0	2	4	0	6 0	23
9:15AM	4	0	6	0	10	0	1	2	0	0	3	1	5	1	0	0	6	0	0	0	9	0	9 0	28
9:30AM	3	2	5	0	10	0	0	1	0	0	1	0	2	1	1	0	4	0	1	2	13	0	16 1	31
9:45AM	3	1	3.4	0	12	0	3	0	0	0	3	0	2	2	2	0	6	0	0	0	6	0	6 0	27
10.00 AM	16	0	24	0	43	0	5	3	1	0	8	1	7	2	4	0	12	0	0	4	32	0	3/	109
10:15AM	4	2	13	0	24	0	0	2	0	0	2	0	7	0	- 1	0	8	1	1	0	7	0	8 1	42
10:30AM	4	1	10	0	15	0	2	1	0	0	3	0	5	3	2	0	10	1	0	3	6	0	9 1	37
10:45AM	5	2	7	0	14	0	1	1	0	0	2	0	5	3	1	0	9	0	1	1	7	0	9 0	34
Hourly Total	22	5	38	0	65	0	3	4	1	0	8	0	24	9	6	0	39	2	2	4	27	0	33 2	145
11:00AM	5	0	5	0	10	0	2	1	0	0	3	1	10	2	1	0	13	0	0	0	8	0	8 0	34
11:15AM	5	0	6	0	11	0	3	1	0	0	4	0	8	2	2	0	12	0	0	1	12	0	13 0	40
11:30AM	1	1	5	0	7	0	0	0	0	0	0	0	5	1	0	0	6	0	0	0	3	0	3 0	16
11:45AM	5	0	7	0	12	0	3	1	1	0	5	0	3	2	3	0	8	0	0	2	7	0	9 0	34
12.00DM	10	2	23	0	40	0	<u>ช</u>	3	2	0	12	1	20	5	0	0	39	0	0	3	11	0	12 0	124
12:00PM	5	- 3	4	0	12	2	2	1		0	2	0	7	2	3	0	12	0	0	6	8	0	14 0	42
12:30PM	5	1	3	0		0	1	0	1	0	2	0	8	0	1	0		0	0	0	10	0	10 0	30
12:45PM	4	1	7	0	12	0	3	2	0	0	5	0	6	1	1	0	8	0	0	2	2	0	4 0	29
Hourly Total	17	7	18	0	42	2	8	4	4	0	16	0	28	8	5	0	41	0	0	9	31	0	40 0	139
1:00PM	5	1	2	0	8	0	1	1	0	0	2	1	8	3	4	0	15	0	0	4	13	0	17 0	42
1:15PM	5	0	3	0	8	0	2	2	1	0	5	1	3	1	0	0	4	0	0	0	6	0	6 1	23
1:30PM	3	1	10	1	15	0	3	0	0	0	3	1	7	1	1	0	9	0	0	-	6	0	7 0	34
1:45PM	3	0	8	0	11	0	1	1	0	0	2	0	7	1	0	0	8	0	0	3	6	0	9 0	30

Attachment A

Leg	Arenal F	۲d					Are nal H	۲d					Estre lla	De Ma	ar Rd				Estrell	a De M	ar Rd				
Direction	Eastbou	nd T	R	U	Ann	Ped*	Westbou	ind T	R	II	Ann	Ped*	Northbo	ound T	R	II	Ann	Ped*	Southt	DOUND T	R	U	Ann	Ped*	Int
Time		1	R	0	140	reu		1	R	0	ΥΨΡ	reu		1	R	0	7 PP	reu	1 1	1	K	0	. PP	reu	int
Hourly Total	16	2	23	1	42	0	7	4	1	0	12	3	25	6	5	0	36	0	0	8	31	0	39	1	129
2:00PM	9	0	7	0	16	0	0	1	2	0	3	1	5	1	1	0	7	0	0	1	7	0	8	0	34
2:15PM	3	0	2	0	5	1	0	1	0	0	1	3	8	3	2	0	13	0	1	1	5	0	7	0	26
2:30PM	3	0	4	0	7	0	1	0	0	0	1	0	7	1	2	0	10	0	0	2	6	0	8	0	26
2:45PM Hourly Total	8	1	22	0	18	1	0	2	2	0	5	4	2	12	5	0	20	0	1	5	26	0	22	0	30
3.00PM	23 4	1	6	0	11	0	0	2	2	0	2	4	7	12	0	0	- 33	0	0	2	12	0	14	0	34
3:15PM	6	0	6	0	11	0	1	1	0	0	2	0	4	1	0	0	5	0	0	2	6	0	-14	0	27
3:30PM	9	1	3	0	13	0	4	1	0	0	5	1	9	1	2	0	12	0	0	0	10	1	11	0	41
3:45PM	10	0	4	0	14	3	1	0	0	0	1	2	4	0	0	0	4	0	0	1	5	0	6	0	25
Hourly Total	29	2	19	0	50	3	6	3	1	0	10	3	24	2	2	0	28	0	0	5	33	1	39	0	127
4:00PM	5	0	9	0	14	2	0	0	0	0	0	0	9	4	0	0	13	0	0	2	15	0	17	0	44
4:15PM	6	2	6	0	14	0	2	0	1	0	3	1	4	5	0	0	9	0	0	3	5	0	8	0	34
4:30PM	5	1	13	0	19	0	0	0	0	0	0	0	11	5	0	0	16	0	0	0	9	0	9	0	44
4:45PM	21	0	25	0	50	0	0	0	0	0	0	1	9	10	1	0	14 5.2	0	0	0	27	0	42	0	34
5.00PM	21	0	33	0	16	2	2	0	0	0	2	1	33	10	1	0	12	0	0	2	37	1	42	0	130
5:15PM	6	0	5	0	10	0	1	0	1	0	2	1	10	4	0	0	14	0	0	1	3	0	4	0	31
5:30PM	10	1	10	0	21	0	1	2	0	0	3	0	9	1	2	1	13	0	0	2	6	0	8	0	45
5:45PM	12	1	9	0	22	0	0	2	0	0	2	2	10	5	0	0	15	0	0	4	8	0	12	0	51
Hourly Total	37	2	31	0	70	0	4	4	1	0	9	3	38	12	3	1	54	0	0	9	21	1	31	0	164
6:00PM	12	1	7	0	20	0	2	0	0	0	2	1	5	3	0	0	8	0	0	1	1	0	2	0	32
6:15PM	6	0	5	0	11	2	1	1	0	0	2	0	7	2	1	0	10	0	0	1	6	0	7	0	30
6:30PM	2	0	8	0	10	0	1	0	0	0	1	1	12	1	1	0	14	0	1	0	4	0	5	0	30
Hourly Total	29	2	24	0	55	2	2	1	0	0	7	2	37	6	2	0	45	0	1	2	11	0	14	0	121
7:00PM	7	1	4	0	12	0	0	0	0	0	0	0	5	1	1	0	7	0	0	1	5	0	6	0	25
7:15PM	7	0	6	0	13	0	1	1	0	0	2	0	9	1	1	0	11	0	0	2	1	0	3	0	29
7:30PM	6	0	5	0	11	0	1	0	0	0	1	0	8	0	1	0	9	0	0	0	2	0	2	0	23
7:45PM	6	0	5	0	11	0	0	0	0	0	0	0	4	1	1	0	6	0	0	1	1	0	2	0	19
Hourly Total	26	1	20	0	47	0	2	1	0	0	3	0	26	3	4	0	33	0	0	4	9	0	13	0	96
8:00PM	2	0	6	0	8	0	0	0	0	0	0	0	4	1	0	0	5	0	0	0	5	0	5	0	18
8:15PM	2	0	6	0	8	0	1	0	0	0	1	0	3	0	1	0	4	0	0	0	1	0	1	0	14
8:30PM	1	1	2	0	3	0	0	0	0	0	0	0	3	1	2	0	7	0	0	0	1	0	1	0	10
Hourly Total	5	1	15	0	21	0	1	0	0	0	1	0	14	2	3	0	19	0	0	0	8	0	8	0	49
9:00PM	3	0	2	0	5	0	3	1	0	0	4	0	1	0	0	0	10	0	0	0	1	0	1	0	11
9:15PM	3	1	2	0	6	0	0	1	0	0	1	0	4	2	0	0	6	0	0	1	1	0	2	0	15
9:30PM	5	1	2	0	8	0	0	0	1	0	1	0	6	0	0	0	6	0	0	0	2	0	2	0	17
9:45PM	2	0	2	0	4	0	1	0	0	0	1	0	3	0	1	0	4	0	0	0	1	0	1	0	10
Hourly Total	13	2	8	0	23	0	4	2	1	0	7	0	14	2	1	0	17	0	0	1	5	0	6	0	53
10:00PM	1	0	3	0	4	0	1	0	0	0	1	0	1	1	1	0	3	0	0	0	0	0	0	0	8
10:15PM	2	0	2	0	4	0	1	0	0	0	1	1	5	0	1	0	6	0	0	0	0	0	1	0	11
10:45PM	0	0	2	0	2	0	1	0	0	0	1	0	2	1	1	0	4	0	0	0	1	0	1	0	8
Hourly Total	3	0	9	0	12	0	3	0	0	0	3	1	11	2	3	0	16	0	0	1	1	0	2	0	33
11:00PM	1	0	1	0	2	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	4
11:15PM	1	1	0	0	2	0	1	0	0	0	1	0	1	0	1	0	2	0	0	0	0	0	0	0	5
11:30PM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
11:45PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
Hourly Total	3	1	1	0	5	0	1	0	0	0	1	0	5	0	1	0	6	0	0	0	0	0	0	0	12
Total	307	44	435	3	789	12	87	36	14	1	138	30	409	103	75	3	590	3	5	95	424	2	526	4	2043
% Approach	38.9%	5.6%	55.1%	0.4%	-	-	63.0% 2	1.0%	10.1%	0.7%	-	-	69.3%	17.5%	12.7%	0.5%	-	-	1.0%	18.1%	80.6%	0.4%	-	-	-
% I otal	15.0%	2.2%	429	0.1%	38.6%	-	4.3%	1.8%	12	0%	0.8%	-	20.0%	5.0%	3./%	0.1%	576	-	0.2%	4./%	20.8%	0.1% 4	5.7%	-	-
% Lights	99.3% 9	7.7%	98.4%	100%	98.7%	_	95.4%	100%	92.9% 1	00% 9	96.4%		98.8%	97.1%	92.0%	100%	97.6%		100%	98.9%	98.6%	100% 9	98.7%	_	98.2%
Articulated			, 0					2270	/ 0 1							2270				2.575	2.070				
T ruc ks	0	0	3	0	3	-	0	0	0	0	0	-	4	0	1	0	5	-	0	0	1	0	1	-	9
% Articulated	0.02	0.0/	0.70/	0.07	0 4 9/		0.0/	0.0/	00/	0.0/	0.07		1.00/	0.0/	1 20/	A0/	0 0 0/		0.0/	0.0/	0.20/	N 0/	0.20/		0.40/
Busec and	0%	υ%	0./%	υ%	U.4 %	-	0%	υ%	0%	υ%	U %	-	1.0%	υ%	1.3%	υ%	0.0%	-	0%	0%	0.2%	υ%	U. 2 %	-	0.4%
Single-Unit																									
Trucks	2	1	4	0	7	-	4	0	1	0	5	-	1	3	5	0	9	-	0	1	5	0	6	-	27
8 Buses and Single-Unit																									
Trucks	0.7%	2.3%	0.9%	0%	0.9%	-	4.6%	0%	7.1%	0%	3.6%	-	0.2%	2.9%	6.7%	0%	1.5%	-	0%	1.1%	1.2%	0%	1.1%	-	1.3%
Pedestrians	-	-	-	-	-	12	-	-	-	-	-	30	-	-	-	-	-	3	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	- 1	00%	-	-	-	-	- 3	100%	-	-	-	-	- 3	100%	-	-	-	-	- 1	.00%	-



Attachment A



[S] Estrella De Mar Rd

Tue Feb 27, 2018 AM Peak (Feb 27 2018 8AM - 9AM) - Overall Peak Hour All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496077, Location: 33.094421, -117.266561 **GEWALT HAMILTON** ASSOCIATES, INC. Provided by: Gewalt Hamilton Associates Inc.

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Arenal	Rd					Arenal	Rd					Estrell	a De M	lar Rd				Estr	ella De	Mar Ro	i			
Direction	Eastbo	und					Westbo	ound					Northb	ound					Sou	thboun	d				1
Time	L	Т	R	U	App	Ped*	L	Т	R	U	Арр	Ped*	L	Т	R	U	Арр	Ped*	L	Т	R	U	App I	Ped*	Int
2018-02-27 8:00AM	3	0	7	0	10	0	3	0	0	0	3	2	5	0	2	0	7	0	0	3	12	0	15	0	35
8:15AM	6	0	12	0	18	0	1	0	0	0	1	0	7	0	3	0	10	0	0	5	5	0	10	0	39
8:30AM	4	0	9	0	13	0	4	0	0	0	4	4	8	1	2	0	11	0	0	4	12	0	16	0	44
8:45AM	4	5	17	0	26	0	3	1	1	0	5	0	2	1	2	0	5	0	0	5	14	0	19	0	55
Total	17	5	45	0	67	0	11	1	1	0	13	6	22	2	9	0	33	0	0	17	43	0	60	0	173
% Approach	25.4%	7.5%	67.2%	0%	-	-	84.6%	7.7%	7.7%	0%	-	-	66.7%	6.1%	27.3%	0%	-	-	0%	28.3%	71.7%	0%	-	-	-
% Total	9.8%	2.9%	26.0%	0%	38.7%	-	6.4%	0.6%	0.6%	0%	7.5%	-	12.7%	1.2%	5.2%	0%	19.1%	-	0%	9.8%	24.9%	0%	34.7%	-	-
PHF	0.708	0.250	0.662	-	0.644	-	0.688	0.250	0.250	-	0.650	-	0.688	0.500	0.750	-	0.750	-	-	0.850	0.768	-	0.789	-	0.786
Lights	17	5	45	0	67	-	10	1	1	0	12	-	22	2	8	0	32	-	0	17	41	0	58	-	169
% Lights	100%	100%	100%	0%	100%	-	90.9%	100%	100%	0%	92.3%	-	100%	100%	88.9%	0%	97.0%	-	0%	100%	95.3%	0%	96.7%	-	97.7%
Artic ulate d Truc ks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	1	-	0	0	0	0	0	-	1
% Artic ulate d Truc ks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	11.1%	0%	3.0%	-	0%	0%	0%	0%	0%	-	0.6%
Buses and Single-Unit Trucks	0	0	0	0	0	-	1	0	0	0	1	-	0	0	0	0	0	-	0	0	2	0	2	-	3
% Buses and Single-Unit Trucks	0%	0%	0%	0%	0%	-	9.1%	0%	0%	0%	7.7%	-	0%	0%	0%	0%	0%	-	0%	0%	4.7%	0%	3.3%	-	1.7%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-

Tue Feb 27, 2018 AM Peak (Feb 27 2018 8AM - 9AM) - Overall Peak Hour All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496077, Location: 33.094421, -117.266561





Out: 73 In: 33 Total: 106 [S] Estrella De Mar Rd

Tue Feb 27, 2018 Midday Peak (Feb 27 2018 11:45AM - 12:45PM) All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Classes (Lights, Articulated Trucks, Buses and Single-Onit Trucks, Pedestrians) All Movements

ID: 496077, Location: 33.094421, -117.266561

G G GEWALT HAMILTON ASSOCIATES, INC. Provided by: Gewalt Hamilton Associates Inc.

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Arenal	Rd					Arenal	Rd					Estre lla	n De Ma	ar Rd				Estr	ella De	Mar Ro	1			
Dire ction	Eastbou	ınd					Westbo	und					Northb	ound					Sou	thboun	d				
Time	L	Т	R	U	Арр	Ped*	L	Т	R	U	App F	ed*	L	Т	R	U	App 1	Ped*	L	Т	R	U	App 1	Ped*	Int
2018-02-27																									
11:45 AM	5	0	7	0	12	0	3	1	1	0	5	0	3	2	3	0	8	0	0	2	7	0	9	0	34
12:00PM	3	2	4	0	9	2	2	1	2	0	5	0	7	5	0	0	12	0	0	1	11	0	12	0	38
12:15PM	5	3	4	0	12	0	2	1	1	0	4	0	7	2	3	0	12	0	0	6	8	0	14	0	42
12:30PM	5	1	3	0	9	0	1	0	1	0	2	0	8	0	1	0	9	0	0	0	10	0	10	0	30
Total	18	6	18	0	42	2	8	3	5	0	16	0	25	9	7	0	41	0	0	9	36	0	45	0	144
% Approach	42.9%	14.3%	42.9%	0%	-	-	50.0%	18.8%	31.3%	0%	-	-	61.0%	22.0%	17.1%	0%	-	-	0%	20.0%	80.0%	0%	-	-	-
% Total	12.5%	4.2%	12.5%	0%	29.2%	-	5.6%	2.1%	3.5%	0%	11.1%	-	17.4%	6.3%	4.9%	0%	28.5%	-	0%	6.3%	25.0%	0%	31.3%	-	-
PHF	0.900	0.500	0.643	-	0.875	-	0.667	0.750	0.625	-	0.800	-	0.781	0.450	0.583	-	0.854	-	-	0.375	0.818	-	0.804	-	0.857
Lights	18	6	16	0	40	-	8	3	5	0	16	-	24	8	7	0	39	-	0	9	35	0	44	-	139
% Lights	100%	100%	88.9%	0%	95.2%	-	100%	100%	100%	0%	100%	-	96.0%	88.9%	100%	0%	95.1%	-	0%	100%	97.2%	0%	97.8%	-	96.5%
Articulated																									
Trucks	0	0	1	0	1	-	0	0	0	0	0	-	1	0	0	0	1	-	0	0	1	0	1	-	3
% Articulated																									
Trucks	0%	0%	5.6%	0%	2.4 %	-	0%	0%	0%	0%	0%	-	4.0%	0%	0%	0%	2.4%	-	0%	0%	2.8%	0%	2.2%	-	2.1%
Buses and																									
Single-Unit																									
Trucks	0	0	1	0	1	-	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	2
% Buses and																									
Trucks	0%	0%	5.6%	0%	2.4%	-	0%	0%	0%	0%	0%	-	0%	11.1%	0%	0%	2.4%	-	0%	0%	0%	0%	0%	_	1.4%
Pedestrians	-	-	_	-	_	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tue Feb 27, 2018 Midday Peak (Feb 27 2018 11:45AM - 12:45PM) All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496077, Location: 33.094421, -117.266561





Out: 35 In: 41 Total: 76 [S] Estrella De Mar Rd

Tue Feb 27, 2018 PM Peak (Feb 27 2018 5PM - 6PM) All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496077, Location: 33.094421, -117.266561

GEVALT HAMILTON ASSOCIATES, INC. Provided by: Gewalt Hamilton Associates Inc.

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

T	A	ЪJ					A	ЪJ					E 11 .	D.M					E.c.	. II. D.	Mar D	1			1
Leg	Arenai	Ra					Arenai	Ra					Estrella	i De Ma	ar Ro				Estr	e lla De	Mar Ro	1			1
Direction	Eastbo	und					Westbo	und					Northb	ound					Sou	thboun	d				
Time	L	Т	R	U	App	Pe d*	L	Т	R	U	Арр	Ped*	L	Т	R	U	App 1	Ped*	L	Т	R	U	App 1	Ped*	Int
2018-02-27 5:00PM	9	0	7	0	16	0	2	0	0	0	2	0	9	2	1	0	12	0	0	2	4	1	7	0	37
5:15PM	6	0	5	0	11	0	1	0	1	0	2	1	10	4	0	0	14	0	0	1	3	0	4	0	31
5:30PM	10	1	10	0	21	0	1	2	0	0	3	0	9	1	2	1	13	0	0	2	6	0	8	0	45
5:45PM	12	1	9	0	22	0	0	2	0	0	2	2	10	5	0	0	15	0	0	4	8	0	12	0	51
Total	27	Э	21	0	70	0	4	4	1	0	0	2	20	10	2	1	E 4	0	0	0	21	1	21	0	16.4
	52.00/	2 0.01	31	0	70	0	4	4	11 10/	0	9	З	30	12	5	1 00/	34	0	0.04	30,004	21	2.20/	51	0	104
% Approach	52.9%	2.9%	44.3%	0%	-	-	44.4%	44.4%	11.1%	0%	-	-	/0.4%	22.2%	5.6%	1.9%	-	-	0%	29.0%	67.7%	3.2%	-	-	
% Total	22.6%	1.2%	18.9%	0%	42.7%	-	2.4%	2.4%	0.6%	0%	5.5%	-	23.2%	7.3%	1.8%	0.6%	32.9%	-	0%	5.5%	12.8%	0.6%	18.9%	-	
PHF	0.771	0.500	0.775	-	0.795	-	0.500	0.500	0.250	-	0.750	-	0.950	0.600	0.375	0.250	0.900	-	-	0.563	0.656	0.250	0.646	-	0.804
Lights	37	2	31	0	70	-	3	4	1	0	8	-	38	12	3	1	54	-	0	9	21	1	31	-	163
% Lights	100%	100%	100%	0%	100%	-	75.0%	100%	100%	0%	88.9%	-	100%	100%	100%	100%	100%	-	0%	100%	100%	100%	100%	-	99.4%
Artic ulate d Truc ks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Artic ulate d Truc ks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Buses and Single-Unit Trucks	0	0	0	0	0	-	1	0	0	0	1	_	0	0	0	0	0	-	0	0	0	0	0	-	1
% Buses and Single-Unit Trucks	0%	0%	0%	0%	0%	-	25.0%	0%	0%	0%	11.1%	_	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.6%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-

Tue Feb 27, 2018 PM Peak (Feb 27 2018 5PM - 6PM) All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians) All Movements ID: 496077, Location: 33.094421, -117.266561



Attachment A



Out: 45 In: 54 Total: 99 [S] Estrella De Mar Rd

Movement EBL EBT EBR WBL WBT WBT NBT NBT NBT SBL SBL SBT SBR SBL SBR SB		≯	-	\mathbf{F}	∢	+	•	1	1	1	1	Ŧ	~
Lane Configurations Y <thy< th=""> Y <thy< th=""></thy<></thy<>	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (veh/h) 0 3 120 37 0 30 29 1900 23 40 2309 4 Future Volume (veh/h) 0 3 120 37 0 30 29 1900 23 40 2309 4 Future Volume (veh/h) 0 <t< td=""><td>Lane Configurations</td><td>ľ</td><td>4Î</td><td></td><td>۲</td><td>ef 👘</td><td></td><td>7</td><td>^</td><td></td><td>ň</td><td>^</td><td>1</td></t<>	Lane Configurations	ľ	4Î		۲	ef 👘		7	^		ň	^	1
Future Volume (veh/h) 0 3 120 37 0 30 29 1900 23 40 2309 4 Number 7 4 14 3 8 18 5 2 12 1 6 16 Initial Q (Cb), veh 0	Traffic Volume (veh/h)	0	3	120	37	0	30	29	1900	23	40	2309	4
Number 7 4 14 3 8 18 5 2 1 6 16 Initial Q (Db), veh 0<	Future Volume (veh/h)	0	3	120	37	0	30	29	1900	23	40	2309	4
Initial Q(b), veh 0	Number	7	4	14	3	8	18	5	2	12	1	6	16
Ped-Bike Adj(A, pbT) 1.00 <td< td=""><td>Initial Q (Qb), veh</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></td<>	Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Parking Bus, Adj 100 1.00	Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Acj Sat Flow, veh/hin 1900 1900 1804 1900 1803 1900 1803 1900 1881 1900 Adj Kor Ate, veh/h 0 3 33 40 0 33 32 2065 25 43 2510 4 Adj No, of Lanes 1 1 0 1 3 0 1 2 1 Peak Hour Factor 0.92 0.91 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92	Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Flow Rate, veh/h 0 3 10 40 0 33 32 2065 25 43 2510 4 Adj No. of Lanes 1 0 1 0 1 0 1 3 0 1 2 1 Percent Ireactor 0.92 <	Adj Sat Flow, veh/h/ln	1900	1900	1900	1845	1900	1900	1900	1863	1900	1900	1881	1900
Adj No. of Lanes 1 1 0 1 1 0 1 3 0 1 2 1 Peak Hour Factor 0.92 1.01 0.73 3.03 1.71 1.71 1.71 1.71 1.71 9.55 0.1 0.77 0.93 0.92 9.55 0.1 0.77 0.93 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	Adj Flow Rate, veh/h	0	3	130	40	0	33	32	2065	25	43	2510	4
Peak Hour Factor 0.92 0.9	Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	2	1
Percent Heavy Veh, % 0 0 0 3 0 0 0 2 2 0 1 0 Cap, veh/h 52 5 197 110 0 201 46 3630 44 56 2523 1140 Arrive On Green 0.00 0.12 0.12 0.12 0.00 0.12 0.03 0.70 0.03 0.71 0.73 0.2 95.5 0.1 100 1.00	Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Cap, weh/n 52 5 197 110 0 201 46 3830 44 56 25.3 1140 Arrive On Green 0.00 0.12 0.12 0.12 0.00 0.12 0.03 0.70 0.70 0.03 0.71 0.73 3.3 2 95.5 0.1 Ger Sat Flow(s), weh/h 139 0 1620 123 0.01 1.00	Percent Heavy Veh, %	0	0	0	3	0	0	0	2	2	0	1	0
Arrive On Green 0.00 0.12 0.12 0.12 0.03 0.71 0.73 0.73 2.73 3.2 95.5 0.1 1767 1615 1810 160 100 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 <td>Cap, veh/h</td> <td>52</td> <td>5</td> <td>197</td> <td>110</td> <td>0</td> <td>201</td> <td>46</td> <td>3630</td> <td>44</td> <td>56</td> <td>2523</td> <td>1140</td>	Cap, veh/h	52	5	197	110	0	201	46	3630	44	56	2523	1140
Sat Flow, veh/h 1398 37 1584 1239 0 1615 1810 5180 63 1810 3574 1615 Grp Volume(v), veh/h 0 0 133 40 0 33 32 1351 739 43 2510 44 Grp Sat Flow(s), veh/h/ln 1398 0 1620 1239 0 1615 1810 1695 1852 1810 1787 1615 Q Serve(g, s), s 0.0 0.0 10.8 4.4 0.0 2.5 2.4 27.3 27.3 3.2 95.5 0.1 Prop In Lane 1.00 0.98 1.00	Arrive On Green	0.00	0.12	0.12	0.12	0.00	0.12	0.03	0.70	0.70	0.03	0.71	0.71
Grp Volume(v), veh/h 0 0 133 40 0 33 32 1351 739 43 2510 44 Grp Sat Flow(s), veh/h/ln 1398 0 1620 1239 0 1615 1810 1625 1820 1810 1787 1615 Qserve(g, s), s 0.0 0.0 10.8 4.4 0.0 2.5 2.4 27.3 3.2 95.5 0.1 Cycle Q Clear(g, c), s 0.0 0.0 10.8 15.2 0.0 2.5 2.4 27.3 3.2 95.5 0.1 Prop In Lane 1.00 0.98 1.00 <td>Sat Flow, veh/h</td> <td>1398</td> <td>37</td> <td>1584</td> <td>1239</td> <td>0</td> <td>1615</td> <td>1810</td> <td>5180</td> <td>63</td> <td>1810</td> <td>3574</td> <td>1615</td>	Sat Flow, veh/h	1398	37	1584	1239	0	1615	1810	5180	63	1810	3574	1615
Grp Sat Flow(s),veh/h/in 1398 0 1620 1239 0 1615 1810 1695 1852 1810 1787 1615 Q Serve(g.s), s 0.0 0.0 10.8 4.4 0.0 2.5 2.4 27.3 3.2 95.5 0.1 Cycle Q Clear(g_c), s 0.0 0.0 10.8 15.2 0.0 2.5 2.4 27.3 3.2 95.5 0.1 Prop In Lane 1.00 0.03 10.0 1.0	Grp Volume(v), veh/h	0	0	133	40	0	33	32	1351	739	43	2510	4
Q Serve(g. s), s 0.0 0.0 10.8 4.4 0.0 2.5 2.4 27.3 3.2 95.5 0.1 Cycle Q Clear(gc), s 0.0 0.0 10.8 15.2 0.0 2.5 2.4 27.3 3.2 95.5 0.1 Prop In Lane 1.00 0.98 1.00	Grp Sat Flow(s),veh/h/ln	1398	0	1620	1239	0	1615	1810	1695	1852	1810	1787	1615
Cycle Q Clear(g_c), s 0.0 10.0 10.8 15.2 0.0 2.5 2.4 27.3 3.2 95.5 0.1 Prop In Lane 1.00 0.98 1.00 1.00 1.00 0.03 1.00 1.00 Lane Grp Cap(c), veh/h 52 0 202 110 0 201 46 2376 1298 56 2523 1140 VC Ratio(X) 0.00 0.00 0.66 0.36 0.00 0.16 0.69 0.57 0.57 0.77 0.99 0.00 Avail Cap(c_a), veh/h 61 0 212 117 0 211 66 2376 1298 116 2523 1140 HCM Platoon Ratio 1.00	Q Serve(g_s), s	0.0	0.0	10.8	4.4	0.0	2.5	2.4	27.3	27.3	3.2	95.5	0.1
Prop In Lane 1.00 0.98 1.00 1.00 1.00 0.03 1.00 1.00 Lane Grp Cap(c), veh/h 52 0 202 110 0 201 46 2376 1298 56 2523 1140 V/C Ratio(X) 0.00 0.00 0.66 0.36 0.00 0.16 0.69 0.57 0.57 0.77 0.99 0.00 Avail Cap(c, a), veh/h 61 0 212 117 0 211 66 2376 1288 116 2523 1140 HCM Platoon Ratio 1.00 1.0	Cycle Q Clear(g_c), s	0.0	0.0	10.8	15.2	0.0	2.5	2.4	27.3	27.3	3.2	95.5	0.1
Lane Grp Cap(c), veh/h 52 0 202 110 0 201 46 2376 1298 56 2523 1140 V/C Ratio(X) 0.00 0.00 0.66 0.36 0.00 0.16 0.69 0.57 0.57 0.77 0.99 0.00 Avail Cap(c_a), veh/h 61 0 212 117 0 211 66 2376 1298 116 2523 1140 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Prop In Lane	1.00		0.98	1.00		1.00	1.00		0.03	1.00		1.00
V/C Ratio(X) 0.00 0.00 0.66 0.36 0.00 0.16 0.69 0.57 0.57 0.77 0.99 0.00 Avail Cap(c_a), veh/h 61 0 212 117 0 211 66 2376 1298 116 2523 1140 HCM Platoon Ratio 1.00	Lane Grp Cap(c), veh/h	52	0	202	110	0	201	46	2376	1298	56	2523	1140
Avail Cap(c_a), veh/h 61 0 212 117 0 211 66 2376 1298 116 2523 1140 HCM Platoon Ratio 1.00	V/C Ratio(X)	0.00	0.00	0.66	0.36	0.00	0.16	0.69	0.57	0.57	0.77	0.99	0.00
HCM Platoon Ratio 1.00 1.	Avail Cap(c_a), veh/h	61	0	212	117	0	211	66	2376	1298	116	2523	1140
Upstream Filter(I)0.000.001.00	HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh 0.0 0.0 57.5 64.7 0.0 53.9 66.5 10.3 10.3 66.2 20.0 6.0 Incr Delay (d2), s/veh 0.0 0.0 6.8 2.0 0.0 0.4 16.7 1.0 1.8 19.7 16.7 0.0 Initial Q Delay(d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Uniform Delay (d), s/veh	0.0	0.0	57.5	64.7	0.0	53.9	66.5	10.3	10.3	66.2	20.0	6.0
Initial Q Delay(d3),s/veh 0.0 <t< td=""><td>Incr Delay (d2), s/veh</td><td>0.0</td><td>0.0</td><td>6.8</td><td>2.0</td><td>0.0</td><td>0.4</td><td>16.7</td><td>1.0</td><td>1.8</td><td>19.7</td><td>16.7</td><td>0.0</td></t<>	Incr Delay (d2), s/veh	0.0	0.0	6.8	2.0	0.0	0.4	16.7	1.0	1.8	19.7	16.7	0.0
%ile BackOfQ(50%),veh/ln 0.0 0.0 5.2 1.6 0.0 1.1 1.4 12.9 14.6 1.9 52.2 0.0 LnGrp Delay(d),s/veh 0.0 0.0 64.3 66.7 0.0 54.2 83.2 11.2 12.1 85.9 36.7 6.0 LnGrp Delay(d),s/veh 0.0 0.0 64.3 66.7 0.0 54.2 83.2 11.2 12.1 85.9 36.7 6.0 LnGrp LOS E E D F B B F D A Approach Vol, veh/h 133 73 2122 2557 A	Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh 0.0 0.0 64.3 66.7 0.0 54.2 83.2 11.2 12.1 85.9 36.7 6.0 LnGrp LOS E E D F B B F D A Approach Vol, veh/h 133 73 2122 2557 Approach Delay, s/veh 64.3 61.1 12.6 37.5 Approach LOS E E B D D Timer 1 2 3 4 5 6 7 8 Assigned Phs 1 2 4 5 6 8 P D F Max F D F F D A F D A F D A F D A F D A F D A F S F D A F F D A F S F D A F F D A F F D F F B <td>%ile BackOfQ(50%),veh/ln</td> <td>0.0</td> <td>0.0</td> <td>5.2</td> <td>1.6</td> <td>0.0</td> <td>1.1</td> <td>1.4</td> <td>12.9</td> <td>14.6</td> <td>1.9</td> <td>52.2</td> <td>0.0</td>	%ile BackOfQ(50%),veh/ln	0.0	0.0	5.2	1.6	0.0	1.1	1.4	12.9	14.6	1.9	52.2	0.0
LnGrp LOS E E D F B F D A Approach Vol, veh/h 133 73 2122 2557 Approach Delay, s/veh 64.3 61.1 12.6 37.5 Approach LOS E E B D D Timer 1 2 3 4 5 6 7 8 D D D Assigned Phs 1 2 4 5 6 8 D	LnGrp Delay(d),s/veh	0.0	0.0	64.3	66.7	0.0	54.2	83.2	11.2	12.1	85.9	36.7	6.0
Approach Vol, veh/h 133 73 2122 2557 Approach Delay, s/veh 64.3 61.1 12.6 37.5 Approach LOS E E B D Timer 1 2 3 4 5 6 7 8 Assigned Phs 1 2 3 4 5 6 7 8 Assigned Phs 1 2 4 5 6 8 Phs Duration (G+Y+Rc), s 10.4 102.7 24.6 9.7 103.4 24.6 Change Period (Y+Rc), s *6.2 *6.2 7.4 *6.2 *6.2 7.4 Max Green Setting (Gmax), s *8.8 *93 18.0 *5 *97 18.0 Max Q Clear Time (p_c), s 0.0 23.7 0.3 0.0 0.0 0.0 Intersection Summary 102 27.8 102 102 102 102 HCM 2010 LOS C C Notes 102 102 102 102	LnGrp LOS			E	E		D	F	В	В	F	D	<u> </u>
Approach Delay, s/veh 64.3 61.1 12.6 37.5 Approach LOS E E B D Timer 1 2 3 4 5 6 7 8 Assigned Phs 1 2 4 5 6 7 8 Assigned Phs 1 2 4 5 6 8 9 Assigned Phs 1 2 4 5 6 8 9 Assigned Phs 1 2 4 5 6 8 9 Change Period (Y+Rc), s 10.4 102.7 24.6 9.7 103.4 24.6 24.6 Change Period (Y+Rc), s * 6.2 * 6.2 7.4 * 6.2 * 6.2 7.4 Max Green Setting (Gmax), s * 8.8 * 93 18.0 * 5 * 97 18.0 Max Q Clear Time (g_c+I1), s 5.2 29.3 12.8 4.4 97.5 17.2 Green Ext Time (p_c), s 0.0 23.7 0.3 0.0 0.0 0.0 HCM 2010	Approach Vol, veh/h		133			73			2122			2557	
Approach LOS E E B D Timer 1 2 3 4 5 6 7 8 Assigned Phs 1 2 4 5 6 8 9 Phs Duration (G+Y+Rc), s 10.4 102.7 24.6 9.7 103.4 24.6 Change Period (Y+Rc), s * 6.2 * 6.2 7.4 * 6.2 * 6.2 7.4 Max Green Setting (Gmax), s * 8.8 * 93 18.0 * 5 * 97 18.0 Max Q Clear Time (g_c+I1), s 5.2 29.3 12.8 4.4 97.5 17.2 Green Ext Time (p_c), s 0.0 23.7 0.3 0.0 0.0 0.0 Intersection Summary 27.8 HCM 2010 LOS C C	Approach Delay, s/veh		64.3			61.1			12.6			37.5	
Timer 1 2 3 4 5 6 7 8 Assigned Phs 1 2 4 5 6 8 Phs Duration (G+Y+Rc), s 10.4 102.7 24.6 9.7 103.4 24.6 Change Period (Y+Rc), s * 6.2 * 6.2 7.4 * 6.2 * 6.2 7.4 Max Green Setting (Gmax), s * 8.8 * 93 18.0 * 5 * 97 18.0 Max Q Clear Time (g_c+I1), s 5.2 29.3 12.8 4.4 97.5 17.2 Green Ext Time (p_c), s 0.0 23.7 0.3 0.0 0.0 0.0 Intersection Summary V V V V V V HCM 2010 Ctrl Delay 27.8 C V V V V Notes C V V V V V V V	Approach LOS		E			E			В			D	
Assigned Phs 1 2 4 5 6 8 Phs Duration (G+Y+Rc), s 10.4 102.7 24.6 9.7 103.4 24.6 Change Period (Y+Rc), s * 6.2 * 6.2 7.4 * 6.2 * 6.2 7.4 Max Green Setting (Gmax), s * 8.8 * 93 18.0 * 5 * 97 18.0 Max Q Clear Time (g_c+I1), s 5.2 29.3 12.8 4.4 97.5 17.2 Green Ext Time (p_c), s 0.0 23.7 0.3 0.0 0.0 0.0 Intersection Summary ItcM 2010 Ctrl Delay 27.8 ItcM 2010 LOS C Notes	Timer	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s 10.4 102.7 24.6 9.7 103.4 24.6 Change Period (Y+Rc), s * 6.2 * 6.2 7.4 * 6.2 * 6.2 7.4 Max Green Setting (Gmax), s * 8.8 * 93 18.0 * 5 * 97 18.0 Max Q Clear Time (g_c+I1), s 5.2 29.3 12.8 4.4 97.5 17.2 Green Ext Time (p_c), s 0.0 23.7 0.3 0.0 0.0 0.0 Intersection Summary 27.8 10.0 10.0 0.0 0.0 0.0 Notes C 0.0 0.0 0.0 0.0 0.0 0.0	Assianed Phs	1	2		4	5	6		8				
Change Period (Y+Rc), s * 6.2 * 6.2 7.4 * 6.2 * 6.2 7.4 Max Green Setting (Gmax), s * 8.8 * 93 18.0 * 5 * 97 18.0 Max Q Clear Time (g_c+l1), s 5.2 29.3 12.8 4.4 97.5 17.2 Green Ext Time (p_c), s 0.0 23.7 0.3 0.0 0.0 0.0 Intersection Summary HCM 2010 Ctrl Delay 27.8 27.8 10.0 C Notes C C C 10.0 10.0 10.0	Phs Duration (G+Y+Rc), s	10.4	102.7		24.6	9.7	103.4		24.6				
Max Green Setting (Gmax), s * 8.8 * 93 18.0 * 5 * 97 18.0 Max Q Clear Time (g_c+I1), s 5.2 29.3 12.8 4.4 97.5 17.2 Green Ext Time (p_c), s 0.0 23.7 0.3 0.0 0.0 0.0 Intersection Summary HCM 2010 Ctrl Delay 27.8 27.8 10.0 10.0 Notes C Notes Notes 10.0 10.0 10.0	Change Period (Y+Rc), s	* 6.2	* 6.2		7.4	* 6.2	* 6.2		7.4				
Max Q Clear Time (g_c+I1), s 5.2 29.3 12.8 4.4 97.5 17.2 Green Ext Time (p_c), s 0.0 23.7 0.3 0.0 0.0 0.0 Intersection Summary HCM 2010 Ctrl Delay 27.8 27.8 10.0 10.0 10.0 Notes C 10.0 10.0 10.0 10.0 10.0 10.0	Max Green Setting (Gmax), s	* 8.8	* 93		18.0	* 5	* 97		18.0				
Green Ext Time (p_c), s 0.0 23.7 0.3 0.0 0.0 Intersection Summary	Max Q Clear Time (q c+l1), s	5.2	29.3		12.8	4.4	97.5		17.2				
Intersection Summary HCM 2010 Ctrl Delay 27.8 HCM 2010 LOS C Notes	Green Ext Time (p_c), s	0.0	23.7		0.3	0.0	0.0		0.0				
HCM 2010 Ctrl Delay 27.8 HCM 2010 LOS C Notes	Intersection Summarv												
HCM 2010 LOS C Notes	HCM 2010 Ctrl Delay			27.8									
Notes	HCM 2010 LOS			C									
	Notes												

Carlsbad Traffic Analysis 03/12/2018 2018 Existing AM

5.1

Intersection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
Traffic Vol, veh/h	17	5	45	11	1	1	22	2	9	0	17	43
Future Vol, veh/h	17	5	45	11	1	1	22	2	9	0	17	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	4 -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	9	0	0	0	0	11	0	0	5
M∨mt Flow	17	5	46	11	1	1	22	2	9	0	17	44

Major/Minor	Minor2			Minor1			Major1		ľ	/lajor2			
Conflicting Flow All	91	94	39	116	112	7	61	0	0	11	0	0	
Stage 1	39	39	-	51	51	-	-	-	-	-	-	-	
Stage 2	52	55	-	65	61	-	-	-	-	-	-	-	
Critical Hdwy	7.1	6.5	6.2	7.19	6.5	6.2	4.1	-	-	4.1	-	-	
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	3.581	4	3.3	2.2	-	-	2.2	-	-	
Pot Cap-1 Maneuver	898	800	1038	844	782	1081	1555	-	-	1621	-	-	
Stage 1	981	866	-	944	856	-	-	-	-	-	-	-	
Stage 2	966	853	-	928	848	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	886	789	1038	794	771	1081	1555	-	-	1621	-	-	
Mov Cap-2 Maneuver	886	789	-	794	771	-	-	-	-	-	-	-	
Stage 1	967	866	-	931	844	-	-	-	-	-	-	-	
Stage 2	950	841	-	882	848	-	-	-	-	-	-	-	

Approach	EB	WB	NB	SB	
HCM Control Delay, s	9	9.5	4.9	0	
HCM LOS	А	А			

Minor Lane/Major Mvmt	NBL	NBT	NBR E	BLn1V	VBLn1	SBL	SBT	SBR
Capacity (veh/h)	1555	-	-	973	809	1621	-	-
HCM Lane V/C Ratio	0.014	-	-	0.07	0.016	-	-	-
HCM Control Delay (s)	7.3	0	-	9	9.5	0	-	-
HCM Lane LOS	А	А	-	А	А	А	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection

Int Delay, s/veh	0.1						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		्र	- 1 2		۰¥		
Traffic Vol, veh/h	0	66	66	0	1	1	
Future Vol, veh/h	0	66	66	0	1	1	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage,	,# -	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	0	72	72	0	1	1	

Major/Minor	Major1	Ν	/lajor2	ľ	Minor2	
Conflicting Flow All	72	0	-	0	144	72
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	72	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1541	-	-	-	853	996
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	956	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1541	-	-	-	853	996
Mov Cap-2 Maneuver	-	-	-	-	853	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	956	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		8.9	
HCM LOS					А	
Minor Lane/Major Mvr	nt	EBL	EBT	WBT	WBR S	BLn1
Capacity (veh/h)		1541	-	-	-	919
HCM Lane V/C Ratio		-	-	-	-	0.002
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS		А	-	-	-	Α
HCM 95th %tile Q(veh	1)	0	-	-	-	0

	≯	-	\rightarrow	1	+	*	•	1	1	1	Ŧ	~
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	۲.	eî.		1	eî 🕺		7	^		٦ ۲	^	1
Traffic Volume (veh/h)	2	2	66	32	1	29	106	2177	40	20	2268	11
Future Volume (veh/h)	2	2	66	32	1	29	106	2177	40	20	2268	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1845	1900	1900	1900	1863	1900	1900	1881	1900
Adj Flow Rate, veh/h	2	2	72	35	1	32	115	2366	43	22	2465	12
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	3	0	0	0	2	2	0	1	0
Cap, veh/h	141	4	133	103	4	133	127	3900	71	37	2531	1144
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.76	0.76	0.02	0.71	0.71
Sat Flow, veh/h	1398	44	1578	1308	49	1573	1810	5145	93	1810	3574	1615
Grp Volume(v), veh/h	2	0	74	35	0	33	115	1558	851	22	2465	12
Grp Sat Flow(s),veh/h/ln	1398	0	1622	1308	0	1622	1810	1696	1847	1810	1787	1615
Q Serve(g_s), s	0.2	0.0	6.3	3.8	0.0	2.7	9.1	29.6	29.8	1.7	93.5	0.3
Cycle Q Clear(g_c), s	2.9	0.0	6.3	10.1	0.0	2.7	9.1	29.6	29.8	1.7	93.5	0.3
Prop In Lane	1.00		0.97	1.00		0.97	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	141	0	137	103	0	137	127	2571	1400	37	2531	1144
V/C Ratio(X)	0.01	0.00	0.54	0.34	0.00	0.24	0.91	0.61	0.61	0.60	0.97	0.01
Avail Cap(c_a), veh/h	198	0	202	156	0	203	127	2571	1400	75	2531	1144
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.1	0.0	63.3	68.2	0.0	61.7	66.6	7.8	7.8	70.0	19.8	6.2
Incr Delay (d2), s/veh	0.0	0.0	3.3	1.9	0.0	0.9	52.5	1.1	2.0	14.6	12.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	3.0	1.4	0.0	1.3	6.4	14.0	15.7	1.0	50.0	0.1
LnGrp Delay(d),s/veh	63.1	0.0	66.6	70.1	0.0	62.6	119.1	8.9	9.8	84.6	32.5	6.2
LnGrp LOS	E		E	E		E	F	A	A	F	С	<u> </u>
Approach Vol, veh/h		76			68			2524			2499	
Approach Delay, s/veh		66.5			66.5			14.2			32.8	
Approach LOS		E			E			В			С	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	115.5		19.6	16.3	108.3		19.6				
Change Period (Y+Rc), s	* 6.2	* 6.2		7.4	* 6.2	* 6.2		7.4				
Max Green Setting (Gmax), s	* 6	* 1.1E2		18.0	* 10	* 1E2		18.0				
Max Q Clear Time (g_c+l1), s	3.7	31.8		8.3	11.1	95.5		12.1				
Green Ext Time (p_c), s	0.0	33.6		0.2	0.0	6.1		0.1				
Intersection Summarv												
HCM 2010 Ctrl Delav			24.7									
HCM 2010 LOS			С									
Notes												

Carlsbad Traffic Analysis 03/12/2018 2018 Existing PM

6.2

Intersection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
Traffic Vol, veh/h	37	2	31	4	4	1	38	12	3	0	9	21
Future Vol, veh/h	37	2	31	4	4	1	38	12	3	0	9	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	9	0	0	0	0	11	0	0	5
M∨mt Flow	38	2	32	4	4	1	39	12	3	0	9	21

Major/Minor	Minor2		l	Minor1		ſ	Major1		ľ	Major2			
Conflicting Flow All	114	113	20	129	122	14	30	0	0	15	0	0	
Stage 1	20	20	-	92	92	-	-	-	-	-	-	-	
Stage 2	94	93	-	37	30	-	-	-	-	-	-	-	
Critical Hdwy	7.1	6.5	6.2	7.19	6.5	6.2	4.1	-	-	4.1	-	-	
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	3.581	4	3.3	2.2	-	-	2.2	-	-	
Pot Cap-1 Maneuver	868	781	1064	828	772	1072	1596	-	-	1616	-	-	
Stage 1	1004	883	-	898	823	-	-	-	-	-	-	-	
Stage 2	918	822	-	961	874	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	847	761	1064	787	753	1072	1596	-	-	1616	-	-	
Mov Cap-2 Maneuver	847	761	-	787	753	-	-	-	-	-	-	-	
Stage 1	979	883	-	876	802	-	-	-	-	-	-	-	
Stage 2	890	801	-	930	874	-	-	-	-	-	-	-	

Approach	EB	WB	NB	SB	
HCM Control Delay, s	9.2	9.6	5.2	0	
HCM LOS	А	А			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR	
Capacity (veh/h)	1596	-	-	928	795	1616	-	-	
HCM Lane V/C Ratio	0.024	-	-	0.077	0.012	-	-	-	
HCM Control Delay (s)	7.3	0	-	9.2	9.6	0	-	-	
HCM Lane LOS	А	А	-	А	А	А	-	-	
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-	-	

Intersection

Int Delay, s/veh	0.6							
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations		्र	4		۰¥			
Traffic Vol, veh/h	0	62	62	1	8	0		
Future Vol, veh/h	0	62	62	1	8	0		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	-	-	-	0	-		
Veh in Median Storage	, # -	0	0	-	0	-		
Grade, %	-	0	0	-	0	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	0	0	0	0	0	0		
Mvmt Flow	0	67	67	1	9	0		

Major/Minor	Major1	Ν	/lajor2	I	Minor2	
Conflicting Flow All	68	0	-	0	135	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1546	-	-	-	863	1001
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	961	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1546	-	-	-	863	1001
Mov Cap-2 Maneuver	· -	-	-	-	863	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	961	-
Approach	EB		WB		SB	
HCM Control Delay, s	; 0		0		9.2	
HCM LOS					А	
Minor Lane/Major Mvr	mt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1546	-	-	-	863
HCM Lane V/C Ratio		-	-	-	-	0.01
HCM Control Delay (s	3)	0	-	-	-	9.2
HCM Lane LOS		А	-	-	-	А
HCM 95th %tile Q(vel	h)	0	-	-	-	0

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ľ	el 🕴		۲.	el el		۲.	*††		۲.	^	7
Traffic Volume (veh/h)	0	3	120	37	0	30	29	1900	34	54	2309	4
Future Volume (veh/h)	0	3	120	37	0	30	29	1900	34	54	2309	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1845	1900	1900	1900	1863	1900	1900	1881	1900
Adj Flow Rate, veh/h	0	3	130	40	0	33	32	2065	37	59	2510	4
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	3	0	0	0	2	2	0	1	0
Cap, veh/h	52	5	197	110	0	201	46	3548	64	76	2523	1140
Arrive On Green	0.00	0.12	0.12	0.12	0.00	0.12	0.03	0.69	0.69	0.04	0.71	0.71
Sat Flow, veh/h	1398	37	1584	1239	0	1615	1810	5146	92	1810	3574	1615
Grp Volume(v), veh/h	0	0	133	40	0	33	32	1360	742	59	2510	4
Grp Sat Flow(s),veh/h/ln	1398	0	1620	1239	0	1615	1810	1696	1847	1810	1787	1615
Q Serve(g_s), s	0.0	0.0	10.8	4.4	0.0	2.5	2.4	28.6	28.7	4.4	95.5	0.1
Cycle Q Clear(g_c), s	0.0	0.0	10.8	15.2	0.0	2.5	2.4	28.6	28.7	4.4	95.5	0.1
Prop In Lane	1.00		0.98	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	52	0	202	110	0	201	46	2338	1274	76	2523	1140
V/C Ratio(X)	0.00	0.00	0.66	0.36	0.00	0.16	0.69	0.58	0.58	0.77	0.99	0.00
Avail Cap(c_a), veh/h	61	0	212	117	0	211	66	2338	1274	133	2523	1140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	57.5	64.7	0.0	53.9	66.5	11.1	11.1	65.3	20.0	6.0
Incr Delay (d2), s/veh	0.0	0.0	6.8	2.0	0.0	0.4	16.7	1.1	2.0	15.3	16.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	5.2	1.6	0.0	1.1	1.4	13.6	15.1	2.6	52.2	0.0
LnGrp Delay(d),s/veh	0.0	0.0	64.3	66.7	0.0	54.2	83.2	12.1	13.0	80.6	36.7	6.0
LnGrp LOS			E	E		D	F	В	В	F	D	<u> </u>
Approach Vol, veh/h		133			73			2134			2573	
Approach Delay, s/veh		64.3			61.1			13.5			37.7	
Approach LOS		E			Е			В			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	101.1		24.6	9.7	103.4		24.6				
Change Period (Y+Rc), s	* 6.2	* 6.2		7.4	* 6.2	* 6.2		7.4				
Max Green Setting (Gmax), s	* 10	* 92		18.0	* 5	* 97		18.0				
Max Q Clear Time (q c+l1), s	6.4	30.7		12.8	4.4	97.5		17.2				
Green Ext Time (p_c), s	0.0	23.7		0.3	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			28.3									
HCM 2010 LOS			20.0 C									
Notes												
10103												

Carlsbad Traffic Analysis 03/12/2018 2018 Construction AM

5.1

Intersection

				14/51	LA (D.T.		NIDI	NDT		0.01	0.D.T	000
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
Traffic Vol, veh/h	17	5	45	11	1	1	22	2	9	0	17	43
Future Vol, veh/h	17	5	45	11	1	1	22	2	9	0	17	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	ŧ -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	9	0	0	0	0	11	0	0	5
M∨mt Flow	17	5	46	11	1	1	22	2	9	0	17	44

Major/Minor	Minor2			Minor1		M	Major1		ľ	Major2			
Conflicting Flow All	91	94	39	116	112	7	61	0	0	11	0	0	
Stage 1	39	39	-	51	51	-	-	-	-	-	-	-	
Stage 2	52	55	-	65	61	-	-	-	-	-	-	-	
Critical Hdwy	7.1	6.5	6.2	7.19	6.5	6.2	4.1	-	-	4.1	-	-	
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	3.581	4	3.3	2.2	-	-	2.2	-	-	
Pot Cap-1 Maneuver	898	800	1038	844	782	1081	1555	-	-	1621	-	-	
Stage 1	981	866	-	944	856	-	-	-	-	-	-	-	
Stage 2	966	853	-	928	848	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	886	789	1038	794	771	1081	1555	-	-	1621	-	-	
Mov Cap-2 Maneuver	886	789	-	794	771	-	-	-	-	-	-	-	
Stage 1	967	866	-	931	844	-	-	-	-	-	-	-	
Stage 2	950	841	-	882	848	-	-	-	-	-	-	-	

Approach	EB	WB	NB	SB	
HCM Control Delay, s	9	9.5	4.9	0	
HCM LOS	А	А			

Minor Lane/Major Mvmt	NBL	NBT	NBR E	BLn1V	VBLn1	SBL	SBT	SBR
Capacity (veh/h)	1555	-	-	973	809	1621	-	-
HCM Lane V/C Ratio	0.014	-	-	0.07	0.016	-	-	-
HCM Control Delay (s)	7.3	0	-	9	9.5	0	-	-
HCM Lane LOS	А	А	-	А	А	А	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection

Int Delay, s/veh	1.3						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		- सी	- 1 2		۰¥		
Traffic Vol, veh/h	25	66	66	0	1	1	
Future Vol, veh/h	25	66	66	0	1	1	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage	,# -	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	27	72	72	0	1	1	

Major/Minor	Major1	Ν	/lajor2	ľ	Minor2	
Conflicting Flow All	72	0	-	0	198	72
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	126	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1541	-	-	-	795	996
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	905	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1541	-	-	-	781	996
Mov Cap-2 Maneuver	-	-	-	-	781	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	905	-
Approach	EB		WB		SB	
HCM Control Delay, s	2		0		9.1	
HCM LOS					А	
Minor Lane/Major Mvr	nt	EBL	EBT	WBT	WBR S	BLn1
Capacity (veh/h)		1541	-	-	-	875
HCM Lane V/C Ratio		0.018	-	-	-	0.002
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS		А	А	-	-	Α
HCM 95th %tile Q(veh	(ו	0.1	-	-	-	0

	≯	-	\mathbf{r}	4	-	•	1	1	1	1	Ŧ	~
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	eî 👘		٦	ef 👘		1	ተተቡ		7	^	1
Traffic Volume (veh/h)	2	2	66	45	1	41	106	2177	40	20	2268	11
Future Volume (veh/h)	2	2	66	45	1	41	106	2177	40	20	2268	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1845	1900	1900	1900	1863	1900	1900	1881	1900
Adj Flow Rate, veh/h	2	2	71	48	1	44	114	2341	43	22	2439	12
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	3	0	0	0	2	2	0	1	0
Cap, veh/h	143	4	147	116	3	148	126	3860	71	37	2507	1133
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.07	0.75	0.75	0.02	0.70	0.70
Sat Flow, veh/h	1383	44	1577	1309	36	1584	1810	5144	94	1810	3574	1615
Grp Volume(v), veh/h	2	0	73	48	0	45	114	1542	842	22	2439	12
Grp Sat Flow(s),veh/h/ln	1383	0	1622	1309	0	1620	1810	1696	1847	1810	1787	1615
Q Serve(g s), s	0.2	0.0	6.2	5.3	0.0	3.8	9.1	30.3	30.5	1.8	93.4	0.3
Cycle Q Clear(g c), s	4.0	0.0	6.2	11.5	0.0	3.8	9.1	30.3	30.5	1.8	93.4	0.3
Prop In Lane	1.00		0.97	1.00		0.98	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	143	0	151	116	0	151	126	2545	1386	37	2507	1133
V/C Ratio(X)	0.01	0.00	0.48	0.42	0.00	0.30	0.91	0.61	0.61	0.60	0.97	0.01
Avail Cap(c_a), veh/h	185	0	201	155	0	200	126	2545	1386	75	2507	1133
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	0.0	62.7	68.1	0.0	61.6	67.3	8.3	8.3	70.7	20.4	6.5
Incr Delay (d2), s/veh	0.0	0.0	2.4	2.4	0.0	1.1	53.1	1.1	2.0	14.8	12.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	0.1	0.0	2.9	2.0	0.0	1.7	6.4	14.3	16.2	1.0	49.8	0.1
LnGrp Delay(d),s/veh	63.4	0.0	65.0	70.5	0.0	62.6	120.4	9.4	10.3	85.5	33.1	6.6
LnGrp LOS	Е		E	Е		Е	F	А	В	F	С	А
Approach Vol, veh/h		75			93			2498			2473	
Approach Delay, s/veh		65.0			66.7			14.8			33.4	
Approach LOS		Е			Е			В			С	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6	· · ·	8				
Phs Duration (G+Y+Rc) s	91	115.5		21.0	16.3	108.3		21.0				
Change Period (Y+Rc) s	*62	* 6 2		74	* 6 2	* 6 2		74				
Max Green Setting (Gmax) s	* 6	* 1 1F2		18.0	* 10	* 1F2		18.0				
Max O Clear Time (q. c+11) s	3.8	32.5		8.2	11 1	95.4		13.5				
Green Ext Time (p_c), s	0.0	32.7		0.2	0.0	6.2		0.1				
Intersection Summary	0.0	02.1		0.2	0.0	0.2		0.1				
			0E 4									
HCM 2010 Ctil Delay			20.4 C									
			U									
NOTES												

Carlsbad Traffic Analysis 03/12/2018 2018 Construction PM

Synchro 10 Report Page 1 6.2

Intersection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
Traffic Vol, veh/h	37	2	31	4	4	1	38	12	3	0	9	21
Future Vol, veh/h	37	2	31	4	4	1	38	12	3	0	9	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	4 -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	9	0	0	0	0	11	0	0	5
M∨mt Flow	38	2	32	4	4	1	39	12	3	0	9	21

Major/Minor	Minor2			Minor1		M	Major1		N	/lajor2			
Conflicting Flow All	114	113	20	129	122	14	30	0	0	15	0	0	
Stage 1	20	20	-	92	92	-	-	-	-	-	-	-	
Stage 2	94	93	-	37	30	-	-	-	-	-	-	-	
Critical Hdwy	7.1	6.5	6.2	7.19	6.5	6.2	4.1	-	-	4.1	-	-	
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	3.581	4	3.3	2.2	-	-	2.2	-	-	
Pot Cap-1 Maneuver	868	781	1064	828	772	1072	1596	-	-	1616	-	-	
Stage 1	1004	883	-	898	823	-	-	-	-	-	-	-	
Stage 2	918	822	-	961	874	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	847	761	1064	787	753	1072	1596	-	-	1616	-	-	
Mov Cap-2 Maneuver	847	761	-	787	753	-	-	-	-	-	-	-	
Stage 1	979	883	-	876	802	-	-	-	-	-	-	-	
Stage 2	890	801	-	930	874	-	-	-	-	-	-	-	

Approach	EB	WB	NB	SB	
HCM Control Delay, s	9.2	9.6	5.2	0	
HCM LOS	А	А			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR	
Capacity (veh/h)	1596	-	-	928	795	1616	-	-	
HCM Lane V/C Ratio	0.024	-	-	0.077	0.012	-	-	-	
HCM Control Delay (s)	7.3	0	-	9.2	9.6	0	-	-	
HCM Lane LOS	А	А	-	А	А	А	-	-	
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-	-	

Intersection

Int Delay, s/veh	1.9						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ب	et 👘		Y		
Traffic Vol, veh/h	0	62	62	1	8	25	
Future Vol, veh/h	0	62	62	1	8	25	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage,	,# -	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	0	67	67	1	9	27	

Major/Minor	Major1	Ν	/lajor2	ľ	Minor2	
Conflicting Flow All	68	0	-	0	135	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1546	-	-	-	863	1001
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	961	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1546	-	-	-	863	1001
Mov Cap-2 Maneuver	· -	-	-	-	863	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	961	-
Approach	EB		WB		SB	
HCM Control Delay, s	; 0		0		8.9	
HCM LOS					А	
Minor Lane/Major Mvi	mt	EBL	EBT	WBT	WBR \$	SBLn1
Capacity (veh/h)		1546	-	-	-	964
HCM Lane V/C Ratio		-	-	-	-	0.037
HCM Control Delay (s	s)	0	-	-	-	8.9
HCM Lane LOS		А	-	-	-	А
HCM 95th %tile Q(vel	h)	0	-	-	-	0.1

Appendix H: Tribal Consultation



April 23, 2018

Michael Mirelez Cultural Resource Coordinator Torres Martinez Desert Cahuilla Indians P.O. Box 1160 Thermal, CA 92274

SUBJECT: ASSEMBLY BILL 52 NOTIFICATION OF PROPOSED PROJECT WITHIN THE TORRES MARTINEZ DESERT CAHUILLA INDIANS' GEOGRAPHIC AREA OF TRADITIONAL AND CULTURAL AFFILIATION, LOCATED WITHIN THE CITY OF CARLSBAD, CALIFORNIA

Dear Mr. Mirelez,

In accordance with the provisions of Assembly Bill (AB) 52, the City of Carlsbad, as a lead agency, is providing notification of a proposed development project located within a geographic and jurisdictional area we understand to be traditionally and culturally affiliated with the Torres Martinez Desert Cahuilla Indians. The purpose of this letter is to initiate consultation and to determine if you are aware of any issues of cultural concern regarding the area shown on the enclosed maps. In particular, we would like to know if you have knowledge of any Traditional Cultural Properties, Sacred Sites, resource collecting areas, or any other areas of concern that you wish to bring to our attention.

PROJECT NAME:	Fire Station No. 2
PROJECT NO:	EIA 2018-0005
PROJECT LOCATION:	1906 Arenal Road, Carlsbad, CA

PROJECT DESCRIPTION: The City of Carlsbad proposes to demolish the existing fire station located at 1906 Arenal Road, Carlsbad, California, and construct a new fire station at the same location. The new station would meet the operational needs, goals, and policies of the City of Carlsbad Fire Department and the city. The new station would be approximately 10,062 square feet and would be constructed on approximately 0.4 acre in the same location as the existing station, though the new station would be a two-story facility replacing the existing single-story station. Project construction would be approximately 12-18 months in duration and demolition of the existing fire station building is targeted for late 2019. The project would be operational by 2021.

A Cultural Resources Assessment was prepared for the project by LSA Associates, Inc. The assessment included a records search of the project vicinity at the South Coastal Information Center (SCIC), a sacred lands file search with the Native American Heritage Commission (NAHC), and a summary report that included a review of previous studies conducted within and near the project site. The records search identified one previously identified cultural resource (CA-SDI-609) within or in the immediate vicinity of the project site. However, the previously disturbed nature of the site and the presence of fill material

EIA 2018-0005 (PUB2018-0010) - FIRE STATION NO. 2 April 23, 2018 Page 2

from the construction of the existing fire station suggest a low likelihood of encountering sensitive cultural resources.

The city is requesting any information that you may have regarding tribal cultural resources within the project area so that this information can be incorporated into the planning phase of the project. If you have any comments or concerns regarding Native American issues related to the overall project, please contact me within 30 days of the date of this letter.

Your comments and concerns are important to the city and we look forward to hearing from you. You may reach me by email at <u>Pam.Drew@carlsbadca.gov</u> or by phone at 760-602-4644.

Sincerely,

PAM DREW Associate Planner

PD:dh:

Attachments: Location Map Aerial Photo

c: Don Neu, City Planner Scott Donnell, Senior Planner File Copy







Fire Station No. 2 EIA 2018-0005





April 23, 2018

Mario Morales Cultural Resources Representative Mesa Grande Band of Mission Indians PMB 366 35008 Pala Temecula Road Pala, CA 92059

SUBJECT: ASSEMBLY BILL 52 NOTIFICATION OF PROPOSED PROJECT WITHIN THE MESA GRANDE BAND OF MISSION INDIANS' GEOGRAPHIC AREA OF TRADITIONAL AND CULTURAL AFFILIATION, LOCATED WITHIN THE CITY OF CARLSBAD, CALIFORNIA

Dear Mr. Morales,

In accordance with the provisions of Assembly Bill (AB) 52, the City of Carlsbad, as a lead agency, is providing notification of a proposed development project located within a geographic and jurisdictional area we understand to be traditionally and culturally affiliated with the Mesa Grande Band of Mission Indians. The purpose of this letter is to initiate consultation and to determine if you are aware of any issues of cultural concern regarding the area shown on the enclosed maps. In particular, we would like to know if you have knowledge of any Traditional Cultural Properties, Sacred Sites, resource collecting areas, or any other areas of concern that you wish to bring to our attention.

PROJECT NAME:	Fire Station No. 2
PROJECT NO:	EIA 2018-0005
PROJECT LOCATION:	1906 Arenal Road, Carlsbad, CA

PROJECT DESCRIPTION: The City of Carlsbad proposes to demolish the existing fire station located at 1906 Arenal Road, Carlsbad, California, and construct a new fire station at the same location. The new station would meet the operational needs, goals, and policies of the City of Carlsbad Fire Department and the city. The new station would be approximately 10,062 square feet and would be constructed on approximately 0.4 acre in the same location as the existing station, though the new station would be a two-story facility replacing the existing single-story station. Project construction would be approximately 12-18 months in duration and demolition of the existing fire station building is targeted for late 2019. The project would be operational by 2021.

A Cultural Resources Assessment was prepared for the project by LSA Associates, Inc. The assessment included a records search of the project vicinity at the South Coastal Information Center (SCIC), a sacred lands file search with the Native American Heritage Commission (NAHC), and a summary report that included a review of previous studies conducted within and near the project site. The records search identified one previously identified cultural resource (CA-SDI-609) within or in the immediate vicinity of

EIA 2018-0005 (PUB2018-0010) - FIRE STATION NO. 2 April 23, 2018 Page 2

the project site. However, the previously disturbed nature of the site and the presence of fill material from the construction of the existing fire station suggest a low likelihood of encountering sensitive cultural resources.

The city is requesting any information that you may have regarding tribal cultural resources within the project area so that this information can be incorporated into the planning phase of the project. If you have any comments or concerns regarding Native American issues related to the overall project, please contact me within 30 days of the date of this letter.

Your comments and concerns are important to the city and we look forward to hearing from you. You may reach me by email at <u>Pam.Drew@carlsbadca.gov</u> or by phone at 760-602-4644.

Sincerely,

PAM DREW Associate Planner

PD:dh

Attachments: Location Map Aerial Photo

c: Don Neu, City Planner Scott Donnell, Senior Planner File Copy






NOT TO SCALE

Fire Station No. 2 EIA 2018-0005





April 23, 2018

Destiny Colocho Cultural Resources Department Rincon Band of Luiseño Indians 1 West Tribal Road Valley Center, CA 92082

SUBJECT: ASSEMBLY BILL 52 NOTIFICATION OF PROPOSED PROJECT WITHIN THE RINCON BAND OF LUISEÑO INDIANS' GEOGRAPHIC AREA OF TRADITIONAL AND CULTURAL AFFILIATION, LOCATED WITHIN THE CITY OF CARLSBAD, CALIFORNIA

Dear Ms. Colocho,

In accordance with the provisions of Assembly Bill (AB) 52, the City of Carlsbad, as a lead agency, is providing notification of a proposed development project located within a geographic and jurisdictional area we understand to be traditionally and culturally affiliated with the Rincon Band of Luiseño Indians. The purpose of this letter is to initiate consultation and to determine if you are aware of any issues of cultural concern regarding the area shown on the enclosed maps. In particular, we would like to know if you have knowledge of any Traditional Cultural Properties, Sacred Sites, resource collecting areas, or any other areas of concern that you wish to bring to our attention.

PROJECT NAME:	Fire Station No. 2
PROJECT NO:	EIA 2018-0005
PROJECT LOCATION:	1906 Arenal Road, Carlsbad, CA

PROJECT DESCRIPTION: The City of Carlsbad proposes to demolish the existing fire station located at 1906 Arenal Road, Carlsbad, California, and construct a new fire station at the same location. The new station would meet the operational needs, goals, and policies of the City of Carlsbad Fire Department and the city. The new station would be approximately 10,062 square feet and would be constructed on approximately 0.4 acre in the same location as the existing station, though the new station would be a two-story facility replacing the existing single-story station. Project construction would be approximately 12-18 months in duration and demolition of the existing fire station building is targeted for late 2019. The project would be operational by 2021.

A Cultural Resources Assessment was prepared for the project by LSA Associates, Inc. The assessment included a records search of the project vicinity at the South Coastal Information Center (SCIC), a sacred lands file search with the Native American Heritage Commission (NAHC), and a summary report that included a review of previous studies conducted within and near the project site. The records search identified one previously identified cultural resource (CA-SDI-609) within or in the immediate vicinity of the project site. However, the previously disturbed nature of the site and the presence of fill material

EIA 2018-0005 (PUB2018-0010) - FIRE STATION NO. 2 April 23, 2018 Page 2

from the construction of the existing fire station suggest a low likelihood of encountering sensitive cultural resources.

The city is requesting any information that you may have regarding tribal cultural resources within the project area so that this information can be incorporated into the planning phase of the project. If you have any comments or concerns regarding Native American issues related to the overall project, please contact me within 30 days of the date of this letter.

Your comments and concerns are important to the city and we look forward to hearing from you. You may reach me by email at <u>Pam.Drew@carlsbadca.gov</u> or by phone at 760-602-4644.

Sincerely,

PAM DREW Associate Planner

PD:dh:

Attachments: Location Map Aerial Photo

c: Don Neu, City Planner Scott Donnell, Senior Planner File Copy







SITE MAP

Fire Station No. 2 EIA 2018-0005





April 23, 2018

Via USPS certified mail and email

Cami Mojado Cultural Resources Manager San Luis Rey Band of Mission Indians 1889 Sunset Drive Vista, CA 92081

SUBJECT: ASSEMBLY BILL 52 NOTIFICATION OF PROPOSED PROJECT WITHIN THE SAN LUIS REY BAND OF MISSION INDIANS' GEOGRAPHIC AREA OF TRADITIONAL AND CULTURAL AFFILIATION, LOCATED WITHIN THE CITY OF CARLSBAD, CALIFORNIA

Dear Ms. Mojado,

In accordance with the provisions of Assembly Bill (AB) 52, the City of Carlsbad, as a lead agency, is providing notification of a proposed development project located within a geographic and jurisdictional area we understand to be traditionally and culturally affiliated with the San Luis Rey Band of Mission Indians. The purpose of this letter is to initiate consultation and to determine if you are aware of any issues of cultural concern regarding the area shown on the enclosed maps. In particular, we would like to know if you have knowledge of any Traditional Cultural Properties, Sacred Sites, resource collecting areas, or any other areas of concern that you wish to bring to our attention.

PROJECT NAME:	Fire Station No. 2
PROJECT NO:	EIA 2018-0005
PROJECT LOCATION:	1906 Arenal Road, Carlsbad, CA

PROJECT DESCRIPTION: The City of Carlsbad proposes to demolish the existing fire station located at 1906 Arenal Road, Carlsbad, California, and construct a new fire station at the same location. The new station would meet the operational needs, goals, and policies of the City of Carlsbad Fire Department and the city. The new station would be approximately 10,062 square feet and would be constructed on approximately 0.4 acre in the same location as the existing station, though the new station would be a two-story facility replacing the existing single-story station. Project construction would be approximately 12-18 months in duration and demolition of the existing fire station building is targeted for late 2019. The project would be operational by 2021.

A Cultural Resources Assessment was prepared for the project by LSA Associates, Inc. The assessment included a records search of the project vicinity at the South Coastal Information Center (SCIC), a sacred lands file search with the Native American Heritage Commission (NAHC), and a summary report that included a review of previous studies conducted within and near the project site. The records search identified one previously identified cultural resource (CA-SDI-609) within or in the immediate vicinity of the project site. However, the previously disturbed nature of the site and the presence of fill material

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from the construction of the existing fire station suggest a low likelihood of encountering sensitive cultural resources.

The city is requesting any information that you may have regarding tribal cultural resources within the project area so that this information can be incorporated into the planning phase of the project. If you have any comments or concerns regarding Native American issues related to the overall project, please contact me within 30 days of the date of this letter.

Your comments and concerns are important to the city and we look forward to hearing from you. You may reach me by email at <u>Pam.Drew@carlsbadca.gov</u> or by phone at 760-602-4644.

Sincerely,

PAM DREW Associate Planner

PD:dh:

Attachments: Location Map Aerial Photo

c: Don Neu, City Planner Scott Donnell, Senior Planner File Copy







Fire Station No. 2 EIA 2018-0005



SAN LUIS REY BAND OF MISSION INDIANS

1889 Sunset Drive • Vista, California 92081 760-724-8505 • FAX 760-724-2172 www.slrmissionindians.org

April 27, 2018

Pam Drew Associate Planner Planning Division City of Carlsbad 1635 Faraday Ave. Carlsbad, CA 92008

VIA ELECTRONIC MAIL Pam.Drew@carlsbad.ca.gov

RE: Formal Request for Tribal Consultation Pursuant to the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1, subds. (b), (d) and (e) for the Fire Station No. 2 Project (Project No. EIA 2018-0005), City of Carlsbad

Dear Ms. Drew:

This letter constitutes a formal request for tribal consultation under the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e)) for the mitigation of potential project impacts to tribal cultural resource for the above referenced project. The San Luis Rey Band of Mission Indians requested formal notice and information for all projects within your agency's geographical jurisdiction and received notification on April 23, 2018 regarding the above referenced project.

The San Luis Rey Band of Mission Indians requests consultation on the following topics checked below, which shall be included in consultation if requested (Public Resources Code section 21080.3.2, subd. (a)):

<u>X</u> Alternatives to the project

- X Recommended mitigation measures
- X Significant effects of the project

The San Luis Rey Band of Mission Indians also requests consultation on the following discretionary topics checked below (Public Resources Code section 21080.3.2 (subd. (a):

<u>X</u> Type of environmental review necessary

X Significance of tribal cultural resources, including any regulations, policies or standards used by your agency to determine significance of tribal cultural resources

- X Significance of the project's impacts on tribal cultural resources
- X Project alternatives and/or appropriate measures for preservation or mitigation that we may recommend, including, but not limited to:
 - (1) Avoidance and preservation of the resources in place, pursuant to Public Resources Code section 21084.3, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks or other open space, to incorporate the resources with culturally appropriate protection and management criteria;
 - (2) Treating the resources with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resources, including but not limited to the following:
 - a. Protecting the cultural character and integrity of the resource;
 - b. Protection the traditional use of the resource; and
 - c. Protecting the confidentiality of the resource.
 - (3) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - (4) Protecting the resource.

Additionally, the San Luis Rey Band of Mission Indians requests to receive any cultural resources assessments or other assessments that have been completed on all or part of the project's potential "area of project effect" (APE), including, but not limited to:

- 1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
 - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE;
 - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the potential APE; and
 - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
- 2. The results of any archaeological inventory survey that was conducted, including:
 - Any report that may contain site forms, site significance, and suggested mitigation measures.

All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

- 3. The results of any Sacred Lands File (SFL) check conducted through Native American Heritage Commission. The request form can be found at http://www.nahc.ca.gov/slf_request.html. USGS 7.5-minute quadrangle name, township, range, and section required for the search.
- 4. Any ethnographic studies conducted for any area including all or part of the potential APE; and
- 5. Any geotechnical reports regarding all or part of the potential APE.

We would like to remind your agency that CEQA Guidelines section 15126.4, subdivision (b)(3) states that preservation in place is the preferred manner of mitigating impacts to archaeological sites. Section 15126.4, subd. (b)(3) of the CEQA Guidelines has been interpreted by the California Court of Appeal to mean that "feasible preservation in place must be adopted to mitigate impacts to historical resources of an archaeological nature unless the lead agency determines that another form of mitigation is available and provides superior mitigation of impacts." *Madera Oversight Coalition v. County of Madera* (2011) 199 Cal.App.4th 48, disapproved on other grounds, *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439.

The San Luis Rey Band of Mission Indians expects to begin consultation within 30 days of your receipt of this letter. Please contact the San Luis Rey Band of Mission Indians lead contact person identified in our previous request for notification.

Name: Cami Mojado Title: Cultural Resources Manager Address: 1889 Sunset Drive, Vista, CA 92081 Office Phone Number: 760-724-8505 Direct Cell Phone Number: 760-917-1736 Office Fax Number 760-724-2172 Email Address: cjmojado@slrmissionindians.org

Sincerely,

m. Long Kul

Merri Lopez-Keifer Chief Legal Counsel San Luis Rey Band of Mission Indians

RINCON BAND OF LUISEÑO INDIANS Cultural Resources Department

1 W. Tribal Road · Valley Center, California 92082 · (760) 297-2635 Fax:(760) 692-1498



May 25, 2018

Pam Drew 1903 Arenal Road Carlsbad, CA 92009

Re: Fire Station No. 2

Dear Ms. Drew:

This letter is written on behalf of the Rincon Band of Luiseño Indians. We have received your notification regarding the Fire Station No. 2, and we thank you for the opportunity to consult on this project. The identified location is within the Territory of the Luiseño people, and is also within Rincon's specific area of Historic interest.

Embedded in the Luiseño territory are Rincon's history, culture and identity. Rincon does not have knowledge of cultural resources within or in close proximity of the proposed project site. No consultation is requested at this time. However, your AB52 notification letter stated that cultural site CA-SDI-609 was identified within or immediately adjacent to the project site. Although the proposed project area has already been developed, there is a possibility for cultural discoveries as a result of this project. Therefore, we recommend archaeological and Luiseño Tribal monitoring for ground disturbances associated with this development project. In addition, we ask that the Rincon Band be provided the opportunity to monitor for this project.

If you have additional questions or concerns please do not hesitate to contact our office at your convenience at (760) 297-2635.

Thank you for the opportunity to protect and preserve our cultural assets.

Sincerely

Destiny Colocho Director Rincon Cultural Resources