Cambria Court Residential Project
Initial Study/Mitigated Negative Declaration

Prepared for:

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SEPTEMBER 2019

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	assembly bill
ADT	average daily traffic
applicant	Cambria Homes LLC
AQMP	Air Quality Management Plan
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Services
Cal Water	California Water Service
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Carson
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of Los Angeles
CRHR	California Register of Historical Resources
cy	cubic yard
dB	decibels
dBA	A-weighted decibels
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
FHSZ	fire hazard severity zone
GHG	greenhouse gas
GWP	global warming potential
HCM	Highway Capacity Manual
I	Interstate
ICU	Intersection Capacity Utilization
IS	initial study
JWPCP	Joint Water Pollution Control Plant
LACoFD	Los Angeles County Fire Department
LACSD	Sanitation Districts of Los Angeles County
LAUSD	Los Angeles Unified School District
L_{dn}	day/night average sound level
L_{eq}	energy equivalent level
LID	Low Impact Development
LOS	level of service
LST	localized significance threshold
mgd	million gallons per day

Acronym/Abbreviation	Definition
MM	mitigation measure
MMRP	Mitigation Monitoring and Reporting Program
MND	mitigated negative declaration
MT	metric tons
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	ozone
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
PRC	California Public Resources Code
project	Cambria Court Residential Project
RCNM	Roadway Construction Noise Model
RTP	Regional Transportation Plan
SB	Senate Bill
SBCCG	South Bay Cities Council of Governments
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SO_x	sulfur oxides
TAC	toxic air contaminant
UWMP	Urban Water Management Plan
V/C	volume-to-capacity
VMT	vehicle miles traveled
VOC	volatile organic compound
WRD	Water Replenishment District of Southern California

1 Introduction

1.1 Project Overview

The City of Carson (City) received a development application from Cambria Homes LLC (applicant) requesting the approval of the following discretionary actions for the proposed Cambria Court Residential Project (project):

- Site Plan and Design Overlay Review (DOR) No. 1773-19
- Conditional Use Permit (CUP) No. 1094-19
- Zone Change (ZCC) No. 180-19
- Lot Line Adjustment (LLA/COC) No. 286-19
- Vesting Tentative Tract Map (TTM) No. 067200

The approximately 3.11-acre project site is currently developed with scattered single-family units. The project involves the demolition of existing residential uses and construction of a 35-unit multifamily residential community with associated improvements.

The project is subject to analysis pursuant to the California Environmental Quality Act (CEQA). In accordance with CEQA Guidelines Section 15367, the City is the lead agency with principal responsibility for considering the project for approval (14 CCR 15000 et seq.).

1.2 California Environmental Quality Act Compliance

CEQA, a statewide environmental law contained in California Public Resources Code (PRC), Sections 21000–21177, applies to most public agency decisions to carry out, authorize, or approve actions that have the potential to adversely affect the environment (PRC, Section 21000 et seq.). The overarching goal of CEQA is to protect the physical environment. To achieve that goal, CEQA requires that public agencies identify the environmental consequences of their discretionary actions and consider alternatives and mitigation measures that could avoid or reduce significant adverse impacts when avoidance or reduction is feasible. It also gives other public agencies and the public an opportunity to comment on the project. If significant adverse impacts cannot be avoided, reduced, or mitigated to below a level of significance, the public agency is required to prepare an environmental impact report (EIR) and balance the project's environmental concerns with other goals and benefits in a statement of overriding considerations.

In accordance with the CEQA Guidelines, the City, as the lead agency, has prepared an initial study (IS) to evaluate potential environmental effects and to determine whether an EIR, a negative declaration, or a mitigated negative declaration (MND) should be prepared for the project. Per Section 15070(b) of the CEQA Guidelines, an MND is prepared for a project when an IS has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the project applicant before the proposed MND is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment.

1.3 Preparation and Processing of this Initial Study/Mitigated Negative Declaration

The City's Community Development Department, Planning Division, directed and supervised preparation of this IS/MND. The content contained and the conclusions drawn within this IS/MND reflect the independent judgment of the City.

1.4 Initial Study Checklist

Under the City's guidance, the project's Environmental Checklist (i.e., the IS) has been prepared per CEQA Guidelines Sections 15063–15065. The CEQA Guidelines include a suggested checklist to indicate whether a project would have an adverse impact on the environment. The checklist is found in Section 3, Initial Study Checklist, of this document. Following the Environmental Checklist, Sections 3.1 through 3.21 include an explanation and discussion of each significance determination made in the checklist for the project.

For this IS/MND, one of the following four responses is possible for each environmental issue area:

1. Potentially Significant Impact
2. Less-Than-Significant Impact with Mitigation Incorporated
3. Less-Than-Significant Impact
4. No Impact

The checklist and accompanying explanation of checklist responses provide the information and analysis necessary to assess relative environmental impacts of the project. In doing so, the City will determine the extent of additional environmental review, if any, for the project.

1.5 Existing Documents Incorporated by Reference

CEQA Guidelines Sections 15150 and 15168(d)(2) permit and encourage an environmental document to incorporate by reference other documents that provide relevant data. The City of Carson General Plan (City of Carson 2004), the City of Carson General Plan EIR (City of Carson 2002), and the City of Carson Municipal Code (City of Carson 2019a), which are all herein incorporated by reference pursuant to CEQA Guidelines Section 15150, are available for review at the following location:

City of Carson
701 East Carson Street
Carson, California 90745

1.6 Point of Contact

The City is the lead agency for this environmental document. Any questions about preparation of this IS/MND, its assumptions, or its conclusions should be referred to the following:

McKina Alexander, Associate Planner
City of Carson
Community Development Department, Planning Division
701 East Carson Street
Carson, California 90745
310.952.1761
malexander@carson.ca.us

The point of contact for the project applicant is as follows:

Rich Welter
23705 Crenshaw Boulevard, Suite 200
Torrance, California 90510
310.539.8462

1.7 Mitigation Measures

Prior to mitigation, project implementation would result in potentially significant impacts to Cultural Resources, Geology and Soils, Noise, and Tribal Cultural Resources. However, mitigation measures (MMs) have been developed to avoid or reduce these impacts to levels considered less than significant. These MMs would be included in the Contractor Specifications and bid documents, as appropriate, and verified as part of the Mitigation Monitoring and Reporting Program (MMRP). These MMs must be implemented to the satisfaction of the City and are listed below in Table 1, Mitigation Measures.

Table 1. Mitigation Measures

Potential Impact	Mitigation Measure
Cultural Resources	
As is the case with most development projects that involve earthwork activity, there is a possibility that subsurface construction activity could unearth a potentially significant archaeological resource.	**MM-CUL-1.** If archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending on the significance of the find under the California Environmental Quality Act (CEQA) (14 CCR 15064.5[f]; California Public Resources Code, Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan and data recovery, may be warranted.

Table 1. Mitigation Measures

Potential Impact	Mitigation Measure
Geology and Soils	
As is the case with most other development projects that involve earthwork activity, there is always a possibility—albeit low in this instance—that subsurface construction activity could unearth a potentially significant paleontological resource.	**MM-GEO-1.** In the event that paleontological resources (fossil remains) are exposed during construction activities for the project, all construction work occurring within 50 feet of the find shall immediately stop until a Qualified Paleontologist, as defined by the Society of Vertebrate Paleontology's 2010 guidelines, can assess the nature and importance of the find. Depending on the significance of the find, the Qualified Paleontologist may record the find and allow work to continue, or may recommend salvage and recovery of the resource. All recommendations will be made in accordance with the Society of Vertebrate Paleontology's 2010 guidelines, and shall be subject to review and approval by the City of Carson. Work in the area of the find may only resume upon approval of a Qualified Paleontologist.
Noise	
The highest noise levels from construction are predicted to range from approximately 82 dBA L_{eq} (during the architectural coatings phase) to 92 dBA L_{eq} (during the demolition phase) at the nearest adjacent noise-sensitive receivers (i.e., multifamily residences located 5 feet from the closest point of construction). These noise levels would be substantially higher than ambient noise levels, which ranged from approximately 54 dBA L_{eq} to 63 dBA L_{eq}, and would be considered annoying or disruptive for daily activities at the closest off-site receptors (i.e., 20 feet away).	**MM-NOI-1.** Prior to building construction, the applicant would either construct a minimum 8-foot-tall concrete masonry unit (CMU) wall (Option 1), or provide a temporary construction sound barrier wall (Option 2) to reduce construction-related noise to nearby sensitive receptors: **Option 1** The applicant shall first clear, prepare, and grade the area on and immediately around the perimeter of the project site only. Following these initial construction activities, a minimum 8-foot-tall concrete masonry unit (CMU) wall shall be constructed around the project perimeter and designed reflecting the City-approved project development plans. Aside from its long-term aesthetic value to the project, this CMU wall would act as a noise barrier during the remainder of the project construction phase. **Option 2** A temporary construction sound barrier wall shall be installed along the project site boundaries. Entry gates for construction vehicles shall be closed when vehicles are not entering or exiting the site. The barrier shall be made of sound-attenuating material (not landscaping). To effectively reduce sound transmission through the barrier, the material chosen must be rigid and sufficiently dense (at least 20 kilograms per square meter). All noise barrier material types are equally effective, acoustically, if they have this density. For example, 5/8-inch plywood, mounted with no gaps between adjacent sheets, would be of sufficient density to achieve the target attenuation. The barrier shall be 8 feet in height from the ground surface on the construction side of the wall to achieve the goal of blocking direct line-of-sight to the adjacent residence windows. **MM-NOI-2.** At least 30 days prior to commencement of construction, the contractor shall provide written notice to all residential property owners and tenants within 300 feet of the project site that proposed construction activities could affect outdoor or indoor living areas. The notice shall contain a description of the project, a construction schedule including days and hours of construction, and a description of noise-reduction measures. **MM-NOI-3.** Noise-generating construction activities (which may include preparation for construction work) shall be permitted weekdays between 7:00 a.m. and 6:00 p.m., excluding federal holidays. When a holiday falls on a

Table 1. Mitigation Measures

Potential Impact	Mitigation Measure
	Saturday or Sunday, the preceding Friday or following Monday, respectively, shall be observed as a legal holiday. **MM-NOI-4.** Stationary construction equipment that generates noise that exceeds 85 dBA at the property boundaries shall be shielded with a barrier that meets a Sound Transmission Class rating of 25. **MM-NOI-5** All construction equipment powered by internal combustion engines shall be properly muffled and maintained. No internal combustion engine shall be operated on the site without a muffler. All diesel equipment shall be operated with closed engine doors and shall be equipped with factory recommended mufflers. Unnecessary idling of internal combustion engines shall be prohibited. **MM-NOI-6** Air compressors and generators used for construction shall be surrounded by temporary acoustical shelters. Whenever feasible, electrical power shall be used to run air compressors and similar power tools.
Tribal Cultural Resources	
It is always possible that intact archaeological deposits, including tribal cultural resources, are present at subsurface depths that were not earlier impacted by the current on-site development. For this reason, the project site should be treated as potentially sensitive for archaeological resources.	**MM-CUL-1.** (See Cultural Resources)

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2 Project Description

2.1 Project Location

The project site is located in the southern portion of the City, which is located in the South Bay/Harbor area of the County of Los Angeles (County) (Figure 1, Project Location). Regionally, the City is bordered by the cities of Long Beach, Compton, Torrance, and Los Angeles. In addition, unincorporated County land borders the City on the northwest. Locally, the project site is located north of the intersection of East 220th Street and Neptune Avenue.

The approximately 3.11-acre site consists of 11 parcels (Assessor's Parcel Numbers 7335-006-033, 7335-006-032, 7335-006-023, 7335-006-024, 7335-006-026, 7335-006-027, 7335-007-014, 7335-007-016, 7335-007-017, 7335-007-029, and 7335-007-030). The address associated with the project is 427 East 220th Street Carson, California 90745.

2.2 Environmental Setting

City of Carson

The City is approximately 19 square miles in the South Bay region of the County. Generally, the City is an urban community with a broad mix of land uses, including housing, commercial, office, industrial park, open space, and public serving uses. The City is primarily built out and relatively flat, with most elevations ranging from 20 to 40 feet above mean sea level. The northwest and southeast portions of the City are generally industrial use. Residential uses are generally located on the southwest and northeast parts of the City. Commercial uses are concentrated along Interstate (I) 405.

The City is surrounded by the City of Los Angeles to the northwest, south, and southeast. The City of Compton is adjacent to the northeast, and the City of Long Beach is adjacent to the east. The City is also close to the Ports of Los Angeles and Long Beach, approximately 2 to 3 miles to the south. There are four freeways that provide direct access to the City: I-405 (San Diego Freeway), which bisects the City in an east–west direction; I-710 (Long Beach Freeway), which forms a portion of the eastern portion of the City; State Route 91 (Redondo Beach/Artesia Freeway) in the northern portion of the City; and I-110 (Harbor Freeway), which forms much of the western border of the City (City of Carson 2002).

Existing Project Site

The approximately 3.11-acre site contains scattered single-family units on disturbed, currently developed land. The existing residences consist of mid-century single-family units. The project site is roughly centered between I-405, approximately 1 mile to the east, and I-110, approximately 1 mile to the west. The General Plan land use designation for the project site is Medium Density, and the current zoning is RM-8-D (Residential Multiple Family-8 dwelling units/acre – Design Overlay) and RM-12-D (Residential Multiple Family-12 dwelling units/acre – Design Overlay) (Figure 2, Zoning).

Surrounding Land Uses

Land uses surrounding the project site primarily consist of single-family residential uses, along with some commercial, public/institutional, and utility (electrical substation) uses. The northern boundary of the project site abuts the backside of single-family residential units fronting East 219th Street. The southern boundary of the project site fronts East 220th, and further south are other single-family residential uses and a church. The eastern and western boundaries are immediately adjacent to single-family residential uses.

2.3 Proposed Project

The project involves the demolition of existing residential uses and construction of a 35-unit multifamily residential community with associated improvements. The residential community would consist of two-story units, surface parking, and common open space. The units would each contain a three- or four-bedroom floor plan ranging from approximately 1,800 square feet to 2,138 square feet in size. The common open space area would include an overhead shade structure, fire pit with seating, turf game court, and barbeque. The residential community would be encompassed by a light gray 6-foot high split-face, concrete masonry unit wall. Within the residential community, white or beige, 5.5-foot-high vinyl fences would separate residential units (Figure 3, Site Plan).

Site Design and Architecture

The design of the project pursues a traditional architectural style, which includes window trims, decorative rails, and gable ends with added decorative details. The project would include vertical and horizontal elements that would break up the overall massing of the buildings and provide visual interest. The project would utilize composite shingle roof material, stucco, sectional garage doors, light fixtures, and fiber cement trims and siding. Additionally, some units would include a stone veneer, and others would use decorative brackets (Figure 4, Elevations).

Site Access and Parking

The project site would be accessible via one entry located at the southeast corner of the site along East 220th Street. The driveway would connect to internal driveways between the residences, providing access to on-grade street parking and two smaller on-grade parking lots. The project access driveway would be located approximately 125 feet west of Neptune Avenue and 125 feet east of Ravenna Avenue and would provide full access to the project site. Each unit would have an attached, enclosed two-car garage, providing a total of 70 spaces, along with 35 surface parking spaces for visitors.

Utilities and Infrastructure Improvements

Given the project site currently supports residential uses, the project site contains existing domestic water, sanitary sewer, and dry utility connections. Construction of the project would introduce greater impervious area; thus, to comply with the Los Angeles County Low Impact Development Standards, the project would install a retention storm area near the common open space area in the southwest corner of the project site.

Zone Change

The current zoning is RM-8-D (Residential Multiple Family-8 dwelling units/acre – Design Overlay) and RM-12-D (Residential Multiple Family-12 dwelling units/acre – Design Overlay). In order to facilitate development of the

project as currently proposed, the project applicant has requested a zone change for the RM-8-D lots to RM-12-D; thus, should the zone change and project be approved, the entirety of the project site would be zoned RM-12-D.

2.4 Construction and Phasing

Construction of the project is anticipated to start in January 2021 and would last approximately 15 months, ending in March 2022. The project would demolish approximately 16,750 square feet of building/structure. Grading quantities are estimated to involve 3,300 cubic yards (cy) of fill, 1,300 cy of cut, and 2,000 cy of import. For a breakdown of construction subphases and schedule, refer to the California Emissions Estimator Model (CalEEMod) air quality modeling outputs provided in Appendix A, Air Quality and Greenhouse Gas Emissions Modeling.[1]

2.5 Project Approvals

The project would require the following approvals:

- Site Plan and Design Overlay Review (DOR) No. 1773-19
- Conditional Use Permit (CUP) No. 1094-19
- Zone Change (ZCC) No. 180-19
- Lot Line Adjustment (LLA/COC) No. 286-19
- Vesting Tentative Tract Map (TTM) No. 067200

[1] Construction phasing estimates are based on default assumptions provided in CalEEMod (Appendix A). These assumptions are based on the size of the project site, the proposed land use, and the size of the planned improvements.

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3 Initial Study Checklist

1. **Project title:**

   Cambria Court Residential Project

2. **Lead agency name and address:**

   City of Carson
   Community Development Department, Planning Division
   701 East Carson Street
   Carson, California 90745

3. **Contact person and phone number:**

   McKina Alexander, Associate Planner
   310.952.1761
   malexander@carson.ca.us

4. **Project location:**

   The approximately 3.11-acre site consists of 11 parcels (Assessor's Parcel Numbers 7335-006-033, 7335-006-032, 7335-006-023, 7335-006-024, 7335-006-026, 7335-006-027, 7335-007-014, 7335-007-016, 7335-007-017, 7335-007-029, and 7335-007-030). The address associated with the project is 427 East 227th Street Carson, California 90745.

5. **Project sponsor's name and address:**

   Cambria Homes LLC
   23705 Crenshaw Boulevard, Suite 200
   Torrance, California 90510

6. **General plan designation:**

   Medium Density Residential (MDR)

7. **Zoning:**

   RM-8-D (Residential Multiple Family-8 dwelling units/acre – Design Overlay) and RM-12-D (Residential Multiple Family-12 dwelling units/acre – Design Overlay)

8. **Description of project. (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):**

   The project involves the demolition of existing residential uses and construction of a 35-unit multifamily residential community with associated improvements. The residential community would consist of two-story

units, surface parking, and common open space. The units would each contain a three- or four-bedroom floor plan ranging from approximately 1,800 square feet to 2,138 square feet in size. The common open space area would include an overhead shade structure, fire pit with seating, turf game court, and barbeque.

Refer to Section 2.3, Proposed Project, for a detailed description of the project.

9. **Surrounding land uses and setting (Briefly describe the project's surroundings):**

Land uses surrounding the project site primarily consist of single-family residential uses, along with some commercial, public/institutional, and utility (electrical substation) uses.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

No outside public agency approvals are required.

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? 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. See Section 3.18, Tribal Cultural Resources, for additional details.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

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

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

☒ I find that although the project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find that the project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (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 on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the project could have a significant effect on the environment, 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 project, nothing further is required.

Signature

8/28/19
Date

Evaluation of Environmental Impacts

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

3.1 Aesthetics

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

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact. Scenic vistas and other important visual resources are typically associated with natural landforms such as mountains, foothills, ridgelines, and coastlines. The City's General Plan Open Space and Conservation Element categorizes the City's open space as either Recreational Open Space, such as parks and public golf courses, or General Open Space, which consists of utility transmission corridors, drainage and flood facilities, and the Goodyear Blimp Base Airport (City of Carson 2004).

The project site is located in a highly developed area of the City, surrounded by existing residential and urbanized uses, and not in close proximity to any substantial open space areas. The nearest open space area as identified by the City's General Plan is Calas Park, which is located approximately 0.7 miles to the east of the project site. Due to the intervening distance between Calas Park and the project site, the project would not be visible from this open space resource. Therefore, no impacts associated with scenic vistas would occur.

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

No Impact. There are no officially designated scenic highways within the City. According to the California Department of Transportation (Caltrans), the nearest eligible state scenic highway is the segment of State

Route 1 (Pacific Coast Highway) located approximately 7.5 miles southeast of the project site in the City of Long Beach (Caltrans 2011). Due to the intervening urban environment and natural topography located between the project site and this eligible state scenic highway, development of the project would occur outside of the viewshed of this, and any other, designated scenic highway. Therefore, no impacts associated with state scenic highways would occur.

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

Less-Than-Significant Impact. Under the existing condition, the project site consists of 15 single-family residential units. The project would remove all existing residential structures from the site and introduce a 35-unit multifamily residential community with associated improvements. As such, compared to the existing aesthetic conditions and due to the increase in residential density and development intensity on the project site, the project would result in change to the site's visual character.

The design of the project pursues a traditional architectural style, which includes window trims, decorative rails, and gable ends with added decorative details. The project would include vertical and horizontal elements that would break up the overall massing of the buildings and provide visual interest. The project would utilize composite shingle roof material, stucco, sectional garage doors, light fixtures, and fiber cement trims and siding. Additionally, some units would include a stone veneer, and others would use decorative brackets (Figure 4).

To ensure that any future changes related to visual character and quality do not result in adverse impacts, and to ensure that the project would be aesthetically compatible with surrounding land uses, the project would be subject to review by the City to ensure that design of the proposed development is consistent with all applicable design requirements, standards, and regulations set forth in the Carson Municipal Code for the RM-12-D zone. In addition, the proposed architecture would be assessed as part of the design review process to ensure that an integrated architectural theme is proposed that is compatible and would complement the site and surrounding properties. Overall, the project would enhance the existing project site through new landscape, hardscape, and other improvements on site. Therefore, impacts associated with visual quality and character would be less than significant.

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

Less-Than-Significant Impact. The project would introduce new sources of nighttime lighting onto the project site as a result of installation of new exterior light fixtures that are generally required for safety, security, and aesthetic purposes. Pursuant to Municipal Code Section 9127.1, all exterior lighting installed on the project site must be directed away from all adjoining and nearby residential property and arranged and controlled so it would not create a nuisance or hazard to traffic or to the living environment. As such, all exterior lighting would be shielded and/or recessed to reduce light trespass (i.e., excessive or unwanted light generated on one property illuminating another property). Therefore, based on compliance with local requirements, impacts associated with light and nighttime glare would be less than significant.

3.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

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

No Impact. The project site is located in a highly urbanized area. According to the California Department of Conservation's California Important Farmland Finder, most of the County—including the City—is not mapped under the Farmland Mapping and Monitoring Program, and, thus, does not contain Prime Farmland, Unique

Farmland, or Farmland of Statewide Importance (collectively Important Farmland) (DOC 2016a). Therefore, no impacts associated with conversion of Important Farmland would occur.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. According the California Department of Conservation's Williamson Act Parcel map for Los Angeles County, the project site is not located on or adjacent to any lands under Williamson Act contract. The Los Angeles County Williamson Act 2015/2016 Map designates the project site and surrounding land as non-Williamson Act Land (DOC 2016b). In addition, the project site and surrounding area are not zoned for agricultural uses, but instead for residential and commercial uses (City of Carson 2004). As such, implementation of the project would not conflict with existing zoning for agricultural use or land under a Williamson Act contract. Therefore, no impacts associated with agricultural zoning or Williamson Act contracts would occur.

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

No Impact. The project site is located within a highly developed part of the City. According to the City's Zoning Map, the project site is not located on or adjacent to forestland, timberland, or timberland zoned Timberland Production (City of Carson 2004). Therefore, no impacts associated with forestland or timberland would occur.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The project site is located in a highly urbanized area. The project site is not located on or adjacent to forestland. No private timberlands or public lands with forests are located in the City. Therefore, no impact associated with the loss or conversion of forestland would occur.

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

No Impact. The project site is not located on or adjacent to any parcels identified as Important Farmland or forestland. In addition, the project would not involve changes to the existing environment that would result in the indirect conversion of Important Farmland or forestland located away from the project site. Therefore, no impacts associated with the conversion of Farmland or forestland would occur.

3.3 Air Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less-Than-Significant Impact. The project site is located within the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County, and is within the jurisdictional boundaries of South Coast Air Quality Management District (SCAQMD).

The SCAQMD administers the Air Quality Management Plan (AQMP) for the SCAB, which is a comprehensive document outlining an air pollution control program for attaining all California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The most recent adopted AQMP is the 2016 AQMP (SCAQMD 2017), which was adopted by the SCAQMD Governing Board in March 2017. The 2016 AQMP represents a new approach, focusing on available, proven, and cost-effective alternatives to traditional strategies while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases (GHGs) and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017).

The purpose of a consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and, thus, if it would interfere with the region's ability to comply with federal and state air quality standards. The SCAQMD has established criteria for determining

consistency with the currently applicable AQMP in Chapter 12, Sections 12.2 and 12.3, in the SCAQMD CEQA Air Quality Handbook. The criteria are as follows (SCAQMD 1993):

- Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.
- Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

To address the first criterion regarding the project's potential to result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP, project-generated criteria air pollutant emissions were estimated and analyzed for significance and are addressed under Section 3.3(b). Detailed results of this analysis are included in Appendix A. As presented in Section 3.3(b), project construction would not generate criteria air pollutant emissions that would exceed the SCAQMD thresholds, and the project is not anticipated to generate operational criteria air pollutant emissions.

The second criterion regarding the project's potential to exceed the assumptions in the AQMP or increments based on the year of project buildout and phase is primarily assessed by determining consistency between the project's land use designations and potential to generate population growth. In general, projects are considered consistent with, and would not conflict with or obstruct implementation of, the AQMP if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook). The SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) (SCAG 2016), which is based on general plans for cities and counties in the SCAB, for the development of the AQMP emissions inventory (SCAQMD 2017).2 The SCAG 2016 RTP/SCS, and associated Regional Growth Forecast, are generally consistent with the local plans; therefore, the 2016 AQMP is generally consistent with local government plans.

As discussed in Chapter 2, Project Description, of this IS/MND, the project would change the existing zoning designations in the project area. Currently the project is zoned RM-8-D and RM-12-D, as part of the project approval process the zoning designation of the project site zoning would change to all RM-12-D. However, as discussed in Section 3.14, Population and Housing, the project would not exceed the SCAG's 2016–2040 RTP/SCS growth forecast for housing and population within the City. Accordingly, the project is consistent with the SCAG RTP/SCS forecasts used in the SCAQMD AQMP development.

In summary, based on the considerations presented for the two criteria, impacts relating to the project's potential to conflict with or obstruct implementation of the applicable AQMP would be less than significant.

2 Information necessary to produce the emission inventory for the SCAB is obtained from the SCAQMD and other governmental agencies, including the California Air Resources Board (CARB), Caltrans, and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into its Travel Demand Model for estimating/projecting vehicle miles traveled and driving speeds. SCAG's socioeconomic and transportation activities projections in their 2016 RTP/SCS are integrated in the 2016 AQMP (SCAQMD 2017).

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

Less-Than-Significant Impact. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If a project's emissions would exceed the SCAQMD significance thresholds, it would be considered to have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant (SCAQMD 2003).

A quantitative analysis was conducted to determine whether proposed construction activities would result in a cumulatively considerable net increase in emissions of criteria air pollutants for which the SCAB is designated as nonattainment under the NAAQS or CAAQS. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide, particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. Pollutants that are evaluated herein include volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), which are important because they are precursors to O_3, as well as CO, sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$.

Regarding NAAQS and CAAQS attainment status,[3] the SCAB is designated as a nonattainment area for national and California O_3 and $PM_{2.5}$ standards (CARB 2017; EPA 2017). The SCAB is designated as a nonattainment area for California PM_{10} standards; however, it is designated as an attainment area for national PM_{10} standards. The SCAB nonattainment status of O_3, PM_{10}, and $PM_{2.5}$ standards is the result of cumulative emissions from various sources of air pollutants and their precursors within the SCAB, including motor vehicles, off-road equipment, and commercial and industrial facilities. The SCAB is designated as an attainment area for national and California NO_2, CO, and sulfur dioxide standards. Although the SCAB has been designated as partial nonattainment (Los Angeles County) for the federal rolling 3-month average lead standard, it is designated attainment for the state lead standard.[4]

Appendix G of the CEQA Guidelines indicates that, where available, the significance criteria established by the applicable air district may be relied upon to determine whether a project would have a significant impact on air quality. The SCAQMD has established air quality significance thresholds, as revised in March 2015, which set forth quantitative emissions significance thresholds below which a project would not have a significant impact on ambient air quality (SCAQMD 2015). The quantitative air quality analysis provided herein applies the SCAQMD thresholds to determine the potential for the project to result in a significant impact under CEQA. The SCAQMD mass daily construction thresholds are as follows: 75 pounds per day for VOC, 100 pounds per day for NO_x, 550 pounds per day for CO, 150 pounds per day for SO_x, 150 pounds per day for PM_{10}, and 55 pounds per day for $PM_{2.5}$.

[3] An area is designated as in attainment when it is in compliance with the NAAQS and/or the CAAQS. The NAAQS and CAAQS are set by the Environmental Protection Agency and CARB, respectively, for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. Attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards.

[4] Re-designation of the lead NAAQS designation to attainment for the Los Angeles County portion of the SCAB is expected based on current monitoring data. The phase out of leaded gasoline started in 1976. Since gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

The following discussion quantitatively evaluates project-generated construction impacts and qualitatively evaluates operational impacts that would result from implementation of the project.

Construction Emissions

Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment and soil disturbance) and off-site sources (i.e., on-road haul trucks, delivery trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity; the specific type of operation; and, for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

CalEEMod Version 2016.3.2 was used to estimate emissions for construction of the project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with construction activities from a variety of land use projects, such as residential, commercial, and industrial facilities. CalEEMod input parameters, including the land use type used to represent the project and size, construction schedule, and anticipated construction equipment utilization, were based on information provided by applicant and default model assumptions when project-specific data was not available.

For the purpose of conservatively estimating project emissions, it is assumed that construction of the project would start in January 2021[5] and would last approximately 15 months. The construction phasing schedule and duration, vehicle trip assumptions, and construction equipment mix used for estimating the project-generated emissions are shown in Table 2.

Table 2. Construction Details

	One-Way Vehicle Trips			Equipment		
Construction Phase	*Average Daily Workers*	*Average Daily Vendor Trucks*	*Total Haul Trucks*	*Type*	*Quantity*	*Usage Hours*
Demolition	16	0	76	Concrete/Industrial Saws	1	8
				Excavators	3	8
				Rubber Tired Dozers	2	8
Site Preparation	18	0	0	Rubber Tired Dozers	3	8
				Tractors/Loaders/Backhoes	4	8
Grading	16	0	250	Excavators	1	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Tractors/Loaders/Backhoes	3	8

[5] The analysis assumes a construction start date of January 2021, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and GHG emissions, because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Table 2. Construction Details

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Workers	*Average Daily Vendor Trucks*	*Total Haul Trucks*	*Type*	*Quantity*	*Usage Hours*
Paving	20	0	0	Cement and Mortar Mixers	2	6
				Pavers	1	8
				Paving Equipment	2	6
				Rollers	2	6
				Tractors/Loaders/Backhoes	1	8
Building Construction 1	20	4	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Welders	1	8
Building Construction 2	20	4	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Welders	1	8
Building Construction 3	20	4	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Welders	1	8
Architectural Coating 1	8	0	0	Air Compressors	1	8
Architectural Coating 2	8	0	0	Air Compressors	1	8
Architectural Coating 3	8	0	0	Air Compressors	1	8

Source: Appendix A.

Internal combustion engines used by construction equipment, trucks, and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil. During demolition of the existing 16,750 square feet of residential buildings, the project would be required to comply with SCAQMD Rule 1403 to limit potential emissions of asbestos. Potential emissions from asbestos are discussed in more detail in Section 3.3(d). The grading phase is currently estimated to involve 3,300 cy of fill, 1,300 cy of cut, and 2,000 cy of import. For transportation of the imported material, 250 round trips for haul trucks will be assumed. The project would also be required to comply with SCAQMD Rule 403 to control dust emissions during any dust-generating activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active grading areas two times per day, with additional watering depending on weather conditions.

Estimated maximum daily construction criteria air pollutant emissions from all on-site and off-site emission sources are provided in Table 3.

Table 3. Estimated Maximum Daily Construction Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}[a]	$PM_{2.5}$[a]
	pounds per day					
2021	19.87	55.15	54.38	0.09	10.38	6.40
2022	15.66	33.48	36.38	0.06	2.29	1.77
Maximum Daily Emissions	**19.87**	**55.15**	**54.38**	**0.09**	**10.38**	**6.40**
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: SCAQMD 2015.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
See Appendix A for detailed results.
[a] These estimates reflect control of fugitive dust (watering two times daily) required by SCAQMD Rule 403 (SCAQMD 2005).

As shown in Table 3, daily construction emissions would not exceed the SCAQMD significance thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during project construction.

Operational Emissions

Operation of the project would produce VOCs, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$, emissions associated with vehicular traffic, area sources (consumer products, architectural coatings, landscaping equipment), and energy sources (natural gas, appliances, and space and water heating). CalEEMod was used to estimate daily emissions from operational sources for the project.

On-road vehicular emissions associated with the project were modeled in CalEEMod using trip generation rates from the transportation section (see Section 3.17, Transportation). Emissions from energy sources include electricity and natural gas combustion for appliances and space and water heating. For the project, 2016 Title 24 Building Energy Efficiency Standard values were used, which is the default in CalEEMod. Area sources include gasoline-powered landscape maintenance equipment, consumer products, and architectural coatings for maintenance of buildings.

Table 4 summarizes the average daily mobile, energy, and area emissions of criteria pollutants that would be generated by development of the project, and how project-generated emissions compare to the SCAQMD thresholds of significance. The values shown are the maximum summer or winter daily emissions (i.e., foreseeable worst case) results from CalEEMod. Details of the emissions calculations are provided in Appendix A under Section 2.2, Overall Operational.

Table 4. Estimated Maximum Daily Operational Emissions

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	(pounds per day)					
Area	2.95	0.67	11.68	0.03	1.46	1.46
Energy	0.02	0.16	0.07	0.01	0.01	0.01
Mobile	0.53	2.30	7.15	0.03	2.42	2.13
Total	**3.50**	**3.13**	**18.90**	**0.06**	**3.89**	**2.13**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: SCAQMD 1993, 2015.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Area sources = consumer product use, architectural coatings, and landscape maintenance equipment. Energy sources = natural gas. Mobile sources = motor vehicles.
See Appendix A for detailed results.

As shown in Table 4, the increase in emissions associated with operation of the project would not exceed the SCAQMD thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. Therefore, operational impacts would be less than significant. No mitigation is required.

As discussed in previously, the SCAB has been designated as a federal nonattainment area for O_3 and $PM_{2.5}$ and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. Proposed construction activities of the project would generate VOC and NO_x emissions (which are precursors to O_3) and emissions of PM_{10} and $PM_{2.5}$. However, as indicated in Table 3 and Table 4, project-generated construction and operational emissions would not exceed the SCAQMD emission-based significance thresholds for VOCs, NO_x, PM_{10}, or $PM_{2.5}$, and therefore the project would not cause a cumulatively significant impact.

Cumulative localized impacts would potentially occur if a construction project were to occur concurrently with another off-site project. Construction schedules for potential future projects near the project site are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be considered speculative.[6] However, future projects would be subject to CEQA and would require air quality analysis and, where necessary, mitigation. Criteria air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would also be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD. Based on the previous considerations, the project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants, and impacts would be less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less-Than-Significant Impact. Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the

[6] The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). This discussion is nonetheless provided in an effort to show good-faith analysis and comply with CEQA's information disclosure requirements.

elderly, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). The closest noise-sensitive receivers consist of single-family residences located within 20 feet of the project site boundaries.

Localized Significance Thresholds

The SCAQMD recommends a localized significance threshold (LST) analysis to evaluate localized air quality impacts to sensitive receptors in the immediate vicinity of the project site as a result of construction activities. The impacts were analyzed using methods consistent with those in the SCAQMD's Final Localized Significance Threshold Methodology (SCAQMD 2009). The project is located in Source Receptor Area 4 (South Coastal Los Angeles County). The project's construction activities would occur over 3.11 acres over the course of construction period; therefore, for the purposes of the LST analysis, an interpolated 3.11-acre site threshold was interpolated based on the LSTs for the 2- and 5-acre thresholds. As mentioned previously, the closest sensitive receptors are residences located 20 feet of the project site. The closest receptor distance available in the SCAQMD LST Methodology is 25 meters (82 feet) and is what was assumed for this analysis.

Project construction activities would result in temporary sources of on-site criteria air pollutant emissions associated with construction equipment exhaust and dust-generating activities. The maximum daily on-site construction emissions generated during construction of the project is presented in Table 5 and compared to the SCAQMD localized significance criteria for Source Receptor Area 4 to determine whether project-generated on-site construction emissions would result in potential LST impacts.

Table 5. Construction Localized Significance Thresholds Analysis

Year	NO_2	CO	PM_{10}	$PM_{2.5}$
	pounds per day (on site)			
2021	40.50	21.15	9.09	5.75
2022	15.62	16.36	0.81	0.76
Maximum Daily On Site Emissions	**40.50**	**21.16**	**9.09**	**5.75**
SCAQMD LST Criteria	*97*	*1,097*	*10*	*6*
Threshold Exceeded?	**No**	**No**	**No**	**No**

Source: SCAQMD 2009.
Notes: NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold.
See Appendix A for detailed results.
Localized significance thresholds are shown for an interpolated 3.11-acre project site corresponding to a distance to a sensitive receptor of 25 meters.

As shown in Table 5, proposed construction activities would not generate emissions in excess of site-specific LSTs; therefore, localized project construction impacts would be less than significant.

Carbon Monoxide Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed

CO hotspots. CO transport is extremely limited and it disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. The traffic impact analysis for the project, which is included in this IS/MND as Appendix D, evaluated whether there would be a decrease in the LOS (i.e., increased congestion) at the intersections affected by the project. The potential for CO hotspots was evaluated based on the results of the traffic impact analysis. The Caltrans Institute of Transportation Studies Transportation Project-Level Carbon Monoxide Protocol (Caltrans 1997) was followed for this analysis. CO hotspots are typically evaluated when (1) the LOS of an intersection decreases to LOS E or worse; (2) signalization and/or channelization is added to an intersection; and (3) sensitive receptors such as residences, schools, and hospitals are located in the vicinity of the affected intersection or roadway segment. The traffic impact analysis for the projects evaluated four intersections and two roadway segments. As determined by the traffic studies, the LOS at these intersections would not decrease to LOS E or worse as a result of implementing the project; therefore, further analysis is not required. Accordingly, the project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. In addition, due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB is steadily decreasing. Based on these considerations, the project would result in a less-than-significant impact to air quality with regard to potential CO hotspots. No mitigation is required.

Toxic Air Contaminants

Toxic air contaminants (TACs) are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. As discussed under the LST analysis, the nearest sensitive receptors to the project are residences located adjacent to the project as it passes through residential neighborhoods.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD recommends an incremental cancer risk threshold of 10 in 1 million. Incremental cancer risk is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. The SCAQMD recommends a Hazard Index of 1 or more for acute

(short-term) and chronic (long-term) non-carcinogenic effects.[7] TACs that would potentially be emitted during construction activities associated with the project would be diesel particulate matter.

Diesel particulate matter emissions would be emitted from heavy equipment operations and heavy-duty trucks. Heavy-duty construction equipment is subject to a California Air Resources Board (CARB) Airborne Toxics Control Measure for in-use diesel construction equipment to reduce diesel particulate emissions. As described for the LST analysis, PM_{10} and $PM_{2.5}$ (representative of diesel particulate matter) exposure would be minimal. According to the Office of Environmental Health Hazard Assessment, health risk assessments (which determine the exposure of sensitive receptors to toxic emissions) should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should also be limited to the period/duration of activities associated with the project. The duration of the proposed construction activities would constitute a small percentage of the total 30-year exposure period. The construction period for the project would be approximately 15 months, after which construction-related TAC emissions would cease. Due to this relatively short period of exposure and minimal particulate emissions on site, TACs generated during construction would not be expected to result in concentrations causing significant health risks.

Following completion of on-site construction activities, the project would not involve routine operational activities that would generate TAC emissions. Operation of the project would not result in any non-permitted direct emissions (e.g., those from a point source such as a diesel generator). For the reasons previously described, the project would not result in substantial TAC exposure to sensitive receptors in the vicinity of the project, and impacts would be less than significant.

Health Effects of Criteria Air Pollutants

Construction emissions of the project would not exceed the SCAQMD thresholds for any criteria air pollutants, including VOCs, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$.

Health effects associated with O_3 include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue (CARB 2019). VOCs and NO_x are precursors to O_3, for which the SCAB is designated as nonattainment with respect to the NAAQS and CAAQS. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SCAB due to O_3 precursor emissions tend to be found downwind of the source location because of the time required for the photochemical reactions to occur. Further, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur, because exceedances of the O_3 NAAQS and CAAQS tend to occur between April and October when solar radiation is highest. Due to the lack of quantitative methods to assess this complex photochemistry, the holistic effect of a single project's emissions of O_3 precursors is speculative. That being said, because the project would not exceed the SCAQMD thresholds, the project would not contribute to health effects associated with O_3.

Health effects associated with NO_x include lung irritation and enhanced allergic responses (CARB 2019). Because project-related NO_x emissions would not exceed the SCAQMD mass daily thresholds, and because

[7] Non-cancer adverse health risks are measured against a hazard index, which is defined as the ratio of the predicted incremental exposure concentrations of the various non-carcinogens from the project to published reference exposure levels that can cause adverse health effects.

the SCAB is a designated attainment area for NO_2 and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards, it is not anticipated that the project would cause an exceedance of the NAAQS and CAAQS for NO_2 or result in potential health effects associated with NO_2 and NO_x.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (CARB 2019). CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots was discussed previously and determined to be less than significant. Thus, the project's CO emissions would not contribute to significant health effects associated with CO.

Health effects associated with PM_{10} include premature death and hospitalization, primarily for worsening of respiratory disease (CARB 2019). Construction of the project would not exceed thresholds for PM_{10} or $PM_{2.5}$, would not contribute to exceedances of the NAAQS and CAAQS for particulate matter, and would not obstruct the SCAB from coming into attainment for these pollutants. The project would also not result in substantial diesel particulate matter emissions during construction. Additionally, the project would be required to comply with SCAQMD Rule 403, which limits the amount of fugitive dust generated during construction. Due to the minimal contribution of particulate matter during construction, the project is not anticipated to result in health effects associated with PM_{10} or $PM_{2.5}$.

In summary, construction and operation of the project would not result in exceedances of the SCAQMD significance thresholds for certain criteria pollutants, and potential health effects associated with criteria air pollutants would be less than significant.

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

Odor Emissions

Less-Than-Significant Impact. The occurrence and severity of potential odor impacts depend on numerous factors. The nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying, cause distress among the public, and generate citizen complaints.

During project construction, exhaust from equipment may produce discernible odors typical of most construction sites. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment. However, such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Additionally, equipment would be in one location along the trunk line path for a few days at a time. Accordingly, impacts associated with odors during construction would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). Operation of the project would not entail any of these potentially odor-causing land uses. Thus, there would be no operational activities associated with the project. Therefore, the project would not create any new sources of odor during operation, and proposed project operations would result in an odor impact that is less than significant

Asbestos Emissions

Less-Than-Significant Impact. Demolition activities could result in airborne entrainment of asbestos, particularly where structures built prior to 1980 (such as the existing residencies on site) would be demolished. However, these materials would be removed in accordance with regulatory requirements prior to demolition (pursuant to SCAQMD Rule 1403 [Asbestos Emissions]), which establishes survey, notification, and work practice requirements to prevent asbestos emissions during building demolition.

With compliance with Rule 1403 and with all applicable federal, state, and local regulations, the potential for the project to create a significant impact to the public or environment from emissions of asbestos would be low. Therefore, impacts related to asbestos emissions would be less than significant.

3.4 Biological Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

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

No Impact. The project site is located in a developed part of the City and is surrounded by a highly urbanized mix of land uses, including residential and commercial. The nearest open space area as identified by the City's General Plan is Calas Park, which is located approximately 0.7 miles to the east of the project site (City of Carson 2004). Due to the intervening development between the project site and this natural area, there is no direct connection between the project site and this open space area.

No native habitat is located on the project site or in the immediately surrounding area. On-site plant species are limited to non-native, ornamental species located along the project frontages. These non-native, ornamental plant species form a non-cohesive plant community that is not known to support any candidate, sensitive, or special-status plant species. Based on the developed nature of the project site and surrounding area, wildlife species that could occur on site include common species typically found in urbanized settings, such as house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), and western fence lizard (*Sceloporus occidentalis*). Based on specific habitat requirements, none of these, or any other wildlife species that can reasonably be expected to occur on the project site, are candidate, sensitive, or special-status wildlife species.

Ornamental landscape trees that are currently located on the project site would require removal prior to construction of the project. Because of the highly disturbed nature of the project site and the residential activity around the site, it is unlikely that the existing trees would provide desirable nesting opportunities for bird/raptor species, especially considering that more suitable nesting options likely occur within the broader project area. Therefore, no impacts associated with candidate, sensitive, or special-status species would occur.

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

No Impact. The project site is located entirely on developed and disturbed land. No natural vegetation communities are present within the project site. Therefore, no impacts associated with riparian or sensitive vegetation communities would occur.

c) Would the project 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?

No Impact. No federally defined waters of the United States or state occur within the project site. This includes the absence of federally defined wetlands and other waters (e.g., drainages) and state-defined waters (e.g., streams and riparian extent) (USFWS 2019). The project would be subject to typical restrictions and requirements that address erosion and runoff (e.g., best management practices [BMPs]), including those of the Clean Water Act and National Pollutant Discharge Elimination System (NPDES) permit. In addition, all construction activities would be limited to developed and disturbed land. Therefore, no impacts to jurisdictional waters or wetlands would occur.

d) Would the project 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?

No Impact. Wildlife corridors are linear, connected areas of natural open space that provide avenues for migration of animals. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as stepping stones for wildlife dispersal.

Although some local movement of wildlife is expected to occur within the City, the City is not recognized as an existing or proposed Significant Ecological Area that links migratory populations, as designated by the County (County of Los Angeles 2019). The project site is located within a highly urbanized area and would not interfere with the movement of any native residents, migratory fish, or wildlife species. Therefore, no impacts associated with wildlife movement or wildlife corridors would occur.

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

No Impact. The City does not have any local policies or ordinances protecting trees located on private property. As such, implementation of the project would not conflict with local policies. Therefore, no impacts associated with local policies or ordinances protecting biological resources would occur.

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

No Impact. The project site is not located within any habitat conservation plan; natural community conservation plan; or other approved local, regional, or state habitat conservations plan area. Therefore, no impacts associated with an adopted conservation plan would occur.

3.5 Cultural Resources

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

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Less-Than-Significant Impact. A historical resource is defined by PRC, Section 21084.1, and CEQA Guidelines Section 15064.5 as any resource listed or determined to be eligible for listing in the National Register of Historic Places (NRHP) as well as some California State Landmarks and Points of Historical Interest. In addition, historical resources are evaluated against the California Register of Historical Resources (CRHR) criteria prior to making a finding as to the project's impacts on historical resources. Generally, resources must be at least 50 years old to be considered for listing in the CRHR as a historical resource. A significant adverse effect would occur if a project were to adversely affect a historical resource as defined by PRC, Section 21084.1, and Section 15064.5 of the CEQA Guidelines.

The criteria for listing resources in the CRHR were developed to be in accordance with previously established criteria developed for listing in the NRHP. Thus, the criteria listed as follows are expressed in accordance with the NRHP criteria. According to PRC, Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

(2) Is associated with the lives of persons important in our past.

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

(4) Has yielded, or may be likely to yield, information important in prehistory or history.

For a building to be considered historic, it typically must be at least 50 years old, so that sufficient time has passed to determine whether the events or characteristics of the building will have a contribution to history

(OHP 2015). As stated previously, the project site contains 15 single-family residences that approach or exceed 50 years in age. However, there is no evidence that any of the four criteria listed in PRC, Section 5024.1(c)(1–4), have been met for any of the existing on-site buildings. There is no evidence that any of the existing on-site structures are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; are associated with the lives of persons important in our past; or have yielded, or may be likely to yield, information important in prehistory or history. Further, given the physical alteration to these existing residential structures that has taken place over the decades, the historical integrity of the properties are no longer intact, and the structures would not be eligible for listing in the NRHP or CRHR. Thus, none of the structures on the project site would be considered historical resources as defined by CEQA.

In addition, on May 29, 2019, a search was conducted of the California Historical Resources Information System at the South Central Coastal Information Center (SCCIC), located on the campus of California State University, Fullerton, of the study area and a 0.5-mile (804 feet) record search area. This search included their collections of mapped prehistoric, historic, and built environment resources; Department of Parks and Recreation Site Records; technical reports; and ethnographic references. Additional consulted sources included historical maps of the study area, the NRHP, the CRHR, the California Historic Property Data File, the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility.

The SCCIC records indicate that eight cultural resources investigations have been conducted within 0.5 miles of the project site. Of these eight studies, one overlaps with the project site (LA-04512). The report discusses several historical and prehistoric resources located within the City. No resources identified during this study were located within or near the project site. Additionally, two previously recorded cultural resources fall within a 0.5-mile radius of the project site. Both resources are historic-era buildings or structures; however, none of these resources were identified on or near the project site. Therefore, impacts associated with historical resources would be less than significant.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less-Than-Significant Impact with Mitigation Incorporated. As previously discussed, SCCIC records indicate that eight cultural resources investigations have been conducted within 0.5 miles of the project site. Of these eight studies, one overlaps with the project site (LA-04512). The report discusses several historical and prehistoric resources located within the City. No resources identified during this study were located within or near the current project site. Additionally, two previously recorded cultural resources fall within a 0.5-mile radius of the project site. Both resources are historic-era buildings or structures, and no prehistoric or historic archaeological sites or resources were recorded on or near the project site.

Previous on-site development activities affected the entirety of the project site, and as such, it follows that any resources that may have once been located on the project site would have been significantly disturbed. Nonetheless, it is always possible that intact archaeological deposits, including tribal cultural resources, are present at subsurface depths that were not earlier impacted by the current on-site development. For this reason, the project site should be treated as potentially sensitive for archaeological resources. MM- CUL-1 is recommended to reduce potential impacts to unanticipated archaeological resources to less than significant.

MM-CUL-1 If archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending on the significance of the find under the California Environmental Quality Act (CEQA) (14 CCR 15064.5[f]; California Public Resources Code, Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan and data recovery, may be warranted.

With incorporation of mitigation, impacts associated with archaeological resources would be less than significant.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less-Than-Significant Impact. In the highly unlikely event that human remains are uncovered during ground-disturbing activities, there are regulatory provisions to address the handling of human remains in California Health and Safety Code Section 7050.5, PRC Section 5097.98, and CEQA Guidelines Section 15064.5(e). Pursuant to these codes, in the event that human remains are discovered, disturbance of the site shall remain halted until the County coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation or to his or her authorized representative, in the manner provided in Section 5097.98 of the PRC. The County coroner is required to make a determination within 2 working days of notification of the discovery of the human remains. If the County coroner determines that the remains are not subject to his or her authority, and if he or she recognizes or has reason to believe the human remains to be those of a Native American, he or she shall consult with the Native American Heritage Commission by telephone within 24 hours, to designate a Most Likely Descendant who shall recommend appropriate measures to the landowner regarding the treatment of the remains. If the owner does not accept the Most Likely Descendant's recommendations, the owner or the Most Likely Descendant may request mediation by the Native American Heritage Commission. Therefore, with compliance with this existing state law, impacts associated with human remains would be less than significant.

3.6 Energy

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

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less-Than-Significant Impact. Implementation of the project would increase the demand for electricity and natural gas at the project site and petroleum consumption in the region during construction and operation.

Electricity

Construction

Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers and heating, ventilation, and air conditioning) would be provided by Southern California Edison (SCE). The amount of electricity used during construction would be minimal; typical demand would stem from the use of electrically powered hand tools and several construction trailers by managerial staff during the hours of construction activities. The majority of the energy used during construction would be from petroleum. The electricity used for construction activities would be temporary and minimal; therefore, impacts would be less than significant.

Operation

The operational phase would require electricity for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, and electronics. Additionally, the supply, conveyance, treatment, and distribution of water and wastewater would indirectly result in electricity usage. Electricity consumption associated with project operation is based on the CalEEMod outputs presented in Appendix A. The project is estimated to have a total electrical demand of 174,396 kilowatt-hours per year (or 0.17 gigawatt-hours per year). The residential electricity demand for the County in 2018 was 20,589 gigawatt-hours (CEC 2018).

The project would be built in accordance with the current Title 24 standards at the time of construction and the California Green Building Standards (CALGreen). Therefore, given that the project's annual electricity demand would comprise a negligible portion of the Countywide demand (less than 0.01%), and given the

inherent increase in efficiency of building code regulations, the project would not result in a wasteful use of energy. Impacts related to operational electricity use would be less than significant.

Natural Gas

Construction

Natural gas is not anticipated to be required during construction of the project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection Petroleum, below. Any minor amounts of natural gas that may be consumed as a result of project construction would be negligible, and would not have an adverse effect; therefore, impacts would be less than significant.

Operation

Natural gas consumption during operation would be required for various purposes, including, but not limited to, building heating and cooling. Default natural gas generation rates in CalEEMod for the proposed land use and climate zone were used. According to these estimations, the project would consume approximately 638,943 thousand British thermal units of natural gas per year. The residential natural gas consumption for the County in 2018 was 1,108 million British thermal units (CEC 2018).

The project would be subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Title 24, Part 11, contains additional energy measures that are applicable to the project under CALGreen. Thus, the natural gas consumption of the project would not be considered inefficient or wasteful, and impacts would be less than significant.

Petroleum

Construction

Petroleum would be consumed throughout construction of the project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy-duty construction equipment associated with construction activities and on-site haul trucks involved in relocating dirt around the project site would rely on diesel fuel. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed that construction workers would travel to and from the project site in gasoline-powered vehicles.

Heavy-duty construction equipment of various types would be used during construction. CalEEMod was used to estimate construction equipment usage; results are included in Appendix A. Based on that analysis, diesel-fueled construction equipment would operate for an estimated 33,216 hours, as summarized in Table 6.

Table 6. Hours of Operation for Construction Equipment

Phase	Hours of Equipment Use
Demolition	960
Site Preparation	1,848
Grading	2,496
Paving	1,000

Table 6. Hours of Operation for Construction Equipment

Phase	Hours of Equipment Use
Building Construction 1	8,840
Building Construction 2	8,908
Building Construction 3	8,840
Architectural Coating 1	108
Architectural Coating 2	108
Architectural Coating 3	108
Total	**26,644**

Note: See Appendix A.

Fuel consumption from construction equipment was estimated by converting the total carbon dioxide (CO_2) emissions from each construction phase to gallons using conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2018). The estimated diesel fuel use from construction equipment is shown in Table 7.

Table 7. Construction Equipment Diesel Demand

Phase	Pieces of Equipment	Equipment CO_2 (MT)	kg CO_2/Gallon[a]	Gallons
Demolition	6	34.00	10.21	3,330.15
Site Preparation	7	55.17	10.21	5,403.42
Grading	6	67.74	10.21	6,634.63
Paving	8	20.46	10.21	2,004.24
Building Construction 1	9	150.56	10.21	14,746.74
Building Construction 2	9	151.73	10.21	14,861.09
Building Construction 3	9	150.59	10.21	14,749.50
Architectural Coating 1	1	2.30	10.21	225.06
Architectural Coating 2	1	2.30	10.21	225.06
Architectural Coating 3	1	2.30	10.21	225.06
			Total	**62,404.96**

Notes: CO_2 = carbon dioxide; MT = metric ton; kg = kilogram.
See Appendix A.
[a] The Climate Registry 2018.

Fuel consumption from worker and vendor trips was estimated by converting the total CO_2 emissions from the construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Worker vehicles are assumed to be gasoline fueled, and vendor vehicles are assumed to be diesel fueled.

Calculations for total worker and vendor fuel consumption are provided in Table 8, Table 9, and Table 10, respectively.

Table 8. Construction Worker Vehicle Gasoline Demand

Phase	Trips	Vehicle CO_2 (MT)	kg CO_2/Gallon[a]	Gallons
Demolition	320	1.53	8.78	174.16
Site Preparation	594	2.84	8.78	323.27
Grading	832	3.98	8.78	452.80
Paving	500	2.39	8.78	272.12
Building Construction 1	2,600	12.42	8.78	1,414.99
Building Construction 2	2,620	12.45	8.78	1,417.68
Building Construction 3	2,600	12.20	8.78	1,390.01
Architectural Coating 1	144	0.69	8.78	78.37
Architectural Coating 2	144	0.66	8.78	75.56
Architectural Coating 3	144	0.66	8.78	75.56
			Total	5,674.51

Notes: CO_2 = carbon dioxide; MT = metric ton; kg = kilogram.
See Appendix A.
[a] The Climate Registry 2018.

Table 9. Construction Vendor Truck Diesel Demand

Phase	Trips	Vehicle CO_2 (MT)[a]	kg/CO_2/Gallon[a]	Gallons
Demolition	0	0.00	10.21	0.00
Site Preparation	0	0.00	10.21	0.00
Grading	0	0.00	10.21	0.00
Paving	0	0.00	10.21	0.00
Building Construction 1	520	6.35	10.21	621.72
Building Construction 2	524	6.39	10.21	625.62
Building Construction 3	520	6.32	10.21	619.03
Architectural Coating 1	0	0.00	10.21	0.00
Architectural Coating 2	0	0.00	10.21	0.00
Architectural Coating 3	0	0.00	10.21	0.00
			Total	1,866.38

Notes: CO_2 = carbon dioxide; MT = metric ton; kg = kilogram.
See Appendix A.
[a] The Climate Registry 2018.

Table 10. Construction Haul Truck Diesel Demand

Phase	Trips	Vehicle CO_2 (MT)[a]	kg/CO_2/Gallon[a]	Gallons
Demolition	76	2.84	10.21	277.91
Site Preparation	0	0.00	10.21	0.00
Grading	250	9.33	10.21	914.17
Paving	0	0.00	10.21	0.00
Building Construction 1	0	0.00	10.21	0.00
Building Construction 2	0	0.00	10.21	0.00
Building Construction 3	0	0.00	10.21	0.00
Architectural Coating 1	0	0.00	10.21	0.00

Table 10. Construction Haul Truck Diesel Demand

Phase	Trips	Vehicle CO_2 (MT)[a]	kg/CO_2/Gallon[a]	Gallons
Architectural Coating 2	0	0.00	10.21	0.00
Architectural Coating 3	0	0.00	10.21	0.00
			Total	1,192.09

Notes: CO_2 = carbon dioxide; MT = metric ton; kg = kilogram.
See Appendix A.
[a] The Climate Registry 2018.

As shown in Table 8 through Table 10, the project is estimated to consume 71,138 gallons of petroleum during the construction phase. By comparison, approximately 23.8 billion gallons of petroleum would be consumed in California over the course of the project's construction phase, based on the California daily petroleum consumption estimate of approximately 52.9 million gallons per day (EIA 2017); Countywide total petroleum use by vehicles is expected to be 1.4 billion gallons per year by 2020 (CARB 2018). The project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes. Therefore, because petroleum use during construction would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be less than significant.

Operation

The fuel consumption resulting from the project's operational phase would be attributable to residents traveling to and from the project site.

Petroleum fuel consumption associated with motor vehicles traveling to and from the project site is a function of the vehicle miles traveled (VMT) as a result of project operation. As shown in Appendix A (CalEEMod outputs) and as discussed in Section 3.3, Air Quality, and Section 3.8, Greenhouse Gas Emissions, the annual VMT attributable to the project is expected to be 1,098,443 VMT. Fuel consumption from on-road vehicle trips are estimated by converting the total CO_2 emissions from operation of the project to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Based on the annual fleet mix provided in CalEEMod, 92.5% of the fleet range from light-duty to medium-duty vehicles and motorcycles and are assumed to run on gasoline. The remaining 7.5% of vehicles represent medium-heavy-duty to heavy-duty vehicles and buses and are assumed to run on diesel.

Calculations for annual mobile source fuel consumption are provided in Tables 11 (gasoline) and 12 (diesel).

Table 11. Annual Mobile Source Gasoline Demand

	Vehicle MT CO_2	Kg CO_2/Gallon	Gallons
Operation	410.93	8.78	46,803.39

Sources: Trips and vehicle CO_2 (Appendix A); kg CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram.

Table 12. Annual Mobile Source Diesel Demand

	Vehicle MT CO_2	Kg CO_2/Gallon	Gallons
Operation	33.41	10.21	3,272.16

Sources: Trips and vehicle CO_2 (Appendix A); kg CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram.

Over the lifetime of the project, the fuel efficiency of the vehicles being used by the residents is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation would decrease over time. There are numerous regulations in place that require and encourage increased fuel efficiency. For example, CARB has adopted an approach to passenger vehicles that combines the control of smog-causing pollutants and GHG emissions into a single, coordinated package of standards. The approach also includes efforts to support and accelerate the number of plug-in hybrids and zero-emissions vehicles in California (CARB 2013). As such, operation of the project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy.

In summary, the project would result in a net increase in petroleum use during operation as a result of residents traveling to and from the project site, and, due to efficiency increases, petroleum use would diminish over time. Given these considerations, petroleum consumption associated with the project would not be considered inefficient or wasteful and impacts would be less than significant. Therefore, no new impacts related to energy use would occur with implementation of the project.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-Than-Significant Impact. Part 6 of Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Part 6 establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically (every 3 years) to incorporate and consider new energy efficiency technologies and methodologies. Title 24 also includes Part 11, CALGreen. CALGreen institutes mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings, as well as schools and hospitals. The 2019 CALGreen standards will became effective on January 1, 2020. The project would meet Title 24 and CALGreen standards to reduce energy demand and increase energy efficiency. The project would not conflict with a state or local plan for renewable energy or energy efficiency; therefore, impacts during construction and operation of the project would be less than significant.

3.7 Geology and Soils

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

a) Would the project 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.

No Impact. The California Department of Mines and Geology has not identified the project site as an Alquist-Priolo Earthquake Fault Zone (DOC 1999). While the City is located in an area considered to be seismically active, similar to most of Southern California, the nearest known active regional fault—the Newport-Inglewood Connected Fault zone—is located approximately 3 miles from the project site; as such, while the opportunity for strong seismic ground shaking is likely over the life of the project, the risk of surface rupture during an earthquake is remote. Therefore, no impacts associated with surface fault rupture would occur.

ii) Strong seismic ground shaking?

Less-Than-Significant Impact. Like most of Southern California, the project site is located within a seismically active area. Numerous faults considered active or potentially active have been mapped in Southern California, including near the City. Thus, the project's future residents and their visitors could be exposed to strong seismic ground shaking in the event of an earthquake.

According to the City's General Plan, the Newport-Inglewood, Whittier, Santa Monica, and Palos Verdes Faults are the active faults most likely to cause high ground accelerations in the City. The San Andreas Fault has a high probability of generating a maximum credible earthquake within California, with a magnitude of 7.5 to 8.0 (City of Carson 2004). Detectible ground shaking caused by one of these faults could cause strong seismic shaking at the project site. As such, the City has identified goals and policies to ensure compliance with the International Building Code. Standards set forth in the International Building Code ensure seismic safety pursuant to the City's Department of Building and Safety.

Appropriate measures to minimize the effects of earthquakes and other geotechnical hazards are included in the California Building Code, with specific provisions pertaining to seismic load and design. The California Building Code has been adopted by the City as the Building Code of the City of Carson, pursuant of Section 8100 of the City's Municipal Code (City of Carson 2019a). Design and construction of the project in accordance with the California Building Code would minimize the adverse effects of strong ground shaking to the greatest degree feasible. Therefore, based on compliance with applicable local and state requirements related to seismic hazards, impacts associated with strong seismic ground shaking would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less-Than-Significant Impact. Soil liquefaction is a seismically induced form of ground failure that has been a major cause of earthquake damage in Southern California. Liquefaction is a process by which water-saturated granular soils transform from a solid to a liquid state because of a sudden shock or strain, such as an earthquake. The Newport-Inglewood Fault zone is a potential source of ground stress, and liquefaction could occur in the City if the groundwater table is high enough during an earthquake. Due to the existing alluvial and former slough areas within the City, there are areas with the potential for

occurrence of liquefaction (City of Carson 2004). According the Exhibit SAF-4 in the City's General Plan Safety Element, the project site is located outside an area susceptible to liquefaction (City of Carson 2004). Therefore, impacts associated with liquefaction would be less than significant.

iv) Landslides?

No Impact. The project site and surrounding area are relatively flat and lack any hillsides or topographic features typically susceptible to landslides. According to the City's General Plan EIR, the City does not contain any known areas where landslide movement has the potential to occur (City of Carson 2002). As such, the project would not expose people or structures to risk of landslides. Therefore, no impacts associated with landslides would occur.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less-Than-Significant Impact. The project would involve earthwork and other construction activities that would disturb surface soils and temporarily leave exposed soil on the ground's surface. Common causes of soil erosion from construction sites include stormwater, wind, and soil being tracked off site by vehicles. To help curb erosion, project construction activities would comply with all applicable federal, state, and local regulations for erosion control. The project would be required to comply with standard regulations, including SCAQMD Rules 402 and 403, which would reduce construction erosion impacts. Rule 402 requires that dust suppression techniques be implemented to prevent dust and soil erosion from creating a nuisance off site (SCAQMD 1976). Rule 403 requires that fugitive dust be controlled with best available control measures so that it does not remain visible in the atmosphere beyond the property line of the emissions source (SCAQMD 2005).

Since project construction activities would disturb 1 or more acres, the project must adhere to the provisions of the NPDES Construction General Permit. Construction activities subject to this permit include clearing, grading, and ground disturbances such as stockpiling and excavating. The NPDES Construction General Permit requires implementation of a stormwater pollution prevention plan, which would include construction features for the project (i.e., BMPs) designed to prevent erosion and protect the quality of stormwater runoff. Sediment-control BMPs may include stabilized construction entrances, straw wattles on earthen embankments, sediment filters on existing inlets, or the equivalent. Therefore, impacts associated with soil erosion and topsoil loss would be less than significant.

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

Less-Than-Significant Impact. As previously discussed in Section 3.7(a)(iii), there are areas within the City with the potential for occurrence of liquefaction. According to Exhibit SAF-4 of the City's General Plan Safety Element, the project site is not located in an area with potential for seismic hazards (City of Carson 2004). In addition, compliance with design requirements set forth in the current International Building Code would reduce potential impacts from unstable geologic units or expansive soils. Therefore, impacts associated with unstable geologic units or soils would be less than significant.

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

Less-Than-Significant Impact. Expansive soils are characterized by their potential shrink/swell behavior. Shrink/swell is the change in volume (expansion and contraction) that occurs in certain fine-grained clay sediments from the cycle of wetting and drying. Clay minerals are known to expand with changes in moisture content. The higher the percentage of expansive minerals present in near surface soils, the higher the potential for substantial expansion.

According to the City's General Plan EIR, the City is underlain by variations of alluvial soil, ranging from sandy to clay loam soil types. The Ramona-Placentia sandy loam in the City does present high potential for shrink/swell behavior (City of Carson 2002). However, the U.S. Department of Agriculture's Web Soil Survey does not identify the project site or surrounding area as containing clay soils, which are typically expansive. The project site is classified as Urban land-Haploxeralfs complex, which is described as discontinuous human-transported material over old alluvium (USDA 2019). Therefore, impacts associated with expansive soils would be less than significant.

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

No Impact. The project would connect to the existing Los Angeles County Department of Public Works Consolidated Sewer Maintenance District, which maintains local sewer lines. As such, the project would not require septic tanks or alternative wastewater disposal systems. Therefore, no impacts associated with the septic systems would occur.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-Than-Significant Impact with Mitigation Incorporated. According to the City's General Plan EIR (City of Carson 2002), because the City has undergone extensive transition and development over the years, the opportunity to encounter paleontological resources within the City is remote. Nonetheless, as is the case with most other development projects that involve earthwork activity, there is always a possibility—albeit low in this instance—that subsurface construction activity could unearth a potentially significant paleontological resource. As such, implementation of MM-GEO-1 would be required to ensure that subsurface construction activity complies with the standard procedures for treatment of unanticipated discoveries of paleontological resources.

MM-GEO-1 In the event that paleontological resources (fossil remains) are exposed during construction activities for the project, all construction work occurring within 50 feet of the find shall immediately stop until a Qualified Paleontologist, as defined by the Society of Vertebrate Paleontology's 2010 guidelines, can assess the nature and importance of the find. Depending on the significance of the find, the Qualified Paleontologist may record the find and allow work to continue, or may recommend salvage and recovery of the resource. All recommendations will be made in accordance with the Society of Vertebrate Paleontology's 2010 guidelines, and shall be subject to review and approval by the City of Carson. Work in the area of the find may only resume upon approval of a Qualified Paleontologist.

With incorporation of MM-GEO-1, impacts associated with paleontological resources would be less than significant.

3.8 Greenhouse Gas Emissions

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

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

Less-Than-Significant Impact. Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system, and many factors (natural and human) can cause changes in Earth's energy balance. The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature, and it creates a livable environment on Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise. Global climate change is a cumulative impact; a project contributes to this impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008).

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride (see also 14 CCR 15364.5). The three GHGs evaluated herein are CO_2, CH_4, and N_2O.

Gases in the atmosphere can contribute to climate change both directly and indirectly.[8] The Intergovernmental Panel on Climate Change developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The reference gas used is CO_2; therefore, GWP-

[8] Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2017b).

weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e). Consistent with CalEEMod Version 2016.3.2, this GHG emissions analysis assumed the GWP for CH_4 is 28 (emissions of 1 MT of CH_4 are equivalent to emissions of 28 MT of CO_2), and the GWP for N_2O is 298, based on the Intergovernmental Panel on Climate Change Fifth Assessment Report (IPCC 2013).

As discussed in Section 3.3 of this IS/MND, the project is located within the jurisdictional boundaries of the SCAQMD. In October 2008, the SCAQMD proposed recommendations for numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects as presented in its Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (SCAQMD 2008). This document, which builds on the previous guidance prepared by the California Air Pollution Control Officers Association, explored various approaches for establishing a significance threshold for GHG emissions. The draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. However, in December 2008, the SCAQMD adopted an interim 10,000 MT CO_2e per year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (see SCAQMD Resolution No. 08-35, December 5, 2008).

The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1. Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2. Consider whether or not the project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3. Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per-year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4. Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of Assembly Bill (AB) 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per-service population for project-level analyses and 6.6 MT CO_2e per-service population for plan-level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5. Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, establish specific thresholds of significance, or mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance that are consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009).

To determine the project's potential to generate GHG emissions that would have a significant impact on the environment, the project's GHG emissions were compared to the residential land use type quantitative threshold of 3,500 MT CO_2e per year. Because the project does not include stationary sources of emissions subject to SCAQMD permitting requirements, and because the project proposes a combination of commercial and residential land uses, the 3,500 MT CO_2e per year threshold, which was identified under Tier 3 Option 1 for mixed-use projects and Option 2 for all non-industrial projects, was conservatively applied herein. Per the SCAQMD guidance, construction emissions should be amortized over the operational life of the project, which is assumed to be 30 years (SCAQMD 2008). Thus, this impact analysis compares estimated operational emissions plus amortized construction emissions to the proposed SCAQMD threshold of 3,500 MT CO_2e per year.

Construction Emissions

Construction of the project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road trucks, and worker vehicles. A depiction of expected construction schedules (including information regarding phasing, equipment used during each phase, truck trips, and worker vehicle trips) assumed for the purposes of emissions estimation is provided in Table 2, and in Appendix A. On-site sources of GHG emissions include off-road equipment; off-site sources include trucks and worker vehicles. Table 13 presents construction GHG emissions for the project from on-site and off-site emissions sources.

Table 13. Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2021	601.85	0.14	0.00	605.46
2022	116.35	0.02	0.00	116.96
Total	**718.2**	**0.16**	**0.00**	**722.42**
			Amortized Over 30 Years	**24.08**

Source: See Appendix A for complete results.
Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.

As shown in Table 13, the estimated total GHG emissions in 2021 and 2022 would be approximately 605 MT CO_2e and 117 MT CO_2e, respectively. Amortized over 30 years, construction GHG emissions would be approximately 24 MT CO_2e per year. In addition, as with project-generated construction criteria air pollutant emissions, GHG emissions generated during proposed construction activities would be short term, lasting only for the duration of the construction period, and would not represent

a long-term source of GHG emissions. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis in the following text.

Operational Emissions

Operation of the project would generate GHG emissions through motor vehicle trips to and from the sites; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the project); solid waste disposal; generation of electricity associated with water supply, treatment, and distribution; and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions. GHG emission estimates were based on the mobile source, area source, and energy (natural gas) operational assumptions described in Section 3.3(b), within the air quality analysis. CalEEMod default values were used to estimate GHG emissions associated with energy (electricity) consumption, solid waste, and water and wastewater.

The estimated operational (year 2023) project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation are shown in Table 14.

Table 14. Estimated Annual Operational GHG Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	metric tons per year			
Area	10.08	0.01	0.00	10.41
Energy	89.66	0.01	0.00	90.06
Mobile	444.34	0.02	0.00	444.84
Solid waste	3.29	0.19	0.00	8.10
Water supply and wastewater	15.27	0.07	0.00	17.71
Total	**562.62**	**0.30**	**0.00**	**571.12**
			Amortized Construction Emissions	*24.08*
			Operation + Amortized Construction Total	**595.2**

Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix A for detailed results.
No mitigation measures were assumed.

As shown in Table 14, estimated annual GHG emissions generated by the project would be approximately 571 MT CO_2e per year as a result of operations. Estimated annual operational emissions (571 MT CO_2e per year) plus amortized construction emissions (24 MT CO_2e per year) would be approximately 595 MT CO_2e per year, which would not exceed the recommended SCAQMD threshold of 3,500 MT CO_2e per year. Therefore, in relation to the generation of GHGs, the impact of the project would be less than significant.

b) Would the project generate conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less-Than-Significant Impact. The City is one of 14 cities that are part of the South Bay Cities Council of Governments (SBCCG) Climate Action Plan (CAP) (SBCCG 2017). SBCCG's subregional emissions reduction targets are 15% below 2005 levels by 2020 and 49% below 2005 levels by 2035. This plan focuses on feasible actions South Bay City communities can and should take between now and 2020, as well as innovative approaches that will be needed to achieve the 2035 target.

The CAP identifies objectives and actions in four categories to meet the 2020 GHG emission target as follows.

- Land use and transportation
- Energy efficiency
- Solid waste
- Water
- Urban greening
- Energy generation and storage

The City's General Plan, Land Use, Transportation and Infrastructure, and Air Quality Elements (City of Carson 2004) contain relevant goals and policies, including Section 2.9, Climate Action Plan/Sustainability Community Strategy Goal. As described by the City, the goal is to "develop and maintain Norco and its small-plot agriculture, animal keeping, and equestrian, lifestyle as a community that is economically, socially, and environmentally sustainable." These goals and policies reflect the City's active participation in the SBCCG CAP, and include policies on transportation, land use, energy efficiency and solid waste.

The project results in a densification of existing housing within the City, which is consistent with the land use reduction strategies identified in the CAP. The project also proposes to utilize high efficiency lighting and low flow faucets and toilets and is consistent with the CAP's energy efficiency strategies. The project does not conflict with or preclude the City from implementation of any other policies identified in the CAP. As such, the project is consistent with the City's goal of environmental sustainability. The project would not conflict with the City's General Plan or with implementation of SBCCG CAP.

The CARB Scoping Plan, approved by CARB in 2008 and updated in 2014 and 2017, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[9] Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others.

SCAG's 2016 RTP/SCS is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The 2016 RTP/SCS incorporates local land use projections and circulation networks in city and county general plans. As discussed in Section 3.14, the project would not exceed the SCAG's population growth projections for the City utilized in the 2016 RTP/SCS. Additionally, the project would support the goals of the RTP/SCS by increasing the density of the housing stock within the City. The redevelopment of the project site would not conflict with implementation of the strategies identified in the 2016 RTP/SCS that would reduce GHG emissions.

[9] The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

The project would not impede the attainment of the GHG reduction goals for 2030 or 2050 identified in Executive Order S-3-05 and Senate Bill (SB) 32. Executive Order S-3-05 establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. SB 32 establishes a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030. While there are no established protocols or thresholds of significance for that future year analysis, CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory of meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014).

CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update to the Climate Change Scoping Plan states that the level of reduction is achievable in California (CARB 2014). CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and Executive Order S-3-05. This is confirmed in the Second Update, which states (CARB 2017):

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197.

The project would not interfere with implementation of any of the above-described GHG reduction goals for 2030 or 2050 because the project would not exceed the SCAQMD's recommended threshold of 3,500 MT CO_2e per year (SCAQMD 2008). Additionally, the project is an infill development within the existing city limits. Therefore, because the project would not exceed the threshold, this analysis provides support for the conclusion that the project would not impede the state's trajectory toward the above-described statewide GHG reduction goals for 2030 or 2050.

In addition, since the specific path to compliance for the state in regards to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the project would be speculative and cannot be identified at this time. The project's consistency would assist in meeting the City's contribution to GHG emission reduction targets in California. With respect to future GHG targets under SB 32 and Executive Order S-3-05, CARB has also made clear its legal interpretation that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet the SB 32 40% reduction target by 2030 and the Executive Order S-3-05 80% reduction target by 2050. This legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the trajectory toward meeting these future GHG targets.

Based on the above considerations, the overall proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This impact would be less than significant.

3.9 Hazards and Hazardous Materials

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

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

Short-Term Construction Impacts

Less-Than-Significant Impact. During construction of the project, potentially hazardous materials would likely be handled on the project site. These materials would include gasoline, diesel fuel, lubricants, and other petroleum-based products required to operate and maintain construction equipment. Handling of these potentially hazardous materials would be temporary and would coincide with the short-term construction phase of the project.

Although these materials would likely be stored on the project site, storage would be required to comply with the guidelines set forth by each product's manufacturer and with all applicable federal, state, and local regulations pertaining to the storage of hazardous materials. Consistent with federal, state, and local requirements, the transport of hazardous materials to and from the project site would be conducted by a licensed contractor. Any handling, transport, use, or disposal of hazardous materials would comply with all relevant federal, state, and local agencies and regulations, including the U.S. Environmental Protection Agency (EPA), the California Department of Toxic Substances Control, the California Occupational Safety and Health Administration, Caltrans, the Resource Conservation and Recovery Act, the SCAQMD, and the Los Angeles County Certified Unified Program Agency. Therefore, short-term construction impacts related to the transport, use, or disposal of hazardous materials would be less than significant.

Long-Term Operational Impacts

Less-Than-Significant Impact. As a residential land use, potentially hazardous materials associated with operation of the project would include those materials typically associated with cleaning and maintenance activities. Although these materials would vary, they would generally include household cleaning products, solvents, paints, fertilizers, and herbicides and pesticides. Many of these materials are considered household hazardous wastes, common wastes, and universal wastes by the EPA, which considers these types of wastes common to businesses and households and to pose a lower risk to people and the environment than other hazardous wastes when properly handled, transported, used, and disposed of (EPA 2019). Federal, state, and local regulations typically allow these types of wastes to be handled and disposed of under less-stringent standards than other hazardous wastes, and many of these wastes do not need to be managed as hazardous waste.

In addition, any potentially hazardous material handled on the project site would be limited in quantity and concentration, consistent with other similar residential uses located in the City, and any handling, transport, use, and disposal of such material would comply with applicable federal, state, and local agencies and regulations. In addition, as mandated by the Occupational Safety and Health Administration, all hazardous materials stored on the project site would be accompanied by a Materials Safety Data Sheet, which would inform on-site personnel and residents of the necessary remediation procedures in the case of accidental release (OSHA 2012). Therefore, long-term operational impacts associated with the use, transport, and disposal of hazardous materials would be less than significant.

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

Short-Term Construction Impacts

Less-Than-Significant Impact. As discussed in Section 3.9(a), during construction of the project, potentially hazardous materials would likely be handled on the project site. These materials would include gasoline, diesel fuel, lubricants, and other petroleum-based products required to operate and maintain construction equipment. Handling of these potentially hazardous materials would be temporary and would coincide with the short-term construction phase of the project.

The Los Angeles County Fire Department regulates the use and storage of hazardous substances and responds to hazardous materials release incidents in the City. In the event that its services are required, the Health Hazardous Materials Division would dispatch members to ensure any spill or unauthorized releases would be properly removed, handled, transported, and disposed (LACoFD 2019a). In addition, the City's General Plan policies would further reduce the potential for release of hazardous materials into the environment (City of Carson 2004). Therefore, short-term construction impacts related to the accidental release of hazardous materials would be less than significant.

Long-Term Operational Impacts

Less-Than-Significant Impact. As a residential land use, potentially hazardous materials associated with operation of the project would include those materials typically associated with cleaning and maintenance activities. Although these materials would vary, they would generally include household cleaning products, solvents, paints, fertilizers, and herbicides and pesticides. Many of these materials are considered household hazardous wastes, common wastes, and universal wastes by the EPA, which considers these types of wastes common to businesses and households and to pose a lower risk to people and the environment than other hazardous wastes when properly handled, transported, used, and disposed of (EPA 2019). Federal, state, and local regulations typically allow these types of wastes to be handled and disposed of under less-stringent standards than other hazardous wastes, and many of these wastes do not need to be managed as hazardous waste.

In addition, any potentially hazardous materials handled on the project site would be limited in quantity and concentration, consistent with other similar residential uses located in the City, and any handling, transport, use, and disposal of such material would comply with applicable federal, state, and local agencies and regulations. In addition, as mandated by the Occupational Safety and Health Administration, all hazardous materials stored on the project site would be accompanied by a Materials Safety Data Sheet, which would inform on-site personnel and residents of the necessary remediation procedures in the case of accidental release (OSHA 2012). Therefore, long-term operational impacts associated with the use, transport, and disposal of hazardous materials would be less than significant.

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

No Impact. Land uses and activities typically associated with hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste include heavy commercial, manufacturing, research, and industrial uses. The project would not include any such uses or activities.

The project site is located approximately 0.6 miles west of Bonita Elementary School (21929 Bonita Street) and Carnegie Middle School (21820 Bonita Street). As such, the project would not emit hazardous emissions or include handling of hazardous or acutely hazardous materials, substances, or wastes within 0.25 miles of an existing or proposed school. Therefore, no impacts associated with the emitting or handling of hazardous materials within 0.25 miles of a school would occur.

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

No Impact. The Hazardous Waste and Substances Sites (Cortese List) is a planning document providing information about the location of hazardous materials release sites. California Government Code Section 65962.5 requires the California Environmental Protection Agency to develop, at least annually, an updated Cortese List. The Department of Toxic Substances Control 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 materials release information for the Cortese List (CalEPA 2019). A review of Cortese List online data resources does not identify hazardous materials or waste sites on the project site or immediately surrounding area (DTSC 2019; RWQCB 2019). Therefore, no impacts associated with inclusion on the Cortese List would occur.

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

No Impact. The closest public airports to the project site are the Torrance Municipal Airport, which is located approximately 4 miles southwest of the project site, and Compton/Woodley Airport, which is located approximately 4.2 miles north of the project site. According to the Los Angeles County Airport Land Use Commission, the project is not located within the airport land use plans for these nearby airports (ALUC 2019). The project site is located outside of any airport impact zones, and as such, the project would not result in a safety hazard for people residing in the project area. Therefore, no impacts associated with public airport hazards would occur.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less-Than-Significant Impact. Exhibit SAF-5 of the City's General Plan Safety Element shows the location of collection points and evacuation routes for the City (City of Carson 2004). The project would be required to comply with the City's Emergency Plan, adopted pursuant of Section 3707 of the Municipal Code (City of Carson 2019a). In addition, the project would be provided emergency access routes along Main Street and

Avalon Boulevard. The project site is also provided regional access via I-110 and I-405. Due to this local and regional connectivity, in the unlikely event of an emergency, the project-adjacent roadway facilities would be expected to serve as emergency evacuation routes for first responders and residents. The project would not adversely affect operations on the local or regional circulation system, and as such, would not impact the use of these facilities as emergency response routes. Therefore, impacts associated with an emergency response plan or emergency evacuation plan would be less than significant.

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

No Impact. According to Figure 12.5 of the County of Los Angeles General Plan Safety Element, the City of Carson and the project site are not located in a Fire Hazard Area (County of Los Angeles 2015). The project site is surrounded by existing development in an urbanized portion of the City away from any urban-wildland interface. Therefore, no impacts associated with wildland fire hazards would occur.

3.10 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on or off site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;	☐	☐	☒	☐
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	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Surface Water Quality

Less-Than-Significant Impact. Construction of the project would include earthwork activities that could potentially result in erosion and sedimentation, which could subsequently degrade downstream receiving waters and violate water quality standards. Stormwater runoff during the construction phase may contain silt and debris, resulting in a short-term increase in the sediment load of the municipal storm drain system. Substances such as oils, fuels, paints, and solvents may be inadvertently spilled on the project site and subsequently conveyed via stormwater to nearby drainages, watersheds, and groundwater.

The project would be subject to the municipal NPDES permit, which requires measures to prohibit non-stormwater discharges into the storm sewer and control the discharge of stormwater to the maximum extent practical. These measures include BMPs, control techniques, and system design methods. The Los Angeles Regional Water Quality Control Board issues the NPDES permit and the municipal separate storm sewer system (MS4) permit. The City is under the jurisdiction of the Los Angeles Regional Water Quality Control Board.

The NPDES permit requires implementation of a storm water quality management program, which specifies guidelines to control, reduce, and monitor discharges of waste to storm drains. As such, through compliance with the water quality standards set forth in the NPDES permit, the wastewater generated during construction of the project would not adversely affect water quality. Therefore, short-term construction impacts associated with water quality would be less than significant.

Under the existing conditions, drainage from the project site flows southwest to northeast into an existing sump pump installed to pump stormwater to the southerly 220th Street. During operation, permanent post-construction stormwater management would be implemented per the Los Angeles County LID Standard. LID is a stormwater management strategy with goals to address the impacts of increased runoff and stormwater pollution as close to its source as possible. Per the latest LID guidelines, new construction developments must treat stormwater through infiltration, capture and reuse, or biofiltration. To comply with the County's LID manual, the project would install a retention storm area near the common open space area in the southwest corner of the project site. Additionally, three bio filter basins are proposed for

stormwater filtration, and a sump pump system will be installed to pump the stormwater to the same southerly 220th Street. Additionally, runoff generated from the project would be infiltrated from graded pad areas through on-site pervious soils and three biofiltration basins would be added throughout the site. Vegetative slopes with native or drought tolerant plants would be used to minimize erosion (Appendix B, Hydrology Report and Sewage Study). Therefore, long-term operational impacts associated with water quality would be less than significant.

Groundwater Quality

Less-Than-Significant Impact. Regarding groundwater quality, BMPs required by the NPDES permit would include spill prevention and cleanup guidelines, dewatering operations guidelines, and stormwater run-on prevention. These BMPs would protect the groundwater from contamination by construction activities. During normal operations, groundwater quality would be protected, as the entire site would be covered by the impervious surfaces, preventing opportunity of pollutant intrusion into the groundwater system. Therefore, impacts associated with groundwater quality would be less than significant.

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

Groundwater Supplies

Less-Than-Significant Impact. The project involves the demolition of an existing single-family residential uses and construction of a 35-unit multifamily residential community, which would increase demand for water supply on the project site. The project site would receive its water supply from the Dominguez District of California Water Service (Cal Water). Based on the 2015 Urban Water Management Plan (UWMP), the Dominguez District receives its water from 17% groundwater, 15% recycled water, and 68% purchased water. Purchased water is delivered from four Metropolitan Water District distribution feeders (Cal Water 2016).

Cal Water uses local groundwater for the City from the West Coast Basin and the Central Basin. The Water Replenishment District of Southern California (WRD) plays a role in the overall water resource management in southern Los Angeles County. As a result of the WRD involvement, each party receiving water from these basins has an established allowable pumping allocation. The Dominguez District has an allowable pumping allocation of 6,480 acre-feet per year for the Central Basin, and 10,417 acre-feet per year for the West Coast Basin. The WRD is responsible for the ensuring a reliable supply of high-quality groundwater.

Based on 2015 potable water use, residential customers accounted for approximately 88% of water services, but only 37% of the use. In particular, multifamily services accounted for only 2.3% of water use (2,173 acre-feet) in the Dominguez District. Table 4-2 of the Cal Water UWMP indicates that by 2020, multifamily use demands would increase to 7.5% of water use, which would be 2,365 acre-feet. To address the increase in water demand, the 2015 UWMP identifies Cal Water's steps toward supporting the WRD with respect to managing groundwater. In addition, the Sustainability Groundwater Management Act provides financial and enforcement tools to ensure that existing and future development do not adversely impact groundwater supplies (Cal Water 2016).

The project would rely on groundwater supplies from the Central Basin and West Coast Basin, and WRD actively manages water resources in the area to ensure that a reliable supply of groundwater is available.

In addition, Cal Water recognizes the goals of WRD and legislation to protect groundwater supplies. Therefore, impacts associated with groundwater supplies would be less than significant.

Groundwater Recharge

Less-Than-Significant Impact. Under existing conditions, the project site is currently developed and consists of scattered single-family units on disturbed, previously developed land. Development of the project would involve demolition of the existing residential uses and construction of a 35-unit multifamily residential complex, which would introduce greater impervious area. As indicated by the Preliminary Hydrology Report, the project site would include a new storm drain system (Appendix B). The project would involve construction of a new storm drain pump, which would discharge stormwater and runoff to 220th street. Runoff from public streets would be collected into catch basins with pipe outlets. Additionally, runoff generated from the project would be infiltrated from graded pad areas through on-site pervious soils and three biofiltration basins would be added throughout the site. Vegetative slopes with native or drought tolerant plants would be used to minimize erosion. The new stormwater drainage system, along with the new landscaped areas, would encourage the retention of stormwater to the greatest extent feasible. Therefore, impacts associated with groundwater recharge would be less than significant.

c) Would the project 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 off site;

Less-Than-Significant Impact. There are no streams or rivers located on or near the project site. Project construction would involve some earth-disturbing activities, including grading, that could expose on-site soils to erosion and surface water runoff. However, inclusion of project BMPs would reduce erosion and siltation from the project site occurring from construction activities. In addition, the project site is located within a developed area, with single-family residences located on either side of the project; as such, the development of the project would not cause a significant change to surface bodies of water in a manner that could cause siltation or erosion. Therefore, impacts associated with altering of the existing drainage patterns and erosion would be less than significant.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;

Less-Than-Significant Impact. As discussed in Section 3.10(b), the project would increase the amount of impervious surfaces on the project site. According to the Sewer Area Study Report (Appendix B), the project would increase flows to the sewer system. Based on the flow test conducted for the project, there is adequate capacity to include additional flow from the project site. In addition, the project would incorporate on-site improvements to reduce the rate and amount of surface runoff. Further, the project would comply with existing local, state, and federal regulations related to drainage and runoff. As such, the project would not result in flooding on or off site. Therefore, impacts associated with altering the existing drainage pattern and flooding would be less than significant.

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

Less-Than-Significant Impact. As outlined in the Preliminary Hydrology Report, the project site contains a drainage pattern from southwest to northeast of the site with an existing sump pump system installed to pump stormwater to the southerly 220th street (Appendix B). Runoff from public streets would be collected into catch basins with pipe outlets. The project would involve installation of an additional sump pump system on the east side of the site and would discharge stormwater and runoff to the same 220th street. Additionally, stormwater and runoff generated from the project site would be infiltrated from three proposed biofiltration basins, which would be added throughout the site. Therefore, impacts associated with stormwater drainage system capacity would be less than significant.

iv) impede or redirect flood flows?

No Impact. The project site does not contain any streams or rivers having the potential to be altered by the project. The project site is fully developed and within a highly urban area. In addition, the project site is not located within a Federal Emergency Management Agency 100-year flood hazard zone (PWLAC 2019). Therefore, no impacts associated with impeding or redirecting flood flows would occur.

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

No Impact. The project would not be susceptible to flood hazards, tsunami, or seiche. Seiche is generally associated with oscillation of enclosed bodies of water typically caused by ground shaking associated with a seismic event; however, the project site is not located near an enclosed body of water. Flooding from tsunami conditions is not expected, since the project site is located approximately 7 miles from the Pacific Ocean. In addition, the project site and immediate surrounding area is not located within a flood zone, thus the project would not risk release of pollutants due to inundation. Therefore, no impacts associated with seiche, tsunami, or flooding would occur.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less-Than-Significant Impact. The project would comply with regional and local regulations related to water quality control plans, and would not obstruct existing plans. In addition, as discussed in Section 3.10(b), the project would increase the amount of impervious surface on the project site. Therefore, impacts associated with conflict with a water quality control plan or sustainable groundwater management plan would be less than significant.

3.11 Land Use and Planning

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

a) Would the project physically divide an established community?

No Impact. The physical division of an established community typically refers to the construction of a linear feature (such as a major highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community or between a community and outlying area. Under the existing condition, the project site is not used as a connection between established communities. Instead, connectivity within the area surrounding the project site is facilitated via local roadways and pedestrian sidewalks. Therefore, no impacts associated with physical division of an established community would occur.

b) Would the project 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?

Less-Than-Significant Impact. The approximately 3.11-acre site contains scattered single-family units on disturbed, currently developed land. The project involves the demolition of single-family units and construction of a 35-unit multifamily residential community with associated improvements. The General Plan land use designation for the project site is Medium Density Residential, and the current zoning is RM-8-D (Residential Multiple Family-8 dwelling units/acre – Design Overlay) and RM-12-D (Residential Multiple Family-12 dwelling units/acre – Design Overlay) (Figure 2). In order to facilitate development of the project as currently proposed, the project applicant has requested a zone change for the RM-8-D lots to RM-12-D; thus, should the zone change and project be approved, the entirety of the project site would be zoned RM-12-D.

The analysis of land use consistency considers whether the project would cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulations that are applicable to the project. The following analysis focuses on goals and policies related to the 2016 RTP/SCS, the City's Land Use Element, and the Zoning Ordinance, which are applicable to the project.

2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

The 2016 RTP/SCS was developed by SCAG, and includes goals to balance mobility and housing needs for the region's current and future residents. The City of Carson is one of the many jurisdictions that fall under

SCAG. Therefore, the following analysis discusses the project's consistency with applicable goals and policies of the RTP/SCS. Table 15 demonstrates how the project promotes consistency with the guiding principles and policies of the RTP/SCS.

Table 15. Consistency with RTP/SCS Goals and Policies

RTP/SCS Goal/Policy Number	Definition of RTP/SCS Goal	Cambria Court Project Applicable Component (s)	Consistency Finding
RTP/SCS Guiding Policies			
Policy 3	RTP/SCS land use and growth strategies in the RTP/SCS will respect local input and advance smart growth initiatives.	The project involves the demolition of existing residential uses and construction of a 35-unit multifamily residential community with associated improvements. The development coordinates with the City and County's goal for increasing the development of multifamily housing within the City of Carson in order to meet the housing needs of current and future residents. The development would align with the Smart Growth Network and take advantage of the following principles: (Principle 2) take advantage of compact building design; (Principle 3) contribute to the range of housing options; (Principle 4) create walkable neighborhoods; (Principle 5) Foster distinctive, attractive communities with a strong sense of place; and (Principle 7) strengthen and direct development towards existing communities.	The project would be consistent with this policy.
RTP/SCS Land Use Policies			
Policy 1	Identify regional strategic areas for infill and investment.	The project would involve demolition of existing single-family residential units and construction of a 35-unit multifamily residential complex upon land designated for MDR; therefore, the project would constitute infill development within an urban area, surrounded by residential uses.	The project would be consistent with this policy.
Policy 6	Plan for changing demand in types of housing	The project would involve demolition of existing single-family residential units and construction of a 35-unit multifamily residential complex. The complex would add diversity in housing options for City of Carson residents.	The project would be consistent with this policy.

Source: SCAG 2016

As shown on Table 15, the project would be consistent with applicable goals and policies identified in the 2016 RTP/SCS.

The City of Carson General Plan Land Use Element

The project site has a General Plan Land Use Element land use designation of Medium Density Residential (City of Carson 2002). The Medium Density Residential designation addresses the changing housing needs of the community, which is predicted in the SCAG Profile Report for the City of Carson. The project would directly induce population growth in the City and contribute to the desire for diverse housing types. The project would be

considered consistent with the City's Land Use Element. Table 16 demonstrates how the project promotes consistency with the guiding principles and policies of the Land Use Element.

Table 16. Consistency with LUE Goals and Policies

Stated LUE Goal or Policy	Cambria Court Project Applicable Component (s)	Consistency Finding
A Balance of Uses		
A sustainable balance of residential and non-residential development and a balance of traffic circulation throughout the City.	The project site is currently designated for MDR; therefore, the project would be consistent with the City's land use designation and maintain the expected sustainable balance between residential and non-residential development throughout the City.	The project would be consistent with this goal.
Monitor development trends in Carson to ensure that future development/redevelopment provides for the needs of the community.	The project would construct a 35-unit multifamily residential community along East 220th Street. According to SCAG's 2016-2040 forecast, the City of Carson is expected to add approximately 15,900 people within this period (SCAG 2016). Additionally, the General Plan Housing Element identifies a need for future housing development. Thus, the project would provide for the need of more housing to support the expected increase in residents.	The project would be consistent with this policy.
Achieve a sustainable land use balance through provision of incentives for desired uses; coordination of land uses and circulation patterns; and promotion of a variety of housing types and affordability.	The project involves the demolition of existing residential uses and construction of a 35-unit multifamily residential community with associated improvements. The project site is currently zoned for residential use and surrounded by single-family units; therefore, the project would provide the desired use and add to the variety of housing types.	The project would be consistent with this policy.
Coordinate strategies with the County, Southern California Association of Governments (SCAG), South Bay Cities Council of Governments (SBCCG), and other appropriate agencies and/or organizations to meet housing and employment needs.	The project falls in line with SBCCG's Livable Communities Program and encourage residential density to support walkable neighborhoods, and establish supportive transportation investments and land use decisions. The project also coordinates with SCAG and the adopted 2016 RTP/SCS, which identifies a land use strategy that aims to plan for changing demand in housing types and supply. The project would construct a 35-unit multifamily residential community along East 220th Street, which contributes to the need for more residential units, and increases housing type options for current and future residents. The County of Los Angeles Housing Element identifies the need to expand the range of housing types and provide adequate supply to meet the needs of current and future residents. Additionally, the project serves the City of Carson General Plan Housing Element strategy by utilizing an underserved area designated for residential use to create housing for current and future residents.	The project would be consistent with this policy.

Table 16. Consistency with LUE Goals and Policies

Stated LUE Goal or Policy	Cambria Court Project Applicable Component (s)	Consistency Finding
	Thus, the project aligns with strategies set by SCAG, SBCCG, City of Carson General Plan Housing Element, and County of Los Angeles Housing Element to meet local and regional housing needs.	
Livable Communities		
Promote development in Carson, which reflects the "Livable Communities" concepts.	The project involves the demolition of existing residential uses and construction of a 35-unit multifamily residential community with associated improvements. The project site is currently designated for MDR and is surrounded by existing single-family residential units. The project would promote SBCCG's Livable Communities Program, which encourages residential density to support walkable neighborhoods, and establish supportive transportation investments and land use decisions.	The project would be consistent with this goal.
Encourage the location of housing, jobs, shopping, services and other activities within easy walking distance of each other.	The project would construct a 35-unit multifamily residential community along East 220th Street. East 220th connects City of Carson residents to other neighborhoods, jobs, shopping, and other activities. A small hub of retail stores and restaurants are located 0.4 miles from the site. The closest main grocery store is located 0.5 miles away. The site is also a 0.5-mile walking distance from Bonita Street Elementary School and Carnegie Middle School. The project location would provide residents with a sidewalk, which runs along E 220th Street from South Main Street to Lucerne Street, as well as stop signs and streetlights located throughout the stretch of street.	The project would be consistent with this policy.
Maintain a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live in Carson.	The project involves the demolition of existing residential uses and construction of a 35-unit multifamily residential community with associated improvements. Single-family units currently surround the project site; therefore, the project would add to the diversity of housing types to enable citizens from a wide range of economic levels and age groups to live in Carson.	The project would be consistent with this policy.

Carson Zoning Ordinance

The City of Carson Zoning Ordinance (Chapter 9) of the Carson Municipal Code sets forth specific permitted land uses and development standards for zoning districts. According to the City of Carson Zoning District Map, the project site is zoned as Residential Multiple Family-12 dwelling units/acre – Design Overlay (City of Carson 2017). Table 17 demonstrates how the project is consistent with the site's zoning.

Table 17. Consistency with Carson Municipal Code

CMC Article 9 Planning and Zoning	Regulation:	Cambria Court Project Applicable Component (s)	Consistency Finding
CMC 9121.1 Permitted Uses	Permitted Residential Uses include: single-family, mobile home, multiple-family, residential condominium, mobile home park, group quarters, boarding or rooming house, small family home community care facility, community residential care facility, single-room occupancy, supportive housing, and transitional housing.	The project involves the demolition of existing residential uses and construction of a 35-unit multifamily residential community with associated improvements.	The project would be consistent with this purpose in the CMC.
CMC 9113.3 Density Designations	Where a number appears on the zoning map in combination with the symbol for a residential zone, such number indicates the permitted density of development.	The entire project site is planned to be zoned as RM-12-D (Residential Multiple Family-12 dwelling units/acre – Design Overlay). The project would construct a 35-unit multifamily residential community upon an approximately 3.11 acre-site. The maximum number of units allowed on the site would be 37 therefore, the project would not exceed maximum units allowed.	The project would be consistent with this purpose in the CMC.
CMC 9128.54 Development Standards	The Commission shall require, except as noted above, that all multiple-family dwellings conform to all ordinances of the City and all of the following multiple-family dwelling Development Standards.	The project would conform with the ordinances of the City and multiple-family dwelling Development Standards with respect to adequate private open space, length of and separation between buildings, landscaping requirements, recreational facilities, private storage space, off-street parking, and treatment of utilities.	The project would be consistent with this purpose in the CMC.
CMC 9126.27 Space Between Buildings	The spacing between main residential buildings within multiple-family dwelling projects or residential condominium projects shall be at least ten (10) feet.	The project would have a distance of ten feet between each dwelling unit.	The project would be consistent with this purpose in the CMC.

As shown on Table 17, the project would be consistent with the zoning standards set forth in the CMC.

Summary

Based on consistency with the applicable goals and policies of the RTP/SCS, the City's LUE, and the Zoning Ordinance, the project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. Therefore, impacts associated with land use plans, policies, and regulations would be less than significant.

3.12 Mineral Resources

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

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. The State Mining and Reclamation Act of 1975 (PRC, Section 2710 et seq.) requires that the California State Geologist implement a mineral land classification system to identify and protect mineral resources of regional or statewide significance. According to maps obtained through the California Department of Conservation and California Geological Survey, the project site is within a Mineral Resource Zone 1 (MRZ-1) zone, which is defined as an area where adequate information indicates that no significant mineral deposits are present (DOC 1982). In addition, according to the City's General Plan EIR, there are no known mineral resources located within the City (City of Carson 2002). Therefore, no impacts associated with loss of availability of a known mineral resource would occur.

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

No Impact. According to the City's General Plan EIR, no known significant mineral resources are located within the City (City of Carson 2002). No mineral extraction activities occur on or adjacent to the project site, and no known mineral resources are present on site. Therefore, no impacts associated with the loss of availability of a locally important mineral resource recovery site would occur.

3.13 Noise

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE – Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two 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?	☐	☐	☐	☒

Existing Setting

Generally, federal and state agencies regulate mobile noise sources by establishing and enforcing noise standards on vehicle manufacturers. Local agencies generally regulate stationary noise sources and construction activities to protect neighboring land uses and the public's health and welfare. Noise-sensitive land uses include residences, hotels and motels, schools and universities, hospitals, and churches. The nearest noise-sensitive land uses to the project site consist of residences which surround the project site on all sides.

A brief background on the fundamentals of environmental acoustics is helpful in understanding how humans perceive various sound levels. Although extremely loud noises can cause temporary or permanent damage, the primary environmental impact of noise is annoyance. The objectionable characteristic of noise often refers to its loudness. Loudness represents the intensity of the sound wave, or the amplitude of the sound wave height measured in decibels (dB). Decibels are calculated on a logarithmic scale; thus, a 10 dB increase represents a 10-fold increase in acoustic energy or intensity, and a 20 dB increase represents a 100-fold increase in intensity. Decibels are the preferred measurement of environmental sound because of the direct relationship between a sound's intensity and the subjective "noisiness" of it. The A-weighted decibel (dBA) system is a convenient sound measurement technique that weights selected frequencies based on how well humans can perceive them.

The range of human hearing spans from the minimal threshold of hearing (approximately 0 dBA) to that level of noise that is past the threshold of pain (approximately 120 dBA). In general, human sound perception is such that a change in sound level of 3 dBA in a normal setting (i.e., outdoors or in a structure, but not in an acoustics

laboratory without background noise levels) is just noticeable, and a change of 5 dBA is clearly noticeable. A change of 10 dBA is perceived as a doubling (or halving) of sound level. Noise levels are generally considered low when they are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. Noise levels greater than 85 dBA can cause temporary or permanent hearing loss if exposure is sustained.

Ambient environmental noise levels can be characterized by several different descriptors. Energy equivalent or energy average level (L_{eq}) describes the average or mean noise level over a specified period of time. L_{eq} provides a useful measure of the impact of fluctuating noise levels on sensitive receptors over a period of time. Other descriptors of noise incorporate a weighting system that accounts for human's susceptibility to noise irritations at night. Community Noise Equivalent Level (CNEL) is a measure of cumulative noise exposure over a 24-hour period, with a 5 dBA penalty added to evening hours (7 p.m. to 10 p.m.) and a 10 dBA penalty added to night hours (10 p.m. to 7 a.m.). Since CNEL is a 24-hour average noise level, an area could have sporadic loud noise levels above 65 dBA but that average lower over the 24-hour period.

Existing Noise Conditions

Currently, the project site generates noise associated with the existing residences. Additionally, the project site and surrounding area is subject to traffic noise associated with adjacent roadways, including East 220th Street, East 219th Street, Grace Avenue, and Delores Street.

Noise measurements were conducted on and near the project site in June 2019 to characterize the existing noise environment. The daytime, short-term (1 hour or less) staff-attended sound-level measurements were taken with a Soft-DB Piccolo sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 2 (General Purpose) sound level meter. The accuracy of the sound level meter was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately five feet above the ground.

Five noise measurement locations (ST1–ST5) that represent key potential sensitive receptors or sensitive land uses were selected on, adjacent to, or near the project site. The measurement locations are shown in Figure 5, Noise Measurement and Modeling Locations, and the measured average noise levels and measurement locations are provided in Table 18. Noise measurement data is also included in Appendix C, Noise. The primary noise sources at the measurement locations consisted of traffic along the adjacent roads. Secondary noise sources included distant barking dogs, distant landscaping activity noise, distant conversations, and birdsong. As shown in Table 18, the existing daytime ambient noise levels ranged from approximately 54 dBA L_{eq} at ST3 to 63 dBA L_{eq} at ST5.

Table 18. Measured Noise Levels

Receptors	Location/Address	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	423 East 220th Street (Residential)	June 6, 2019	11:28 a.m. – 11:43 a.m.	60.5	77.4
ST2	405 East 220th Street (Residential)	June 6, 2019	11:54 a.m. – 12:10 p.m.	58.9	78.5
ST3	358 East 219th Street (Residential)	June 6, 2019	12:12 p.m. – 12:28 p.m.	54.4	78.4
ST4	22003 East 220th Street (Residential)	June 6, 2019	12:38 p.m. – 12:53 p.m.	62.3	81.0

Table 18. Measured Noise Levels

Receptors	Location/Address	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST5	334 East 220th Street (Residential)	June 6, 2019	12:59 p.m. – 12:53 p.m.	63.2	81.2

Source: Appendix C.
L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibel; L_{max} = maximum sound level during the measurement interval.

Thresholds of Significance

City of Carson General Plan

Applicable policies and standards governing environmental noise in the City are contained in the City of Carson General Plan Noise Element (City of Carson 2004). The Noise Element specifies exterior noise levels up to 60 CNEL as normally acceptable and up to 65 CNEL as conditionally acceptable. Noise levels exceeding 65 CNEL are generally unacceptable for multiple family residential uses. Table 19 indicates standards regarding acceptable noise level limits for various land uses in the City.

Table 19. Noise Element Land Use Compatibility Matrix

Land Use Category	Community Noise Exposure (CNEL)			
	Normally Acceptable[1]	*Conditionally Acceptable*[2]	*Normally Unacceptable*[3]	*Clearly Unacceptable*[4]
Residential–Low Density	50–-60	60–65	65–75	75–85
Residential–Multiple Family	50–60	60–65	65–75	75–85
Transient Lodging–Motel, Hotels	50–65	65–70	70–80	80–85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–60	60–65	65–80	80–85
Amphitheater, Concert Hall, Auditorium, Meeting Hall	NA	50–65	NA	65–85
Sports Arenas, Outdoor Spectator Sports	NA	50–70	NA	70–85
Playgrounds, Neighborhood Parks	50–70	NA	70–75	75–85
Gold Courses, Riding Stables, Water Recreation, Cemeteries	50–70	NA	70–80	80–85
Office Buildings, Business Commercial and Professional	50–67.5	67.5–75	75–85	NA
Industrial, Manufacturing, Utilities, Agriculture	50–70	70–75	75–85	NA

Source: City of Carson 2004.
Notes: CNEL = Community Noise Equivalent Level; NA = Not Applicable.

1 Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

2 Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

3 Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

4 Clearly Unacceptable: New construction or development should generally not be undertaken.

Section 3.4 of the City's Noise Element identifies residences, public and private school/preschool classrooms, churches, hospitals, and elderly care facilities as noise-sensitive receptors. The maximum interior exposure for these land uses is 45 dBA CNEL, with a maximum exterior exposure of 65 dBA CNEL.

Carson Municipal Code

Section 4101 (Unnecessary Noises) of Chapter I, Article IV of the Carson Municipal Code prohibits any disturbing, excessive, or offensive noise that causes discomfort or annoyance to any reasonable person of normal sensitivity residing in the community. Sections 4101(i) and 4101(j) of the Carson Municipal Code regulate noise from demolition and construction activities. These sections dictate that non-emergency construction activity (including demolition) and repair work can only occur between 7:00 a.m. and 6:00 p.m., Monday through Friday.

The City's Noise Control Ordinance (Section 5500 of the Carson Municipal Code) sets standards for noise levels throughout the City that are applicable to radios, phonographs, loudspeakers and amplifiers, electric motors or engines, animals, motor vehicles, and construction equipment. The Noise Ordinance also sets maximum limits on interior and exterior noise levels for each noise zone, unless exempted, as shown in Table 20. In addition, when construction activities would have a duration greater than 21 days, Section 5502(c) of the Noise Control Ordinance requires that construction activities be conducted in such a manner to ensure that the noise level at an affected single-family residence does not exceed 65 dBA between 7:00 a.m. and 8:00 p.m. daily (except for Sundays and legal holidays when construction cannot occur), and 55 dBA between 8:00 p.m. and 7:00 a.m. on these same days.

Table 20. Noise Ordinance (Municipal Code) Standards

Noise Zone	Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level (dBA)	Interior Noise Level (dBA)
I	Noise Sensitive Area	Anytime	45	NA
II	Residential Properties	10:00 p.m. to 7:00 a.m. (nighttime)	45	NA
		7:00 a.m. to 10:00 p.m. (daytime)	50	NA
III	Commercial Properties	10:00 p.m. to 7:00 a.m.	55	NA
		7:00 a.m. to 10:00 p.m.	60	NA
IV	Industrial Properties	Anytime	70	NA
All Zones	Multifamily	10:00 p.m. to 7:00 a.m.	NA	40
Open Space	Residential	7:00 a.m. to 10:00 p.m.	NA	50

Source: City of Carson 2004.
Notes: dBA = A-weighted decibel; NA = Not Applicable.

a) Would the project result in 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?

Short-Term Construction Impacts

Less-Than-Significant Impact with Mitigation Incorporated. Construction of the project would generate noise that could expose nearby receptors to elevated noise levels that may disrupt communication and routine activities. The magnitude of the impact would depend on the type of construction activity, equipment, duration of the construction, distance between the noise source and receiver, and intervening

structures. The following discussion addresses the noise levels calculated to result from construction of the project at nearby sensitive receptors (i.e., residences).

Construction – Equipment Inventory

CalEEMod was used to identify the construction equipment anticipated for development of the proposes project. Based on this information, CalEEMod identified the anticipated equipment for each phase of project construction, listed in Table 21.

Construction Noise – Assessment

With the construction equipment noise sources identified in Table 21, a noise analysis was performed using the Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008). Input variables for RCNM consist of the receiver/land use types, the equipment type (e.g., backhoe, crane, truck), the number of equipment pieces, the duty cycle for each piece of equipment (i.e., percentage of time the equipment typically works in a given time period), and the distance from the noise-sensitive receiver to the construction zone. The RCNM has default duty cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty cycle values were utilized for this analysis. No topographical or structural shielding was assumed in the modeling of construction noise. Refer to Appendix C for the inputs used in the RCNM model and the results.

Noise-sensitive land uses exist along all sides of the project site. The closest noise-sensitive receivers consist of single-family residences located within 20 feet of the project site boundaries. A 20-foot distance between the receptor and the nearest construction activity was assumed to provide a worst-case noise scenario for equipment working along the shared property line. However, the above distance separation assumption would not be representative of typical construction noise, because construction activities would not usually take place at the nearest or the farthest portions of the project site, but somewhere in between. Thus, to provide information on typical construction noise levels, the distance from the nearest receivers to the project's acoustic center was also analyzed. The acoustic center represents the idealized point from which the energy sum of all construction activity noise, near and far, would be centered. The acoustic center is derived by taking the square root of the product of the nearest and the farthest distances. For this project, the acoustic center was found to be approximately 100 feet from the nearest noise-sensitive receivers. Given the size of the project site and the relatively equal distribution of proposed development across the property, noise levels derived from the acoustic center of construction activity provide a better representation of typical noise level exposure across the entire construction process for a given off-site receiver compared to using the minimum distance worst-case method.

Table 21. Construction Equipment by Phase

Construction Phase	Equipment	Quantity	Usage Hours
Demolition	Concrete/industrial saws	1	8
	Excavators	3	8
	Rubber-tired dozers	2	8
Site Preparation	Rubber-tired dozers	3	8
	Tractors/loaders/backhoes	4	8
Grading	Excavators	1	8
	Graders	1	8
	Rubber-tired dozers	1	8
	Tractor/loader/backhoe	3	8
Building Construction 1	Crane	1	7
	Forklift	3	8
	Generator set	1	8
	Tractor/loader/backhoe	3	7
	Welders	1	8
Building Construction 2	Crane	1	7
	Forklift	3	8
	Generator set	1	8
	Tractor/loader/backhoe	3	7
	Welders	1	8
Building Construction 3	Crane	1	7
	Forklift	3	8
	Generator set	1	8
	Tractor/loader/backhoe	3	7
	Welders	1	8
Building Construction 4	Crane	1	7
	Forklift	3	8
	Generator set	1	8
	Tractor/loader/backhoe	3	7
	Welders	1	8
Paving	Cement and mortar mixers	2	6
	Pavers	1	8
	Paving equipment	2	6
	Rollers	2	6
	Tractor/loader/backhoe	1	8
Architectural Coating	Air compressors	1	6

Source: CalEEMod.2016.3.2

The City's Noise Ordinance contains a construction noise restriction that pertains specifically to single-family residences. Where construction would have a duration greater than 21 days, construction noise levels are restricted to 65 dBA L_{eq} during the daytime at any single-family residence in the proximity of the construction effort (Section 5500 of the Carson Municipal Code). As previously stated, single-family residences exist on all sides of the project site.

The results of the construction noise analysis using the RCNM are summarized in Table 22 (refer to Appendix C for complete results). As shown, the highest noise levels from construction are predicted to range from approximately 82 dBA L_{eq} (during the architectural coatings phase) to 92 dBA L_{eq} (during the demolition phase) at the nearest adjacent noise-sensitive receivers (i.e., multifamily residences located 5 feet from the closest point of construction). These noise levels would be substantially higher than ambient noise levels in the area, and would be considered annoying or disruptive for daily activities at the closest off-site receptors (i.e., 20 feet away).

This maximum noise level is considered to be a peak exposure, applicable not more than 10% to 15% of the total construction period and only while the construction activity is taking place in one location at a distance of 20 feet from any of the off-site receivers. The more typical construction noise levels (for construction taking place at a range of locations on site and modeled at the acoustical center for analysis purposes) range from approximately 68 dBA L_{eq} (during architectural coatings) to approximately 80 dBA L_{eq} (during demolition, site preparation, and grading) (see Table 22). The average noise levels (based on the acoustic center) are considered a better representation of the overall noise exposure experience for the closest adjacent receivers near the project site for periods of time greater than 21 days, and over the duration of each construction phase. These average construction noise levels would still be considerably greater than ambient noise levels in the project vicinity, likely resulting in annoyance. Based upon this analysis, noise levels for all construction phases would exceed the allowable 65 dBA L_{eq} limit at the closest single-family residences. Therefore, mitigation would be required to avoid a potentially significant short-term construction noise impact at the single-family residences closest to the project site.

Table 22. Construction Noise Analysis Summary

Construction Phase	Construction Noise at Representative Receiver Distances (L_{eq}(dBA))	
	Nearest Construction Work (Approximately 20 Feet Away)	*Typical Construction Work (Approximately 100 Feet Away)*
Demolition	92	80
Site Preparation	88	80
Grading	89	80
Building Construction 1	84	78
Building Construction 2	84	78
Building Construction 3	84	78
Building Construction 4	84	78
Paving	88	78
Architectural Coating	82	68

Source: Appendix C.
Note: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibel.

Consistent with MM-NOI-1, the applicant would be required to provide a sound barrier wall to reduce construction noise impacts to sensitive receptors. In accordance with MM-NOI-1, the applicant would either construct a minimum 8-foot-tall concrete masonry unit (CMU) wall, or provide a temporary construction sound barrier wall prior to building construction. Both the CMU wall and the temporary construction sound barrier would effectively reduce sound transmission by blocking direct line-of-sight between the on-site construction activities and the project-adjacent residences' windows. It is estimated that a noise barrier of

the prescribed density would reduce average noise levels to sensitive receptors by approximately 8 dBA or more by blocking direct line of sight to ground-level receptors.

Additionally, construction activities would be required to comply with MM-NOI-2 through MM-NOI-6, which require the project to implement a series of feasible construction BMPs to minimize construction noise levels at the nearest sensitive receptors to acceptable levels of significance.

MM-NOI-1 Prior to building construction, the applicant would either construct a minimum 8-foot-tall concrete masonry unit (CMU) wall (Option 1), or provide a temporary construction sound barrier wall (Option 2) to reduce construction-related noise to nearby sensitive receptors:

Option 1

The applicant shall first clear, prepare, and grade the area on and immediately around the perimeter of the project site only. Following these initial construction activities, a minimum 8-foot-tall concrete masonry unit (CMU) wall shall be constructed around the project perimeter and designed reflecting the City-approved project development plans. Aside from its long-term aesthetic value to the project, this CMU wall would act as a noise barrier during the remainder of the project construction phase.

Option 2

A temporary construction sound barrier wall shall be installed along the project site boundaries. Entry gates for construction vehicles shall be closed when vehicles are not entering or exiting the site. The barrier shall be made of sound-attenuating material (not landscaping). To effectively reduce sound transmission through the barrier, the material chosen must be rigid and sufficiently dense (at least 20 kilograms per square meter). All noise barrier material types are equally effective, acoustically, if they have this density. For example, 5/8-inch plywood, mounted with no gaps between adjacent sheets, would be of sufficient density to achieve the target attenuation. The barrier shall be 8 feet in height from the ground surface on the construction side of the wall to achieve the goal of blocking direct line-of-sight to the adjacent residence windows.

MM-NOI-2 At least 30 days prior to commencement of construction, the contractor shall provide written notice to all residential property owners and tenants within 300 feet of the project site that proposed construction activities could affect outdoor or indoor living areas. The notice shall contain a description of the project, a construction schedule including days and hours of construction, and a description of noise-reduction measures.

MM-NOI-3 Noise-generating construction activities (which may include preparation for construction work) shall be permitted weekdays between 7:00 a.m. and 6:00 p.m., excluding federal holidays. When a holiday falls on a Saturday or Sunday, the preceding Friday or following Monday, respectively, shall be observed as a legal holiday.

MM-NOI-4 Stationary construction equipment that generates noise that exceeds 85 dBA at the property boundaries shall be shielded with a barrier that meets a Sound Transmission Class rating of 25.

MM-NOI-5 All construction equipment powered by internal combustion engines shall be properly muffled and maintained. No internal combustion engine shall be operated on the site without a muffler. All diesel equipment shall be operated with closed engine doors and shall be equipped with factory recommended mufflers. Unnecessary idling of internal combustion engines shall be prohibited.

MM-NOI-6 Air compressors and generators used for construction shall be surrounded by temporary acoustical shelters. Whenever feasible, electrical power shall be used to run air compressors and similar power tools.

The above mitigation measures would reduce construction noise levels at the nearest single-family residences to be in compliance with the City's Noise Ordinance limit of 65 dBA L_{eq} during daytime hours. Therefore, with implementation of mitigation, short-term construction noise impacts would be less than significant.

Long-Term Operational Impacts

Off-Site Traffic Noise Impacts

Less-Than-Significant Impact. The adjacent East 220th Street would be the primary traffic noise source at the project site. Based upon information from Dudek transportation specialists, East 220th Street between Delores Street and Neptune Avenue currently carries approximately 4,976 average daily traffic (ADT) trips; between Grace Avenue and Avalon Boulevard, East 220th Street carries approximately 4,909 ADT. By Year 2022, East 220th Street between Delores Street and Neptune Avenue is estimated to carry approximately 5,335 ADT; between Grace Avenue and Avalon Boulevard, East 220th Street is estimated to carry approximately 5,255 ADT. The project would increase the number of vehicles along East 220th Street between Delores Street and Neptune Avenue by approximately 132 on an ADT basis; between Grace Avenue and Avalon Boulevard, East 220th Street would increase the ADT by approximately 168.

Potential noise effects from vehicular traffic were assessed using the Federal Highway Administration's Traffic Noise Model Version 2.5 (FHWA 2004). Information used in the model included the Existing, Existing plus Project, Year 2022, and Year 2022 plus Project traffic volumes. Noise levels were modeled at representative noise-sensitive receivers. The receivers were modeled to be 5 feet above the local ground elevation. The five receiver locations used for the noise measurements were used to represent proposed future residences and existing off-site residences. Receivers ST1 and ST3 were used to represent the future proposed residences on the project site; additionally, a modeled-only receiver (M1) was used to represent the proposed open-space recreation area. Receivers ST2, ST4, and ST5 were used to represent existing off-site residences. The measured and modeled receiver locations are shown in Figure 5.

The information provided from this modeling, along with the results from ambient noise survey measurements, was compared to the noise impact significance criteria to assess whether project-related traffic noise would cause a significant impact and, if so, where these impacts would occur. The results of the comparisons for the off-site noise-sensitive land uses are presented in Table 23. The input and output files for the Traffic Noise Model are provided in Appendix C.

Table 23. Summary of Off-Site Existing and Future (Year 2022) Unmitigated Traffic Noise Levels (dBA CNEL)

Modeled Receptor	Roadway Segment	Existing	Existing plus Project	Future (Year 2022)	Future (Year 2022) plus Project	Maximum Project-Related Noise Level Increase (dB)
ST2 – Residence adjacent to project site	East 220th Street, west of Neptune Avenue	61	61	61	61	0
ST4 – Residences east of project site	East 220th Street, west of Grace Avenue	62	62	63	63	0
ST5 – Residences west of project site	East 220th Street, west of Neptune Avenue	62	62	62	62	0

Source: Appendix C.
Note: dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level; dB = decibel.
Traffic noise levels are rounded to the nearest whole numbers.

As Table 23 shows, the project would increase the noise level along the East 220th Street (the road from which all project-related traffic would take access) by 0 dBA (when rounded to whole numbers). A change (either an increase or a decrease) of 1 dB or less is not an audible change in the context of community noise (i.e., outside of a controlled test environment). In addition, the project would not cause noise levels to exceed applicable City noise standards. The project is not anticipated to result in significant traffic noise increases or cause an exceedance of applicable traffic noise standards. Therefore, impacts associated with off-site traffic noise would be less than significant.

On-Site Traffic Noise Impacts

Less-Than-Significant Impact. Based on the project design, the future exterior noise level from year 2022 traffic at representative exterior use areas was calculated using Traffic Noise Model 2.5 (refer to Appendix C). The future on-site traffic-related noise levels on the project site are presented in Table 24.

Table 24. Summary of On-Site Future (Year 2022) Unmitigated Traffic Noise Levels (dBA CNEL)

Modeled Receptor	Roadway Segment	Future (Year 2022) with Project
ST1 – Proposed residences, first floor; easterly side of project site	East 220th Street, west of Grace Avenue	60
ST1-2 – Proposed residences, second floor; easterly side of project site	East 220th Street, west of Grace Avenue	60
ST3 – Proposed residences, first floor; northern side of project site	East 220th Street, west of Neptune Avenue	43
ST3-2 – Proposed residences, second floor; northern side of project site	East 220th Street, west of Neptune Avenue	54
M1 – Proposed recreation /common outdoor use area	East 220th Street, west of Neptune Avenue	46

Source: Appendix C
Note: Traffic noise levels are rounded to the nearest whole numbers.
TNM noise modeling accounted for the proposed 6-foot high walls along the project boundaries.

As shown in Table 24, the results of the noise modeling indicate that on-site noise levels would range from approximately 43 dBA CNEL (at receiver ST3) to 61 dBA CNEL (at receiver ST2). Traffic noise levels would not exceed the City's exterior noise compatibility standard of 65 dBA CNEL. Therefore, impacts associated with on-site traffic noise would be less than significant.

On-Site Interior Noise

Less-Than-Significant Impact. The City and the state require that interior noise levels not exceed a CNEL or day/night average sound level (L_{dn}) of 45 dBA within the habitable rooms of residences. Typically, with the windows open, building shells provide approximately 15 dB of noise reduction. Therefore, rooms exposed to an exterior greater than 60 dBA L_{dn}/CNEL could result in an interior L_{dn}/CNEL greater than 45 dB. The state building code recognizes this relationship and, therefore, requires interior noise studies when the exterior noise level is projected to exceed 60 dBA L_{dn} or CNEL.

The data shown in Table 24 indicates that the future on-site noise levels would range up to but would not exceed 60 dBA CNEL at the facades of the proposed residences fronting on East 220th Street. Thus, unmitigated interior noise levels within the habitable rooms of these dwelling units would not exceed the 45 dBA CNEL or L_{dn} noise criterion. The resultant noise levels would meet the state and City interior noise standard of 45 dBA CNEL or L_{dn}. Therefore, impacts associated with on-site interior noise would be less than significant.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less-Than-Significant Impact With Mitigation Incorporated. Construction activities that might expose persons to excessive ground-borne vibration or ground-borne noise could cause a potentially significant impact. Ground-borne vibration information related to construction activities (including demolition) has been collected by Caltrans (Caltrans 2013). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inches per second begin to annoy people. The heavier pieces of construction equipment, such as bulldozers, would have peak particle velocities of approximately 0.089 inches per second or less at a distance of 25 feet (DOT 2018). Ground-borne vibration is typically attenuated over short distances. At the distance from the nearest vibration-sensitive receivers (the adjacent residences) to where construction activity would be occurring on the project site (approximately 20 feet), and with the anticipated construction equipment, the peak particle velocity vibration level would be approximately 0.124 inches per second. At the closest sensitive receptors, vibration levels could temporarily exceed the vibration threshold of potential annoyance of 0.1 inches/second; however, these vibration impacts would only occur intermittently during the relatively brief periods of time when heavy equipment is operating in proximity to the nearest project boundaries. With implementation of MM-NOI-1, in which nearby residences would be notified of the project work, impacts associated with vibration-generated annoyance would be less than significant.

The major concern with regards to construction vibration is related to building damage, which typically occurs at vibration levels of 0.5 inches per second or greater for buildings of reinforced-concrete, steel or timber construction. As discussed above, the highest anticipated vibration levels associated with on-site project construction would be approximately 0.124 inches per second, which are well below the threshold of 0.5 inches per second for building damage. Therefore, impacts associated with vibration-produced damage would be less than significant.

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 two 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?

No Impact. The project site is not located within the vicinity of private airstrip. Additionally, the closest public airports to the project site are the Torrance Municipal Airport, which is located approximately 4 miles southwest of the project site, and Compton/Woodley Airport, which is located approximately 4.2 miles north of the project site. According to the Los Angeles County Airport Land Use Commission, the project is not located within the airport land use plans for these nearby airports. In addition, the Noise Contour Map provides the 65 CNEL contours of the nearby airports, which are located more than 4 miles from the project site (ALUC 2019). Therefore, no impacts associated with airport and aircraft noise would occur.

3.14 Population and Housing

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

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

Less-Than-Significant Impact. According to SCAG's 2016–2040 RTP/SCS growth forecast, the City is projected to add approximately 15,900 people, 5,500 households, and 11,200 jobs in the future, based on regional demographic and economic assumptions (SCAG 2016). Specifically, SCAG's forecast indicates the population will increase from the 2012 population of 92,000 to the projected 2040 population of 107,900 (an increase of 17%).

The project would directly induce population growth in the City by constructing a 35-unit multifamily residential community on a property that currently is zoned to support a medium residential density. According to SCAG, the average household size in the City is 3.6 persons (SCAG 2019). Using this factor of 3.6 persons per household, the project could support a residential population of approximately 126 persons. By comparison to SCAG's growth forecast, the project's 126 additional residents would represent

less than 1% of the projected growth in the City. As such, the project's direct population growth does not constitute a substantial unplanned population growth within the City.

According to Table 28 in the City's General Plan Housing Element, the total regional housing need is 1,698 housing units. In addition, the City addresses the importance of identifying sites for future housing development (City of Carson 2013a). Since the project site is currently developed with 15 residential structures, which is lower than the current zoning, the project would assist the City in fulfilling its housing needs (as determined by SCAG). As such, direct impacts to population growth would be less than significant. Therefore, impacts related to substantial population growth would be less than significant.

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

Less-Than-Significant Impact. Under existing conditions, the project site contains 15 residential structures that would be removed to facilitate construction of the project. The property owners have previously entered into a voluntary purchase agreement with the project applicant, and would no longer occupy the project site. According the U.S. Census Bureau, the City has approximately 738 vacant housing units (U.S. Census Bureau 2017). As such, it is assumed that the former residents living on the project site would be able to secure new housing in or around the project area without the need to construct new housing. Therefore, impacts associated with the displacement of housing would be less than significant.

3.15 Public Services

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

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

Fire protection?

Less-Than-Significant Impact. The Los Angeles County Fire Department (LACoFD) provides fire protection services to the City. There are six primary fire stations that provide fire and emergency medical services to the City. Four of the stations are located within the City's boundaries. The Fire Prevention Office is located at the Carson City Hall (701 East Carson Street), which is located approximately 0.7 miles northeast of the project site. The nearest fire station is the LACoFD Station 36 (127 West 223rd Street), located approximately 0.7 miles southwest of the project site via local roads.

Based on the proximity of the project site to the existing LACoFD facilities, and since the project site is located in a developed part of the City that is already within the service area of LACoFD, it is anticipated that the project could be served by LACoFD without adversely affecting personnel-to-resident ratios, response times, or other performance objectives. Therefore, impacts associated with the need for new or expanded LACoFD facilities would be less than significant.

Police protection?

Less-Than-Significant Impact. The Los Angeles County Sheriff's Department contracts with the City to provide police protection services. Los Angeles County Sheriff's Department staff has indicated that an officer-to-population ratio of 1 officer to every 1,000 residents is the desired level of service (County of Los Angeles 2014). The Carson Sheriff's Station is located at 21356 South Avalon Boulevard, approximately 1.0 mile northeast of the project site.

Based on the proximity of the project site to the existing Carson Sheriff's Station, and since the project site is located in a developed part of the City that is within the service area of the Carson Sheriff's Station, it is anticipated that the project could be served without adversely affecting personnel-to-resident ratios, response times, or other performance objectives. Therefore, impacts associated with the need for new or expanded Los Angeles County Sheriff's Department would be less than significant.

Schools?

Less-Than-Significant Impact. The Los Angeles Unified School District (LAUSD) and the Compton Unified School District serve the City. The Compton Unified School District has one elementary school, one middle school, and one high school serving the City. LAUSD has fourteen elementary schools, five middle schools, and six high schools that serve the project area. The project site is located within LAUSD, Board District 7, and the assigned resident schools are Carson Street Elementary School (grades K–5), Andrew Carnegie Middle School (grades 6–8), and Carson Senior High School (grades 9–12) (LAUSD 2019).

LAUSD would serve students in grades kindergarten through 12th grade who would reside on the project site. According to the California Department of Education, during the 2018/2019 school year, Carson Street Elementary School had 701 students enrolled, Andrew Carnegie Middle School had 815 students enrolled, and Carson Senior High School had 1,499 students enrolled (CDE 2019). The City's General Plan EIR

indicates that these schools have an operating capacity of 1,024 students, 2,228 students, and 3,600 students, respectively (City of Carson 2002). As such, these schools are expected to have existing capacity and facilities for additional student enrollment.

Using the student generation rates used in the City's General Plan EIR (City of Carson 2002), high-density residential uses generate 0.178 elementary school students, 0.083 middle school students, and 0.081 high school students per unit. At 35 dwelling units, the project could generate approximately seven elementary school students, three middle school students, and three high school students. Because LAUSD has existing capacity, it is assumed that the schools serving the project would have the facilities to accept what equates to a nominal increase in students generated by the project.

Nonetheless, the project would be subject to SB 50, which requires the payment of mandatory impact fees to offset any impact to school facilities. In accordance with SB 50, the project applicant would pay its fair share of school impact fees based on the number of proposed dwelling units and square footage per Government Code Section 65995(h). Therefore, impacts associated with the need for new or expanded LAUSD facilities would be less than significant.

Parks?

Less-Than-Significant Impact. The project would include 35 residential units that would house approximately 126 residents. At least a portion of these residents are anticipated to patronize the various public parks and recreation facilities located in proximity to the project site. The closest parks to the project site are Carson Park and Calas Park. The 11-acre Carson Park, which is located 0.7 miles to the northwest, provides a range of passive and active recreational amenities, including two lighted ball diamonds, a swimming pool, a play area, two multipurpose game courts, a restroom/snack-bar building, a multipurpose building, and a picnic area. Additionally, the 9-acre Calas Park, which is located 0.7 miles to the east, provides two lighted tennis courts, an outdoor fitness zone, one lighted multipurpose game court, one lighted ball diamond, two multipurpose rooms, a play area, a par course, a picnic area, a wading pool, a snack bar/restroom building, and a parking lot.

The project would be subject to the City's Interim Development Impact Fee Program, which requires new development projects to pay impact fees, which would support park improvements as well as fund capital costs for other new and existing infrastructures. Pursuant to the Interim Development Impact Fee Program, the property owner/developer would pay its fair share of impact fees based on the fee category and adopted Interim Development Impact Fee Program rates (City of Carson 2019b).

In addition, the project would include common open space areas, which would consist of a central community space with a variety of recreational amenities, as well as multiple common landscape areas throughout the project site. These on-site amenities would provide an alternative to off-site public parks and recreational facilities, allowing the project's residents to recreate on the project site while incrementally reducing impacts to off-site public parks and recreational facilities. Therefore, impacts associated with the need for new or expanded park facilities would be less than significant.

Other public facilities?

Less-Than-Significant Impact. It is reasonable to assume that at least a portion of the approximately 126 residents generated by the project would patronize public facilities, such as local library branches, operated by the City. The County of Los Angeles Public Library System serves the City. The Carson Library is located at 151 East Carson Street, approximately 0.7 miles northwest of the project site. The service area for the library has a population of 100,980 and the library has a collection of 216,146 library materials, such as books, audio materials, periodicals, and government documents. In addition, the Dr. Martin Luther King, Jr., Library is located at 17906 South Avalon Boulevard, approximately 3 miles northeast of the project site (City of Carson 2002).

According to the City's General Plan EIR, the libraries are underserved in terms of facility size and library materials (City of Carson 2002). However, the project would add approximately 126 residents, which represents approximately 0.001% of the existing 92,927 City residents that are served by the library system (U.S. Census Bureau 2017). This nominal increase in library patrons is not expected to significantly influence the County of Los Angeles Public Library System's ability to serve users compared to existing conditions. Therefore, impacts associated with the need for new or expanded libraries and other public facilities would be less than significant.

3.16 Recreation

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

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

Less-Than-Significant Impact. The project would include a 35-unit multifamily residential community that would house approximately 126 residents. At least a portion of these residents are anticipated to patronize the various public parks and recreation facilities located in proximity to the project site. The project would be subject to development impact fees, which would support park improvements as well as fund capital costs for other new and existing infrastructures.

In addition, the project would include common open space areas, which would consist of a central community space with a variety of recreational amenities, as well as multiple common landscape areas throughout the project site. These on-site amenities would provide an alternative to off-site public parks and recreational facilities, allowing the project's residents to recreate on the project site while incrementally reducing impacts to off-site public parks and recreational facilities. Therefore, impacts associated with the increased use of existing recreational facilities would be less than significant.

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

Less-Than-Significant Impact. The project would include common open space areas throughout the site. These areas would include a central community space with an overhead shade structure, fire pit with seating, turf game court, and barbeque, as well as multiple common landscape areas. Collectively, residents will enjoy over 6,000 square feet of communal recreation space.

These on-site amenities would be fully contained and secured within the project site and are part of the project. Any potential environmental impacts related to the construction and operation of these on-site recreational amenities are already accounted for in this IS/MND as part of the impact assessment conducted for the entirety of the project. No adverse physical impacts beyond those already disclosed in this document would occur as a result of implementation of the project's on-site recreational facilities. Therefore, impacts associated with the construction or expansion of recreational facilities would be less than significant.

3.17 Transportation

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

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

Less-Than-Significant Impact. The project would not conflict with an applicable plan, ordinance, or policy that establishes measures of effectiveness for the performance of the circulation system, as further discussed below.

Analysis Methodology

This section summarizes the methodologies used to perform the following focused traffic analysis for the project. The methodologies described are consistent with the City General Plan Transportation and Infrastructure Element (City of Carson 2004).

Intersection Analysis

Intersections within the study area were analyzed using the Intersection Capacity Utilization (ICU) methodology for two signalized intersections and the methodologies described in the Highway Capacity Manual (HCM) 6th Edition for the unsignalized intersections (TRB 2016). The ICU method determines the volume-to-capacity (V/C) ratio on a critical lane basis and determines LOS associated with each critical V/C ratio at the signalized intersection. The HCM method used to determine LOS at unsignalized intersections determines the average control delay (in seconds) a driver may experience at the intersection. Table 25 identifies the LOS definitions for HCM and ICU methodologies.

Table 25. Level of Service Definitions

Level of Service	V/C Ratio or ICU	Average Control Delay (seconds/vehicle)
A	≤ 0.600	≤ 10.0
B	> 0.600 - 0.700	> 10.0 - 15.0
C	> 0.700 - 0.800	> 15.0 - 25.0
D	> 0.800 - 0.900	> 25.0 - 35.0
E	> 0.900 - 1.000	> 35.0 - 50.0
F	> 1.000	> 50.0

Source: TRB 2016.
Note: V/C = volume to capacity; ICU = intersection capacity utilization.

Roadway Segment Analysis

Daily V/C ratios were calculated for the roadway segments within the study area, and LOS designations were determined based on the same V/C ratio increments shown in Table 25. Table 26 below shows the daily capacity per lane for 220th Street, from Main Street to Avalon Boulevard.

Table 26. 220th Street Roadway Capacity

No.	Roadway Segment	Classification	Daily Capacity per Lane[1] (vehicle/lane/day)
1	220th Street, Main Street to Avalon Boulevard	Collector Road	10,800

Source: City of Carson 2004.

1 Daily capacity derived from the City's hourly lane capacity (450 vehicles/lane/day) identified in Tables TI-4 and TI-5 of the Transportation and Infrastructure Element.

Significance Criteria

All intersections and roadway segments analyzed in this analysis are within the City. The City's established threshold criteria to determine the significant traffic impact of a proposed project in its jurisdiction is shown in Table 27.

Table 27. City of Carson Impact Criteria

LOS (ICU[1] or HCM[2])	Final V/C Ratio	Project-Related Increase in V/C
E or F	> 0.900	Equal to or greater than 0.020

Source: City of Carson 2004

Notes: ICU = intersection capacity utilization; HCM = Highway Capacity Manual; V/C = volume to capacity.

1 LOS reported using the ICU method for signalized intersections and roadway segments.

2 LOS reported using the HCM method for unsignalized intersections.

Existing Traffic Conditions

This section describes existing conditions within the study area. Characteristics are provided for the existing roadway system, daily roadway segment traffic volumes, peak hour traffic volumes, and traffic operations.

Existing Roadway System

220th Street is a two-lane, east–west, undivided roadway in the study area and is classified as a Collector by the City Transportation and Infrastructure Element. Parking (with some restrictions) is allowed along 220th Street, and the speed limit is 30 mph within the study area.

Dolores Street is a two-lane, north–south, undivided roadway and is classified as a Collector by the City Transportation and Infrastructure Element. Parking (with some restrictions) is allowed on Dolores Street, and the speed limit is 30 mph within the study area.

Grace Avenue is a two-lane, north–south, undivided roadway and is classified as a Collector by the City Transportation and Infrastructure Element. Parking (with some restrictions) is allowed along Grace Avenue, and the speed limit is 40 mph within the study area.

Avalon Boulevard is a four-lane, north–south, divided roadway and is classified as a Major Highway by the City Transportation and Infrastructure Element. Parking (with some time restrictions) is allowed along Avalon Boulevard, and the speed limit is 40 mph within the study area.

Existing Transit System

Public transportation in the City is provided primarily by the Carson Circuit, the Torrance Transit, and the Los Angeles County Metropolitan Transportation Authority bus lines. There is also limited service from Long Beach Transit and Gardena Municipal Bus lines. The following routes serve the study area:

Carson Circuit Transit System

- **Route C** primarily serves the Avalon Boulevard corridor between Del Amo Boulevard to the north and Sepulveda Boulevard to the south. Peak service frequency averages approximately 40 minutes.

Torrance Transit Bus Lines

- **Route 3** operates between downtown Long Beach and the Redondo Beach Pier. In the Carson area, primary routes served by Route 3 include Carson Street between Vermont Avenue and Avalon Boulevard, Avalon Boulevard between Carson Street and 223rd Street, 223rd Street between Avalon Boulevard and Dolores Street, Dolores Street between 223rd Street and Sepulveda Boulevard, and Sepulveda Boulevard between Dolores Street and Wilmington Boulevard. Route 3 also provides direct access to the Metro Blue Line in Long Beach. Peak service frequency averages approximately 30 minutes.

Gardena Municipal Bus Lines

- **Line 3** operates between Compton and the South Bay Center in Torrance. The primary routes include Gardena Boulevard between Vermont Avenue and Avalon Boulevard, Avalon Boulevard between Alondra Boulevard and Gardena Boulevard, and Alondra Boulevard between Avalon Boulevard and Wilmington Avenue. Peak service frequency averages between 10 to 20 minutes.

Metropolitan Transportation Authority Bus Lines

- **Line 246** provides service from Harbor Gateway Transit Center to Point Fermin Park and Historic Lighthouse along Avalon Avenue and Pacific Avenue. Peak service frequency averages approximately 10 minutes.

Existing Pedestrian and Bicycle Facilities

Pedestrian Facilities

All study area roadways, including Dolores Street, Grace Street, Avalon Boulevard, and 220th Street, are constructed with curbs, gutters, and sidewalks along both sides of all streets within the study area.

Bicycle Facilities

Within the study area, only Dolores Street has designated bike lanes and routes. Dolores Street, from Carson Street to 223rd Street, is identified as a Class III bike route by the City of Carson Bike Master Plan (City of Carson 2013b). South of 223rd Street to Sepulveda Boulevard, bicycle facilities along Dolores Street become Class II bike lanes. No other bicycle facilities are identified within the study area.

Existing Traffic Volumes

Existing weekday ADT counts at the study roadway segments and peak hour turn movement counts at the study intersections were conducted in June 2019, during a typical non-holiday week while schools were in session. The Los Angeles Unified School District (LAUSD) school calendar identifies June 7, 2019, as the last day of instruction for the 2018/2019 school year (LAUSD 2017). Additional contact with the two nearest schools confirmed the last day of school as June 7, 2019. Existing ADT and peak hour traffic volumes are shown in Figure 6, Existing Traffic Volumes, and traffic count worksheets are provided in Appendix D.

ADT volumes were collected along 220th Street at the following two locations:

1. 220th Street, Delores Street to Neptune Avenue
2. 220th Street, Grace Avenue to Avalon Boulevard

Peak-hour turn movement counts were collected at the following three locations:

1. Dolores Street/220th Street (signalized)
2. Grave Avenue/220th Street (unsignalized)
3. Avalon Boulevard/220th Street (signalized)

Existing Intersection Operations

Table 28 shows the intersection operations during both the AM and the PM peak hours under the existing conditions. LOS worksheets are provided in Appendix D. All study area intersections are currently operating at LOS C or better under Existing conditions.

Table 28. Existing Weekday Peak Hour Intersection LOS

No.	Intersection	LOS Method	AM Peak		PM Peak	
			V/C or Delay[1]	*LOS*	*V/C or Delay*[1]	*LOS*
1	Dolores Avenue/220th Street	ICU	0.693	B	0.535	A
2	Project Access Driveway/220th Street[2]	HCM	—	—	—	—
3	Grace Avenue/220th Street	HCM	12.7	B	11.2	B
4	Avalon Boulevard/220th Street	ICU	0.750	C	0.659	B

Source: Appendix D.
Notes: LOS = level of service; V/C = volume to capacity; ICU = Intersection Capacity Utilization; HCM = Highway Capacity Manual.
1 Volume-to-capacity ratio for signalized intersection, delay (in seconds) for unsignalized intersections.
2 Driveway does not exist under no-project conditions.

Existing Roadway Segment Operations

Table 29 shows the daily roadway segment operations under the Existing conditions. All study area roadway segments are currently operating at LOS A under Existing conditions.

Table 29. Existing Daily Roadway Segment Level of Service

No.	Roadway Segment	Classification	Daily Capacity per Lane	Existing Conditions		
				ADT	*V/C*	*LOS*
1	220th Street, Dolores Street to Neptune Avenue	Collector Road	10,800	4,976	0.461	A
2	220th Street, Grace Avenue to Avalon Boulevard	Collector Road	10,800	4,909	0.455	A

Source: Dudek 2019.
Note: ADT = average daily traffic; V/C = volume to capacity; LOS = level of service.
LOS is based on City of Carson V/C ratio thresholds and lane capacities.

Proposed Project Traffic

Trip Generation

Trip generation rates were determined for the morning peak-hour inbound and outbound traffic and evening peak-hour inbound and outbound traffic for the proposed land use. By multiplying the trip generation rates by the land use quantity, the traffic volumes were determined. Trip rates for the project were obtained from the Institute of Transportation Engineers Trip Generation, 10th Edition (ITE 2017). The trip rate for "Single-Family Detached Housing" was used to estimate the trip generation of the project (see Table 30).

Table 30. Project Trip Generation

Land Use	Size/ Units	Daily	AM Peak Hour			PM Peak Hour		
			In	*Out*	*Total*	*In*	*Out*	*Total*
Trip Rates								
Single-Family Detached Housing (ITE Code 210)	per DU	9.44	0.19	0.56	0.74	0.62	0.37	0.99
Trip Generation								
Cambria Court Residential Project	35 DUs	330	6	20	26	22	13	35

Source: ITE 2017.
Notes: ITE = Institute of Transportation Engineers; DU = dwelling unit.

As shown in Table 30, the project would generate approximately 330 daily trips, including 26 AM peak-hour trips (6 inbound and 20 outbound), and 35 PM peak-hour trips (22 inbound and 13 outbound).

Trip Distribution and Assignment

Local trip distribution for the project was determined based on logical commute patterns and the surrounding roadway network. Approximately 40% of the project traffic would be expected to travel west toward Dolores Street and 60% of the traffic would travel east toward Grace Avenue and Avalon Boulevard. Table 31 shows the trip distribution percentages and resulting project volume assignments at the project access along 220th Street intersection for the project.

Table 31. Project Trip Distribution and Assignment

Roadway – Direction	Project Distribution	Project Assignment (trips)				
		Daily	AM		PM	
			In	Out	In	Out
220th Street – West	40%	132	2	8	9	5
220th Street – East	60%	198	4	12	13	8
Total	**100%**	**330**	**6**	**20**	**22**	**13**

The trip distribution percentages to and from the intersection were applied to the project's weekday AM and PM peak-hour trip generation estimates to calculate the project trip assignment (i.e., AM and PM peak-hour volumes that the project would generate) (as shown in Figure 7, Project Trip Distribution, and Figure 8, Project Trip Assignment).

Existing plus Project Conditions

This section describes project-specific impacts under Existing plus Project conditions within the study area for intersection and roadway segment operations, and analyzes significance based on the City significance criteria.

Project traffic volumes shown in Figure 8 were added to the Existing traffic volumes shown in Figure 6 to derive the Existing plus Project traffic condition. Figure 9 shows the Existing plus Project Traffic Volumes.

Intersection Operations

An intersection LOS analysis was prepared for the Existing plus Project condition using the ICU method for signalized intersections and the HCM 6th Edition methodology for unsignalized intersections. Table 32 summarizes the results of the Existing plus Project intersection analysis for the AM and PM peak hours. Detailed LOS calculation worksheets are included in Appendix D.

As shown in Table 32, all of the study area intersections are forecast to continue to operate with satisfactory LOS, at LOS C or better, under Existing plus Project conditions during both peak hours. Since all study area intersections are forecast to operate at LOS C or better, the project is not considered to have an impact under Existing plus Project conditions.

Roadway Segment Operations

As shown in Table 33, with the addition of project traffic, the two study area roadway segments along 220th Street would continue to operate with satisfactory LOS at a LOS A under Existing plus Project conditions.

Future Year 2022 Conditions

This section presents the results of a cumulative condition analysis that was conducted for a short-term horizon year where the project is constructed and fully occupied. The Future Year 2022 conditions are based on the addition of traffic from approved and pending projects in the study area and the application of 0.5% annual growth to the existing 2019 traffic volumes.

The 0.5% growth rate is consistent with the Regional Statistical Area growth rate from 2010 to 2020 for the nearby Palos Verdes area as shown in Exhibit D-1, General Traffic Volumes Growth Factors, from Appendix D of the Los Angeles Guidelines for Congestion Management Program Transportation Impact Analysis (MTA 2010). Additionally, use of the Regional Statistical Area 19 growth rate, or a 0.5% annual growth rate, is consistent with other recent traffic studies performed for projects within the City.

Cumulative Projects

Cumulative projects are projects that are proposed and in the review process, but not yet fully approved, or projects that have been approved, but not fully constructed or occupied. A list of cumulative projects was obtained from the City. Based on review of the cumulative projects, seven projects were identified that would potentially add traffic to the roadways and intersections within the study area (Figure 10, Cumulative Project Locations).

Table 34 provides a brief description of the cumulative projects, along with the Institute of Transportation Engineers Codes and trip rates used to develop trip generation estimates for the cumulative projects. As shown in the table, cumulative projects are forecast to generate approximately 13,784 daily trips, 642 AM peak hour trips, and 1,297 PM peak hour trips. Trip distributions and assignments for the cumulative projects were assumed using logical commute corridors for the associated land uses, and estimated trips generated were distributed through the study area network and added to the existing traffic volumes. Worksheets showing the cumulative projects distributions and assignments are provided in Appendix D.

Table 32. Existing plus Project Weekday Peak Hour Intersection LOS

No.	Intersection	LOS Method	Existing				Existing plus Project				Change in V/C or Delay		Significant Impact?	
			AM Peak		*PM Peak*		*AM Peak*		*PM Peak*					
			V/C or Delay[1]	*LOS*	*V/C or Delay*[1]	*LOS*	*V/C or Delay*[1]	*LOS*	*V/C or Delay*[1]	*LOS*	*AM*	*PM*	*AM*	*PM*
1	Dolores Avenue/220th Street	ICU	0.693	B	0.535	A	0.700	B	0.541	A	0.007	0.006	No	No
2	Project Access Driveway/220th Street[2]	HCM	—	—	—	—	11.3	B	11.3	B	—	—	No	No
3	Grace Avenue/220th Street	HCM	12.7	B	11.2	B	13.0	B	11.5	B	0.3	0.3	No	No
4	Avalon Boulevard/220th Street	ICU	0.750	C	0.659	B	0.755	C	0.663	B	0.005	0.004	No	No

Source: Appendix D.
Note: LOS = level of service; V/C = volume to capacity; ICU = Intersection Capacity Utilization; HCM = Highway Capacity Manual.
1 Volume-to-capacity ratio for signalized intersection, delay (in seconds) for unsignalized intersections.
2 Driveway does not exist under no-project conditions; LOS determined by worst turning movement.

Table 33. Existing plus Project Daily Roadway Segment Level of Service

No.	Roadway Segment	Classification	Daily Capacity per Lane	Existing Conditions			Existing plus Project Conditions			Change in V/C	Significant Impact?
				ADT	*V/C*	*LOS*	*ADT*	*V/C*	*LOS*		
1	220th Street, Dolores St. to Neptune Ave.	Collector Road	10,800	4,976	0.461	A	5,108	0.473	A	0.012	No
2	220th Street, Grace Ave. to Avalon Blvd.	Collector Road	10,800	4,909	0.455	A	5,077	0.470	A	0.016	No

Source: Dudek 2019.
Note: ADT = average daily traffic; LOS = level of service; V/C = volume to capacity.
LOS is based on City of Carson V/C ratio thresholds and lane capacities.

Table 34. Cumulative Projects Trip Generation Summary

Land Use	Size/Units		Daily	AM Peak Hour			PM Peak Hour		
				In	*Out*	*Total*	*In*	*Out*	*Total*
Trip Rates									
Warehousing (ITE Code 150)[1]	TSF		1.74	0.13	0.04	0.17	0.05	0.14	0.19
Multifamily Housing (low-rise) (ITE Code 220)[1]	DU		7.32	0.11	0.35	0.46	0.35	0.21	0.56
Multifamily Housing (mid-rise) (ITE Code 221)[1]	DU		5.44	0.09	0.27	0.36	0.27	0.17	0.44
Shopping Center (ITE Code 820)[1]	TSF		37.75	0.58	0.36	0.94	1.83	1.98	3.81
Specialty Retail Center (ITE Code 826)[2]	TSF		44.32	3.28	3.56	6.84	1.19	1.52	2.71
Supermarket (ITE Code 850)[1]	TSF		106.78	2.29	1.53	3.82	4.71	4.53	9.24
Pharmacy/Drugstore without Drive-Through Window (ITE Code 880)[1]	TSF		90.08	1.91	1.03	2.94	4.17	4.34	8.51
High-Turnover (Sit-Down) Restaurant (ITE Code 932)[1]	TSF		112.18	5.47	4.47	9.94	6.06	3.71	9.77
Trip Generation									
1. Carson Trucking Project[3]	698	TSF	1,215	91	27	119	36	97	133
2. 223rd Street Condos[4]	9	DU	49	1	2	3	2	2	4
3. Birch Specific Plan[5]	32	DU	174	3	9	12	9	5	14
4. Veterans Village[6]	54	DU	294	5	14	19	14	9	24
	2.5	TSF	111	8	9	17	3	4	7
5. Union South Bay[7]	357	DU	1,942	33	95	129	96	61	157
	15	TSF	1,602	34	23	57	71	68	139
	8	TSF	721	15	8	24	33	35	68
	5	TSF	561	27	22	50	30	19	49
	4	TSF	177	13	14	27	5	6	11
6. Carson Arts Project[8]	46	DU	337	5	16	21	16	10	26
7. Carson Town Center[9]	174.896	TSF	6,602	102	62	164	320	347	666
Total Cumulative Project Trip Generation			**13,784**	**339**	**303**	**642**	**635**	**661**	**1,297**

Source: City of Carson 2019
Notes: DU = Dwelling Units; TSF = Thousand Square Feet
1 ITE 2017.
2 ITE 2012.
3 East 223rd Street to the north, East 236th Street to the south; Truck Yard - ITE Code 150.
4 123 East 223rd Street; Residential - ITE Code 221.

5 21809 - 21811 South Figueroa; Residential - ITE Code 221.
6 600 West Carson Street; Mixed-Use - ITE Codes 221, 826.
7 21521 - 21601 South Avalon Boulevard; Mixed-Use - ITE Codes 221, 826, 850, 880, 932.
8 21205 Main Street; Residential - ITE Code 220.
9 500 Carson Town Center; Commercial - ITE Code 820

As described above, Future Year 2022 traffic volumes were determined by adding traffic from approved and pending projects in the study area and applying a 0.5% annual growth rate (over 3 years, from 2019 to 2022) to the existing 2019 traffic volumes. Figure 11 shows the Future Year 2022 traffic volumes.

Intersection Operations

An intersection LOS analysis was prepared for the Future Year 2022 condition using the ICU method for signalized intersections and the HCM 6th Edition methodology for unsignalized intersections. Table 34 summarizes the results of the Future Year 2022 intersection analysis for the AM and PM peak hours. Detailed LOS calculation worksheets are included in Appendix D.

As shown in Table 35, all of the study area intersections are forecast to continue to operate with satisfactory LOS, at LOS C or better, under Future Year 2022 conditions during both peak hours.

Table 35. Future Year 2022 Weekday Peak Hour Intersection LOS

No.	Intersection	LOS Method	Future Year 2022			
			AM Peak		*PM Peak*	
			V/C or Delay[1]	*LOS*	*V/C or Delay*[1]	*LOS*
1	Dolores Avenue/220th Street	ICU	0.708	C	0.552	A
2	Project Access Driveway/220th Street[2]	HCM	—	—	—	—
3	Grace Avenue/220th Street	HCM	13.1	B	11.8	B
4	Avalon Boulevard/220th Street	ICU	0.780	C	0.705	C

Source: Appendix D.
Notes: LOS = level of service; V/C = volume to capacity; ICU = Intersection Capacity Utilization; HCM = Highway Capacity Manual.
1 Volume-to-capacity ratio for signalized intersection, delay (in seconds) for unsignalized intersections.
2 Driveway does not exist under no-project conditions.

Roadway Segment Operations

As shown in Table 36, with the addition of project traffic, the two study area roadway segments along 220th Street would continue to operate with satisfactory LOS at a LOS A under Future Year 2022 conditions.

Table 36. Future Year 2022 Daily Roadway Segment Level of Service

No.	Roadway Segment	Classification	Daily Capacity per Lane	Future Year 2022 Conditions		
				ADT	*V/C*	*LOS*
1	220th Street, Dolores St. to Neptune Ave.	Collector Road	10,800	5,335	0.494	A
2	220th Street, Grace Ave. to Avalon Blvd.	Collector Road	10,800	5,255	0.487	A

Source: Dudek 2019.
Note: ADT = average daily traffic; LOS = level of service; V/C = volume to capacity.
LOS is based on City of Carson V/C ratio thresholds and lane capacities.

Future Year 2022 plus Project Conditions

This section describes project-specific impacts under Future Year 2022 plus Project conditions within the study area for intersection and roadway segment operations, and analyzes significance based on the City significance criteria.

Project traffic volumes shown in Figure 8 were added to the Future Year 2022 baseline traffic volumes shown in Figure 11 to derive the Future Year 2022 plus Project traffic condition. Figure 12 shows the Future Year 22 plus Project traffic volumes.

Intersection Operations

An intersection LOS analysis was prepared for the Existing plus Project condition using the ICU method for signalized intersections and the HCM 6th Edition methodology for unsignalized intersections. Table 37 summarizes the results of the Future Year 2022 plus Project intersection analysis for the AM and PM peak hours. Detailed LOS calculation worksheets are included in Appendix D.

As shown in Table 37, all of the study area intersections are forecast to continue to operate with satisfactory LOS, at LOS C or better, under Future Year 2022 plus Project conditions during both peak hours. Since all study area intersections are forecast to operate at LOS C or better, the project is not considered to have an impact under Future Year 2022 plus Project conditions.

Roadway Segment Operations

As shown in Table 38, with the addition of project traffic, the two study area roadway segments along 220th Street would continue to operate with satisfactory LOS at LOS A under Future Year 2022 plus Project conditions.

Proposed Project Access

Based on the project's site plan, access to the site would be provided from one proposed driveway along 220th Street. The driveway would connect to internal driveways between the residences, providing access to on-grade street parking and two smaller on-grade parking lots. The project access driveway would be located approximately 125 feet west of Neptune Avenue and 125 feet east of Ravenna Avenue and would provide full access to the project site.

With the addition of the project access driveway, the east–west traffic along 220th Street would continue to operate in free flow, and the driveway would be stop controlled. As shown in Table 39, addition of project traffic to the new intersection along 220th Street would result in LOS B at the intersection based on the southbound turning movements from the driveway, during both the AM and PM peak hours.

In addition, a queuing analysis was performed at this driveway, and the 95th percentile (design) queue is reported in Table 39. As shown in the table, queuing at the eastbound approach under Existing plus Project and Future Year 2022 plus Project conditions would not exceed one car length (assuming an average car length of 20 feet), and queuing at the southbound approach would not exceed two car lengths under the same scenarios. This indicates that no more than one car would be waiting along 220th Street to enter the project site, and no more than two vehicles would be waiting at the project driveway to exit the project site during the peak hours.

Table 37. Future Year 2022 plus Project Weekday Peak Hour Intersection LOS

No.	Intersection	LOS Method	Future Year 2022				Future plus Project				Change in V/C or Delay		Significant Impact?	
			AM Peak		*PM Peak*		*AM Peak*		*PM Peak*					
			V/C or Delay[1]	*LOS*	*V/C or Delay*[1]	*LOS*	*V/C or Delay*[1]	*LOS*	*V/C or Delay*[1]	*LOS*	*AM*	*PM*	*AM*	*PM*
1	Dolores Avenue/220th Street	ICU	0.708	C	0.552	A	0.714	C	0.558	A	0.006	0.006	No	No
2	Project Access Driveway/220th St.[2]	HCM	—	—	—	—	11.4	B	11.5	B	—	—	No	No
3	Grace Avenue/220th Street	HCM	13.1	B	11.8	B	13.4	B	12.1	B	0.3	0.3	No	No
4	Avalon Boulevard/220th Street	ICU	0.780	C	0.705	C	0.785	C	0.709	C	0.005	0.004	No	No

Source: Appendix D.
LOS = level of service; V/C = volume to capacity; ICU = Intersection Capacity Utilization; HCM = Highway Capacity Manual.
1 Volume-to-capacity ratio for signalized intersection, delay (in seconds) for unsignalized intersections.
2 Driveway does not exist under no-project conditions; LOS determined by worst turning movement.

Table 38. Future Year 2022 plus Project Daily Roadway Segment Level of Service

No.	Roadway Segment	Classification	Daily Capacity per Lane	Future Year 2022 Conditions			Future Year 2022 plus Project Conditions			Change in V/C	Significant Impact?
				ADT	*V/C*	*LOS*	*ADT*	*V/C*	*LOS*		
1	220th Street, Dolores St. to Neptune Ave.	Collector Road	10,800	5,335	0.494	A	5,467	0.506	A	0.012	No
2	220th Street, Grace Ave. to Avalon Blvd.	Collector Road	10,800	5,255	0.487	A	5,423	0.502	A	0.016	No

Source: Dudek 2019.
Note: ADT = average daily traffic; LOS = level of service; V/C = volume to capacity.
LOS is based on City of Carson V/C ratio thresholds and lane capacities.

Table 39. Queuing Summary

Intersection	Movement	Pocket Length[2]	Existing plus Project[1]		Exceeds Turn Pocket Length?		Future Year 2022 plus Project[1]		Exceeds Turn Pocket Length?	
			AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Project Access Driveway/220th Street	SBLR[3]	118	37	32	No	No	37	33	No	No
	EBLT[4]	125	0	18	No	No	0	15	No	No

Notes: SBLR = southbound left/right; EBLT = eastbound left/through.
1 Based on 95th percentile (design) queue length in SimTraffic 10.
2 Measured in feet.
3 Pocket length measured from the project driveway to the curb cut.
4 Part of a through lane; pocket length measured from the Neptune Avenue intersection.

Therefore, with the relatively low traffic volumes generated by the project, the provision of one driveway on 220th Street, and the calculated 95th percentile queue of a maximum of two vehicles during the peak hours, the project would not cause significant delay or queuing at the project access driveway intersection.

Based on the methodology, modeling, and findings discussed in this traffic analysis, the project would not result in an adverse impact to local roadway operations. Therefore, impacts associated with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less-Than-Significant Impact. CEQA Guidelines Section 15064.3(b) focuses on newly adopted criteria (VMT) adopted pursuant to SB 743 for determining the significance of transportation impacts. Pursuant to SB 743, the focus of transportation analysis changes from vehicle delay to VMT. The related updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. As stated in CEQA Guidelines Section 15064.3(c), the provisions of Section 15064.3 shall apply prospectively. A lead agency may elect to be governed by the provision of Section 15064.3 immediately. The provisions must be implemented statewide by July 1, 2020.

The Office of Public Resources regulatory text indicates that a public agency may immediately commence implementation of the new transportation impact guidelines, and that the guidelines must be implemented statewide by July 1, 2020. The traffic analysis in this section relies on LOS to characterize impacts since neither the City nor County has adopted VMT significance thresholds. Therefore, project traffic impacts are determined on a capacity-based LOS analysis for the project.

Additionally, Section 15064.3(b)(1) for land use projects would apply to the project, and states that "generally, projects within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor should be presumed to have a less-than-significant impact on VMT." The project site is located under ½ mile from bus stations along Carson Street, Avalon Boulevard, and 223rd Street, including routes that connect to Metro rail lines. Specifically, Torrance Transit Route 3 provides direct access to the Metro Blue Line in Long Beach, and Metropolitan Transportation Authority Route 246 provides direct access to the Metro Silver Line at the Harbor Gateway Transit Center. As all roadways within the study area are

equipped with sidewalks, access to these transit stations would be further facilitated. Therefore, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).

Nonetheless, the project's VMT was estimated using CalEEMod Version 2016.3.2 (CAPCOA 2017). CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with the construction and operational activities from a variety of land use projects, such as residential, commercial, and industrial facilities. Additional documentation is located in Appendix A. CalEEMod does not incorporate any traffic model or local data, and is therefore a conservative estimating tool for VMT. The project's annual VMT comes to 1,098,443 VMT. On a daily basis this is approximately 330 VMT. Since the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), impacts would be less than significant.

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

No Impact. The project would be subject to Design Overlay Review (DOR No. 1773-19) to regulate the design of the project through the General Plan and Zoning Ordinance to ensure compatible use. The developer would be responsible for on-site circulation improvements (driveways and internal drive aisles) and frontage improvements (utility connections, landscape areas) along 220th Street. These on-site and adjacent improvements would be designed in accordance with all applicable design standards set forth by the City, which were established to ensure safe and efficient vehicular circulation on City roadway facilities. In addition, the City reviews all site plans to ensure that adequate line of sight is provided at all driveways, making sure that no structures or landscaping blocks the views of vehicles entering and exiting a site. As such, no sharp curves, dangerous intersections, or incompatible uses would be introduced by the project.

Additionally, the project site would be accessible via one driveway along 220th Street, and as detailed in Section 3.17(a), the project would not cause significant delay or queuing at the Project Access Driveway/220th Street intersection. Therefore, no impacts associated with hazardous design features or incompatible land uses would occur.

d) Would the project result in inadequate emergency access?

No Impact. As discussed in Section 3.17(a), the project site would be accessible through one driveway along 220th Street. The driveway would be located on the southern end of the project site. Each of the project's driveways would be designed and constructed to City standards and comply with City width, clearance, and turning-radius requirements. The project site would be accessible to emergency responders during construction and operation of the project. As a result of the project's driveway entry and because the project would comply with all applicable local requirements related to emergency vehicle access and circulation, the project would not result in inadequate emergency access. Therefore, no impacts associated with inadequate emergency access would occur.

3.18 Tribal Cultural Resources

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

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:

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

Less-Than-Significant Impact. As previously discussed in Section 3.5, Cultural Resources, there is no evidence that any of the four criteria listed in PRC, Section 5024.1(c)(1–4), have been met for any of the existing on-site buildings. There is no evidence that any of the existing on-site structures are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; are associated with the lives of persons important in our past; or have yielded, or may be likely to yield, information important in prehistory or history. Further, given the physical alteration to these existing residential structures that has taken place over the decades, the historical integrity of the properties are no longer intact, and the structures would not be eligible for listing in the NRHP or CRHR. Thus, none of the structures on the project site would be considered historical resources as defined by CEQA.

In addition, on May 29, 2019, a search was conducted of the California Historical Resources Information System at the SCCIC, located on the campus of California State University, Fullerton, of the study area and a 0.5-mile (804 feet) record search area. This search included their collections of mapped prehistoric, historic, and built environment resources; Department of Parks and Recreation Site Records; technical reports; and ethnographic references. Additional consulted sources included historical maps of the study area, the NRHP, the CRHR, the California Historic Property Data File, the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility.

The SCCIC records indicate that eight cultural resources investigations have been conducted within 0.5 miles of the project site. Of these eight studies, one overlaps with the project site (LA-04512). The report discusses several historical and prehistoric resources located within the City. No resources identified during this study were located within or near the project site. Additionally, two previously recorded cultural resources fall within a 0.5-mile radius of the project site. Both resources are historic-era buildings or structures; however, none of these resources were identified on or near the project site. Therefore, impacts associated with historical resources would be less than significant. Therefore, impacts associated with historical resources would be less than significant.

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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less-Than-Significant Impact with Mitigation Incorporated. No archaeological resources were identified within the project site or immediate vicinity as a result of the California Historical Resources Information System records search. The project site has undergone extensive modification over time, as the project site is located in a developed part of the City and is surrounded by a highly urbanized mix of land uses, including residential and commercial. Prior disturbance within the project site has likely been heavily impacted and/or destroyed any surficial archaeological deposits that may have been present. As such, there is a low potential for discovering significant archaeological resources during construction due to past landform modifications and the lack of resources nearby.

The project is subject to compliance with AB 52 (PRC, Section 21074). AB 52 requires consideration of impacts to tribal cultural resources as part of the CEQA process and requires the City, as the lead agency, to notify any groups that are traditionally or culturally affiliated with the geographic area of the project and who have requested notification. As a part of the government-to-government consultation efforts prescribed under AB 52, the City notified Native American representatives, inviting the tribes to consult on the project. On June 13, 2019, the City sent notification letters to representatives with the Gabrieleño Band of Mission Indians-Kizh Nation, Gabrieleno Tongva San Gabriel Band of Mission Indians, Gabrielino Tongva Indians of California Tribal Council, Gabrielino/Tongva Nation, and Gabrielino-Tongva Tribe. As of the date of this document (September 2019), no responses have been received from any of these recipients.

The project site contains scattered single-family units on disturbed, currently developed land. These previous on-site development activities affected the entirety of the project site, and as such, it follows that any resources that may have once been located on the project site would have been significantly disturbed. Nonetheless, it is always possible that intact archaeological deposits, including tribal cultural resources, are present at subsurface depths that were not earlier impacted by the current on-site development. For this reason, the project site should be treated as potentially sensitive for archaeological resources. MM-CUL-1 is recommended to reduce potential impacts to unanticipated archaeological resources. With the incorporation of mitigation, impacts associated with tribal cultural resources would be less than significant.

3.19 Utilities and Service Systems

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

a) Would the project 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 could cause significant environmental effects?

Less-Than-Significant Impact. The project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities for the reasons discussed below.

Water Facilities

The project involves the demolition of existing single-family residential uses and construction of a 35-unit multifamily residential community, which would increase demand for water supply on the project site. According to the Dominguez District 2015 UWMP, the demand of water for single-family was 9,343 acre-feet per year.[10] Residential customers account for approximately 88% of services in the Dominguez District. Based on SCAG's local profile for 2015, the City had an estimated 93,805 residents, and the average household size was 3.6 persons (SCAG 2015). Assuming the 2015 population and 3.6 persons per household, the project would generate approximately 12.6 acre-feet of additional water use per year (0.13% of the total water demand for residential).[11] The project's nominal contribution to the total water demand could be served by existing water facilities serving the project area without requiring new or expanded facilities. Therefore, impacts associated with the construction or expansion of water facilities would be less than significant.

Wastewater Treatment Facilities

Wastewater generated at the project site would be treated at the Joint Water Pollution Control Plant (JWPCP), which is owned and operated by Sanitation Districts of Los Angeles County (LACSD). The JWPCP is one of the largest wastewater treatment plants in the world and is the largest of the LACSD wastewater treatment plants. JWPCP provides primary and secondary treatment for an estimated 260 million gallons per day (mgd) of wastewater. The facility is permitted a total capacity of 400 mgd (LACSD 2019). Wastewater generated by the project would represent only a nominal percentage of the JWPCP average dry-weather flow capacity and average wastewater flow.

According to the Sewer Area Study Report generated for the project, the site currently has sanitary sewer connections. In addition, the 8-inch sewer mainline would have adequate capacity to include additional flow from the proposed site (Appendix B). Wastewater generated by the project could flow to JWPCP via this existing sewer mainline. Thus, the project would not require or result in the relocation or construction of new wastewater treatment facilities. Less-than-significant impacts would occur.

Stormwater Drainage Facilities

As discussed in Section 3.10(b), the project site contains a drainage pattern from the southwest to the northeast of the site with an existing sump pump system installed to pump stormwater to the southerly 220th street (Appendix B). Runoff from public streets would be collected into catch basins with pipe outlets. The project would involve installation of an additional sump pump system on the east side of the site that

[10] Assuming 9,343 acre-feet per year per resident, then each resident would require approximately 0.1 acre-feet of water per year.
[11] This conservatively assumes the project would generate 126 persons and assumes that all residents of the project would be new transplants to the City.

would discharge stormwater and runoff to the same 220th street. Additionally, stormwater and runoff generated from the project site would be infiltrated from three proposed biofiltration basins, which would be added throughout the site. Although new stormwater drainage facilities would be constructed, these improvements are part of the project analyzed herein, and as such, any potential environmental impacts related to these components of the project are already accounted for in this IS/MND as part of the impact assessment conducted for the entirety of the project. No adverse physical effects beyond those already disclosed in this IS/MND would occur as a result of implementation of the project's stormwater drainage system improvements. Therefore, impacts associated with stormwater drainage facilities would be less than significant.

Electric Power Facilities

Electric service is provided to the City through SCE's Compton Service Center. Within Carson, there are three primary substations: (1) Carson Substation at Alameda Street and Johns Manville Street, (2) Nola Substation at South Broadway and Victoria Street, and 3) Neptune Station at 213th Street and Grace Avenue. As stated in the General Plan, SCE factors residential uses to contribute to 6,081 kilowatt-hours per unit per year (City of Carson 2004). Additionally, SCE would plan for new load growth on residential customer demand.

At full build-out, the project's operational phase would require electricity for building operation (appliances, lighting, etc.). In addition, the project would be required to comply with the 2016 Title 24 standards or the most recent standards at the time of building permit issuance. The energy-using fixtures within the project would likely be newer technologies, using less electrical power. Therefore, impacts associated with electrical power facilities would be less than significant.

Natural Gas Facilities

Natural gas is provided to the City by Southern California Gas Company, Pacific Region. As mentioned in the General Plan, Southern California Gas Company would continually assess and upgrade its system to accommodate current and future expansion in residential uses (2004). Although the project would require natural gas for building heating, the project would comply with 2016 Title 24 building energy efficiency standards, reducing energy used in the state. Based on compliance with Title 24, the project would generate a need for natural gas that is consistent with multifamily homes, and due to the newer technology, would require less energy than existing multifamily homes in the surrounding area. Therefore, impacts associated with natural gas facilities would be less than significant.

Telecommunications Facilities

The City of Carson is served by multiple telephone service providers. Since the project site is in an urbanized area and is surrounded by single-family residential uses, there are existing telecommunication facilities that would be able to serve the project site. Once the project is completed, the residents of the project would be able to connect to existing telecommunication services without the need for expansion or construction of new facilities. Therefore, impacts associated with telecommunications facilities would be less than significant.

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

Less-Than-Significant Impact. The project site would receive its water supply from the Dominguez District of Cal Water. Based on the 2015 UWMP, the Dominguez District receives its water from 17% groundwater, 15% recycled water, and 68% purchased water. Purchased water is delivered from four Metropolitan Water District distribution feeders (Cal Water 2016).

Since the main source of water for the site is purchased water, supply availability is dependent on precipitation. However, customer demands do vary with local rainfall. In general, water demand tends to increase in dry years, primarily due to increased water activities such as landscape irrigation. Thus, to assess the reliability of their water supply service, every urban water supplier is required to assess its water service under normal, dry, and multiple-dry water years. Table 40 provides water demand and supplies for dry- and multiple-dry-year scenarios for the Dominguez District of Cal Water.

Table 40. Multiple Dry Years Supply and Demand Comparison (Acre-Feet per Year)

Dry Year Scenario	Supply and Demand	2020	2025	2030	2035	2040
First Year	Supply Totals	43,623	44,376	45,395	46,554	47,858
	Demand Totals	43,623	44,376	45,395	46,554	47,858
	Difference	0	0	0	0	0
Second Year	Supply Totals	43,210	43,964	44,981	46,138	47,440
	Demand Totals	43,210	43,964	44,981	46,138	47,440
	Difference	0	0	0	0	0
Third Year	Supply Totals	43,412	44,165	45,183	46,341	47,664
	Demand Totals	43,412	44,165	45,183	46,341	47,664
	Difference	0	0	0	0	0

Source: Cal Water 2016, Table 7-4.

According to the 2015 UWMP, Cal Water coordinates on an ongoing basis with all relevant agencies in the region to optimize the use of regional water supplies. This includes the West Basin Municipal Water District, Los Angeles County Sanitation Districts, the Water Replenishment District of Southern California, and other public and private entities. In addition, Cal Water has its own conservation programs to reduce demand on water sources. The UWMP also describes the water shortage contingency plan for the Dominguez District in the event of a drought or a catastrophic supply interruption. The details of the Water Shortage Contingency Plan are provided in the 2015 UWMP and include restrictions on water use based on the four stages of action. With the projects and programs implemented by Cal Water and the City, water supplies are projected to meet full-service demands (see Table 40) (Cal Water 2016).

Because the City's water demands can be met under multiple dry years, and because supply would meet projected demand due to diversified supply and conservation measures, the project's water demands would be served by the City's projected current and future supplies. Therefore, the project would have sufficient water supplies available during normal, dry, and multiple dry years. Impacts would be less than significant.

c) Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less-Than-Significant Impact. A significant impact would occur if the wastewater treatment provider indicates that a project would increase wastewater generation to such a degree that the capacity of the facilities currently serving the project site would be exceeded. As described in Section 3.19(a), wastewater generated at the project site would be treated at the JWPCP, which is owned and operated by LACSD. The JWPCP is one of the largest wastewater treatment plants in the world and is the largest of the LACSD wastewater treatment plants. JWPCP provides primary and secondary treatment for an estimated 260 mgd of wastewater. The facility is permitted a total capacity of 400 mgd (LACSD 2019). Wastewater generated by the project would represent only a nominal percentage of the JWPCP average dry-weather flow capacity and average wastewater flow. Further, on August 1, 2019, LACSD issued a Will Serve Letter for the project. Therefore, impacts associated with wastewater treatment capacity would be less than significant.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-Than-Significant Impact. A significant impact may occur if a project were to increase solid waste generation to such a degree that existing and projected landfill capacities would be insufficient to accommodate the additional solid waste.

According to the City General Plan, solid waste generated by multifamily residential uses in the City is collected by Waste Management. Additionally, Waste Management provides waste collection services for single-family residential uses, commercial, and industrial waste in the City. Waste Management collects an estimated 70,000 tons from residential customers per day. Solid waste collected by Waste Management is transported to the Carson Transfer Station and Materials Recovery where it is sorted by material type. The 10-acre facility has a permitted capacity of 5,300 tons per day. Once the materials have been sorted, tires, green waste, steel, and wood are diverted to special facilities for disposal and recycling. Excess solid waste is sent to El Sobrante Landfill in Riverside County, approximately 75 miles from the City. Waste Management also disposes solid waste to Lancaster Landfill and Simi Valley Landfill as alternates. The total permitted throughput for all landfills is 30,404 tons per day, and approximately 249 million cubic yards of capacity remain, as listed in Table 41 (CalRecycle 2019; Waste Management 2014).

Table 41. Existing Landfills

Landfill	Location	Estimated Closing Year	Maximum Permitted Daily Load (tons per day)	Current Remaining Capacity (cubic yards)
El Sobrante Landfill	Corona	2051	16,054	143,977,170
Lancaster Landfill & Recycling Center	Lancaster	2044	5,100	14,514,648
Simi Valley Landfill & Recycling Center	Simi Valley	2074	9,250	90,000,000
		Total	**30,404**	**248,491,818**

Source: CalRecycle 2019a; Waste Management 2014.

The project involves the demolition of existing residential uses and construction of a 35-unit multifamily residential community with associated improvements. Project construction would involve some generation of waste during demolition; however, in accordance with AB 939, the construction contractor would ensure that source reduction techniques and recycling measures are incorporated into project construction. Once operational, the project would result in waste typically associated with multifamily residences. According to the California Department of Resources Recycling and Recovery, multifamily residences generate approximately 4 pounds per dwelling unit per day (CalRecycle 2019). Thus, it is anticipated the project would generate approximately 140 pounds of solid waste per day, or 25.55 tons per year. This number is nominal compared to the combined 30,404 daily disposal tonnage at El Sobrante, Lancaster, and Simi Valley Landfill. In addition, this amount does not factor in any recycling or waste diversion programs. Solid waste generated by the project would not generate waste in excess of state or local standards. Therefore, impacts associated with landfill capacity would be less than significant.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less-Than-Significant Impact. All collection, transportation, and disposal of solid waste generated by the project would comply with all applicable federal, state, and local statutes and regulations. Under AB 939, the Integrated Waste Management Act of 1989, local jurisdictions are required to develop source reduction, reuse, recycling, and composting programs to reduce the amount of solid waste entering landfills. Local jurisdictions are mandated to divert at least 50% of their solid waste generation into recycling. The project would be required to submit plans to the Public Works Department for review and approval to ensure the plan would comply with AB 939.

In addition, the state has set an ambitious goal of 75% recycling, composting, and source reduction of solid waste by 2020. To help reach this goal, the state has adopted AB 341 and AB 1826. AB 341 is a mandatory commercial recycling bill, and AB 1826 is mandatory organic recycling. Waste generated by the project would enter the City's waste stream but would not adversely affect the City's ability to meet AB 939, AB 341, or AB 1826, since the project's waste generation would represent a nominal percentage of the waste created within the City. Therefore, impacts associated with solid waste disposal regulations would be less than significant.

3.20 Wildfire

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

The California Department of Forestry and Fire Services (CAL FIRE) is responsible for designating fire hazard severity zones (FHSZs) within the State Responsibility Area throughout California. FHSZs are geographical areas with an elevated risk for wildfire hazard. The State Responsibility Area is the area for which the state assumes financial responsibility for fire suppression and protection. CAL FIRE also creates recommended maps for very high FHSZs within the Local Responsibility Areas, which are then adopted, or modified and adopted, by local jurisdictions. Development within a State Responsibility Area is required to abide by specific development and design standards. A review of CAL FIRE's FHSZ maps and data revealed that the project site is not located within a State Responsibility Area or a very high FHSZ (CAL FIRE 2019).

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less-Than-Significant Impact. Exhibit SAF-5 of the City's General Plan Safety Element shows the location of collection points and evacuation routes for the City (City of Carson 2004). The project would be required to comply with the City's Emergency Plan, adopted pursuant of Section 3707 of the Municipal Code (City of Carson 2019a).

In addition, the project would be provided emergency access routes along Main Street and Avalon Boulevard. The project site is also provided regional access via I-110 and I-405. Due to this local and regional connectivity, in the unlikely event of an emergency, the project-adjacent roadway facilities would be expected to serve as emergency evacuation routes for first responders and residents. The project would not adversely affect operations on the local or regional circulation system, and as such, would not influence the use of these facilities as emergency response routes. Therefore, impacts associated with an emergency response plan or emergency evacuation plan would be less than significant.

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

Less-Than-Significant Impact. The project would demolish existing residential uses and construct a 35-unit multifamily residential community with associated improvements. The project is surrounded by roadways and developed properties on all sides and entirely developed, so it is not susceptible to exacerbating wildfire risks. Further, the project site does not contain extensive amounts of vegetation or wildland fuel. Therefore, it is not anticipated that the project, due to slope, prevailing winds, and other factors, would exacerbate wildfire risks or expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

c) Would the project 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?

Less-Than-Significant Impact. The project involves the removal of existing residential uses and construction of a 35-unit multifamily residential community with associated improvements. Given the project site currently supports residential uses, the project site contains existing sanitary sewer connections. The project would result in the construction of stormwater drainage system utilities. However, the project would not involve the construction of roads, fuel breaks, emergency water sources, power lines, or other utilities. It is not anticipated that the project would exacerbate fire risk, since pavement would serve as a fuel break and the project site is surrounded by developed land on all sides. Therefore, impacts associated with installation or maintenance of associated infrastructure resulting in exacerbated fire risk would be less than significant.

d) Would the project 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?

Less-Than-Significant Impact. The project would comply with the site plan review and permitting requirements of the City. According to the City's General Plan EIR, the City does not contain any known areas where landslide movement has the potential to occur (City of Carson 2002). Additionally, as addressed in Section 3.7, Geology and Soils, the project site is relatively flat and is not adjacent to any potentially unstable topographical features. The project would result an increase in impervious areas; however, incorporation of BMPs, including three proposed biofiltration basins and an additional sump pump, would ensure the project would not alter drainage patterns. As such, the project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, impacts would be less than significant.

3.21 Mandatory Findings of Significance

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

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

Less-Than-Significant Impact With Mitigation Incorporated. As discussed in Section 3.4, Biological Resources, the project would not result in significant impacts to biological resources. Further, as addressed in Sections 3.5, 3.7, and 3.18, with the incorporation of mitigation, impacts related to archaeological resources, paleontological resources, and tribal cultural resources would be minimized to less than significant. Therefore, the project would not 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, 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)?

Less-Than-Significant Impact With Mitigation Incorporated. As concluded throughout this IS/MND, the project would have no impact, a less-than-significant impact, or a less-than-significant impact with mitigation incorporated with respect to all environmental impact areas outlined in the CEQA Guidelines Appendix G Environmental Checklist. Cumulative impacts of several resource areas have already been addressed in several resource sections: Section 3.3, Air Quality; Section 3.8, Greenhouse Gas Emissions; Section 3.13, Noise; and Section 3.17, Transportation. CalEEMod was used to assess the air quality and GHG emissions impacts resulting from the project, concluding less-than-significant impacts. The noise analysis conducted as part of this IS/MND concluded that cumulative impacts would be less than significant with mitigation incorporated. The traffic assessment considered cumulative increases in traffic to be less than significant. Some of the other resource areas (i.e., Section 3.1, Aesthetics; Section 3.2, Agricultural and Forestry Resources; Section 3.10, Hydrology and Water Quality; Section 3.11, Land Use and Planning; Section 3.12, Mineral Resources; Section 3.14; Section 3.15, Public Services; Section 3.16, Recreation; and Section 3.19, Utilities and Services Systems) were determined to have a less-than-significant or no impact compared to existing conditions, and, thus, the project would not contribute to cumulative impacts related to these environmental topics. Other issues areas (i.e., Section 3.5, Cultural Resources; Section 3.7, Geology and Soils; Section 3.9, Hazards and Hazardous Materials; and Section 3.18, Tribal Cultural Resources) are by their nature site-specific, and impacts at one location do not add to impacts at other locations or create additive impacts.

For all resource areas analyzed, with the incorporation of feasible mitigation measures identified within this IS/MND, the project's individual-level impacts would be reduced to less-than-significant levels, which, in turn, would reduce the potential for these impacts to be considered part of any cumulative impact. Therefore, the project would not result in individually limited but cumulatively considerable impacts.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less-Than-Significant Impact With Mitigation Incorporated. As evaluated throughout this document, with incorporation of mitigation, environmental impacts associated with the project would be reduced to less-than-significant levels. Therefore, the project would not directly or indirectly cause substantial adverse effects on human beings.

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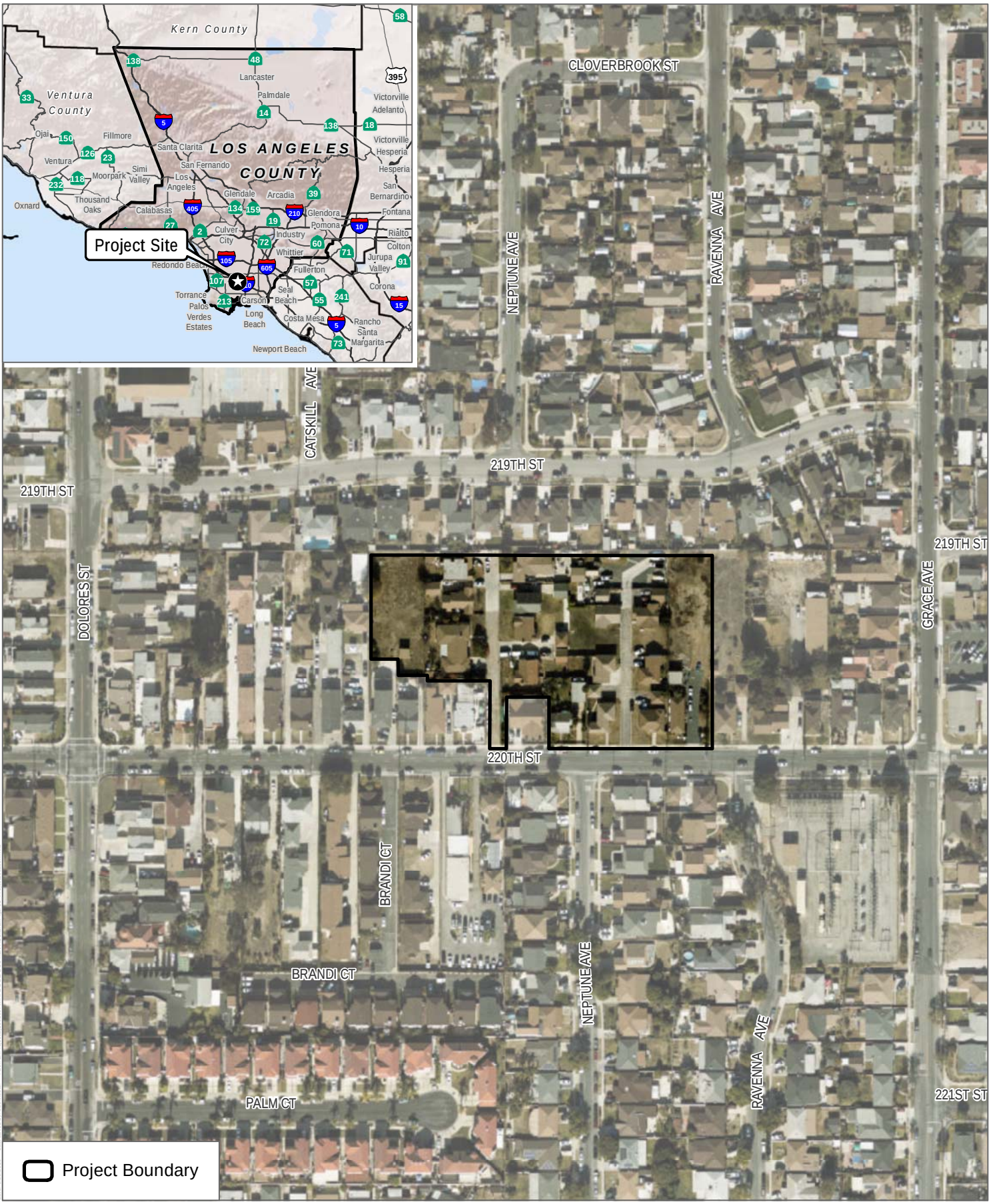
4.2 List of Preparers

Dudek

Collin Ramsey, Senior Project Manager
Sabrina Alonso, Assistant Project Manager
Lilli Martin, Environmental Analyst
Nicholas Lorenzen, Air Quality Specialist
Linda Kry, Cultural Specialist
Mike Greene, Noise Specialist
Dennis Pascua, Senior Transportation Specialist
Amanda Meroux, Transportation Specialist
Brayden Dokkestul, GIS Technician
Hannah Wertheimer, Technical Editor



SOURCE: ESRI 2018

DUDEK

0 100 200 Feet
0 25 50 Meters
1:2,400

FIGURE 1

Project Location

Cambria Court Residential Project

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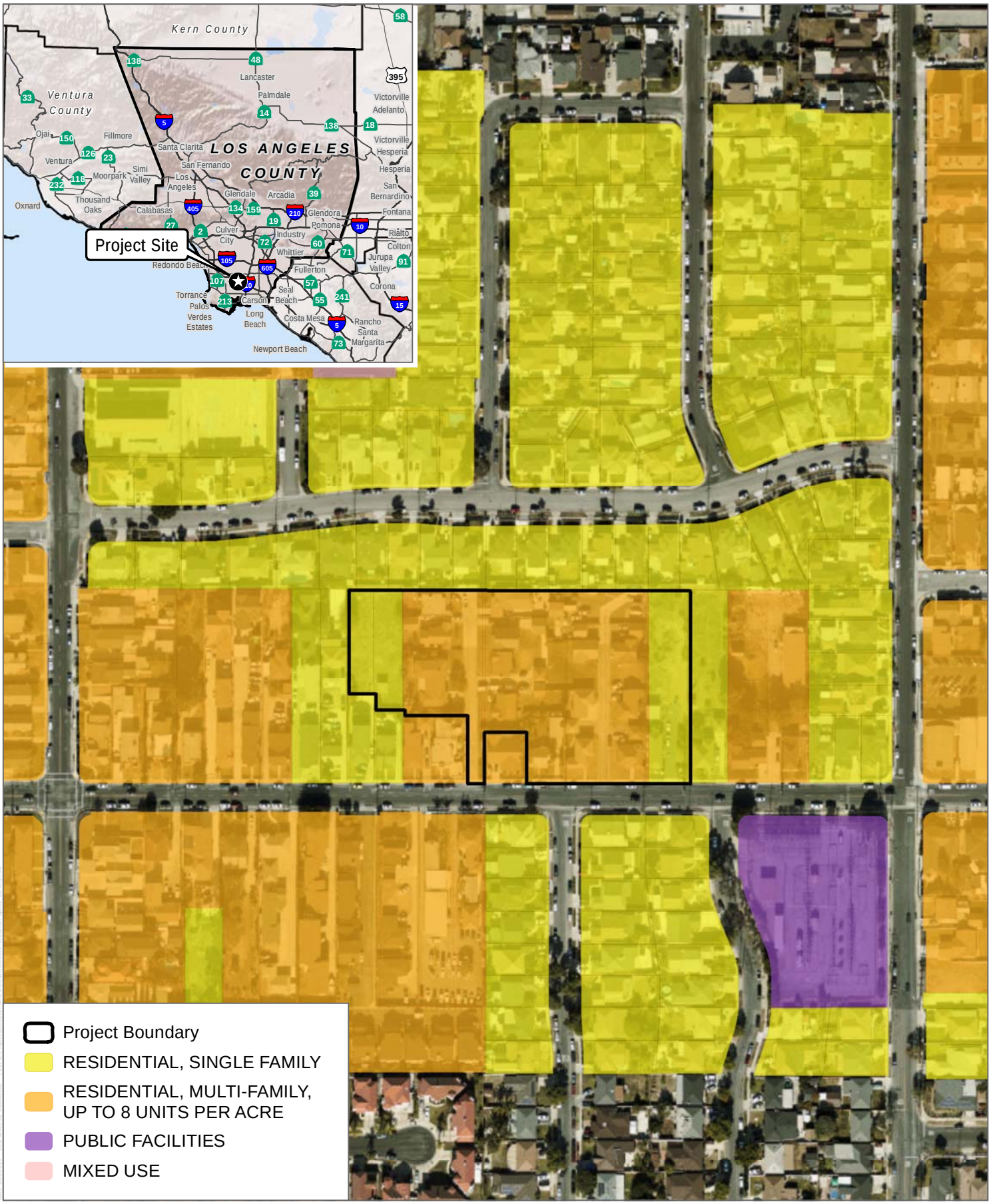

SOURCE: ESRI 2018

DUDEK

0 100 200 Feet
0 25 50 Meters
1:2,400

FIGURE 2

Zoning

Cambria Court Residential Project

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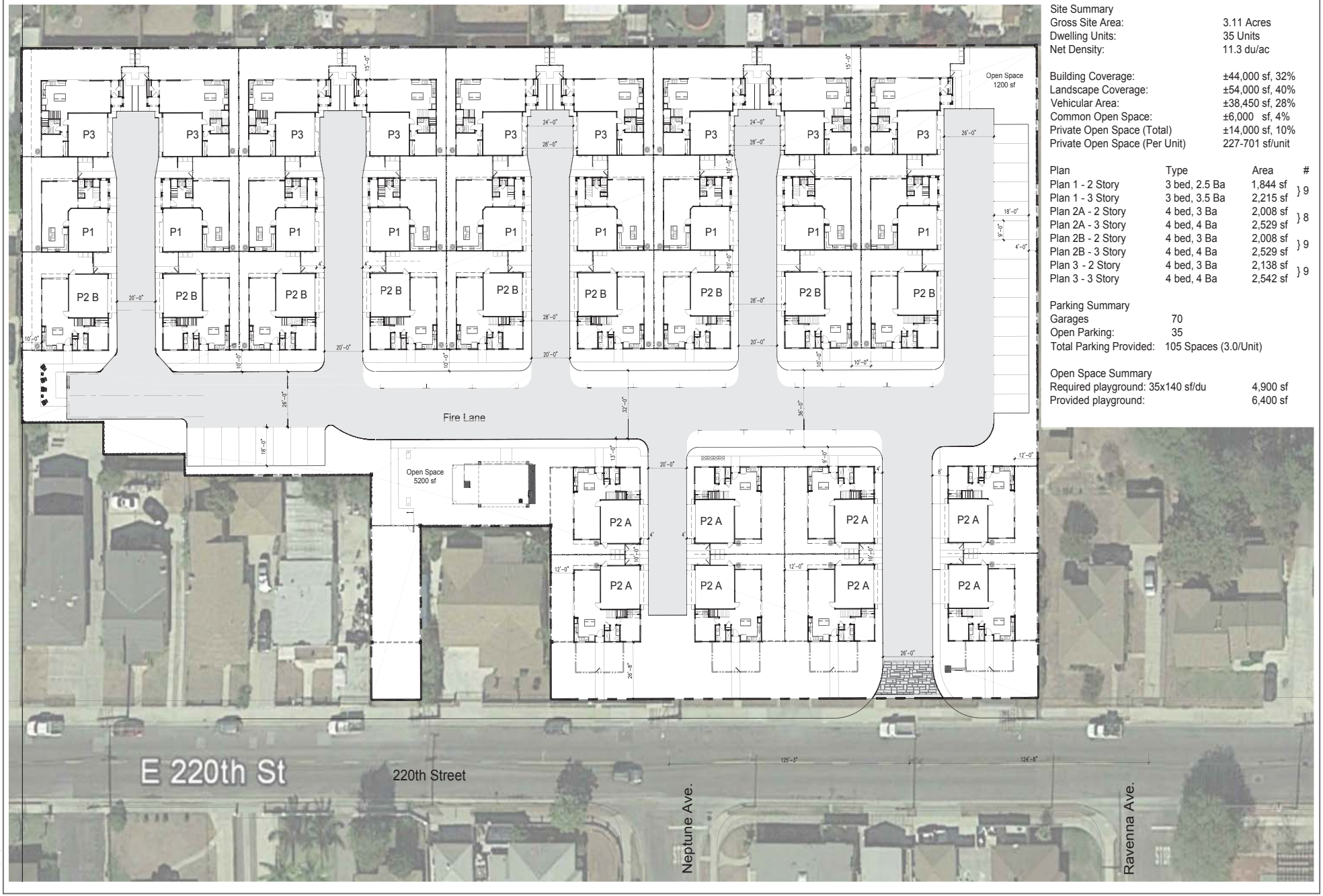

Site Summary	
Gross Site Area:	3.11 Acres
Dwelling Units:	35 Units
Net Density:	11.3 du/ac
Building Coverage:	±44,000 sf, 32%
Landscape Coverage:	±54,000 sf, 40%
Vehicular Area:	±38,450 sf, 28%
Common Open Space:	±6,000 sf, 4%
Private Open Space (Total)	±14,000 sf, 10%
Private Open Space (Per Unit)	227-701 sf/unit

Plan	Type	Area	#
Plan 1 - 2 Story	3 bed, 2.5 Ba	1,844 sf	9
Plan 1 - 3 Story	3 bed, 3.5 Ba	2,215 sf	
Plan 2A - 2 Story	4 bed, 3 Ba	2,008 sf	8
Plan 2A - 3 Story	4 bed, 4 Ba	2,529 sf	
Plan 2B - 2 Story	4 bed, 3 Ba	2,008 sf	9
Plan 2B - 3 Story	4 bed, 4 Ba	2,529 sf	
Plan 3 - 2 Story	4 bed, 3 Ba	2,138 sf	9
Plan 3 - 3 Story	4 bed, 4 Ba	2,542 sf	

Parking Summary	
Garages	70
Open Parking:	35
Total Parking Provided:	105 Spaces (3.0/Unit)

Open Space Summary	
Required playground: 35x140 sf/du	4,900 sf
Provided playground:	6,400 sf

SOURCE: KTGY, 2019

DUDEK

FIGURE 3
Site Plan
Cambria Court Residential Project

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Plan 3 Plan 1 Plan 2

Plan 3 Plan 1 Plan 2

SOURCE: KTGY, 2019

DUDEK

FIGURE 4

Elevations

Cambria Court Residential Project

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SOURCE: ESRI 2018

FIGURE 5

Noise Measurement and Modeling Locations

Cambria Court Residential Project

DUDEK

0 50 100 Feet

1:1,200

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1 Dolores Street / 220th Street

(182)
162
(92) 33 (22) 26
(37) 49 (21) 24
(139) 300 (216) 131
(64) 52 (31) 15
(98) 23 (33) 23
(217)
149

2 Project Access Driveway / 220th Street

(213) 325 (256) 157

3 Grace Avenue / 220th Street

(64)
70
(33) 28 (27) 36
(39) 50 (29) 10
(156) 249 (173) 112
(18) 26 (13) 7
(50) 17 (31) 20
(93)
74

4 Avalon Boulevard / 220th Street

(799)
926
(51) 67 (77) 110
(95) 116 (99) 65
(98) 153 (112) 57
(38) 38 (56) 35
(41) 31 (68) 41
(917)
961

Legend

- Project
- (X) Study Intersection
- (X) Weekday AM Peak Hour Traffic Volumes
- X Weekday PM Peak Hour Traffic Volumes
- X,XXX Average Daily Traffic

NOT TO SCALE

Source: Google Maps 2018

FIGURE 6

Existing Traffic Volumes

Cambria Court Residential Project

DUDEK

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Source: Google Maps 2018

FIGURE 7

Project Trip Distribution

Cambria Court Residential Project

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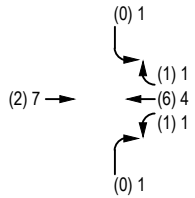
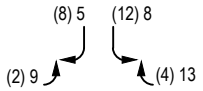
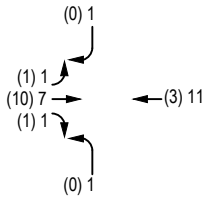
1 Dolores Street 220th Street



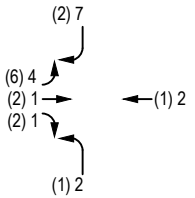
2 Project Access Driveway 220th Street



3 Grace Avenue 220th Street



4 Avalon Boulevard 220th Street



Legend

- Project
- (X) Study Intersection
- (X) Weekday AM Peak Hour Traffic Volumes
- X Weekday PM Peak Hour Traffic Volumes
- X,XXX Average Daily Traffic

NOT TO SCALE

Source: Google Maps 2018

FIGURE 8

Project Trip Assignment

Cambria Court Residential Project

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1 Dolores Street / 220th Street

(182)
162
(92) 33 (22) 27
(37) 49 (22) 25
(141) 307 (222) 135
(64) 52 (32) 16
(98) 23 (33) 24
(217)
149

2 Project Access Driveway / 220th Street

(8) 5 (12) 8
(2) 9 (4) 13
(213) 325 (256) 157

3 Grace Avenue / 220th Street

(64)
70
(33) 29 (27) 36
(40) 51 (29) 10
(166) 256 (176) 123
(19) 27 (13) 7
(50) 18 (31) 20
(93)
74

4 Avalon Boulevard / 220th Street

(799)
926
(53) 74 (77) 110
(101) 120 (99) 65
(100) 154 (113) 59
(40) 39 (56) 35
(42) 33 (68) 41
(917)
961

Legend

- Project
- (X) Study Intersection
- (X) Weekday AM Peak Hour Traffic Volumes
- X Weekday PM Peak Hour Traffic Volumes
- X,XXX Average Daily Traffic

NOT TO SCALE

Source: Google Maps 2018

FIGURE 9

Existing plus Project Traffic Volumes

Cambria Court Residential Project

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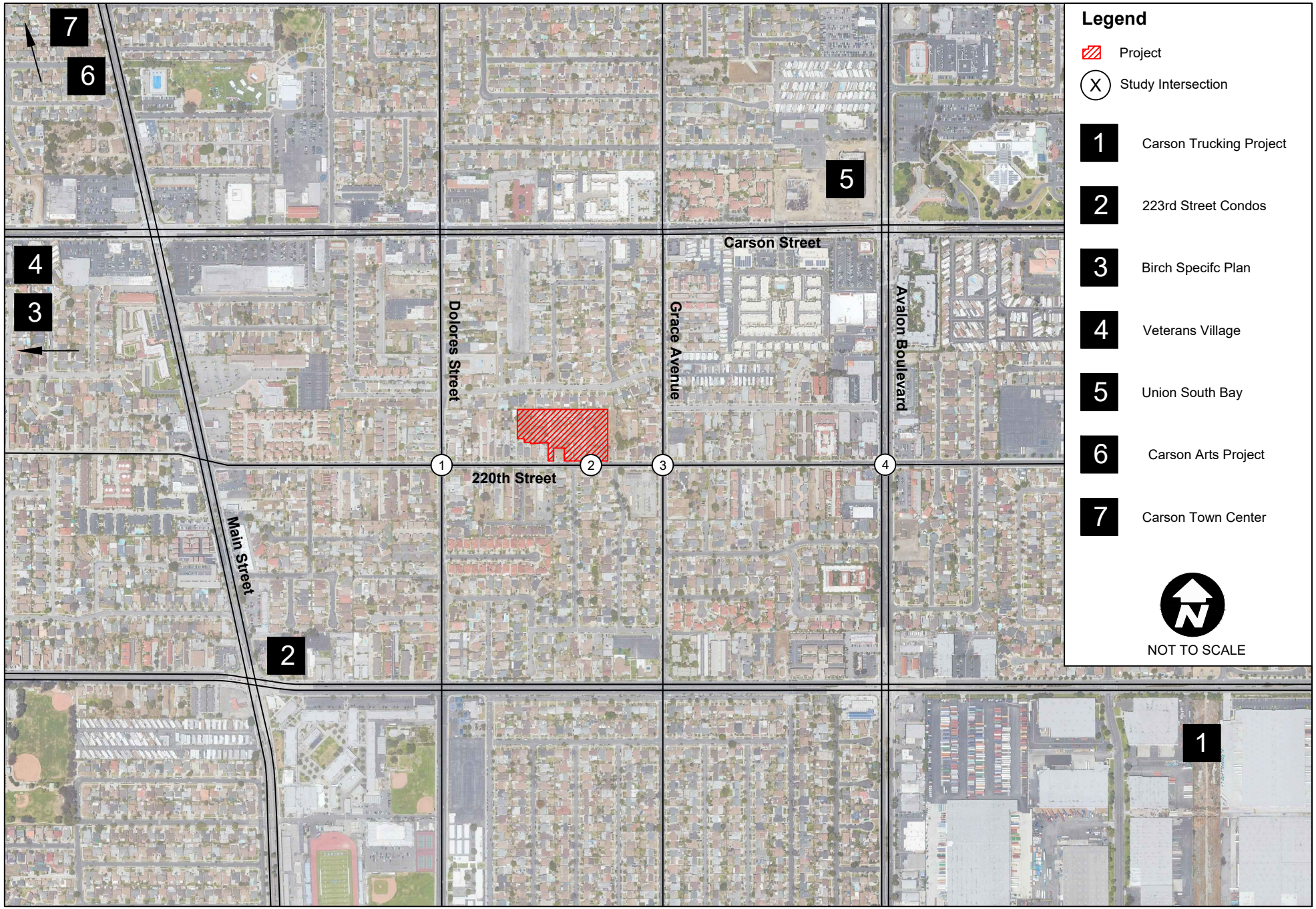

Source: Google Maps 2018, City of Carson 2019

FIGURE 10

Cumulative Project Locations

Cambria Court Residential Project

DUDEK

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1 Dolores Street
220th Street

(185)
164
(93) 33 (22) 26
(38) 50 (21) 24
(146) 319 (226) 145
(65) 54 (31) 15
(99) 24 (33) 23
(220)
151

2 Project Access Driveway
220th Street

(220) 345 (266) 172

3 Grace Avenue
220th Street

(65)
71
(33) 28 (27) 37
(40) 51 (29) 10
(162) 267 (182) 126
(18) 27 (13) 7
(51) 18 (31) 20
(94)
75

4 Avalon Boulevard
220th Street

(862)
986
(56) 73 (82) 117
(99) 124 (103) 72
(100) 162 (116) 64
(39) 40 (57) 36
(42) 32 (69) 42
(962)
1,042

Legend

- Project
- (X) Study Intersection
- (X) Weekday AM Peak Hour Traffic Volumes
- X Weekday PM Peak Hour Traffic Volumes
- X,XXX Average Daily Traffic

NOT TO SCALE

Source: Google Maps 2018

FIGURE 11

Future Year 2022 Traffic Volumes

Cambria Court Residential Project

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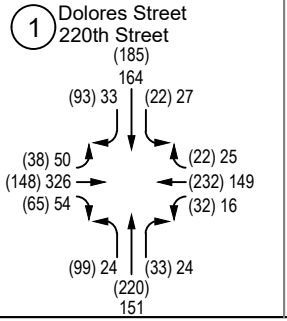

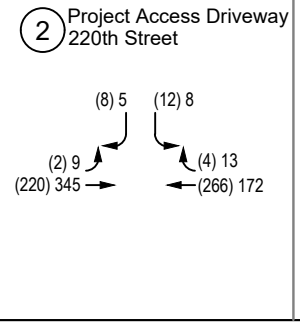

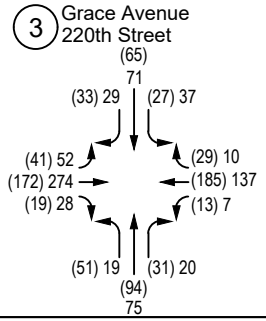

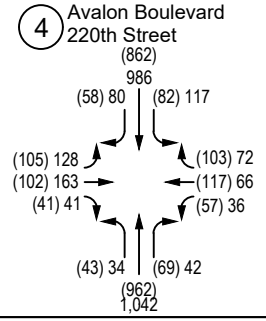

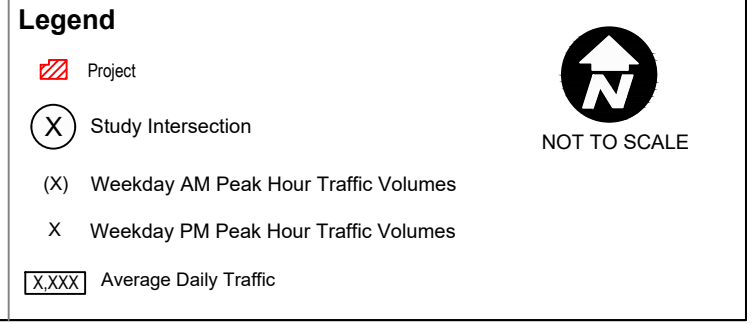

Source: Google Maps 2018

FIGURE 12

Future Year 2022 plus Project Traffic Volumes

Cambria Court Residential Project

DUDEK

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Appendix A

Air Quality and Greenhouse Gas

Cambria Court - South Coast AQMD Air District, Annual

Cambria Court

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	37.83	1000sqft	2.25	37,380.00	0
Condo/Townhouse	35.00	Dwelling Unit	0.86	85,806.00	100

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Operational year 2023

Land Use - Lot Acreage and SF vaules were provided by the Project Applicant.

Construction Phase - Non-default schedule. Schedule is based on information provided by the project applicant.

Trips and VMT - Changes to trip values result from extension of default CalEEMod schedule based on information provided by the project applicant.

Demolition - 16,750 SF of existing buildings

Grading - CalEEMod Defaults.

Architectural Coating - Non-default values reflect the breakout of the architectural coating process across 4 smaller construction phases

Vehicle Trips - Trip generates rates are consistient with the transportation analysis.

Vehicle Emission Factors - CalEEMod Defaults.

Woodstoves - no woodfire stoves or fireplaces.

Area Coating - CalEEMod Defaults.

Construction Off-road Equipment Mitigation - Complinace with SCAQMD Rule 403. (d

Waste Mitigation - None.

Fleet Mix - CalEEMod Defaults

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,919.00	14,479.00
tblArchitecturalCoating	ConstArea_Residential_Interior	173,757.00	43,439.00
tblArchitecturalCoating	ConstArea_Residential_Interior	173,757.00	43,439.00
tblArchitecturalCoating	ConstArea_Residential_Interior	173,757.00	43,439.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	130.00
tblConstructionPhase	NumDays	230.00	131.00
tblConstructionPhase	NumDays	230.00	130.00
tblConstructionPhase	NumDays	8.00	52.00
tblConstructionPhase	NumDays	18.00	25.00
tblConstructionPhase	NumDays	5.00	33.00
tblFireplaces	NumberWood	1.75	0.00
tblGrading	AcresOfGrading	26.00	20.00
tblGrading	MaterialImported	0.00	2,000.00
tblLandUse	LandUseSquareFeet	37,830.00	37,380.00
tblLandUse	LandUseSquareFeet	35,000.00	85,806.00
tblLandUse	LotAcreage	0.87	2.25
tblLandUse	LotAcreage	2.19	0.86
tblTripsAndVMT	VendorTripNumber	10.00	4.00
tblTripsAndVMT	VendorTripNumber	10.00	4.00
tblTripsAndVMT	VendorTripNumber	10.00	4.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00

tblTripsAndVMT	WorkerTripNumber	41.00	20.00
tblTripsAndVMT	WorkerTripNumber	41.00	20.00
tblTripsAndVMT	WorkerTripNumber	41.00	20.00
tblVehicleTrips	ST_TR	5.67	9.25
tblVehicleTrips	SU_TR	4.84	7.84
tblVehicleTrips	WD_TR	5.81	9.44

2.0 Emissions Summary

2.1 Overall Construction

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	tons/yr										MT/yr					
2021	0.6081	4.5569	3.8546	6.9000e-003	0.5270	0.2348	0.7617	0.2666	0.2192	0.4858	0.0000	601.8519	601.8519	0.1443	0.0000	605.4589
2022	0.2755	0.7074	0.7639	1.3400e-003	0.0120	0.0360	0.0479	3.2100e-003	0.0339	0.0371	0.0000	116.3517	116.3517	0.0244	0.0000	116.9611
Maximum	**0.6081**	**4.5569**	**3.8546**	**6.9000e-003**	**0.5270**	**0.2348**	**0.7617**	**0.2666**	**0.2192**	**0.4858**	**0.0000**	**601.8519**	**601.8519**	**0.1443**	**0.0000**	**605.4589**

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	tons/yr										MT/yr					
2021	0.6081	4.5569	3.8546	6.9000e-003	0.2381	0.2348	0.4728	0.1127	0.2192	0.3319	0.0000	601.8512	601.8512	0.1443	0.0000	605.4582
2022	0.2755	0.7074	0.7639	1.3400e-003	0.0120	0.0360	0.0479	3.2100e-003	0.0339	0.0371	0.0000	116.3516	116.3516	0.0244	0.0000	116.9610

Maximum	**0.6081**	**4.5569**	**3.8546**	**6.9000e-003**	**0.2381**	**0.2348**	**0.4728**	**0.1127**	**0.2192**	**0.3319**	**0.0000**	**601.8512**	**601.8512**	**0.1443**	**0.0000**	**605.4582**

	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**	**53.61**	**0.00**	**35.68**	**57.05**	**0.00**	**29.44**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	1.1894	1.1894
2	**4-1-2021**	**6-30-2021**	0.9460	0.9460
3	**7-1-2021**	**9-30-2021**	1.0784	1.0784
4	**10-1-2021**	**12-31-2021**	1.8644	1.8644
5	**1-1-2022**	**3-31-2022**	0.9850	0.9850
		Highest	1.8644	1.8644

2.2 Overall Operational

Unmitigated Operational

	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	tons/yr										MT/yr					
Area	0.3633	0.0121	0.4714	4.1000e-004		0.0200	0.0200		0.0200	0.0200	2.3423	7.7346	10.0769	0.0117	1.3000e-004	10.4074
Energy	3.4500e-003	0.0294	0.0125	1.9000e-004		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	89.6627	89.6627	2.9500e-003	1.1000e-003	90.0641
Mobile	0.0864	0.4229	1.1993	4.8000e-003	0.4174	3.4000e-003	0.4208	0.1118	3.1600e-003	0.1150	0.0000	444.3425	444.3425	0.0200	0.0000	444.8421
Waste						0.0000	0.0000		0.0000	0.0000	3.2682	0.0000	3.2682	0.1931	0.0000	8.0967
Water						0.0000	0.0000		0.0000	0.0000	0.7235	14.5499	15.2734	0.0749	1.8800e-003	17.7059
Total	**0.4532**	**0.4644**	**1.6832**	**5.4000e-003**	**0.4174**	**0.0258**	**0.4432**	**0.1118**	**0.0255**	**0.1374**	**6.3339**	**556.2897**	**562.6236**	**0.3026**	**3.1100e-003**	**571.1162**

Mitigated Operational

	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	tons/yr										MT/yr					
Area	0.3633	0.0121	0.4714	4.1000e-004		0.0200	0.0200		0.0200	0.0200	2.3423	7.7346	10.0769	0.0117	1.3000e-004	10.4074
Energy	3.4500e-003	0.0294	0.0125	1.9000e-004		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	89.6627	89.6627	2.9500e-003	1.1000e-003	90.0641
Mobile	0.0864	0.4229	1.1993	4.8000e-003	0.4174	3.4000e-003	0.4208	0.1118	3.1600e-003	0.1150	0.0000	444.3425	444.3425	0.0200	0.0000	444.8421
Waste						0.0000	0.0000		0.0000	0.0000	1.6341	0.0000	1.6341	0.0966	0.0000	4.0484
Water						0.0000	0.0000		0.0000	0.0000	0.7235	14.5499	15.2734	0.0749	1.8800e-003	17.7059
Total	**0.4532**	**0.4644**	**1.6832**	**5.4000e-003**	**0.4174**	**0.0258**	**0.4432**	**0.1118**	**0.0255**	**0.1374**	**4.6999**	**556.2897**	**560.9895**	**0.2061**	**3.1100e-003**	**567.0678**

	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**	**25.80**	**0.00**	**0.29**	**31.91**	**0.00**	**0.71**

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	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	2/1/2021	3/17/2021	5	33	
3	Grading	Grading	3/18/2021	5/28/2021	5	52	
4	Paving	Paving	4/19/2021	5/21/2021	5	25	
5	Building Construction 1	Building Construction	6/1/2021	11/29/2021	5	130	
6	Building Construction 2	Building Construction	8/2/2021	1/31/2022	5	131	
7	Building Construction 3	Building Construction	10/1/2021	3/31/2022	5	130	
8	Architectural Coating 1	Architectural Coating	11/1/2021	11/24/2021	5	18	

9	Architectural Coating 2	Architectural Coating	1/3/2022	1/26/2022	5	18	
10	Architectural Coating 3	Architectural Coating	3/1/2022	3/24/2022	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 2.25

Residential Indoor: 43,439; Residential Outdoor: 57,919; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction 1	Cranes	1	7.00	231	0.29
Building Construction 1	Forklifts	3	8.00	89	0.20
Building Construction 1	Generator Sets	1	8.00	84	0.74
Building Construction 1	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction 1	Welders	1	8.00	46	0.45
Building Construction 2	Cranes	1	7.00	231	0.29

Building Construction 2	Forklifts	3	8.00	89	0.20
Building Construction 2	Generator Sets	1	8.00	84	0.74
Building Construction 2	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction 2	Welders	1	8.00	46	0.45
Building Construction 3	Cranes	1	7.00	231	0.29
Building Construction 3	Forklifts	3	8.00	89	0.20
Building Construction 3	Generator Sets	1	8.00	84	0.74
Building Construction 3	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction 3	Welders	1	8.00	46	0.45
Architectural Coating 1	Air Compressors	1	6.00	78	0.48
Architectural Coating 2	Air Compressors	1	6.00	78	0.48
Architectural Coating 3	Air Compressors	1	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	16.00	0.00	76.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	16.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 1	9	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	9	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3	9	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 2	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 3	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

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	tons/yr										MT/yr					
Fugitive Dust					8.2400e-003	0.0000	8.2400e-003	1.2500e-003	0.0000	1.2500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**8.2400e-003**	**0.0155**	**0.0238**	**1.2500e-003**	**0.0144**	**0.0157**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

Unmitigated Construction Off-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	tons/yr										MT/yr					
Hauling	2.8000e-004	9.9000e-003	2.1000e-003	3.0000e-005	6.5000e-004	3.0000e-005	6.8000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	2.8375	2.8375	1.9000e-004	0.0000	2.8423
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	0.0000	0.0000
Worker	6.7000e-004	4.9000e-004	5.5800e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5291	1.5291	4.0000e-005	0.0000	1.5301
Total	**9.5000e-004**	**0.0104**	**7.6800e-003**	**5.0000e-005**	**2.4100e-003**	**4.0000e-005**	**2.4500e-003**	**6.5000e-004**	**4.0000e-005**	**6.9000e-004**	**0.0000**	**4.3665**	**4.3665**	**2.3000e-004**	**0.0000**	**4.3724**

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	tons/yr										MT/yr					
Fugitive Dust					3.2200e-003	0.0000	3.2200e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**3.2200e-003**	**0.0155**	**0.0187**	**4.9000e-004**	**0.0144**	**0.0149**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	2.8000e-004	9.9000e-003	2.1000e-003	3.0000e-005	6.5000e-004	3.0000e-005	6.8000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	2.8375	2.8375	1.9000e-004	0.0000	2.8423
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	0.0000	0.0000
Worker	6.7000e-004	4.9000e-004	5.5800e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5291	1.5291	4.0000e-005	0.0000	1.5301
Total	**9.5000e-004**	**0.0104**	**7.6800e-003**	**5.0000e-005**	**2.4100e-003**	**4.0000e-005**	**2.4500e-003**	**6.5000e-004**	**4.0000e-005**	**6.9000e-004**	**0.0000**	**4.3665**	**4.3665**	**2.3000e-004**	**0.0000**	**4.3724**

3.3 Site Preparation - 2021

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	tons/yr										MT/yr					
Fugitive Dust					0.2981	0.0000	0.2981	0.1639	0.0000	0.1639	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0642	0.6682	0.3491	6.3000e-004		0.0337	0.0337		0.0310	0.0310	0.0000	55.1689	55.1689	0.0178	0.0000	55.6150
Total	**0.0642**	**0.6682**	**0.3491**	**6.3000e-004**	**0.2981**	**0.0337**	**0.3318**	**0.1639**	**0.0310**	**0.1949**	**0.0000**	**55.1689**	**55.1689**	**0.0178**	**0.0000**	**55.6150**

Unmitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
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	0.0000	0.0000
Worker	1.2400e-003	9.1000e-004	0.0104	3.0000e-005	3.2600e-003	2.0000e-005	3.2800e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.8383	2.8383	8.0000e-005	0.0000	2.8402
Total	**1.2400e-003**	**9.1000e-004**	**0.0104**	**3.0000e-005**	**3.2600e-003**	**2.0000e-005**	**3.2800e-003**	**8.7000e-004**	**2.0000e-005**	**8.9000e-004**	**0.0000**	**2.8383**	**2.8383**	**8.0000e-005**	**0.0000**	**2.8402**

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	tons/yr										MT/yr					
Fugitive Dust					0.1163	0.0000	0.1163	0.0639	0.0000	0.0639	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0642	0.6682	0.3490	6.3000e-004		0.0337	0.0337		0.0310	0.0310	0.0000	55.1689	55.1689	0.0178	0.0000	55.6149
Total	**0.0642**	**0.6682**	**0.3490**	**6.3000e-004**	**0.1163**	**0.0337**	**0.1500**	**0.0639**	**0.0310**	**0.0949**	**0.0000**	**55.1689**	**55.1689**	**0.0178**	**0.0000**	**55.6149**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
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	0.0000	0.0000
Worker	1.2400e-003	9.1000e-004	0.0104	3.0000e-005	3.2600e-003	2.0000e-005	3.2800e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.8383	2.8383	8.0000e-005	0.0000	2.8402
Total	**1.2400e-003**	**9.1000e-004**	**0.0104**	**3.0000e-005**	**3.2600e-003**	**2.0000e-005**	**3.2800e-003**	**8.7000e-004**	**2.0000e-005**	**8.9000e-004**	**0.0000**	**2.8383**	**2.8383**	**8.0000e-005**	**0.0000**	**2.8402**

3.4 Grading - 2021

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	tons/yr										MT/yr					
Fugitive Dust					0.1673	0.0000	0.1673	0.0872	0.0000	0.0872	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0596	0.6432	0.4123	7.7000e-004		0.0302	0.0302		0.0278	0.0278	0.0000	67.7396	67.7396	0.0219	0.0000	68.2873
Total	**0.0596**	**0.6432**	**0.4123**	**7.7000e-004**	**0.1673**	**0.0302**	**0.1975**	**0.0872**	**0.0278**	**0.1150**	**0.0000**	**67.7396**	**67.7396**	**0.0219**	**0.0000**	**68.2873**

Unmitigated Construction Off-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	tons/yr										MT/yr					

Hauling	9.2000e-004	0.0326	6.9100e-003	1.0000e-004	2.1500e-003	1.0000e-004	2.2500e-003	5.9000e-004	9.0000e-005	6.8000e-004	0.0000	9.3337	9.3337	6.4000e-004	0.0000	9.3497
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	0.0000	0.0000
Worker	1.7300e-003	1.2800e-003	0.0145	4.0000e-005	4.5600e-003	3.0000e-005	4.6000e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	3.9756	3.9756	1.1000e-004	0.0000	3.9782
Total	**2.6500e-003**	**0.0339**	**0.0214**	**1.4000e-004**	**6.7100e-003**	**1.3000e-004**	**6.8500e-003**	**1.8000e-003**	**1.2000e-004**	**1.9200e-003**	**0.0000**	**13.3093**	**13.3093**	**7.5000e-004**	**0.0000**	**13.3279**

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	tons/yr										MT/yr					
Fugitive Dust					0.0652	0.0000	0.0652	0.0340	0.0000	0.0340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0596	0.6432	0.4123	7.7000e-004		0.0302	0.0302		0.0278	0.0278	0.0000	67.7395	67.7395	0.0219	0.0000	68.2872
Total	**0.0596**	**0.6432**	**0.4123**	**7.7000e-004**	**0.0652**	**0.0302**	**0.0954**	**0.0340**	**0.0278**	**0.0618**	**0.0000**	**67.7395**	**67.7395**	**0.0219**	**0.0000**	**68.2872**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	9.2000e-004	0.0326	6.9100e-003	1.0000e-004	2.1500e-003	1.0000e-004	2.2500e-003	5.9000e-004	9.0000e-005	6.8000e-004	0.0000	9.3337	9.3337	6.4000e-004	0.0000	9.3497
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	0.0000	0.0000
Worker	1.7300e-003	1.2800e-003	0.0145	4.0000e-005	4.5600e-003	3.0000e-005	4.6000e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	3.9756	3.9756	1.1000e-004	0.0000	3.9782
Total	**2.6500e-003**	**0.0339**	**0.0214**	**1.4000e-004**	**6.7100e-003**	**1.3000e-004**	**6.8500e-003**	**1.8000e-003**	**1.2000e-004**	**1.9200e-003**	**0.0000**	**13.3093**	**13.3093**	**7.5000e-004**	**0.0000**	**13.3279**

3.5 Paving - 2021

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	tons/yr										MT/yr					
Off-Road	0.0137	0.1355	0.1533	2.4000e-004		7.2400e-003	7.2400e-003		6.6800e-003	6.6800e-003	0.0000	20.4633	20.4633	6.4300e-003	0.0000	20.6240
Paving	2.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0166**	**0.1355**	**0.1533**	**2.4000e-004**		**7.2400e-003**	**7.2400e-003**		**6.6800e-003**	**6.6800e-003**	**0.0000**	**20.4633**	**20.4633**	**6.4300e-003**	**0.0000**	**20.6240**

Unmitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
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	0.0000	0.0000
Worker	1.0400e-003	7.7000e-004	8.7100e-003	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.3892	2.3892	6.0000e-005	0.0000	2.3908
Total	**1.0400e-003**	**7.7000e-004**	**8.7100e-003**	**3.0000e-005**	**2.7400e-003**	**2.0000e-005**	**2.7600e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.3892**	**2.3892**	**6.0000e-005**	**0.0000**	**2.3908**

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	tons/yr										MT/yr					
Off-Road	0.0137	0.1355	0.1533	2.4000e-004		7.2400e-003	7.2400e-003		6.6800e-003	6.6800e-003	0.0000	20.4633	20.4633	6.4300e-003	0.0000	20.6240
Paving	2.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0166**	**0.1355**	**0.1533**	**2.4000e-004**		**7.2400e-003**	**7.2400e-003**		**6.6800e-003**	**6.6800e-003**	**0.0000**	**20.4633**	**20.4633**	**6.4300e-003**	**0.0000**	**20.6240**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
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	0.0000	0.0000
Worker	1.0400e-003	7.7000e-004	8.7100e-003	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.3892	2.3892	6.0000e-005	0.0000	2.3908
Total	**1.0400e-003**	**7.7000e-004**	**8.7100e-003**	**3.0000e-005**	**2.7400e-003**	**2.0000e-005**	**2.7600e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.3892**	**2.3892**	**6.0000e-005**	**0.0000**	**2.3908**

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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	tons/yr										MT/yr					
Off-Road	0.1236	1.1331	1.0774	1.7500e-003		0.0623	0.0623		0.0586	0.0586	0.0000	150.5642	150.5642	0.0363	0.0000	151.4723

Total	**0.1236**	**1.1331**	**1.0774**	**1.7500e-003**		**0.0623**	**0.0623**		**0.0586**	**0.0586**	**0.0000**	**150.5642**	**150.5642**	**0.0363**	**0.0000**	**151.4723**

Unmitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
Vendor	7.4000e-004	0.0252	6.2400e-003	7.0000e-005	1.6400e-003	5.0000e-005	1.6900e-003	4.7000e-004	5.0000e-005	5.2000e-004	0.0000	6.3478	6.3478	4.0000e-004	0.0000	6.3579
Worker	5.4200e-003	4.0000e-003	0.0453	1.4000e-004	0.0143	1.1000e-004	0.0144	3.7900e-003	1.0000e-004	3.8900e-003	0.0000	12.4236	12.4236	3.3000e-004	0.0000	12.4319
Total	**6.1600e-003**	**0.0292**	**0.0515**	**2.1000e-004**	**0.0159**	**1.6000e-004**	**0.0161**	**4.2600e-003**	**1.5000e-004**	**4.4100e-003**	**0.0000**	**18.7714**	**18.7714**	**7.3000e-004**	**0.0000**	**18.7898**

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	tons/yr										MT/yr					
Off-Road	0.1236	1.1331	1.0774	1.7500e-003		0.0623	0.0623		0.0586	0.0586	0.0000	150.5641	150.5641	0.0363	0.0000	151.4722
Total	**0.1236**	**1.1331**	**1.0774**	**1.7500e-003**		**0.0623**	**0.0623**		**0.0586**	**0.0586**	**0.0000**	**150.5641**	**150.5641**	**0.0363**	**0.0000**	**151.4722**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
Vendor	7.4000e-004	0.0252	6.2400e-003	7.0000e-005	1.6400e-003	5.0000e-005	1.6900e-003	4.7000e-004	5.0000e-005	5.2000e-004	0.0000	6.3478	6.3478	4.0000e-004	0.0000	6.3579
Worker	5.4200e-003	4.0000e-003	0.0453	1.4000e-004	0.0143	1.1000e-004	0.0144	3.7900e-003	1.0000e-004	3.8900e-003	0.0000	12.4236	12.4236	3.3000e-004	0.0000	12.4319
Total	**6.1600e-003**	**0.0292**	**0.0515**	**2.1000e-004**	**0.0159**	**1.6000e-004**	**0.0161**	**4.2600e-003**	**1.5000e-004**	**4.4100e-003**	**0.0000**	**18.7714**	**18.7714**	**7.3000e-004**	**0.0000**	**18.7898**

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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	tons/yr										MT/yr					
Off-Road	0.1046	0.9588	0.9116	1.4800e-003		0.0527	0.0527		0.0496	0.0496	0.0000	127.4005	127.4005	0.0307	0.0000	128.1689
Total	**0.1046**	**0.9588**	**0.9116**	**1.4800e-003**		**0.0527**	**0.0527**		**0.0496**	**0.0496**	**0.0000**	**127.4005**	**127.4005**	**0.0307**	**0.0000**	**128.1689**

Unmitigated Construction Off-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	tons/yr										MT/yr					

Hauling	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	0.0000	0.0000
Vendor	6.3000e-004	0.0213	5.2800e-003	6.0000e-005	1.3900e-003	4.0000e-005	1.4300e-003	4.0000e-004	4.0000e-005	4.4000e-004	0.0000	5.3712	5.3712	3.4000e-004	0.0000	5.3797
Worker	4.5800e-003	3.3900e-003	0.0383	1.2000e-004	0.0121	9.0000e-005	0.0122	3.2100e-003	8.0000e-005	3.2900e-003	0.0000	10.5123	10.5123	2.8000e-004	0.0000	10.5193
Total	**5.2100e-003**	**0.0247**	**0.0436**	**1.8000e-004**	**0.0135**	**1.3000e-004**	**0.0136**	**3.6100e-003**	**1.2000e-004**	**3.7300e-003**	**0.0000**	**15.8835**	**15.8835**	**6.2000e-004**	**0.0000**	**15.8990**

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	tons/yr										MT/yr					
Off-Road	0.1046	0.9588	0.9116	1.4800e-003		0.0527	0.0527		0.0496	0.0496	0.0000	127.4004	127.4004	0.0307	0.0000	128.1688
Total	**0.1046**	**0.9588**	**0.9116**	**1.4800e-003**		**0.0527**	**0.0527**		**0.0496**	**0.0496**	**0.0000**	**127.4004**	**127.4004**	**0.0307**	**0.0000**	**128.1688**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
Vendor	6.3000e-004	0.0213	5.2800e-003	6.0000e-005	1.3900e-003	4.0000e-005	1.4300e-003	4.0000e-004	4.0000e-005	4.4000e-004	0.0000	5.3712	5.3712	3.4000e-004	0.0000	5.3797
Worker	4.5800e-003	3.3900e-003	0.0383	1.2000e-004	0.0121	9.0000e-005	0.0122	3.2100e-003	8.0000e-005	3.2900e-003	0.0000	10.5123	10.5123	2.8000e-004	0.0000	10.5193
Total	**5.2100e-003**	**0.0247**	**0.0436**	**1.8000e-004**	**0.0135**	**1.3000e-004**	**0.0136**	**3.6100e-003**	**1.2000e-004**	**3.7300e-003**	**0.0000**	**15.8835**	**15.8835**	**6.2000e-004**	**0.0000**	**15.8990**

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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	tons/yr										MT/yr					
Off-Road	0.0179	0.1640	0.1718	2.8000e-004		8.4900e-003	8.4900e-003		7.9900e-003	7.9900e-003	0.0000	24.3312	24.3312	5.8300e-003	0.0000	24.4769
Total	**0.0179**	**0.1640**	**0.1718**	**2.8000e-004**		**8.4900e-003**	**8.4900e-003**		**7.9900e-003**	**7.9900e-003**	**0.0000**	**24.3312**	**24.3312**	**5.8300e-003**	**0.0000**	**24.4769**

Unmitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
Vendor	1.1000e-004	3.8500e-003	9.5000e-004	1.0000e-005	2.6000e-004	1.0000e-005	2.7000e-004	8.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0164	1.0164	6.0000e-005	0.0000	1.0180
Worker	8.2000e-004	5.8000e-004	6.7600e-003	2.0000e-005	2.3000e-003	2.0000e-005	2.3200e-003	6.1000e-004	2.0000e-005	6.3000e-004	0.0000	1.9349	1.9349	5.0000e-005	0.0000	1.9362
Total	**9.3000e-004**	**4.4300e-003**	**7.7100e-003**	**3.0000e-005**	**2.5600e-003**	**3.0000e-005**	**2.5900e-003**	**6.9000e-004**	**3.0000e-005**	**7.1000e-004**	**0.0000**	**2.9513**	**2.9513**	**1.1000e-004**	**0.0000**	**2.9541**

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	tons/yr										MT/yr					
Off-Road	0.0179	0.1640	0.1718	2.8000e-004		8.4900e-003	8.4900e-003		7.9900e-003	7.9900e-003	0.0000	24.3311	24.3311	5.8300e-003	0.0000	24.4769
Total	**0.0179**	**0.1640**	**0.1718**	**2.8000e-004**		**8.4900e-003**	**8.4900e-003**		**7.9900e-003**	**7.9900e-003**	**0.0000**	**24.3311**	**24.3311**	**5.8300e-003**	**0.0000**	**24.4769**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
Vendor	1.1000e-004	3.8500e-003	9.5000e-004	1.0000e-005	2.6000e-004	1.0000e-005	2.7000e-004	8.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0164	1.0164	6.0000e-005	0.0000	1.0180
Worker	8.2000e-004	5.8000e-004	6.7600e-003	2.0000e-005	2.3000e-003	2.0000e-005	2.3200e-003	6.1000e-004	2.0000e-005	6.3000e-004	0.0000	1.9349	1.9349	5.0000e-005	0.0000	1.9362
Total	**9.3000e-004**	**4.4300e-003**	**7.7100e-003**	**3.0000e-005**	**2.5600e-003**	**3.0000e-005**	**2.5900e-003**	**6.9000e-004**	**3.0000e-005**	**7.1000e-004**	**0.0000**	**2.9513**	**2.9513**	**1.1000e-004**	**0.0000**	**2.9541**

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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	tons/yr										MT/yr					
Off-Road	0.0627	0.5753	0.5470	8.9000e-004		0.0316	0.0316		0.0297	0.0297	0.0000	76.4403	76.4403	0.0184	0.0000	76.9013

Total	**0.0627**	**0.5753**	**0.5470**	**8.9000e-004**		**0.0316**	**0.0316**		**0.0297**	**0.0297**	**0.0000**	**76.4403**	**76.4403**	**0.0184**	**0.0000**	**76.9013**

Unmitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
Vendor	3.8000e-004	0.0128	3.1700e-003	3.0000e-005	8.3000e-004	3.0000e-005	8.6000e-004	2.4000e-004	2.0000e-005	2.6000e-004	0.0000	3.2227	3.2227	2.0000e-004	0.0000	3.2278
Worker	2.7500e-003	2.0300e-003	0.0230	7.0000e-005	7.2400e-003	5.0000e-005	7.3000e-003	1.9200e-003	5.0000e-005	1.9700e-003	0.0000	6.3074	6.3074	1.7000e-004	0.0000	6.3116
Total	**3.1300e-003**	**0.0148**	**0.0262**	**1.0000e-004**	**8.0700e-003**	**8.0000e-005**	**8.1600e-003**	**2.1600e-003**	**7.0000e-005**	**2.2300e-003**	**0.0000**	**9.5301**	**9.5301**	**3.7000e-004**	**0.0000**	**9.5394**

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	tons/yr										MT/yr					
Off-Road	0.0627	0.5753	0.5470	8.9000e-004		0.0316	0.0316		0.0297	0.0297	0.0000	76.4402	76.4402	0.0184	0.0000	76.9013
Total	**0.0627**	**0.5753**	**0.5470**	**8.9000e-004**		**0.0316**	**0.0316**		**0.0297**	**0.0297**	**0.0000**	**76.4402**	**76.4402**	**0.0184**	**0.0000**	**76.9013**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
Vendor	3.8000e-004	0.0128	3.1700e-003	3.0000e-005	8.3000e-004	3.0000e-005	8.6000e-004	2.4000e-004	2.0000e-005	2.6000e-004	0.0000	3.2227	3.2227	2.0000e-004	0.0000	3.2278
Worker	2.7500e-003	2.0300e-003	0.0230	7.0000e-005	7.2400e-003	5.0000e-005	7.3000e-003	1.9200e-003	5.0000e-005	1.9700e-003	0.0000	6.3074	6.3074	1.7000e-004	0.0000	6.3116
Total	**3.1300e-003**	**0.0148**	**0.0262**	**1.0000e-004**	**8.0700e-003**	**8.0000e-005**	**8.1600e-003**	**2.1600e-003**	**7.0000e-005**	**2.2300e-003**	**0.0000**	**9.5301**	**9.5301**	**3.7000e-004**	**0.0000**	**9.5394**

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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	tons/yr										MT/yr					
Off-Road	0.0546	0.4997	0.5236	8.6000e-004		0.0259	0.0259		0.0244	0.0244	0.0000	74.1521	74.1521	0.0178	0.0000	74.5962
Total	**0.0546**	**0.4997**	**0.5236**	**8.6000e-004**		**0.0259**	**0.0259**		**0.0244**	**0.0244**	**0.0000**	**74.1521**	**74.1521**	**0.0178**	**0.0000**	**74.5962**

Unmitigated Construction Off-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	tons/yr										MT/yr					

Hauling	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	0.0000	0.0000
Vendor	3.4000e-004	0.0117	2.9000e-003	3.0000e-005	8.1000e-004	2.0000e-005	8.3000e-004	2.3000e-004	2.0000e-005	2.5000e-004	0.0000	3.0976	3.0976	1.9000e-004	0.0000	3.1023
Worker	2.5100e-003	1.7800e-003	0.0206	7.0000e-005	7.0200e-003	5.0000e-005	7.0700e-003	1.8600e-003	5.0000e-005	1.9100e-003	0.0000	5.8969	5.8969	1.5000e-004	0.0000	5.9006
Total	**2.8500e-003**	**0.0135**	**0.0235**	**1.0000e-004**	**7.8300e-003**	**7.0000e-005**	**7.9000e-003**	**2.0900e-003**	**7.0000e-005**	**2.1600e-003**	**0.0000**	**8.9945**	**8.9945**	**3.4000e-004**	**0.0000**	**9.0030**

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	tons/yr										MT/yr					
Off-Road	0.0546	0.4997	0.5236	8.6000e-004		0.0259	0.0259		0.0244	0.0244	0.0000	74.1520	74.1520	0.0178	0.0000	74.5961
Total	**0.0546**	**0.4997**	**0.5236**	**8.6000e-004**		**0.0259**	**0.0259**		**0.0244**	**0.0244**	**0.0000**	**74.1520**	**74.1520**	**0.0178**	**0.0000**	**74.5961**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
Vendor	3.4000e-004	0.0117	2.9000e-003	3.0000e-005	8.1000e-004	2.0000e-005	8.3000e-004	2.3000e-004	2.0000e-005	2.5000e-004	0.0000	3.0976	3.0976	1.9000e-004	0.0000	3.1023
Worker	2.5100e-003	1.7800e-003	0.0206	7.0000e-005	7.0200e-003	5.0000e-005	7.0700e-003	1.8600e-003	5.0000e-005	1.9100e-003	0.0000	5.8969	5.8969	1.5000e-004	0.0000	5.9006
Total	**2.8500e-003**	**0.0135**	**0.0235**	**1.0000e-004**	**7.8300e-003**	**7.0000e-005**	**7.9000e-003**	**2.0900e-003**	**7.0000e-005**	**2.1600e-003**	**0.0000**	**8.9945**	**8.9945**	**3.4000e-004**	**0.0000**	**9.0030**

3.9 Architectural Coating 1 - 2021

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	tons/yr										MT/yr					
Archit. Coating	0.1227					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.1246**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

Unmitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
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	0.0000	0.0000
Worker	3.0000e-004	2.2000e-004	2.5100e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6881	0.6881	2.0000e-005	0.0000	0.6885
Total	**3.0000e-004**	**2.2000e-004**	**2.5100e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6881**	**0.6881**	**2.0000e-005**	**0.0000**	**0.6885**

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	tons/yr										MT/yr					
Archit. Coating	0.1227					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.1246**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
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	0.0000	0.0000
Worker	3.0000e-004	2.2000e-004	2.5100e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6881	0.6881	2.0000e-005	0.0000	0.6885
Total	**3.0000e-004**	**2.2000e-004**	**2.5100e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6881**	**0.6881**	**2.0000e-005**	**0.0000**	**0.6885**

3.10 Architectural Coating 2 - 2022

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	tons/yr										MT/yr					
Archit. Coating	0.0723					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**0.0742**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

Unmitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
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	0.0000	0.0000
Worker	2.8000e-004	2.0000e-004	2.3200e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6634	0.6634	2.0000e-005	0.0000	0.6638
Total	**2.8000e-004**	**2.0000e-004**	**2.3200e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6634**	**0.6634**	**2.0000e-005**	**0.0000**	**0.6638**

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	tons/yr										MT/yr					
Archit. Coating	0.0723					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**0.0742**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
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	0.0000	0.0000
Worker	2.8000e-004	2.0000e-004	2.3200e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6634	0.6634	2.0000e-005	0.0000	0.6638
Total	**2.8000e-004**	**2.0000e-004**	**2.3200e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6634**	**0.6634**	**2.0000e-005**	**0.0000**	**0.6638**

3.11 Architectural Coating 3 - 2022

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	tons/yr										MT/yr					
Archit. Coating	0.1227					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**0.1245**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

Unmitigated Construction Off-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	tons/yr										MT/yr					

Hauling	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	0.0000	0.0000
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	0.0000	0.0000
Worker	2.8000e-004	2.0000e-004	2.3200e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6634	0.6634	2.0000e-005	0.0000	0.6638
Total	**2.8000e-004**	**2.0000e-004**	**2.3200e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6634**	**0.6634**	**2.0000e-005**	**0.0000**	**0.6638**

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	tons/yr										MT/yr					
Archit. Coating	0.1227					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**0.1245**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

Mitigated Construction Off-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	tons/yr										MT/yr					
Hauling	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	0.0000	0.0000
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	0.0000	0.0000
Worker	2.8000e-004	2.0000e-004	2.3200e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6634	0.6634	2.0000e-005	0.0000	0.6638
Total	**2.8000e-004**	**2.0000e-004**	**2.3200e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6634**	**0.6634**	**2.0000e-005**	**0.0000**	**0.6638**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	tons/yr										MT/yr					
Mitigated	0.0864	0.4229	1.1993	4.8000e-003	0.4174	3.4000e-003	0.4208	0.1118	3.1600e-003	0.1150	0.0000	444.3425	444.3425	0.0200	0.0000	444.8421
Unmitigated	0.0864	0.4229	1.1993	4.8000e-003	0.4174	3.4000e-003	0.4208	0.1118	3.1600e-003	0.1150	0.0000	444.3425	444.3425	0.0200	0.0000	444.8421

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	330.40	323.75	274.40	1,098,443	1,098,443
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	330.40	323.75	274.40	1,098,443	1,098,443

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.550151	0.042593	0.202457	0.116946	0.015037	0.005825	0.021699	0.034933	0.002123	0.001780	0.004876	0.000710	0.000868

Other Asphalt Surfaces	0.550151	0.042593	0.202457	0.116946	0.015037	0.005825	0.021699	0.034933	0.002123	0.001780	0.004876	0.000710	0.000868

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.5663	55.5663	2.2900e-003	4.7000e-004	55.7651
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.5663	55.5663	2.2900e-003	4.7000e-004	55.7651
NaturalGas Mitigated	3.4500e-003	0.0294	0.0125	1.9000e-004		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	34.0964	34.0964	6.5000e-004	6.3000e-004	34.2990
NaturalGas Unmitigated	3.4500e-003	0.0294	0.0125	1.9000e-004		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	34.0964	34.0964	6.5000e-004	6.3000e-004	34.2990

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	638943	3.4500e-003	0.0294	0.0125	1.9000e-004		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	34.0964	34.0964	6.5000e-004	6.3000e-004	34.2990
Other Asphalt Surfaces	0	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

Total		**3.4500e-003**	**0.0294**	**0.0125**	**1.9000e-004**		**2.3800e-003**	**2.3800e-003**		**2.3800e-003**	**2.3800e-003**	**0.0000**	**34.0964**	**34.0964**	**6.5000e-004**	**6.3000e-004**	**34.2990**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	638943	3.4500e-003	0.0294	0.0125	1.9000e-004		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	34.0964	34.0964	6.5000e-004	6.3000e-004	34.2990
Other Asphalt Surfaces	0	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
Total		**3.4500e-003**	**0.0294**	**0.0125**	**1.9000e-004**		**2.3800e-003**	**2.3800e-003**		**2.3800e-003**	**2.3800e-003**	**0.0000**	**34.0964**	**34.0964**	**6.5000e-004**	**6.3000e-004**	**34.2990**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	174396	55.5663	2.2900e-003	4.7000e-004	55.7651
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**55.5663**	**2.2900e-003**	**4.7000e-004**	**55.7651**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	174396	55.5663	2.2900e-003	4.7000e-004	55.7651
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**55.5663**	**2.2900e-003**	**4.7000e-004**	**55.7651**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	tons/yr										MT/yr					
Mitigated	0.3633	0.0121	0.4714	4.1000e-004		0.0200	0.0200		0.0200	0.0200	2.3423	7.7346	10.0769	0.0117	1.3000e-004	10.4074
Unmitigated	0.3633	0.0121	0.4714	4.1000e-004		0.0200	0.0200		0.0200	0.0200	2.3423	7.7346	10.0769	0.0117	1.3000e-004	10.4074

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					

Architectural Coating	0.0274					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3125					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0125	7.9200e-003	0.1099	3.9000e-004		0.0180	0.0180		0.0180	0.0180	2.3423	7.1441	9.4864	0.0111	1.3000e-004	9.8026
Landscaping	0.0109	4.1700e-003	0.3615	2.0000e-005		2.0000e-003	2.0000e-003		2.0000e-003	2.0000e-003	0.0000	0.5905	0.5905	5.7000e-004	0.0000	0.6048
Total	**0.3633**	**0.0121**	**0.4714**	**4.1000e-004**		**0.0200**	**0.0200**		**0.0200**	**0.0200**	**2.3423**	**7.7346**	**10.0769**	**0.0117**	**1.3000e-004**	**10.4074**

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0274					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3125					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0125	7.9200e-003	0.1099	3.9000e-004		0.0180	0.0180		0.0180	0.0180	2.3423	7.1441	9.4864	0.0111	1.3000e-004	9.8026
Landscaping	0.0109	4.1700e-003	0.3615	2.0000e-005		2.0000e-003	2.0000e-003		2.0000e-003	2.0000e-003	0.0000	0.5905	0.5905	5.7000e-004	0.0000	0.6048
Total	**0.3633**	**0.0121**	**0.4714**	**4.1000e-004**		**0.0200**	**0.0200**		**0.0200**	**0.0200**	**2.3423**	**7.7346**	**10.0769**	**0.0117**	**1.3000e-004**	**10.4074**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	15.2734	0.0749	1.8800e-003	17.7059
Unmitigated	15.2734	0.0749	1.8800e-003	17.7059

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	2.28039 / 1.43764	15.2734	0.0749	1.8800e-003	17.7059
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**15.2734**	**0.0749**	**1.8800e-003**	**17.7059**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	2.28039 / 1.43764	15.2734	0.0749	1.8800e-003	17.7059
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**15.2734**	**0.0749**	**1.8800e-003**	**17.7059**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.6341	0.0966	0.0000	4.0484
Unmitigated	3.2682	0.1931	0.0000	8.0967

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	16.1	3.2682	0.1931	0.0000	8.0967
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**3.2682**	**0.1931**	**0.0000**	**8.0967**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	8.05	1.6341	0.0966	0.0000	4.0484
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**1.6341**	**0.0966**	**0.0000**	**4.0484**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Cambria Court - South Coast AQMD Air District, Winter

Cambria Court

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	37.83	1000sqft	2.25	37,380.00	0
Condo/Townhouse	35.00	Dwelling Unit	0.86	85,806.00	100

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Operational year 2023

Land Use - Lot Acreage and SF vaules were provided by the Project Applicant.

Construction Phase - Non-default schedule. Schedule is based on information provided by the project applicant.

Trips and VMT - Changes to trip values result from extension of default CalEEMod schedule based on information provided by the project applicant.

Demolition - 16,750 SF of existing buildings

Grading - CalEEMod Defaults.

Architectural Coating - Non-default values reflect the breakout of the architectural coating process across 4 smaller construction phases

Vehicle Trips - Trip generates rates are consistient with the transportation analysis.

Vehicle Emission Factors - CalEEMod Defaults.

Woodstoves - no woodfire stoves or fireplaces.

Area Coating - CalEEMod Defaults.

Construction Off-road Equipment Mitigation - Complinace with SCAQMD Rule 403. (d

Waste Mitigation - None.

Fleet Mix - CalEEMod Defaults

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,919.00	14,479.00
tblArchitecturalCoating	ConstArea_Residential_Interior	173,757.00	43,439.00
tblArchitecturalCoating	ConstArea_Residential_Interior	173,757.00	43,439.00
tblArchitecturalCoating	ConstArea_Residential_Interior	173,757.00	43,439.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	130.00
tblConstructionPhase	NumDays	230.00	131.00
tblConstructionPhase	NumDays	230.00	130.00
tblConstructionPhase	NumDays	8.00	52.00
tblConstructionPhase	NumDays	18.00	25.00
tblConstructionPhase	NumDays	5.00	33.00
tblFireplaces	NumberWood	1.75	0.00
tblGrading	AcresOfGrading	26.00	20.00
tblGrading	MaterialImported	0.00	2,000.00
tblLandUse	LandUseSquareFeet	37,830.00	37,380.00
tblLandUse	LandUseSquareFeet	35,000.00	85,806.00
tblLandUse	LotAcreage	0.87	2.25
tblLandUse	LotAcreage	2.19	0.86
tblTripsAndVMT	VendorTripNumber	10.00	4.00
tblTripsAndVMT	VendorTripNumber	10.00	4.00
tblTripsAndVMT	VendorTripNumber	10.00	4.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00

tblTripsAndVMT	WorkerTripNumber	41.00	20.00
tblTripsAndVMT	WorkerTripNumber	41.00	20.00
tblTripsAndVMT	WorkerTripNumber	41.00	20.00
tblVehicleTrips	ST_TR	5.67	9.25
tblVehicleTrips	SU_TR	4.84	7.84
tblVehicleTrips	WD_TR	5.81	9.44

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/day										lb/day					
2021	19.8979	55.1678	54.1492	0.0938	18.2675	2.9779	20.3134	9.9840	2.8054	11.8663	0.0000	8,963.2541	8,963.2541	1.9075	0.0000	9,010.9410
2022	15.6706	33.4911	36.2319	0.0636	0.5877	1.7050	2.2927	0.1570	1.6089	1.7659	0.0000	6,079.1681	6,079.1681	1.2679	0.0000	6,110.8648
Maximum	**19.8979**	**55.1678**	**54.1492**	**0.0938**	**18.2675**	**2.9779**	**20.3134**	**9.9840**	**2.8054**	**11.8663**	**0.0000**	**8,963.2541**	**8,963.2541**	**1.9075**	**0.0000**	**9,010.9410**

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/day										lb/day					
2021	19.8979	55.1678	54.1492	0.0938	7.2470	2.9779	9.2930	3.9263	2.8054	5.8086	0.0000	8,963.2541	8,963.2541	1.9075	0.0000	9,010.9410
2022	15.6706	33.4911	36.2319	0.0636	0.5877	1.7050	2.2927	0.1570	1.6089	1.7659	0.0000	6,079.1681	6,079.1681	1.2679	0.0000	6,110.8648

Maximum	**19.8979**	**55.1678**	**54.1492**	**0.0938**	**7.2470**	**2.9779**	**9.2930**	**3.9263**	**2.8054**	**5.8086**	**0.0000**	**8,963.2541**	**8,963.2541**	**1.9075**	**0.0000**	**9,010.9410**

	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**	**58.45**	**0.00**	**48.75**	**59.73**	**0.00**	**44.44**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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					
Area	2.9519	0.6668	11.6806	0.0313		1.4553	1.4553		1.4553	1.4553	206.5573	635.2076	841.7650	0.9827	0.0116	869.7746
Energy	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682
Mobile	0.4982	2.3488	6.6555	0.0267	2.4007	0.0193	2.4200	0.6423	0.0179	0.6602		2,726.4456	2,726.4456	0.1251		2,729.5719
Total	**3.4690**	**3.1769**	**18.4048**	**0.0591**	**2.4007**	**1.4877**	**3.8884**	**0.6423**	**1.4863**	**2.1286**	**206.5573**	**3,567.5976**	**3,774.1549**	**1.1117**	**0.0153**	**3,806.5148**

Mitigated Operational

	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					
Area	2.9519	0.6668	11.6806	0.0313		1.4553	1.4553		1.4553	1.4553	206.5573	635.2076	841.7650	0.9827	0.0116	869.7746
Energy	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682
Mobile	0.4982	2.3488	6.6555	0.0267	2.4007	0.0193	2.4200	0.6423	0.0179	0.6602		2,726.4456	2,726.4456	0.1251		2,729.5719

Total	3.4690	3.1769	18.4048	0.0591	2.4007	1.4877	3.8884	0.6423	1.4863	2.1286	206.5573	3,567.5976	3,774.1549	1.1117	0.0153	3,806.5148

	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	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	2/1/2021	3/17/2021	5	33	
3	Grading	Grading	3/18/2021	5/28/2021	5	52	
4	Paving	Paving	4/19/2021	5/21/2021	5	25	
5	Building Construction 1	Building Construction	6/1/2021	11/29/2021	5	130	
6	Building Construction 2	Building Construction	8/2/2021	1/31/2022	5	131	
7	Building Construction 3	Building Construction	10/1/2021	3/31/2022	5	130	
8	Architectural Coating 1	Architectural Coating	11/1/2021	11/24/2021	5	18	
9	Architectural Coating 2	Architectural Coating	1/3/2022	1/26/2022	5	18	
10	Architectural Coating 3	Architectural Coating	3/1/2022	3/24/2022	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 2.25

Residential Indoor: 43,439; Residential Outdoor: 57,919; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38

Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction 1	Cranes	1	7.00	231	0.29
Building Construction 1	Forklifts	3	8.00	89	0.20
Building Construction 1	Generator Sets	1	8.00	84	0.74
Building Construction 1	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction 1	Welders	1	8.00	46	0.45
Building Construction 2	Cranes	1	7.00	231	0.29
Building Construction 2	Forklifts	3	8.00	89	0.20
Building Construction 2	Generator Sets	1	8.00	84	0.74
Building Construction 2	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction 2	Welders	1	8.00	46	0.45
Building Construction 3	Cranes	1	7.00	231	0.29
Building Construction 3	Forklifts	3	8.00	89	0.20
Building Construction 3	Generator Sets	1	8.00	84	0.74
Building Construction 3	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction 3	Welders	1	8.00	46	0.45
Architectural Coating 1	Air Compressors	1	6.00	78	0.48
Architectural Coating 2	Air Compressors	1	6.00	78	0.48
Architectural Coating 3	Air Compressors	1	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	16.00	0.00	76.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	16.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 1	9	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	9	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3	9	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 2	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 3	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

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					0.8244	0.0000	0.8244	0.1248	0.0000	0.1248			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.8244**	**1.5513**	**2.3757**	**0.1248**	**1.4411**	**1.5659**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Unmitigated Construction Off-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					
Hauling	0.0284	0.9728	0.2185	2.8600e-003	0.0664	3.0300e-003	0.0694	0.0182	2.8900e-003	0.0211		309.3942	309.3942	0.0219		309.9422
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	0.0738	0.0480	0.5417	1.6600e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		165.7069	165.7069	4.4400e-003		165.8179
Total	**0.1022**	**1.0207**	**0.7601**	**4.5200e-003**	**0.2452**	**4.3500e-003**	**0.2496**	**0.0656**	**4.1000e-003**	**0.0697**		**475.1011**	**475.1011**	**0.0264**		**475.7601**

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/day										lb/day					
Fugitive Dust					0.3215	0.0000	0.3215	0.0487	0.0000	0.0487			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.3215**	**1.5513**	**1.8729**	**0.0487**	**1.4411**	**1.4898**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Mitigated Construction Off-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				
Hauling	0.0284	0.9728	0.2185	2.8600e-003	0.0664	3.0300e-003	0.0694	0.0182	2.8900e-003	0.0211		309.3942	309.3942	0.0219		309.9422
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	0.0738	0.0480	0.5417	1.6600e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		165.7069	165.7069	4.4400e-003		165.8179
Total	**0.1022**	**1.0207**	**0.7601**	**4.5200e-003**	**0.2452**	**4.3500e-003**	**0.2496**	**0.0656**	**4.1000e-003**	**0.0697**		**475.1011**	**475.1011**	**0.0264**		**475.7601**

3.3 Site Preparation - 2021

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Unmitigated Construction Off-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				
Hauling	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
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	0.0830	0.0539	0.6094	1.8700e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		186.4202	186.4202	5.0000e-003		186.5451

Total	**0.0830**	**0.0539**	**0.6094**	**1.8700e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**186.4202**	**186.4202**	**5.0000e-003**		**186.5451**

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/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**7.0458**	**2.0445**	**9.0903**	**3.8730**	**1.8809**	**5.7539**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Mitigated Construction Off-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					
Hauling	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
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	0.0830	0.0539	0.6094	1.8700e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		186.4202	186.4202	5.0000e-003		186.5451
Total	**0.0830**	**0.0539**	**0.6094**	**1.8700e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**186.4202**	**186.4202**	**5.0000e-003**		**186.5451**

3.4 Grading - 2021

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					6.4343	0.0000	6.4343	3.3549	0.0000	3.3549			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.4343**	**1.1599**	**7.5942**	**3.3549**	**1.0671**	**4.4221**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

Unmitigated Construction Off-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					
Hauling	0.0359	1.2308	0.2764	3.6200e-003	0.0840	3.8300e-003	0.0878	0.0230	3.6600e-003	0.0267		391.4401	391.4401	0.0277		392.1333
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	0.0738	0.0480	0.5417	1.6600e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		165.7069	165.7069	4.4400e-003		165.8179
Total	**0.1097**	**1.2787**	**0.8181**	**5.2800e-003**	**0.2629**	**5.1500e-003**	**0.2680**	**0.0705**	**4.8700e-003**	**0.0753**		**557.1469**	**557.1469**	**0.0322**		**557.9512**

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/day										lb/day					

Fugitive Dust					2.5094	0.0000	2.5094	1.3084	0.0000	1.3084			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.5094**	**1.1599**	**3.6693**	**1.3084**	**1.0671**	**2.3755**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

Mitigated Construction Off-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					
Hauling	0.0359	1.2308	0.2764	3.6200e-003	0.0840	3.8300e-003	0.0878	0.0230	3.6600e-003	0.0267		391.4401	391.4401	0.0277		392.1333
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	0.0738	0.0480	0.5417	1.6600e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		165.7069	165.7069	4.4400e-003		165.8179
Total	**0.1097**	**1.2787**	**0.8181**	**5.2800e-003**	**0.2629**	**5.1500e-003**	**0.2680**	**0.0705**	**4.8700e-003**	**0.0753**		**557.1469**	**557.1469**	**0.0322**		**557.9512**

3.5 Paving - 2021

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					
Off-Road	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.2358					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3298**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

Unmitigated Construction Off-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					
Hauling	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
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	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.0922**	**0.0599**	**0.6771**	**2.0800e-003**	**0.2236**	**1.6500e-003**	**0.2252**	**0.0593**	**1.5200e-003**	**0.0608**		**207.1336**	**207.1336**	**5.5500e-003**		**207.2724**

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/day										lb/day					
Off-Road	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.2358					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3298**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**	**0.0000**	**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

Mitigated Construction Off-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				
Hauling	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
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	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.0922**	**0.0599**	**0.6771**	**2.0800e-003**	**0.2236**	**1.6500e-003**	**0.2252**	**0.0593**	**1.5200e-003**	**0.0608**		**207.1336**	**207.1336**	**5.5500e-003**		**207.2724**

3.6 Building Construction 1 - 2021

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				
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-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				
Hauling	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
Vendor	0.0117	0.3803	0.1013	9.9000e-004	0.0256	7.9000e-004	0.0264	7.3700e-003	7.6000e-004	8.1300e-003		105.8201	105.8201	7.0800e-003		105.9971
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724

Total	**0.1040**	**0.4402**	**0.7784**	**3.0700e-003**	**0.2492**	**2.4400e-003**	**0.2516**	**0.0667**	**2.2800e-003**	**0.0689**		**312.9537**	**312.9537**	**0.0126**		**313.2694**

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/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-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					
Hauling	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
Vendor	0.0117	0.3803	0.1013	9.9000e-004	0.0256	7.9000e-004	0.0264	7.3700e-003	7.6000e-004	8.1300e-003		105.8201	105.8201	7.0800e-003		105.9971
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.1040**	**0.4402**	**0.7784**	**3.0700e-003**	**0.2492**	**2.4400e-003**	**0.2516**	**0.0667**	**2.2800e-003**	**0.0689**		**312.9537**	**312.9537**	**0.0126**		**313.2694**

3.7 Building Construction 2 - 2021

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					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-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					
Hauling	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
Vendor	0.0117	0.3803	0.1013	9.9000e-004	0.0256	7.9000e-004	0.0264	7.3700e-003	7.6000e-004	8.1300e-003		105.8201	105.8201	7.0800e-003		105.9971
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.1040**	**0.4402**	**0.7784**	**3.0700e-003**	**0.2492**	**2.4400e-003**	**0.2516**	**0.0667**	**2.2800e-003**	**0.0689**		**312.9537**	**312.9537**	**0.0126**		**313.2694**

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/day										lb/day					

Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-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					
Hauling	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
Vendor	0.0117	0.3803	0.1013	9.9000e-004	0.0256	7.9000e-004	0.0264	7.3700e-003	7.6000e-004	8.1300e-003		105.8201	105.8201	7.0800e-003		105.9971
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.1040**	**0.4402**	**0.7784**	**3.0700e-003**	**0.2492**	**2.4400e-003**	**0.2516**	**0.0667**	**2.2800e-003**	**0.0689**		**312.9537**	**312.9537**	**0.0126**		**313.2694**

3.7 Building Construction 2 - 2022

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					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-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					
Hauling	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
Vendor	0.0110	0.3607	0.0958	9.8000e-004	0.0256	6.9000e-004	0.0263	7.3700e-003	6.6000e-004	8.0300e-003		104.8777	104.8777	6.8100e-003		105.0480
Worker	0.0868	0.0541	0.6250	2.0000e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		199.7073	199.7073	5.0100e-003		199.8326
Total	**0.0977**	**0.4148**	**0.7208**	**2.9800e-003**	**0.2492**	**2.2900e-003**	**0.2514**	**0.0667**	**2.1300e-003**	**0.0688**		**304.5850**	**304.5850**	**0.0118**		**304.8806**

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/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-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				
Hauling	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
Vendor	0.0110	0.3607	0.0958	9.8000e-004	0.0256	6.9000e-004	0.0263	7.3700e-003	6.6000e-004	8.0300e-003		104.8777	104.8777	6.8100e-003		105.0480
Worker	0.0868	0.0541	0.6250	2.0000e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		199.7073	199.7073	5.0100e-003		199.8326
Total	**0.0977**	**0.4148**	**0.7208**	**2.9800e-003**	**0.2492**	**2.2900e-003**	**0.2514**	**0.0667**	**2.1300e-003**	**0.0688**		**304.5850**	**304.5850**	**0.0118**		**304.8806**

3.8 Building Construction 3 - 2021

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				
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-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				
Hauling	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
Vendor	0.0117	0.3803	0.1013	9.9000e-004	0.0256	7.9000e-004	0.0264	7.3700e-003	7.6000e-004	8.1300e-003		105.8201	105.8201	7.0800e-003		105.9971
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724

Total	**0.1040**	**0.4402**	**0.7784**	**3.0700e-003**	**0.2492**	**2.4400e-003**	**0.2516**	**0.0667**	**2.2800e-003**	**0.0689**		**312.9537**	**312.9537**	**0.0126**		**313.2694**

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/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-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					
Hauling	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
Vendor	0.0117	0.3803	0.1013	9.9000e-004	0.0256	7.9000e-004	0.0264	7.3700e-003	7.6000e-004	8.1300e-003		105.8201	105.8201	7.0800e-003		105.9971
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.1040**	**0.4402**	**0.7784**	**3.0700e-003**	**0.2492**	**2.4400e-003**	**0.2516**	**0.0667**	**2.2800e-003**	**0.0689**		**312.9537**	**312.9537**	**0.0126**		**313.2694**

3.8 Building Construction 3 - 2022

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					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-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					
Hauling	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
Vendor	0.0110	0.3607	0.0958	9.8000e-004	0.0256	6.9000e-004	0.0263	7.3700e-003	6.6000e-004	8.0300e-003		104.8777	104.8777	6.8100e-003		105.0480
Worker	0.0868	0.0541	0.6250	2.0000e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		199.7073	199.7073	5.0100e-003		199.8326
Total	**0.0977**	**0.4148**	**0.7208**	**2.9800e-003**	**0.2492**	**2.2900e-003**	**0.2514**	**0.0667**	**2.1300e-003**	**0.0688**		**304.5850**	**304.5850**	**0.0118**		**304.8806**

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/day										lb/day					

Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-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					
Hauling	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
Vendor	0.0110	0.3607	0.0958	9.8000e-004	0.0256	6.9000e-004	0.0263	7.3700e-003	6.6000e-004	8.0300e-003		104.8777	104.8777	6.8100e-003		105.0480
Worker	0.0868	0.0541	0.6250	2.0000e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		199.7073	199.7073	5.0100e-003		199.8326
Total	**0.0977**	**0.4148**	**0.7208**	**2.9800e-003**	**0.2492**	**2.2900e-003**	**0.2514**	**0.0667**	**2.1300e-003**	**0.0688**		**304.5850**	**304.5850**	**0.0118**		**304.8806**

3.9 Architectural Coating 1 - 2021

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					
Archit. Coating	13.6274					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**13.8463**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

Unmitigated Construction Off-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					
Hauling	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
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	0.0369	0.0240	0.2708	8.3000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		82.8534	82.8534	2.2200e-003		82.9089
Total	**0.0369**	**0.0240**	**0.2708**	**8.3000e-004**	**0.0894**	**6.6000e-004**	**0.0901**	**0.0237**	**6.1000e-004**	**0.0243**		**82.8534**	**82.8534**	**2.2200e-003**		**82.9089**

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/day										lb/day					
Archit. Coating	13.6274					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**13.8463**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

Mitigated Construction Off-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				
Hauling	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
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	0.0369	0.0240	0.2708	8.3000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		82.8534	82.8534	2.2200e-003		82.9089
Total	**0.0369**	**0.0240**	**0.2708**	**8.3000e-004**	**0.0894**	**6.6000e-004**	**0.0901**	**0.0237**	**6.1000e-004**	**0.0243**		**82.8534**	**82.8534**	**2.2200e-003**		**82.9089**

3.10 Architectural Coating 2 - 2022

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				
Archit. Coating	8.0345					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**8.2391**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-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				
Hauling	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
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	0.0347	0.0217	0.2500	8.0000e-004	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		79.8829	79.8829	2.0100e-003		79.9331

Total	**0.0347**	**0.0217**	**0.2500**	**8.0000e-004**	**0.0894**	**6.4000e-004**	**0.0901**	**0.0237**	**5.9000e-004**	**0.0243**		**79.8829**	**79.8829**	**2.0100e-003**		**79.9331**

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/day										lb/day					
Archit. Coating	8.0345					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**8.2391**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-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					
Hauling	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
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	0.0347	0.0217	0.2500	8.0000e-004	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		79.8829	79.8829	2.0100e-003		79.9331
Total	**0.0347**	**0.0217**	**0.2500**	**8.0000e-004**	**0.0894**	**6.4000e-004**	**0.0901**	**0.0237**	**5.9000e-004**	**0.0243**		**79.8829**	**79.8829**	**2.0100e-003**		**79.9331**

3.11 Architectural Coating 3 - 2022

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					
Archit. Coating	13.6274					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**13.8320**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-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					
Hauling	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
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	0.0347	0.0217	0.2500	8.0000e-004	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		79.8829	79.8829	2.0100e-003		79.9331
Total	**0.0347**	**0.0217**	**0.2500**	**8.0000e-004**	**0.0894**	**6.4000e-004**	**0.0901**	**0.0237**	**5.9000e-004**	**0.0243**		**79.8829**	**79.8829**	**2.0100e-003**		**79.9331**

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/day										lb/day					

Archit. Coating	13.6274					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**13.8320**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-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					
Hauling	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
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	0.0347	0.0217	0.2500	8.0000e-004	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		79.8829	79.8829	2.0100e-003		79.9331
Total	**0.0347**	**0.0217**	**0.2500**	**8.0000e-004**	**0.0894**	**6.4000e-004**	**0.0901**	**0.0237**	**5.9000e-004**	**0.0243**		**79.8829**	**79.8829**	**2.0100e-003**		**79.9331**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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					
Mitigated	0.4982	2.3488	6.6555	0.0267	2.4007	0.0193	2.4200	0.6423	0.0179	0.6602		2,726.4456	2,726.4456	0.1251		2,729.5719

Unmitigated	0.4982	2.3488	6.6555	0.0267	2.4007	0.0193	2.4200	0.6423	0.0179	0.6602		2,726.4456	2,726.4456	0.1251		2,729.5719

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	330.40	323.75	274.40	1,098,443	1,098,443
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	330.40	323.75	274.40	1,098,443	1,098,443

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.550151	0.042593	0.202457	0.116946	0.015037	0.005825	0.021699	0.034933	0.002123	0.001780	0.004876	0.000710	0.000868
Other Asphalt Surfaces	0.550151	0.042593	0.202457	0.116946	0.015037	0.005825	0.021699	0.034933	0.002123	0.001780	0.004876	0.000710	0.000868

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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				
NaturalGas Mitigated	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682
NaturalGas Unmitigated	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	1750.53	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682
Other Asphalt Surfaces	0	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		**0.0189**	**0.1613**	**0.0687**	**1.0300e-003**		**0.0130**	**0.0130**		**0.0130**	**0.0130**		**205.9444**	**205.9444**	**3.9500e-003**	**3.7800e-003**	**207.1682**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	1.75053	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682
Other Asphalt Surfaces	0	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		**0.0189**	**0.1613**	**0.0687**	**1.0300e-003**		**0.0130**	**0.0130**		**0.0130**	**0.0130**		**205.9444**	**205.9444**	**3.9500e-003**	**3.7800e-003**	**207.1682**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	2.9519	0.6668	11.6806	0.0313		1.4553	1.4553		1.4553	1.4553	206.5573	635.2076	841.7650	0.9827	0.0116	869.7746
Unmitigated	2.9519	0.6668	11.6806	0.0313		1.4553	1.4553		1.4553	1.4553	206.5573	635.2076	841.7650	0.9827	0.0116	869.7746

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.1500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.0024	0.6334	8.7886	0.0311		1.4393	1.4393		1.4393	1.4393	206.5573	630.0000	836.5573	0.9777	0.0116	864.4415
Landscaping	0.0874	0.0333	2.8921	1.5000e-004		0.0160	0.0160		0.0160	0.0160		5.2076	5.2076	5.0200e-003		5.3332
Total	**2.9519**	**0.6668**	**11.6806**	**0.0313**		**1.4553**	**1.4553**		**1.4553**	**1.4553**	**206.5573**	**635.2076**	**841.7650**	**0.9827**	**0.0116**	**869.7746**

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.1500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.0024	0.6334	8.7886	0.0311		1.4393	1.4393		1.4393	1.4393	206.5573	630.0000	836.5573	0.9777	0.0116	864.4415
Landscaping	0.0874	0.0333	2.8921	1.5000e-004		0.0160	0.0160		0.0160	0.0160		5.2076	5.2076	5.0200e-003		5.3332
Total	**2.9519**	**0.6668**	**11.6806**	**0.0313**		**1.4553**	**1.4553**		**1.4553**	**1.4553**	**206.5573**	**635.2076**	**841.7650**	**0.9827**	**0.0116**	**869.7746**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Cambria Court

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	37.83	1000sqft	2.25	37,380.00	0
Condo/Townhouse	35.00	Dwelling Unit	0.86	85,806.00	100

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Operational year 2023

Land Use - Lot Acreage and SF vaules were provided by the Project Applicant.

Construction Phase - Non-default schedule. Schedule is based on information provided by the project applicant.

Trips and VMT - Changes to trip values result from extension of default CalEEMod schedule based on information provided by the project applicant.

Demolition - 16,750 SF of existing buildings

Grading - CalEEMod Defaults.

Architectural Coating - Non-default values reflect the breakout of the architectural coating process across 4 smaller construction phases

Vehicle Trips - Trip generates rates are consistient with the transportation analysis.

Vehicle Emission Factors - CalEEMod Defaults.

Woodstoves - no woodfire stoves or fireplaces.

Area Coating - CalEEMod Defaults.

Construction Off-road Equipment Mitigation - Complinace with SCAQMD Rule 403. (d

Waste Mitigation - None.

Fleet Mix - CalEEMod Defaults

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,919.00	14,479.00
tblArchitecturalCoating	ConstArea_Residential_Interior	173,757.00	43,439.00
tblArchitecturalCoating	ConstArea_Residential_Interior	173,757.00	43,439.00
tblArchitecturalCoating	ConstArea_Residential_Interior	173,757.00	43,439.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	130.00
tblConstructionPhase	NumDays	230.00	131.00
tblConstructionPhase	NumDays	230.00	130.00
tblConstructionPhase	NumDays	8.00	52.00
tblConstructionPhase	NumDays	18.00	25.00
tblConstructionPhase	NumDays	5.00	33.00
tblFireplaces	NumberWood	1.75	0.00
tblGrading	AcresOfGrading	26.00	20.00
tblGrading	MaterialImported	0.00	2,000.00
tblLandUse	LandUseSquareFeet	37,830.00	37,380.00
tblLandUse	LandUseSquareFeet	35,000.00	85,806.00
tblLandUse	LotAcreage	0.87	2.25
tblLandUse	LotAcreage	2.19	0.86
tblTripsAndVMT	VendorTripNumber	10.00	4.00
tblTripsAndVMT	VendorTripNumber	10.00	4.00
tblTripsAndVMT	VendorTripNumber	10.00	4.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00

tblTripsAndVMT	WorkerTripNumber	41.00	20.00
tblTripsAndVMT	WorkerTripNumber	41.00	20.00
tblTripsAndVMT	WorkerTripNumber	41.00	20.00
tblVehicleTrips	ST_TR	5.67	9.25
tblVehicleTrips	SU_TR	4.84	7.84
tblVehicleTrips	WD_TR	5.81	9.44

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/day										lb/day					
2021	19.8695	55.1538	54.3765	0.0943	18.2675	2.9779	20.3134	9.9840	2.8053	11.8663	0.0000	9,021.5002	9,021.5002	1.9074	0.0000	9,069.1848
2022	15.6595	33.4827	36.3836	0.0640	0.5877	1.7049	2.2926	0.1570	1.6088	1.7659	0.0000	6,118.6700	6,118.6700	1.2678	0.0000	6,150.3656
Maximum	**19.8695**	**55.1538**	**54.3765**	**0.0943**	**18.2675**	**2.9779**	**20.3134**	**9.9840**	**2.8053**	**11.8663**	**0.0000**	**9,021.5002**	**9,021.5002**	**1.9074**	**0.0000**	**9,069.1848**

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/day										lb/day					
2021	19.8695	55.1538	54.3765	0.0943	7.2470	2.9779	9.2930	3.9263	2.8053	5.8086	0.0000	9,021.5002	9,021.5002	1.9074	0.0000	9,069.1848
2022	15.6595	33.4827	36.3836	0.0640	0.5877	1.7049	2.2926	0.1570	1.6088	1.7659	0.0000	6,118.6700	6,118.6700	1.2678	0.0000	6,150.3656

Maximum	**19.8695**	**55.1538**	**54.3765**	**0.0943**	**7.2470**	**2.9779**	**9.2930**	**3.9263**	**2.8053**	**5.8086**	**0.0000**	**9,021.5002**	**9,021.5002**	**1.9074**	**0.0000**	**9,069.1848**

	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**	**58.45**	**0.00**	**48.75**	**59.73**	**0.00**	**44.44**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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					
Area	2.9519	0.6668	11.6806	0.0313		1.4553	1.4553		1.4553	1.4553	206.5573	635.2076	841.7650	0.9827	0.0116	869.7746
Energy	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682
Mobile	0.5260	2.3026	7.1478	0.0282	2.4007	0.0192	2.4199	0.6423	0.0178	0.6602		2,877.6020	2,877.6020	0.1254		2,880.7380
Total	**3.4968**	**3.1307**	**18.8971**	**0.0606**	**2.4007**	**1.4876**	**3.8883**	**0.6423**	**1.4862**	**2.1285**	**206.5573**	**3,718.7540**	**3,925.3114**	**1.1121**	**0.0153**	**3,957.6808**

Mitigated Operational

	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					
Area	2.9519	0.6668	11.6806	0.0313		1.4553	1.4553		1.4553	1.4553	206.5573	635.2076	841.7650	0.9827	0.0116	869.7746
Energy	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682
Mobile	0.5260	2.3026	7.1478	0.0282	2.4007	0.0192	2.4199	0.6423	0.0178	0.6602		2,877.6020	2,877.6020	0.1254		2,880.7380

Total	**3.4968**	**3.1307**	**18.8971**	**0.0606**	**2.4007**	**1.4876**	**3.8883**	**0.6423**	**1.4862**	**2.1285**	**206.5573**	**3,718.7540**	**3,925.3114**	**1.1121**	**0.0153**	**3,957.6808**

	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	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	2/1/2021	3/17/2021	5	33	
3	Grading	Grading	3/18/2021	5/28/2021	5	52	
4	Paving	Paving	4/19/2021	5/21/2021	5	25	
5	Building Construction 1	Building Construction	6/1/2021	11/29/2021	5	130	
6	Building Construction 2	Building Construction	8/2/2021	1/31/2022	5	131	
7	Building Construction 3	Building Construction	10/1/2021	3/31/2022	5	130	
8	Architectural Coating 1	Architectural Coating	11/1/2021	11/24/2021	5	18	
9	Architectural Coating 2	Architectural Coating	1/3/2022	1/26/2022	5	18	
10	Architectural Coating 3	Architectural Coating	3/1/2022	3/24/2022	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 2.25

Residential Indoor: 43,439; Residential Outdoor: 57,919; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38

Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction 1	Cranes	1	7.00	231	0.29
Building Construction 1	Forklifts	3	8.00	89	0.20
Building Construction 1	Generator Sets	1	8.00	84	0.74
Building Construction 1	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction 1	Welders	1	8.00	46	0.45
Building Construction 2	Cranes	1	7.00	231	0.29
Building Construction 2	Forklifts	3	8.00	89	0.20
Building Construction 2	Generator Sets	1	8.00	84	0.74
Building Construction 2	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction 2	Welders	1	8.00	46	0.45
Building Construction 3	Cranes	1	7.00	231	0.29
Building Construction 3	Forklifts	3	8.00	89	0.20
Building Construction 3	Generator Sets	1	8.00	84	0.74
Building Construction 3	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction 3	Welders	1	8.00	46	0.45
Architectural Coating 1	Air Compressors	1	6.00	78	0.48
Architectural Coating 2	Air Compressors	1	6.00	78	0.48
Architectural Coating 3	Air Compressors	1	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	16.00	0.00	76.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	16.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 1	9	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	9	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3	9	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 2	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 3	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

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					0.8244	0.0000	0.8244	0.1248	0.0000	0.1248			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.8244**	**1.5513**	**2.3757**	**0.1248**	**1.4411**	**1.5659**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Unmitigated Construction Off-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					
Hauling	0.0276	0.9614	0.2035	2.9100e-003	0.0664	2.9800e-003	0.0694	0.0182	2.8500e-003	0.0211		315.2250	315.2250	0.0210		315.7508
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	0.0675	0.0438	0.6028	1.7800e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		177.1845	177.1845	4.7600e-003		177.3037
Total	**0.0951**	**1.0052**	**0.8063**	**4.6900e-003**	**0.2452**	**4.3000e-003**	**0.2495**	**0.0656**	**4.0600e-003**	**0.0697**		**492.4096**	**492.4096**	**0.0258**		**493.0544**

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/day										lb/day					
Fugitive Dust					0.3215	0.0000	0.3215	0.0487	0.0000	0.0487			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.3215**	**1.5513**	**1.8729**	**0.0487**	**1.4411**	**1.4898**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Mitigated Construction Off-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				
Hauling	0.0276	0.9614	0.2035	2.9100e-003	0.0664	2.9800e-003	0.0694	0.0182	2.8500e-003	0.0211		315.2250	315.2250	0.0210		315.7508
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	0.0675	0.0438	0.6028	1.7800e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		177.1845	177.1845	4.7600e-003		177.3037
Total	**0.0951**	**1.0052**	**0.8063**	**4.6900e-003**	**0.2452**	**4.3000e-003**	**0.2495**	**0.0656**	**4.0600e-003**	**0.0697**		**492.4096**	**492.4096**	**0.0258**		**493.0544**

3.3 Site Preparation - 2021

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Unmitigated Construction Off-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				
Hauling	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
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	0.0760	0.0493	0.6781	2.0000e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		199.3326	199.3326	5.3600e-003		199.4666

Total	**0.0760**	**0.0493**	**0.6781**	**2.0000e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**199.3326**	**199.3326**	**5.3600e-003**		**199.4666**

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/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**7.0458**	**2.0445**	**9.0903**	**3.8730**	**1.8809**	**5.7539**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Mitigated Construction Off-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					
Hauling	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
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	0.0760	0.0493	0.6781	2.0000e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		199.3326	199.3326	5.3600e-003		199.4666
Total	**0.0760**	**0.0493**	**0.6781**	**2.0000e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**199.3326**	**199.3326**	**5.3600e-003**		**199.4666**

3.4 Grading - 2021

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					6.4343	0.0000	6.4343	3.3549	0.0000	3.3549			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.4343**	**1.1599**	**7.5942**	**3.3549**	**1.0671**	**4.4221**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

Unmitigated Construction Off-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					
Hauling	0.0349	1.2163	0.2575	3.6800e-003	0.0840	3.7700e-003	0.0878	0.0230	3.6100e-003	0.0266		398.8171	398.8171	0.0266		399.4823
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	0.0675	0.0438	0.6028	1.7800e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		177.1845	177.1845	4.7600e-003		177.3037
Total	**0.1024**	**1.2601**	**0.8602**	**5.4600e-003**	**0.2629**	**5.0900e-003**	**0.2679**	**0.0705**	**4.8200e-003**	**0.0753**		**576.0016**	**576.0016**	**0.0314**		**576.7859**

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/day										lb/day					

Fugitive Dust					2.5094	0.0000	2.5094	1.3084	0.0000	1.3084			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.5094**	**1.1599**	**3.6693**	**1.3084**	**1.0671**	**2.3755**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

Mitigated Construction Off-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					
Hauling	0.0349	1.2163	0.2575	3.6800e-003	0.0840	3.7700e-003	0.0878	0.0230	3.6100e-003	0.0266		398.8171	398.8171	0.0266		399.4823
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	0.0675	0.0438	0.6028	1.7800e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		177.1845	177.1845	4.7600e-003		177.3037
Total	**0.1024**	**1.2601**	**0.8602**	**5.4600e-003**	**0.2629**	**5.0900e-003**	**0.2679**	**0.0705**	**4.8200e-003**	**0.0753**		**576.0016**	**576.0016**	**0.0314**		**576.7859**

3.5 Paving - 2021

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					
Off-Road	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.2358					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3298**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

Unmitigated Construction Off-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					
Hauling	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
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	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.0844**	**0.0548**	**0.7535**	**2.2200e-003**	**0.2236**	**1.6500e-003**	**0.2252**	**0.0593**	**1.5200e-003**	**0.0608**		**221.4807**	**221.4807**	**5.9600e-003**		**221.6296**

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/day										lb/day					
Off-Road	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.2358					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3298**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**	**0.0000**	**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

Mitigated Construction Off-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				
Hauling	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
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	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.0844**	**0.0548**	**0.7535**	**2.2200e-003**	**0.2236**	**1.6500e-003**	**0.2252**	**0.0593**	**1.5200e-003**	**0.0608**		**221.4807**	**221.4807**	**5.9600e-003**		**221.6296**

3.6 Building Construction 1 - 2021

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				
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-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				
Hauling	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
Vendor	0.0111	0.3815	0.0905	1.0200e-003	0.0256	7.7000e-004	0.0264	7.3700e-003	7.3000e-004	8.1000e-003		108.9754	108.9754	6.5900e-003		109.1402
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296

Total	**0.0956**	**0.4363**	**0.8440**	**3.2400e-003**	**0.2492**	**2.4200e-003**	**0.2516**	**0.0667**	**2.2500e-003**	**0.0689**		**330.4561**	**330.4561**	**0.0126**		**330.7698**

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/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-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					
Hauling	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
Vendor	0.0111	0.3815	0.0905	1.0200e-003	0.0256	7.7000e-004	0.0264	7.3700e-003	7.3000e-004	8.1000e-003		108.9754	108.9754	6.5900e-003		109.1402
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.0956**	**0.4363**	**0.8440**	**3.2400e-003**	**0.2492**	**2.4200e-003**	**0.2516**	**0.0667**	**2.2500e-003**	**0.0689**		**330.4561**	**330.4561**	**0.0126**		**330.7698**

3.7 Building Construction 2 - 2021

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					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-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					
Hauling	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
Vendor	0.0111	0.3815	0.0905	1.0200e-003	0.0256	7.7000e-004	0.0264	7.3700e-003	7.3000e-004	8.1000e-003		108.9754	108.9754	6.5900e-003		109.1402
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.0956**	**0.4363**	**0.8440**	**3.2400e-003**	**0.2492**	**2.4200e-003**	**0.2516**	**0.0667**	**2.2500e-003**	**0.0689**		**330.4561**	**330.4561**	**0.0126**		**330.7698**

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/day										lb/day					

Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-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					
Hauling	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
Vendor	0.0111	0.3815	0.0905	1.0200e-003	0.0256	7.7000e-004	0.0264	7.3700e-003	7.3000e-004	8.1000e-003		108.9754	108.9754	6.5900e-003		109.1402
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.0956**	**0.4363**	**0.8440**	**3.2400e-003**	**0.2492**	**2.4200e-003**	**0.2516**	**0.0667**	**2.2500e-003**	**0.0689**		**330.4561**	**330.4561**	**0.0126**		**330.7698**

3.7 Building Construction 2 - 2022

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					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-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					
Hauling	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
Vendor	0.0104	0.3621	0.0856	1.0100e-003	0.0256	6.7000e-004	0.0263	7.3700e-003	6.4000e-004	8.0100e-003		108.0237	108.0237	6.3500e-003		108.1823
Worker	0.0792	0.0495	0.6967	2.1400e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		213.5448	213.5448	5.3800e-003		213.6794
Total	**0.0896**	**0.4116**	**0.7823**	**3.1500e-003**	**0.2492**	**2.2700e-003**	**0.2514**	**0.0667**	**2.1100e-003**	**0.0688**		**321.5684**	**321.5684**	**0.0117**		**321.8617**

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/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-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				
Hauling	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
Vendor	0.0104	0.3621	0.0856	1.0100e-003	0.0256	6.7000e-004	0.0263	7.3700e-003	6.4000e-004	8.0100e-003		108.0237	108.0237	6.3500e-003		108.1823
Worker	0.0792	0.0495	0.6967	2.1400e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		213.5448	213.5448	5.3800e-003		213.6794
Total	**0.0896**	**0.4116**	**0.7823**	**3.1500e-003**	**0.2492**	**2.2700e-003**	**0.2514**	**0.0667**	**2.1100e-003**	**0.0688**		**321.5684**	**321.5684**	**0.0117**		**321.8617**

3.8 Building Construction 3 - 2021

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				
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-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				
Hauling	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
Vendor	0.0111	0.3815	0.0905	1.0200e-003	0.0256	7.7000e-004	0.0264	7.3700e-003	7.3000e-004	8.1000e-003		108.9754	108.9754	6.5900e-003		109.1402
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296

Total	**0.0956**	**0.4363**	**0.8440**	**3.2400e-003**	**0.2492**	**2.4200e-003**	**0.2516**	**0.0667**	**2.2500e-003**	**0.0689**		**330.4561**	**330.4561**	**0.0126**		**330.7698**

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/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-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					
Hauling	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
Vendor	0.0111	0.3815	0.0905	1.0200e-003	0.0256	7.7000e-004	0.0264	7.3700e-003	7.3000e-004	8.1000e-003		108.9754	108.9754	6.5900e-003		109.1402
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.0956**	**0.4363**	**0.8440**	**3.2400e-003**	**0.2492**	**2.4200e-003**	**0.2516**	**0.0667**	**2.2500e-003**	**0.0689**		**330.4561**	**330.4561**	**0.0126**		**330.7698**

3.8 Building Construction 3 - 2022

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					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-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					
Hauling	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
Vendor	0.0104	0.3621	0.0856	1.0100e-003	0.0256	6.7000e-004	0.0263	7.3700e-003	6.4000e-004	8.0100e-003		108.0237	108.0237	6.3500e-003		108.1823
Worker	0.0792	0.0495	0.6967	2.1400e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		213.5448	213.5448	5.3800e-003		213.6794
Total	**0.0896**	**0.4116**	**0.7823**	**3.1500e-003**	**0.2492**	**2.2700e-003**	**0.2514**	**0.0667**	**2.1100e-003**	**0.0688**		**321.5684**	**321.5684**	**0.0117**		**321.8617**

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/day										lb/day					

Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-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					
Hauling	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
Vendor	0.0104	0.3621	0.0856	1.0100e-003	0.0256	6.7000e-004	0.0263	7.3700e-003	6.4000e-004	8.0100e-003		108.0237	108.0237	6.3500e-003		108.1823
Worker	0.0792	0.0495	0.6967	2.1400e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		213.5448	213.5448	5.3800e-003		213.6794
Total	**0.0896**	**0.4116**	**0.7823**	**3.1500e-003**	**0.2492**	**2.2700e-003**	**0.2514**	**0.0667**	**2.1100e-003**	**0.0688**		**321.5684**	**321.5684**	**0.0117**		**321.8617**

3.9 Architectural Coating 1 - 2021

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					
Archit. Coating	13.6274					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**13.8463**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

Unmitigated Construction Off-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					
Hauling	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
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	0.0338	0.0219	0.3014	8.9000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		88.5923	88.5923	2.3800e-003		88.6518
Total	**0.0338**	**0.0219**	**0.3014**	**8.9000e-004**	**0.0894**	**6.6000e-004**	**0.0901**	**0.0237**	**6.1000e-004**	**0.0243**		**88.5923**	**88.5923**	**2.3800e-003**		**88.6518**

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/day										lb/day					
Archit. Coating	13.6274					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**13.8463**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

Mitigated Construction Off-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				
Hauling	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
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	0.0338	0.0219	0.3014	8.9000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		88.5923	88.5923	2.3800e-003		88.6518
Total	**0.0338**	**0.0219**	**0.3014**	**8.9000e-004**	**0.0894**	**6.6000e-004**	**0.0901**	**0.0237**	**6.1000e-004**	**0.0243**		**88.5923**	**88.5923**	**2.3800e-003**		**88.6518**

3.10 Architectural Coating 2 - 2022

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				
Archit. Coating	8.0345					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**8.2391**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-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				
Hauling	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
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	0.0317	0.0198	0.2787	8.6000e-004	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		85.4179	85.4179	2.1500e-003		85.4717

Total	**0.0317**	**0.0198**	**0.2787**	**8.6000e-004**	**0.0894**	**6.4000e-004**	**0.0901**	**0.0237**	**5.9000e-004**	**0.0243**		**85.4179**	**85.4179**	**2.1500e-003**		**85.4717**

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/day										lb/day					
Archit. Coating	8.0345					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**8.2391**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-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					
Hauling	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
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	0.0317	0.0198	0.2787	8.6000e-004	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		85.4179	85.4179	2.1500e-003		85.4717
Total	**0.0317**	**0.0198**	**0.2787**	**8.6000e-004**	**0.0894**	**6.4000e-004**	**0.0901**	**0.0237**	**5.9000e-004**	**0.0243**		**85.4179**	**85.4179**	**2.1500e-003**		**85.4717**

3.11 Architectural Coating 3 - 2022

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					
Archit. Coating	13.6274					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**13.8320**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-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					
Hauling	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
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	0.0317	0.0198	0.2787	8.6000e-004	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		85.4179	85.4179	2.1500e-003		85.4717
Total	**0.0317**	**0.0198**	**0.2787**	**8.6000e-004**	**0.0894**	**6.4000e-004**	**0.0901**	**0.0237**	**5.9000e-004**	**0.0243**		**85.4179**	**85.4179**	**2.1500e-003**		**85.4717**

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/day										lb/day					

Archit. Coating	13.6274					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**13.8320**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-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					
Hauling	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
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	0.0317	0.0198	0.2787	8.6000e-004	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		85.4179	85.4179	2.1500e-003		85.4717
Total	**0.0317**	**0.0198**	**0.2787**	**8.6000e-004**	**0.0894**	**6.4000e-004**	**0.0901**	**0.0237**	**5.9000e-004**	**0.0243**		**85.4179**	**85.4179**	**2.1500e-003**		**85.4717**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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					
Mitigated	0.5260	2.3026	7.1478	0.0282	2.4007	0.0192	2.4199	0.6423	0.0178	0.6602		2,877.6020	2,877.6020	0.1254		2,880.7380

Unmitigated	0.5260	2.3026	7.1478	0.0282	2.4007	0.0192	2.4199	0.6423	0.0178	0.6602		2,877.6020	2,877.6020	0.1254		2,880.7380

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	330.40	323.75	274.40	1,098,443	1,098,443
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	330.40	323.75	274.40	1,098,443	1,098,443

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.550151	0.042593	0.202457	0.116946	0.015037	0.005825	0.021699	0.034933	0.002123	0.001780	0.004876	0.000710	0.000868
Other Asphalt Surfaces	0.550151	0.042593	0.202457	0.116946	0.015037	0.005825	0.021699	0.034933	0.002123	0.001780	0.004876	0.000710	0.000868

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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				
NaturalGas Mitigated	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682
NaturalGas Unmitigated	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	1750.53	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682
Other Asphalt Surfaces	0	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		**0.0189**	**0.1613**	**0.0687**	**1.0300e-003**		**0.0130**	**0.0130**		**0.0130**	**0.0130**		**205.9444**	**205.9444**	**3.9500e-003**	**3.7800e-003**	**207.1682**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	1.75053	0.0189	0.1613	0.0687	1.0300e-003		0.0130	0.0130		0.0130	0.0130		205.9444	205.9444	3.9500e-003	3.7800e-003	207.1682
Other Asphalt Surfaces	0	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		**0.0189**	**0.1613**	**0.0687**	**1.0300e-003**		**0.0130**	**0.0130**		**0.0130**	**0.0130**		**205.9444**	**205.9444**	**3.9500e-003**	**3.7800e-003**	**207.1682**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	2.9519	0.6668	11.6806	0.0313		1.4553	1.4553		1.4553	1.4553	206.5573	635.2076	841.7650	0.9827	0.0116	869.7746
Unmitigated	2.9519	0.6668	11.6806	0.0313		1.4553	1.4553		1.4553	1.4553	206.5573	635.2076	841.7650	0.9827	0.0116	869.7746

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.1500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.0024	0.6334	8.7886	0.0311		1.4393	1.4393		1.4393	1.4393	206.5573	630.0000	836.5573	0.9777	0.0116	864.4415
Landscaping	0.0874	0.0333	2.8921	1.5000e-004		0.0160	0.0160		0.0160	0.0160		5.2076	5.2076	5.0200e-003		5.3332
Total	**2.9519**	**0.6668**	**11.6806**	**0.0313**		**1.4553**	**1.4553**		**1.4553**	**1.4553**	**206.5573**	**635.2076**	**841.7650**	**0.9827**	**0.0116**	**869.7746**

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.1500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.0024	0.6334	8.7886	0.0311		1.4393	1.4393		1.4393	1.4393	206.5573	630.0000	836.5573	0.9777	0.0116	864.4415
Landscaping	0.0874	0.0333	2.8921	1.5000e-004		0.0160	0.0160		0.0160	0.0160		5.2076	5.2076	5.0200e-003		5.3332
Total	**2.9519**	**0.6668**	**11.6806**	**0.0313**		**1.4553**	**1.4553**		**1.4553**	**1.4553**	**206.5573**	**635.2076**	**841.7650**	**0.9827**	**0.0116**	**869.7746**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Hydrology Report and Sewer Study

DRAINAGE CONCEPT/ HYDROLOGY STUDY/SUSUMP

FOR

TENTATIVE TRACT NO. 67200

CITY OF CARSON
COUNTY OF LOS ANGELES

Prepared by:

Sikand Engineering Associates
15230 Burbank Boulevard, Suite 100
Van Nuys, California 91411
Telephone: 818-787-8550

W.O. 5106-002-01

Date: 01-23-2019

Table of Content:

INTRODUCTION

Purpose of the Study

The purpose of this study is to provide criteria for the proposed storm drain design, and analyze the hydrologic factors base on the proposed development of Tentative Tract No. 67200

Project Description

EXISTING CONDITION: The project site is located along the north side of Neptune Avenue and 220th Street intersection in the City of Carson, County of Los Angeles.

The existing drainage pattern is from southwest to the northeast of the project site with an existing sump pump system installed to pump the stormwater to the southerly 220th street.

***PROPOSED CONDITION*:** The development includes multi-family residential developments, open space lots and landscape area. Three biofilter basins has been proposed for the stormwater filtration, and a sump pump system will be installed to pump the stormwater to the same southerly 220th street.

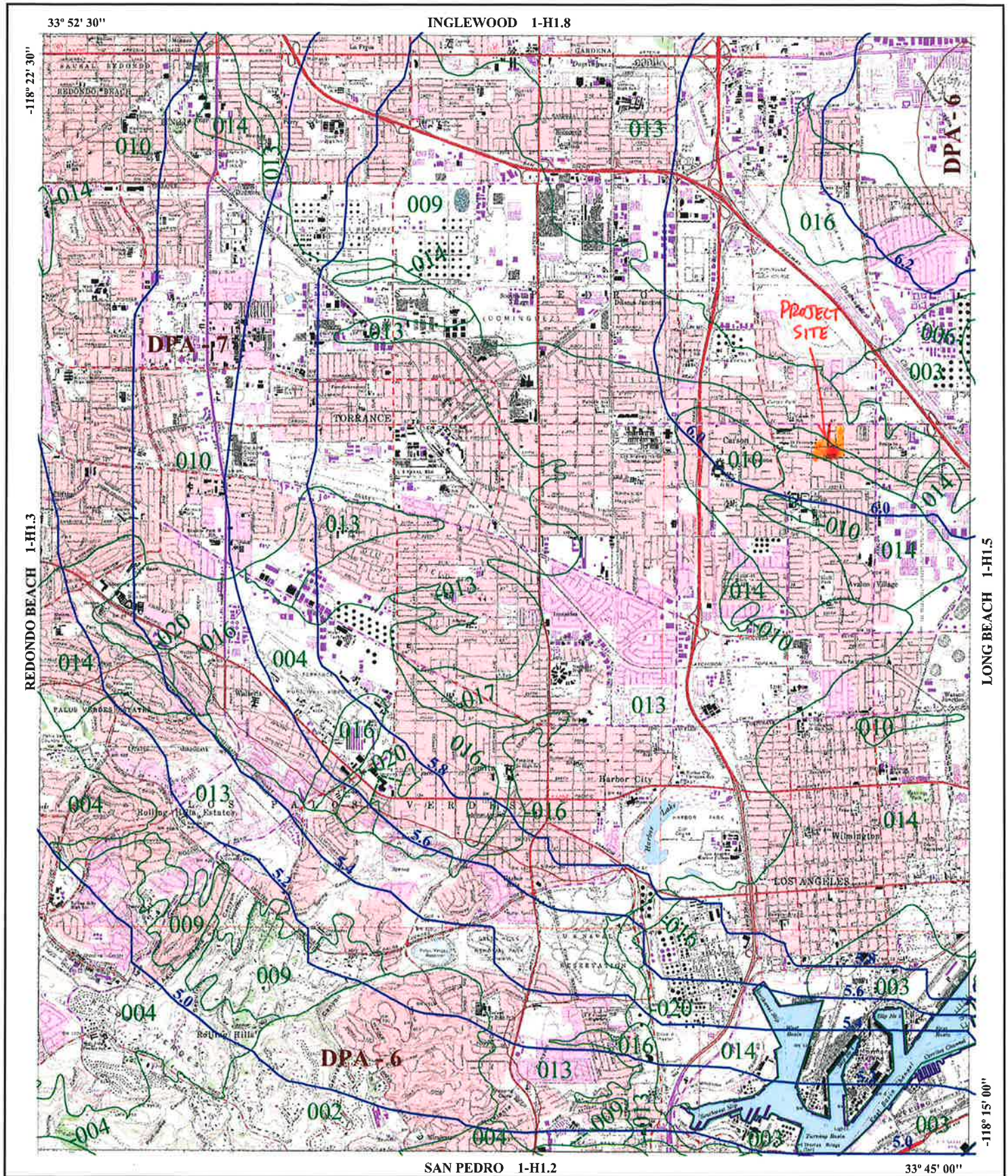
Hydrologic Criteria & Methodology

This report follows the hydrologic criteria and methodology set forth by Los Angeles County Department of Public Works, as explained in its "Hydrology Manual", "Sedimentation Manual", and "Development Planning for Storm Water Management (SUSMP) Manual".

The following are the criteria used in the calculations:

- Design Storm Frequency: 25-year.
- Soil Type Number = 013
- Basin Name = Los Angeles River
- DPA Zones = 8
- % Imperviousness:
  42% for undeveloped areas,
  82% for developed areas.

Preliminary alignments and layout of the drainage device, swales, biofilter basins, and storm drain system are shown on the Proposed Hydrology Map. Final details of the storm drain system, biofilter basins, and other SUSMP devices will be provided in the final Storm Drain Plans and Grading Plans to the satisfaction of the Los Angeles County Department of Public Works.



016 SOIL CLASSIFICATION AREA

7.2 INCHES OF RAINFALL

DPA - 6 DEBRIS POTENTIAL AREA

N W E S

1 0 1 2 Miles

25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714

TORRANCE
50-YEAR 24-HOUR ISOHYET

1-H1.4

LOS ANGELES COUNTY PUBLIC WORKS Public Service That Works

EXISTING CONDITION

Peak Flow Hydrologic Analysis

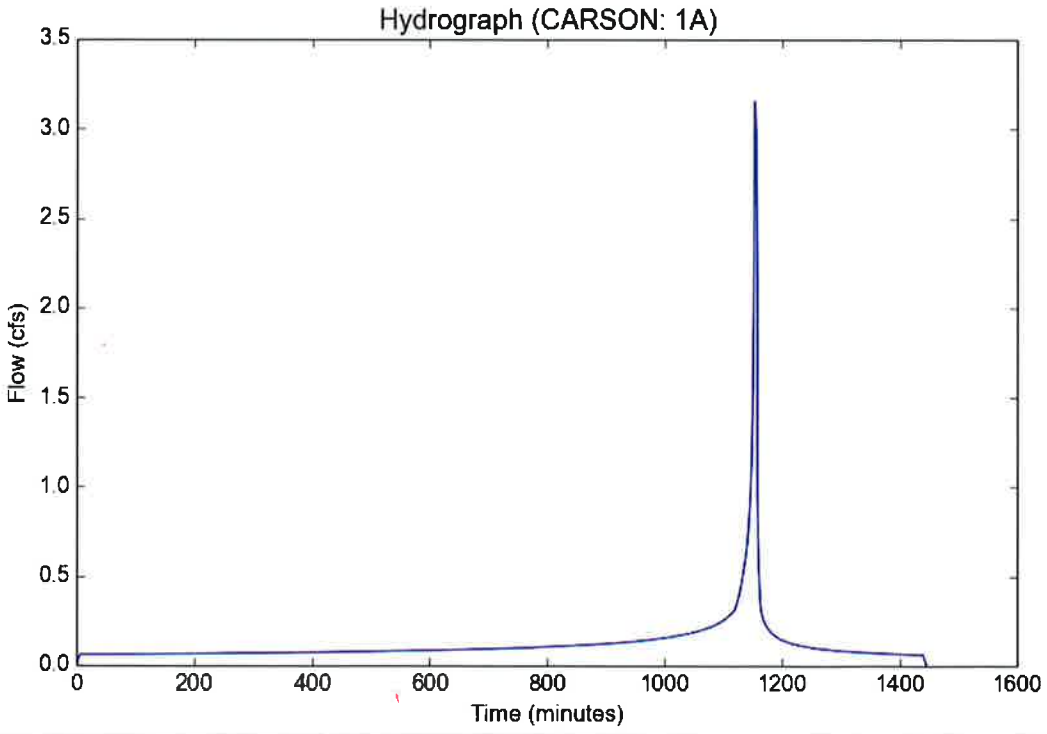
File location: X:/sikand/5106-002/01/Engineering/Hydrology/CALCULATIONS/HYDROCALC/Qdesign/CSV_Results/Existing Report.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	CARSON
Subarea ID	1A
Area (ac)	1.2
Flow Path Length (ft)	267.0
Flow Path Slope (vft/hft)	0.0051
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.42
Soil Type	13
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.268
Peak Intensity (in/hr)	2.8849
Undeveloped Runoff Coefficient (Cu)	0.9185
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	3.1157
Burned Peak Flow Rate (cfs)	3.1157
24-Hr Clear Runoff Volume (ac-ft)	0.2501
24-Hr Clear Runoff Volume (cu-ft)	10894.0865



Peak Flow Hydrologic Analysis

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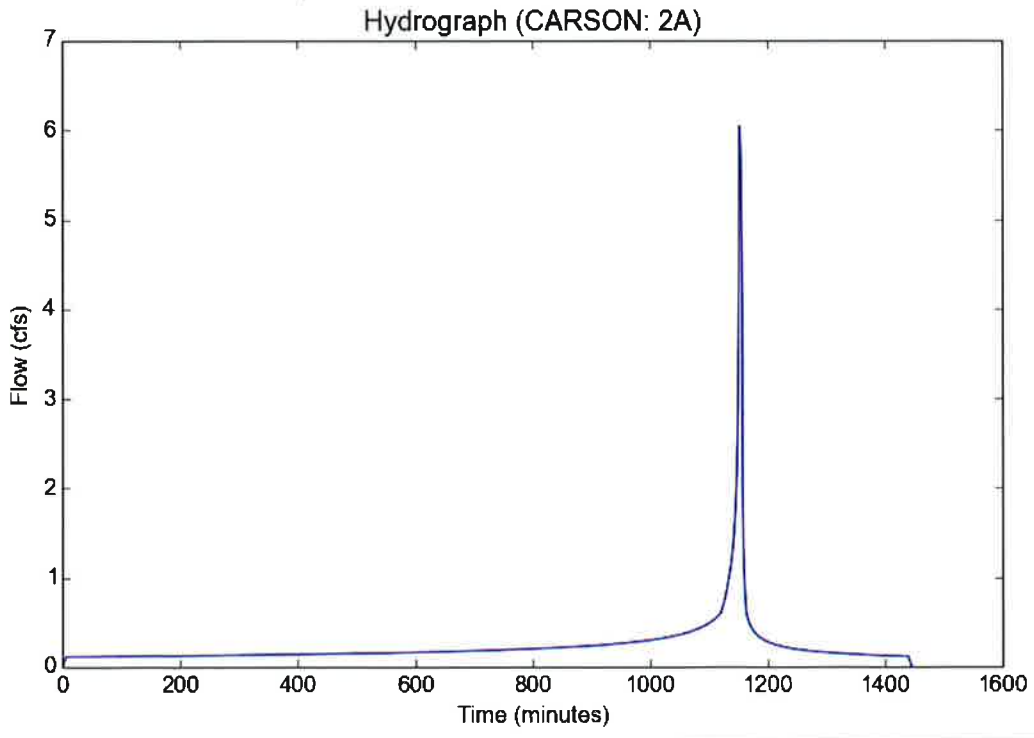
Version: HydroCalc 1.0.2

Input Parameters

Project Name	CARSON
Subarea ID	2A
Area (ac)	2.3
Flow Path Length (ft)	270.0
Flow Path Slope (vft/hft)	0.0059
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.42
Soil Type	13
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.268
Peak Intensity (in/hr)	2.8849
Undeveloped Runoff Coefficient (Cu)	0.9185
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	5.9718
Burned Peak Flow Rate (cfs)	5.9718
24-Hr Clear Runoff Volume (ac-ft)	0.4793
24-Hr Clear Runoff Volume (cu-ft)	20880.3324



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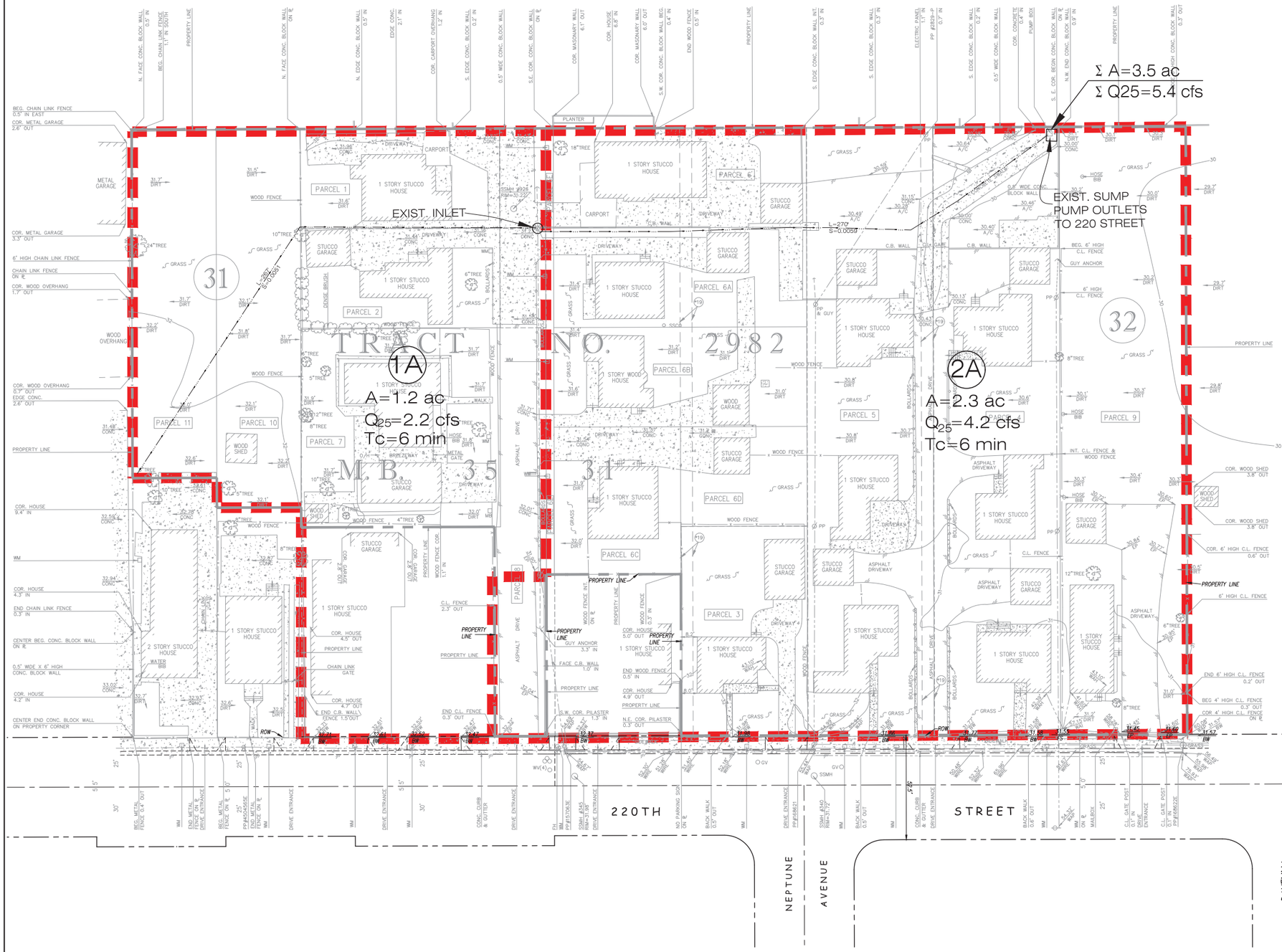
006     1    1A  13 42 1.2 6A222  270 00519                  G1
006     1    2A  13 42 2.3 6A22                          2  2
```

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 25 SOIL DATA FILE: X:\engineering\Programs\CIVILD\lar_soilx_71.dat

Carson, Exist 25 YR Frequency STORM DAY 4

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
1	1A	1.2	2.17	1.2	2.17	2	270.	.00519	.00	.00	0.	13	6	A22	.42
1	2A	2.3	4.16	3.5	5.39	0	0.	.00000	.00	.00	0.	13	6	A22	.42



VICINITY MAP
NOT TO SCALE

HYDROLOGY CRITERIA

RAINFALL FREQUENCY: 25 YR AND 50 YR
SOIL TYPE : 13
TIME OF CONCENTRATION. . . . . .5 MINUTE OR AS NOTED
25yr ISOHYET. . . . . .5.3"
50yr ISOHYET. . . . . .6.0"
% IMP: 42%

LEGEND

2.15% – STREET GRADE
(1A) – HYDROLOGIC REACH
A – AREA (ACRES)
Q – EXISTING & DEVELOPED 25 YR FLOW QUANTITIES (CFS)
– DRAINAGE BOUNDARY

EXIST. HYDROLOGY MAP

OWNER:
DON WILSON BUILDERS
23705 CRENSHAW BLVD. SUITE 200
TORRANCE, CA. 90510-3188
ATTN: RICHARD WELTER (310) 539-8462

REGISTERED PROFESSIONAL ENGINEER CRAIG YOUNG No.32363 Exp. 12-31-20 CIVIL STATE OF CALIFORNIA
PROJECT ENGINEER DATE

DATE	REVISION	BY	APP

SCALE: 1"=20' | DWG BY: | APPROVED BY: | DATE: 01-18-19 | W.O. NO. 5106-002-01 | SHEET 1 OF 1

SIKAND Engineering | Planning | Surveying
15230 Burbank Blvd.
Van Nuys, CA 91411
Tel: (818) 787-8550
Fax: (818) 901-7451
info@sikand.com

HYDROLOGY STUDY FOR TRACT NO. 67200
FOR CONDOMINIUM PURPOSES
IN THE UNINCORPORATED TERRITORY OF THE
COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

PROPOSED CONDITION

Peak Flow Hydrologic Analysis

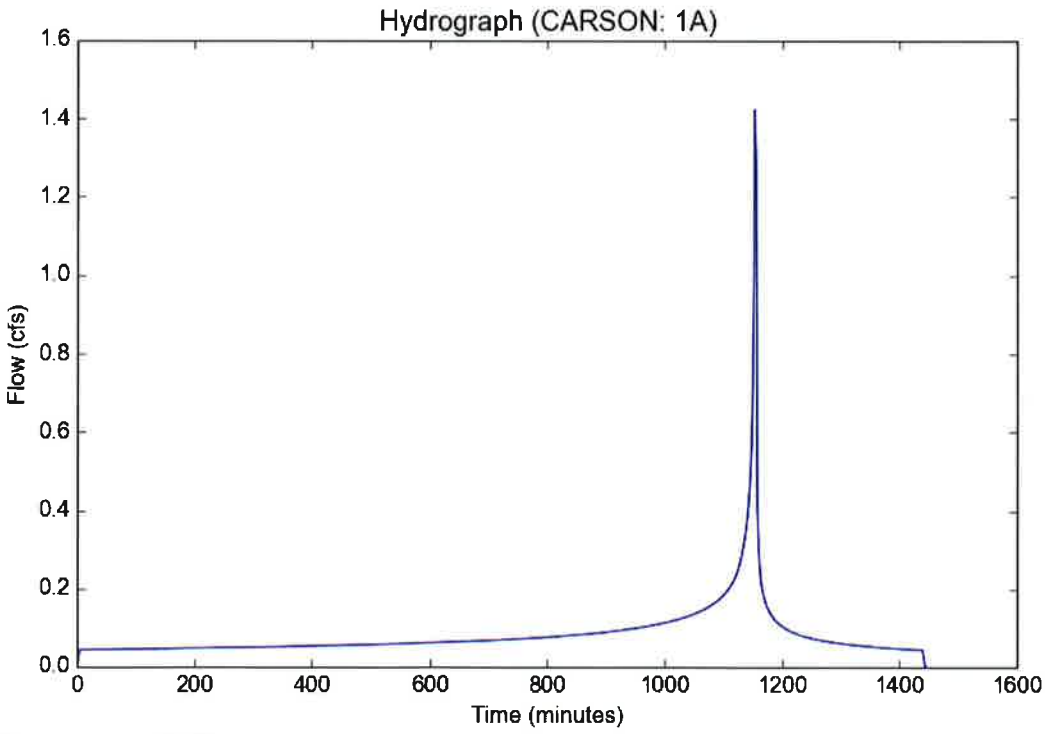
File location: X:/sikand/5106-002/01/Engineering/Hydrology/CALCULATIONS/HYDROCALC/Prop Qdesign/Prop Report.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	CARSON
Subarea ID	1A
Area (ac)	0.5
Flow Path Length (ft)	144.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.82
Soil Type	13
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.268
Peak Intensity (in/hr)	3.143
Undeveloped Runoff Coefficient (Cu)	0.9328
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4144
Burned Peak Flow Rate (cfs)	1.4144
24-Hr Clear Runoff Volume (ac-ft)	0.1675
24-Hr Clear Runoff Volume (cu-ft)	7294.2185



Peak Flow Hydrologic Analysis

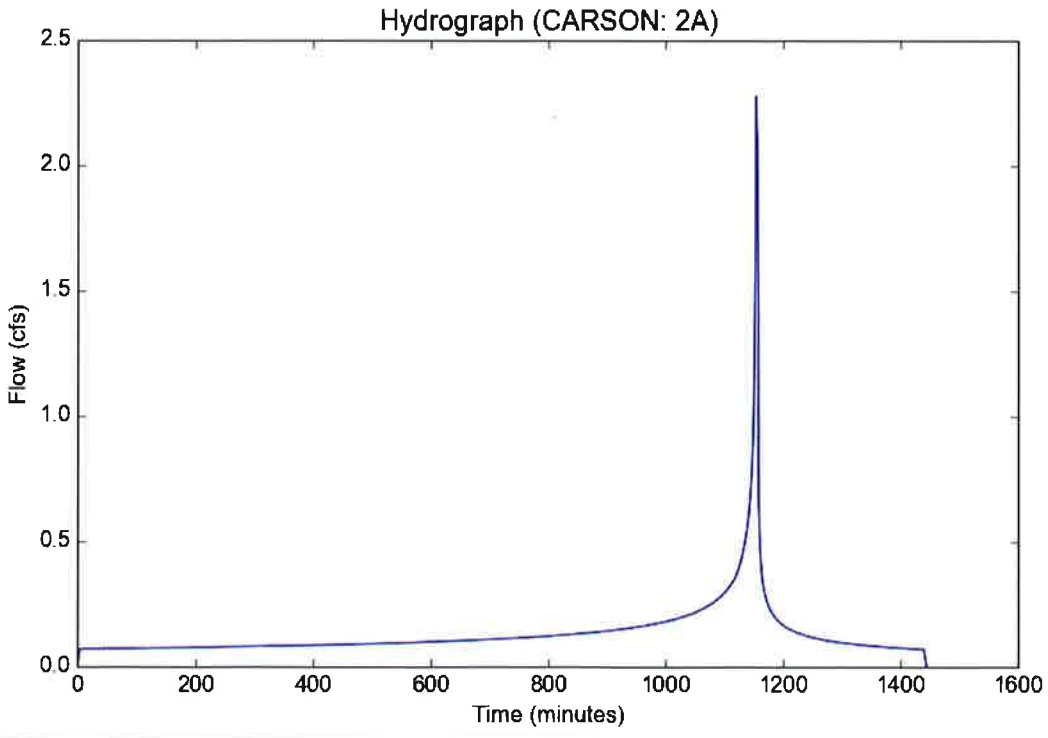
File location: X:/sikand/5106-002/01/Engineering/Hydrology/CALCULATIONS/HYDROCALC/Prop Qdesign/Prop Report.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	CARSON
Subarea ID	2A
Area (ac)	0.8
Flow Path Length (ft)	150.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.82
Soil Type	13
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.268
Peak Intensity (in/hr)	3.143
Undeveloped Runoff Coefficient (Cu)	0.9328
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.263
Burned Peak Flow Rate (cfs)	2.263
24-Hr Clear Runoff Volume (ac-ft)	0.2679
24-Hr Clear Runoff Volume (cu-ft)	11670.7496



Peak Flow Hydrologic Analysis

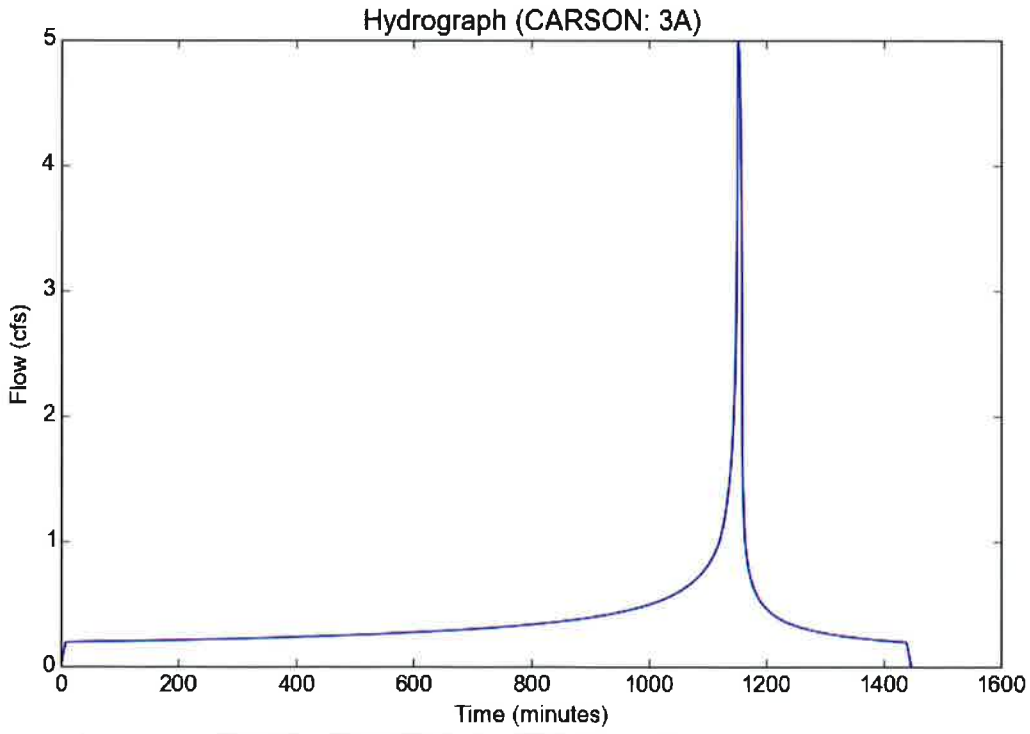
File location: X:/sikand/5106-002/01/Engineering/Hydrology/CALCULATIONS/HYDROCALC/Prop Qdesign/Prop Report.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	CARSON
Subarea ID	3A
Area (ac)	2.2
Flow Path Length (ft)	500.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.82
Soil Type	13
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.268
Peak Intensity (in/hr)	2.5201
Undeveloped Runoff Coefficient (Cu)	0.8923
Developed Runoff Coefficient (Cd)	0.8986
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	4.9821
Burned Peak Flow Rate (cfs)	4.9821
24-Hr Clear Runoff Volume (ac-ft)	0.7368
24-Hr Clear Runoff Volume (cu-ft)	32095.4392

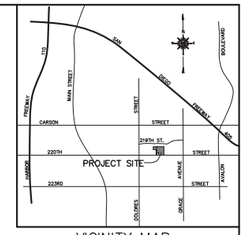


```
006     1    1A  13 82 0.5 5A224  110 00500                    G1
006     1    2A  13 82 0.8 5A224  325 00500
006     1    3A  13 82 2.2 8A22                          2  2
```

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 25 SOIL DATA FILE: X:\engineering\Programs\CIVILD\lar_soilx_71.dat

Carson, Prop 25 YR Frequency STORM DAY 4

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
1	1A	.5	1.03	.5	1.03	4	110.	.00500	2.00	.00	0.	13	5	A22	.82
1	2A	.8	1.65	1.3	2.66	4	325.	.00500	2.00	.00	0.	13	5	A22	.82
1	3A	2.2	3.53	3.5	5.98	0	0.	.00000	.00	.00	0.	13	8	A22	.82



VICINITY MAP
NOT TO SCALE

LEGEND

- 2.15% – STREET GRADE
- (1A) – HYDROLOGIC REACH
- A – AREA (ACRES)
- Q – EXISTING & DEVELOPED 25 YR FLOW QUANTITIES (CFS)
- 1 – PRIVATELY MAINTAINED STORM DRAIN PER DETAILS ON GRADING PLAN
- 2 – STORM DRAIN & EASEMENT TO LACFCD
- 3 – DESILTING BASIN & EASEMENT TO LACFCD
- 4 – CONCRETE DRAINAGE DEVISE PER DETAILS ON GRADING PLAN
- – DRAINAGE BOUNDARY

BEST MANAGEMENT PRACTICES (BMP'S) LIST

1. LOT RUNOFF TO BE INFILTRATED FROM THE GRADED PAD AREAS THROUGH ONSITE PERVIOUS SOILS
2. VEGETATE SLOPES WITH NATIVE OR DROUGHT TOLERANT VEGETATION TO MINIMIZE EROSION
3. RIP RAP AT THE OUTLETS OF STORM DRAINS, CULVERTS, CONDUITS TO MINIMIZE EROSION
4. CALCULATIONS TO SIZE PERMANENT BMP DEVISE UNITS TO BE PROVIDED WITH HYDROLOGY MAP APPROVAL.
5. RUNOFF FROM PUBLIC STREETS SHALL BE COLLECTED INTO CATCH BASINS WITH PIPE OUTLETS TO THE PROPOSED PERMANENT BMP DEVISE PRIOR TO OUTLET DOWNSTREAM, SUBJECT TO THE SATISFACTION OF THE DEPT. OF PUBLIC WORKS.
6. H.O.A. OR PRIVATE MAINTAINED BIOFILTER BASINS AS APPROVED BY DEPT. OF PUBLIC WORKS FOR CONDO SITES.
7. ALL CATCH BASINS AND INLETS SHALL BE STENCILED WITH "WARNING! DRAIN TO OCEAN" NOTES & SYMBOLS PER NPDES BMP STANDARDS

DRAINAGE CONCEPT NOTES

1. STORM DRAIN ALIGNMEMTS SHOWN ARE NOT NECESSARILY APPROVED.
2. COMPLY WITH ALL STREET DRAINAGE REQUIREMENTS TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
3. DEDICATE THE NECESSARY EASEMENTS FOR THE STORM DRAIN SYSTEM TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
4. PROVIDE VEHICULAR ACCESS TO ALL INLETS AND OUTLETS TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
5. APPROVAL OF THE DRAINAGE CONCEPT DOES NOT CONSTITUTE DETERMINATION THAT THE OFFSITE IMPROVEMENTS ARE REQUIRED WITHIN THE MEANING OF GOV'T CODE SECTION 66462.5 (EXCEPT AS NOTED).
6. CROSS LOTS DRAINAGE WILL REQUIRE "DRAINAGE ACCEPTANCE LETTERS".

HYDROLOGY CRITERIA

RAINFALL FREQUENCY: 25 YR AND 50 YR

SOIL TYPE : 13

TIME OF CONCENTRATION. . . . . .5 MINUTE OR AS NOTED

25yr ISOHYET. . . . . 5.3"

50yr ISOHYET. . . . . 6.0"

% IMP:

CONDOMINIUM. 82%

PROPOSED HYDROLOGY MAP

OWNER:
DON WILSON BUILDERS
23705 CRENSHAW BLVD. SUITE 200
TORRANCE, CA. 90510-3188
ATTN: RICHARD WELTER (310) 539-8462

REGISTERED PROFESSIONAL ENGINEER CRAIG YOUNG No. 32363 Exp. 12-31-20 CIVIL STATE OF CALIFORNIA
PROJECT ENGINEER DATE

DATE	REVISION	BY	APP

SCALE: 1"=20' | CHK'D BY: | APPROVED BY: | DATE: 01-22-19 | W.O. NO. 5106-002-01 | SHEET 1 OF 1

SIKAND Engineering | Planning | Surveying
15230 Burbank Blvd.
Van Nuys, CA 91411
Tel: (818) 787-8550
Fax: (818) 901-7451
info@sikand.com

HYDROLOGY STUDY FOR TRACT NO. 67200
FOR CONDOMINIUM PURPOSES
IN THE UNINCORPORATED TERRITORY OF THE
COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

SEWER

AREA STUDY

PC NO. 07-1AS CRSN

TG 764 D7

FOR:

Tentative Tract No. 067200

PREPARED FOR:

DON WILSON BUILDERS
23705 Crenshaw Blvd., Ste. 200
Torrance, CA 90505
Attention: Richard Welter

PREPARED BY:

SIKAND ENGINEERING ASSOCIATES
15230 Burbank Boulevard, Suite 100
Van Nuys, California 91411
818/787-8550 Fax 818/901-7451

April 2, 2018

Craig Young

W.O. 5106-002

INDEX

I. Introduction

The purpose of this Sewer Area Study is to determine sewage flow rates and to verify the capacity of existing sewer system for proposed Tentative Tract No. 67200 in The City of Carson, County of Los Angeles.

II. Site Description

The project site is fronting 220th Street between Grace Avenue and Dolores Street. The site comprises 15 existing homes which are going to tear down and construct 35 single family units and a passive park (see attached TG P764 for location).

III. Sewer Line Capacity Analysis

The existing sewer lines were analyzed per County Standard S-C4 for a maximum depth at ½ full.

The capacity of the existing line was obtained by using Kutter's Formula with "n=0.013" as shown in the flow diagram for the design of circular sanitary sewer system (see attached S-4 chart).

The tributary sewer flow rate (Q) for the studied sewer lines are determined based on County Standards as follows:

Q = (Z)(A)

A = Tributary Area (Acre)

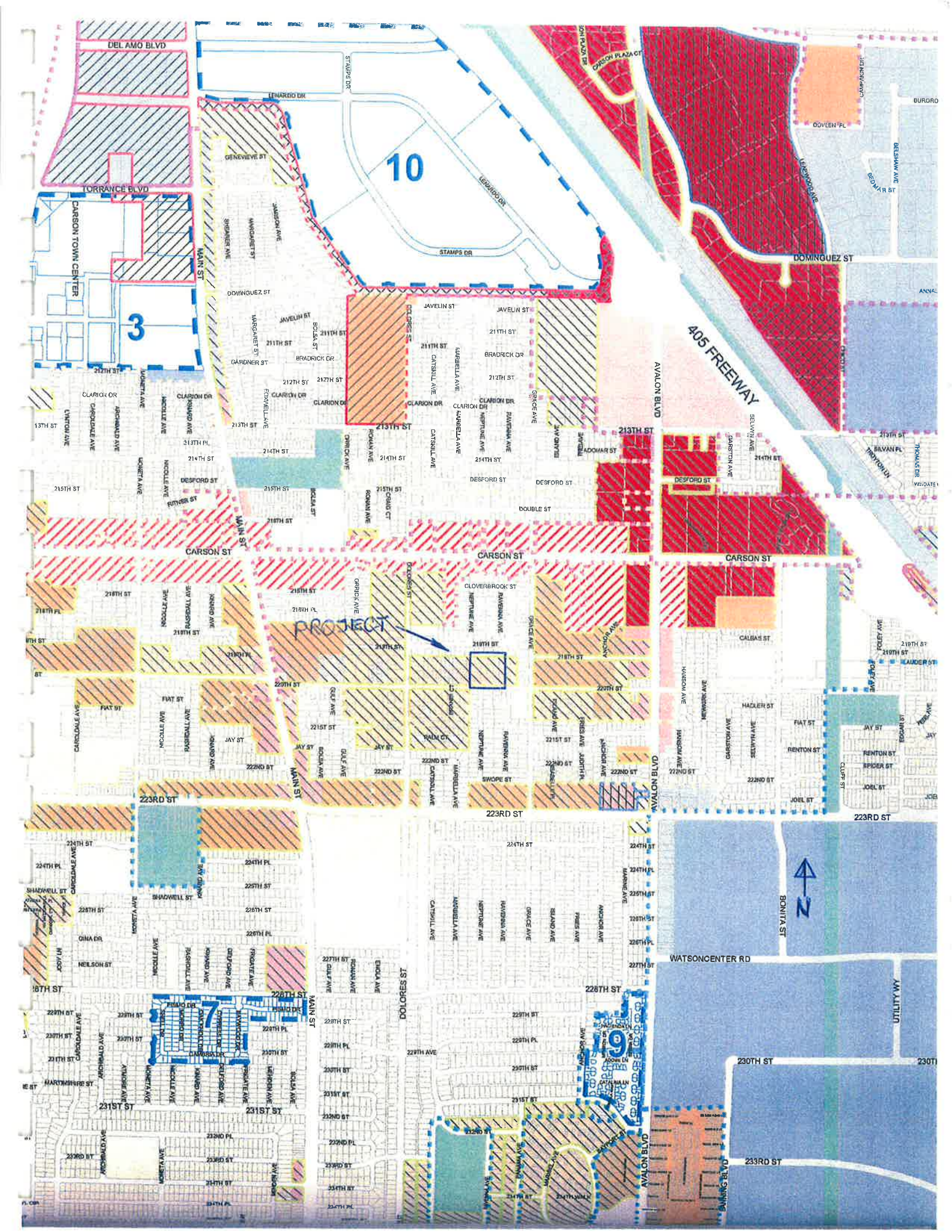
Z = Zoning Coefficients (see attachment in Exhibits)

IV. Conclusion

The half full capacity for the existing 8" sewer line at 0.32% slope is 0.311 cfs which is less than peak flow rate of 0.5653 cfs as determined by the sewer area study.

The proposed project will add 20 homes (35 new homes less 15 existing homes) to the sewer system which increases the flow by 0.020 cfs using a coefficient of 0.001 cfs per unit.

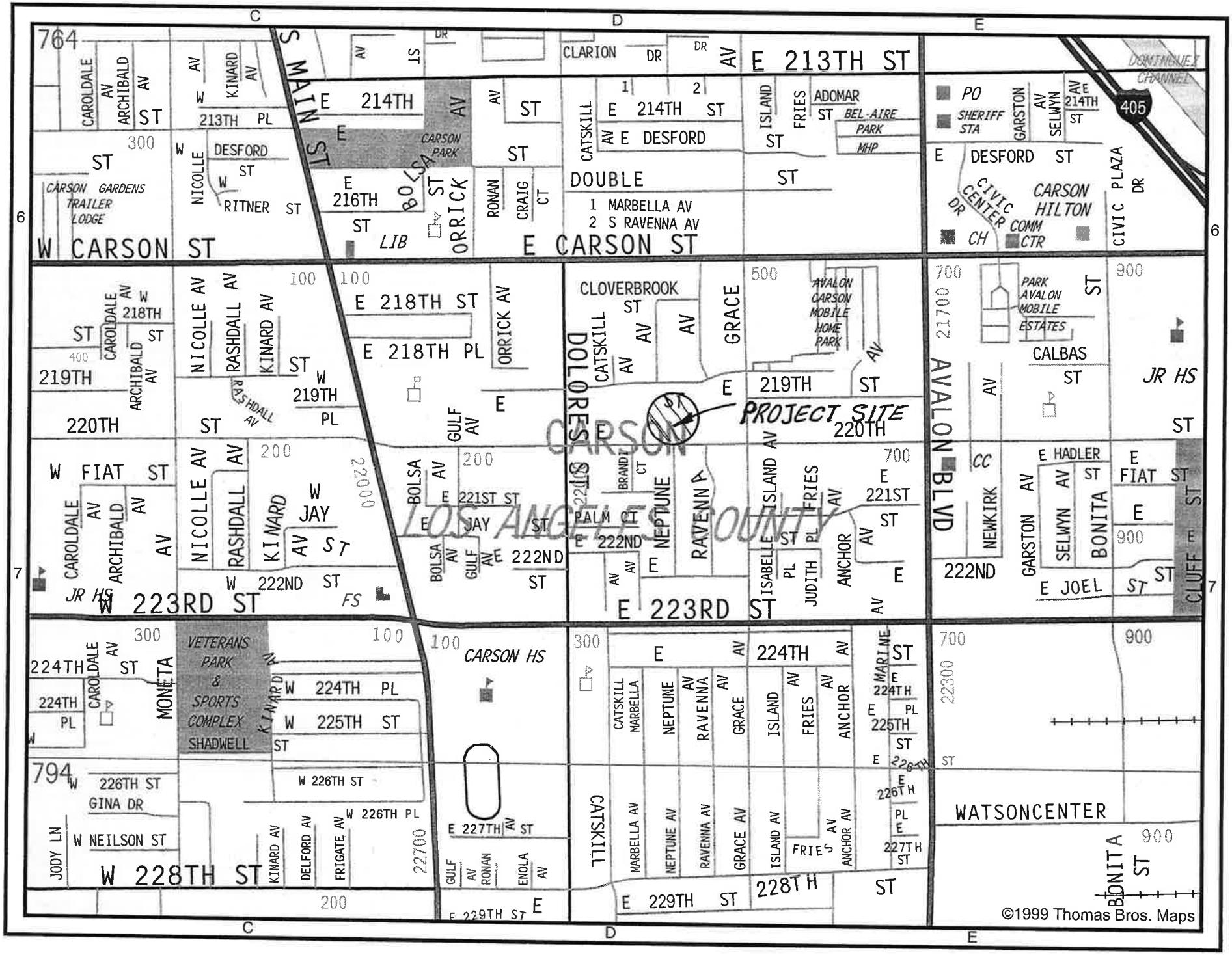
A flow test was conducted at manhole number 629 to measure the existing flow rates. The result for June 24th was chosen based on the maximum depth of 2.79 inch, and the corresponding flow rate of 4495.97 gph which equals to 0.167 cfs. This assumption is conservative because all the existing areas A1-A15 come to sewer line downstream of manhole number 651.All analyzed reaches have adequate capacity to include additional flow from the proposed site. According to the current policies, no mitigation measures will be required for this project


DEL AMO BLVD
TORRANCE BLVD
CARSON TOWN CENTER
MAIN ST
STAMPS DR
LENARDO DR
GENEVIEVE ST
SHOARER AVE
MARGARET ST
JAMISON AVE
10
3
LEONARDO DR
STAMPS DR
DOMINGUEZ ST
JAVELIN ST
BOLSA ST
211TH ST
BRADRICK DR
GARDNER ST
212TH ST
CLARION DR
213TH ST
213TH PL
214TH ST
215TH ST
DESFORD ST
RUTHER ST
216TH ST
CARSON ST
CLOVERBROOK ST
218TH ST
218TH PL
219TH ST
219TH PL
PROJECT
220TH ST
FIAT ST
JAY ST
222ND ST
223RD ST
224TH ST
224TH PL
225TH ST
SHADWELL ST
226TH ST
226TH PL
GINA DR
NEILSON ST
227TH ST
228TH ST
229TH ST
229TH PL
230TH ST
231ST ST
MARTINSHIRE ST
232ND ST
232ND PL
233RD ST
234TH ST
234TH PL
7
9
DOLORES ST
AVALON BLVD
405 FREEWAY
CARSON PLAZA DR
CARSON PLAZA CT
CAMPAIGN DR
DOVEEN PL
LEEWOOD AVE
BELSHAW AVE
BEDMAR ST
BURGRO
ANNA
SELWYN AVE
GARSTON AVE
BLVAN PL
TRENTON LN
THOMAS DR
WESDALE
CALEAS ST
HADLER ST
NEWARK AVE
HANSOM AVE
GARSTON AVE
RENTON ST
RIPCER ST
JOEL ST
CLIFF ST
EDGAR ST
TOSA AVE
AUDER ST
FOLEY AVE
N
BONITA ST
WATSONCENTER RD
UTILITY WY
MARINE AVE
ISLAND AVE
FRIES AVE
ANCHOR AVE
JUDITH PL
SWOPE ST
RADM CT
CATSKILL AVE
MARBELLA AVE
NEPTUNE AVE
RAVENNA AVE
GRACE AVE
GULF AVE
ROMAN AVE
ENOLA AVE
CRAIG CT
DERICK AVE
DELANO AVE
BADOMAR ST
CLOVERBROOK ST
DOLORES ST
ANCHOR AVE
PACIFIC AVE
CAROLDALE AVE
ARCHIBALD AVE
MONETA AVE
NICOLLE AVE
RICHARD AVE
PASHGIAN AVE
DELFORD AVE
FRONTAGE AVE
BOLSA AVE
HERMOSA AVE
LYNTON AVE
13TH ST
CAMBRIDGE DR
OXFORD DR
DARTMOOR DR
CAMBRIDGE AVE
OXFORD AVE
DARTMOOR AVE
CAMBRIDGE PL
OXFORD PL
DARTMOOR PL
CAMBRIDGE CT
OXFORD CT
DARTMOOR CT
CAMBRIDGE LN
OXFORD LN
DARTMOOR LN

Zoning Legend

- RESIDENTIAL, AGRICULTURAL
- RESIDENTIAL, SINGLE FAMILY
- RESIDENTIAL, MULTI-FAMILY, 8 UNITS PER ACRE
- RESIDENTIAL, MULTI-FAMILY, 10-12 UNITS PER ACRE
- RESIDENTIAL, MULTI-FAMILY, 14-25 UNITS PER ACRE
- MIXED USE - CARSON STREET
- COMMERCIAL, NEIGHBORHOOD
- COMMERCIAL, AUTOMOTIVE
- COMMERCIAL, GENERAL
- COMMERCIAL, REGIONAL
- MANUFACTURING, LIGHT
- MANUFACTURING, HEAVY
- OPEN SPACE
- SPECIAL USE
- SPECIFIC PLAN

- REDEVELOPMENT AREA 1
- MERGED AND AMENDED AREA
- REDEVELOPMENT AREA 4
- ORL OVERLAY
- MUR OVERLAY
- D OVERLAY


PROJECT SITE
CARSON
LOS ANGELES COUNTY
W CARSON ST
E CARSON ST
W 223RD ST
E 223RD ST
W 228TH ST
E 213TH ST
E 214TH ST
E 216TH ST
E 218TH ST
E 218TH PL
E 219TH ST
E 220TH ST
E 221ST ST
E 222ND ST
W 213TH PL
W 214TH PL
W 216TH ST
W 218TH ST
W 219TH PL
W 220TH ST
W 222ND ST
W 224TH PL
W 225TH ST
W 226TH ST
W 226TH PL
E 224TH PL
E 225TH ST
E 226TH ST
E 227TH ST
E 229TH ST
E 224TH AV
E 226TH PL
E 227TH PL
E DESFORD ST
W DESFORD ST
W RITNER ST
W NEILSON ST
E HADLER ST
E FIAT ST
E JOEL ST
W FIAT ST
W JAY ST
E JAY ST
E DESFORD AV
E 214TH AV
CAROLDALE AV
ARCHIBALD AV
NICOLLE AV
RASHDALL AV
KINARD AV
BOLSA AV
ORRICK AV
RONAN AV
CRAIG CT
CATSKILL AV
GRACE AV
ISLAND AV
FRIES AV
ADOMAR ST
BEL-AIRE PARK MHP
CLOVERBROOK ST
AVALON CARSON MOBILE HOME PARK
PARK AVALON MOBILE ESTATES
CALBAS ST
NEWKIRK AV
SELWYN AV
BONITA ST
CLUFF ST
GARSTON AV
CIVIC CENTER DR
CIVIC PLAZA DR
CARSON HILTON
CH
CTR
PO
SHERIFF STA
LIB
CARSON PARK
VETERANS PARK & SPORTS COMPLEX SHADWELL
CARSON HS
JR HS
FS
CC
WATSONCENTER
CARSON GARDENS TRAILER LODGE
DOUBLE
1 MARBELLA AV
2 S RAVENNA AV
NEPTUNE AV
RAVENNA AV
MARBELLA AV
ANCHOR AV
ISABELLE PL
JUDITH PL
PALM CT
BRANDT CT
GINA DR
JODY LN
DELFORD AV
FRIGATE AV
ENOLA AV
MONETA ST
AVALON BLVD
DOMINGUEZ CHANNEL
405
S MAIN ST
764
794
6
7
C
D
E
©1999 Thomas Bros. Maps

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

AREA STUDY

An area study must be made for all private contract sewer projects. See attached sample. The area study must include the following items:

1. Area being served - In Acres
2. Determined Tributary area to main line being designed (incl. areas of future devel.)- In Acres
3. Existing and Land Use Zoning
4. Anticipated Sewer Discharge in cfs of total area based on zoning, and/or heavy water users
5. Existing or proposed utilities if in conflict
6. Existing and proposed sewers showing pipe size and grade leading up to the trunk line in order for you to evaluate the impact of your proposed development on the existing system
7. Direction of sewer flow
8. Contour lines
9. Scale not to be less than 1"=600'
10. North arrow pointing up or to the left

ZONING COEFFICIENTS

ZONE	COEFFICIENT (cfs/Acre)
Agriculture	0.001
Residential	
R-1	0.004
R-2	0.008
R-3	0.012
R-4	0.016 *
Commerical	
C-1 through C-4	0.015 *
Heavy Industrial	
M-1 through M-4	0.021 *

* Individual building, commercial or industrial plant capacities shall be the determining factor when they exceed the coefficients shown.

The coefficient to be used for any zoned areas not listed will be determined by the County based upon the intended development and use.

The County shall determine which of the coefficients or combination of coefficients shall be used for design as determined by the established or proposed zoning in the study area. Any modifications to these coefficients due to topography, development, or hazard areas, shall be approved by the Department of Public Works.

BASIS OF FLOW COMPUTATION				AVER. FLOW COEFF.	PEAK FLOW COEFF.*
AREA & LAND USE				cfs/acre	cfs/ac
	Residential				
Density Type	Average Area Per Dwelling	Dwellings per Acre	Persons per Acre		
Rural 1	5 acres	.2	0.7	.00008	.0002
Rural 2	1½ acres	.8	2.7	.0003	.00075
High Desert	1 acre	1.0	3.3	.0004	.0010
Very Low	20,000 sq.ft.	1.7	6	.0006	.0015
Low (R-1)	7,000 sq.ft.	4.9	16	.002	.005
Medium (R-2)	3,200 sq.ft.	10.8	25	.0048	.012
Medium High (R-3)	1,800 sq.ft.	18.8	38	.006	.015
High (R-4)	1,400 sq.ft.	30.0	52	.0092	.023
	Commercial			.006	.015
	Industrial			.0084	.021
RESIDENTIAL UNIT**				cfs/unit	cfs/unit
	1 & 2 bedroom units			.00032	.0008 .0009
	3 & 4 bedroom units			.00044	.0011
	Mobile Home Parks			.0002	.0005
POPULATION***				cfs/capita	cfs/capita
	Resident Population			.00012	.0003

*Based on Peak Factor of 2.5, for use up to a peak flow rate of 5.0 cfs. For larger flows, use a lower peak factor per the Average Flow-Peak Flow graph.

**These coefficients are based on the following average flows:

1 & 2 bedroom - 200 g.p.d./unit; 3 & 4 bedroom - 285 g.p.d./unit; and Mobile Home - 130 g.p.d./unit

***This coefficient based on 80 g.p.d./capita.

USE OF FLOW COEFFICIENTS

For general studies based on zoning, use the area coefficients listed. If known densities vary from this table, adjust the coefficient accordin(When estimating flows from developments where number and size of residential units are known, use Residential Unit coefficients. For more of a broad range study based on population, use Population coefficient.

Sewer Master Plans Section
March 1973

July 25, 2007

TO: Suk Chong
Land Development Division

Attention Imelda Ng

FROM: Nicholas A. Agbobu
Sewer Maintenance Division

FLOW MEASUREMENTS
SMD MAP NO. 1705 MH 629
CITY OF CARSON

As requested, we are sending you the flow measurement for the above location. Please see attached.

If you have any questions, please contact May Hong at (626) 300-3322.

Attach.

AS AGREED WITH SEWER MAINTENANCE DIVISION

- PLEASE DISREGARD THE FLOW DATA OBTAINED ON JULY 22, AND USE THE MAX. DEPTH OR MAX. FLOW, WHICHEVER GOVERNS.

IMELDA.

Rec'd 7/26/07

Insight For Windows: Version: 5.10.2

Program settings

Site Id: 00000884
Description: c-1705 m/h 629

Program settings

PGM:
910 F.M. VERSION: 7.61

S/N: V6D
SITE ID: 00000884
LOCATION:
c-1705 m/h 629
LEVEL SENSOR:
SUBMERGED LEVEL A
TYPE: 0-10 FT
CAL OFFSET: 508 cts
CAL GAIN: 6.99 cts/cm
USER OFFSET: 0.00 cm
VELOCITY SENSOR:
VELOCITY A
AREA VELOCITY
SHAPE: CIRCULAR PIPE
DIAMETER: 8.00 in.
SAMPLER PACING: OFF
FLOW UNITS: gph
TOTAL FLOW UNITS: gal
RS232 BAUD RATE: 19200
DAYS TO LOG: 54.0
INSTALLED MEMORY: 128

--INPUT-----	UNITS--	LOGGING--	INTV-
FLOW	gph	ON	12min
LEVEL 1	in.	ON	12min
VELOCITY 1	fps	ON	12min
CHANNEL 5	volts	ON	12min

MEMORY MODE: WRAP
DONE

Primary Device

Site Id: 00000884
Description: c-1705 m/h 629

Primary Device 1: Area-Velocity (circular pipe)
Diameter: 8.00 in.

Day Report - 22/JUN/07
Friday

Site Id: 00000884
Description: c-1705 m/h 629

	Level (in.)	Flow 1 (gph)
Minimum:	0.629	422.341
	15:48	15:48
Maximum:	3.290	10433.063

	17:00	17:00
Average:	1.376	2063.467
Total Flow1:	25.174 (gal) x1000	

Day Report - 23/JUN/07
Saturday

Site Id: 00000884
Description: c-1705 m/h 629

	Level (in.)	Flow 1 (gph)
Minimum:	0.355 04:12	194.958 04:12
Maximum:	2.034 12:12	4445.251 09:24
Average:	1.232	1981.156
Total Flow1:	47.547 (gal) x1000	

Day Report - 24/JUN/07
Sunday

Site Id: 00000884
Description: c-1705 m/h 629

	Level (in.)	Flow 1 (gph)
Minimum:	0.537 00:48	270.434 02:24
Maximum:	MAX → 2.787 23:36	4495.966 22:48
Average:	1.458	2345.285
Total Flow1:	56.286 (gal) x1000	

Day Report - 25/JUN/07
Monday

Site Id: 00000884
Description: c-1705 m/h 629

	Level (in.)	Flow 1 (gph)
Minimum:	0.837 02:24	440.063 03:36
Maximum:	2.337 15:48	4579.743 15:48
Average:	1.488	2188.308
Total Flow1:	52.519 (gal) x1000	

Day Report - 26/JUN/07
Tuesday

Site Id: 00000884

Description: c-1705 m/h 629

	Level (in.)	Flow 1 (gph)
Minimum:	0.772 03:36	482.439 03:36
Maximum:	2.103 19:36	4003.145 20:12
Average:	1.477	2246.929

Total Flow1: 53.926 (gal) x1000

Day Report - 27/JUN/07
Wednesday

Site Id: 00000884
Description: c-1705 m/h 629

	Level (in.)	Flow 1 (gph)
Minimum:	0.650 03:00	359.746 02:48
Maximum:	2.154 16:24	4505.285 21:12
Average:	1.488	2310.677

Total Flow1: 55.456 (gal) x1000

Day Report - 28/JUN/07
Thursday

Site Id: 00000884
Description: c-1705 m/h 629

	Level (in.)	Flow 1 (gph)
Minimum:	0.402 03:36	55.941 03:36
Maximum:	2.135 22:24	4861.429 21:00
Average:	1.355	2119.655

Total Flow1: 50.871 (gal) x1000

Day Report - 29/JUN/07
Friday

Site Id: 00000884
Description: c-1705 m/h 629

	Level (in.)	Flow 1 (gph)
Minimum:	0.501 03:48	247.909 04:00
Maximum:	2.560	5135.190

	07:36	07:36
Average:	1.568	2480.318
Total Flow1:	29.763 (gal) x1000	

22/JUN/07 - 29/JUN/07

Site Id: 00000884
Description: c-1705 m/h 629

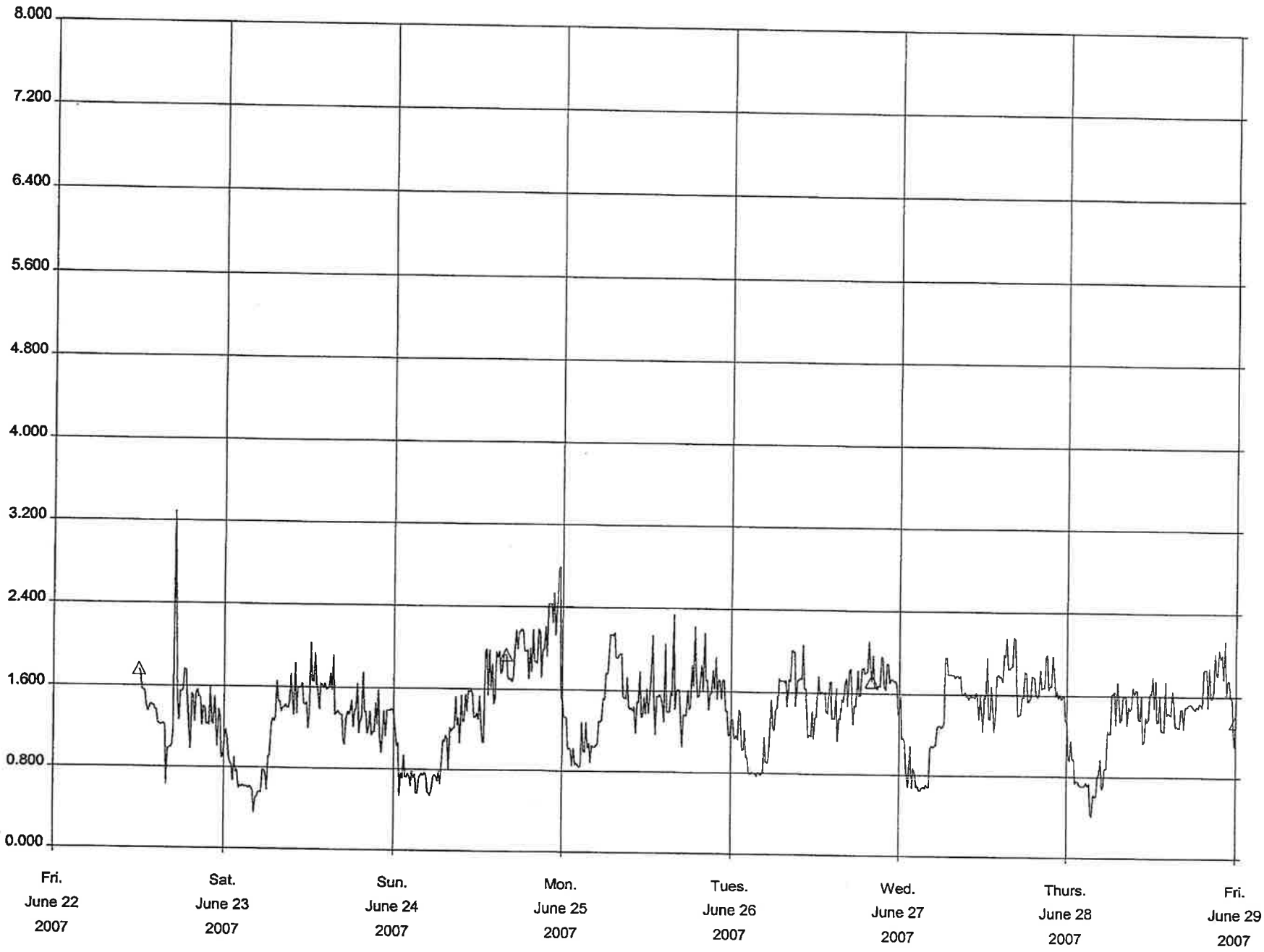
	Level (in.)	Flow 1 (gph)
Minimum:	0.355	55.941
	04:12	03:36
	JUN 23	JUN 28
Maximum:	3.290	10433.063
	17:00	17:00
	JUN 22	JUN 22
Average:	1.424	2208.955
Total Flow1:	371.541 (gal) x1000	

c-1705 m/h 629

Site Id: 00000884 File name: 06291616.V6D

Level (in.)

Graph span: 1 week

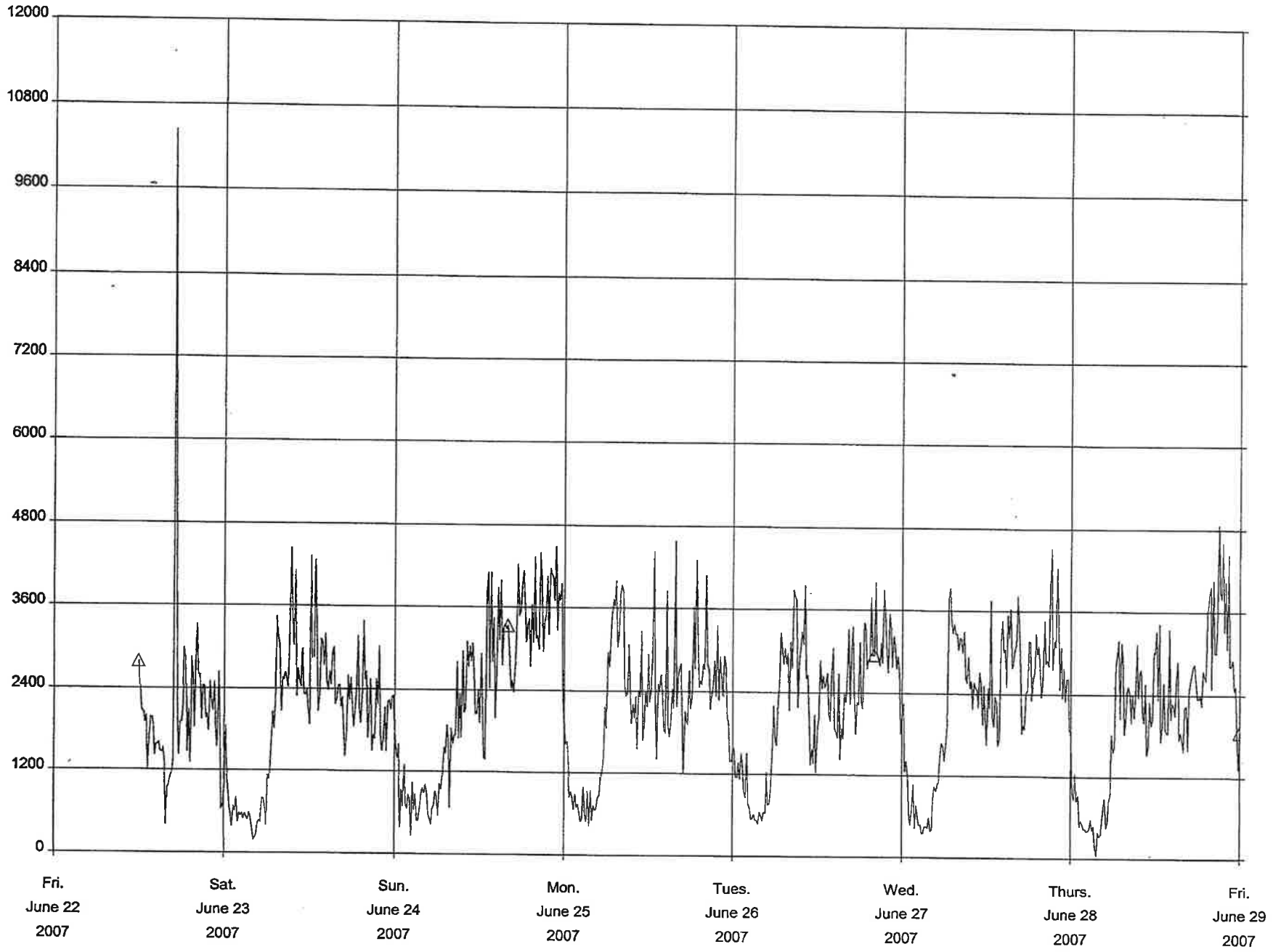


c-1705 m/h 629

Site Id: 00000884 File name: 06291616.V6D

Flow 1 (gph)

Graph span: 1 week



POCKET 1

SEWER AREA STUDY MAP

S-1705

SEE SHT. NO. S-1704

C-33
C-34
C-36
C-37

THIS MAP IS INTENDED FOR USE ONLY AS OPERATIONS MAP BY LOS ANGELES COUNTY SEWER MAINTENANCE DISTRICTS. LOS ANGELES COUNTY EXPRESSLY DISCLAIMS ANY LIABILITY FOR ANY INACCURACIES WHICH MAY BE PRESENT IN THIS MAP.

PROJECT SITE

SEE SHT. NO. S-1650

SEE SHT. NO. S-1760

SEE SHT. NO. S-1706

E 4,197,000
N 4,046,500

AUTOMATED GRAPHICS

METERS
0 50 100 200 250
0 200 400 600 800
FEET

LEGEND

- CLAY SEWERS MAINTAINED BY SMD, 8" UNLESS OTHERWISE NOTED
- PLASTIC SEWERS
- CONCRETE SEWERS
- CLAY SEWERS, LINED
- CEMENT SEWERS, LINED
- FORCE MAINS
- SEWERS NOT MAINTAINED BY SMD
- TRUNK SEWERS
- CITY BOUNDARY
- STANDARD MANHOLE
- DROP MANHOLE
- SHALLOW MANHOLE
- TRAP MANHOLE
- WEIR MANHOLE
- C.O. CLEANOUT
- L.H. LAMP HOLE
- PUMP STATION

TOTAL MH'S THIS MAP: 1083

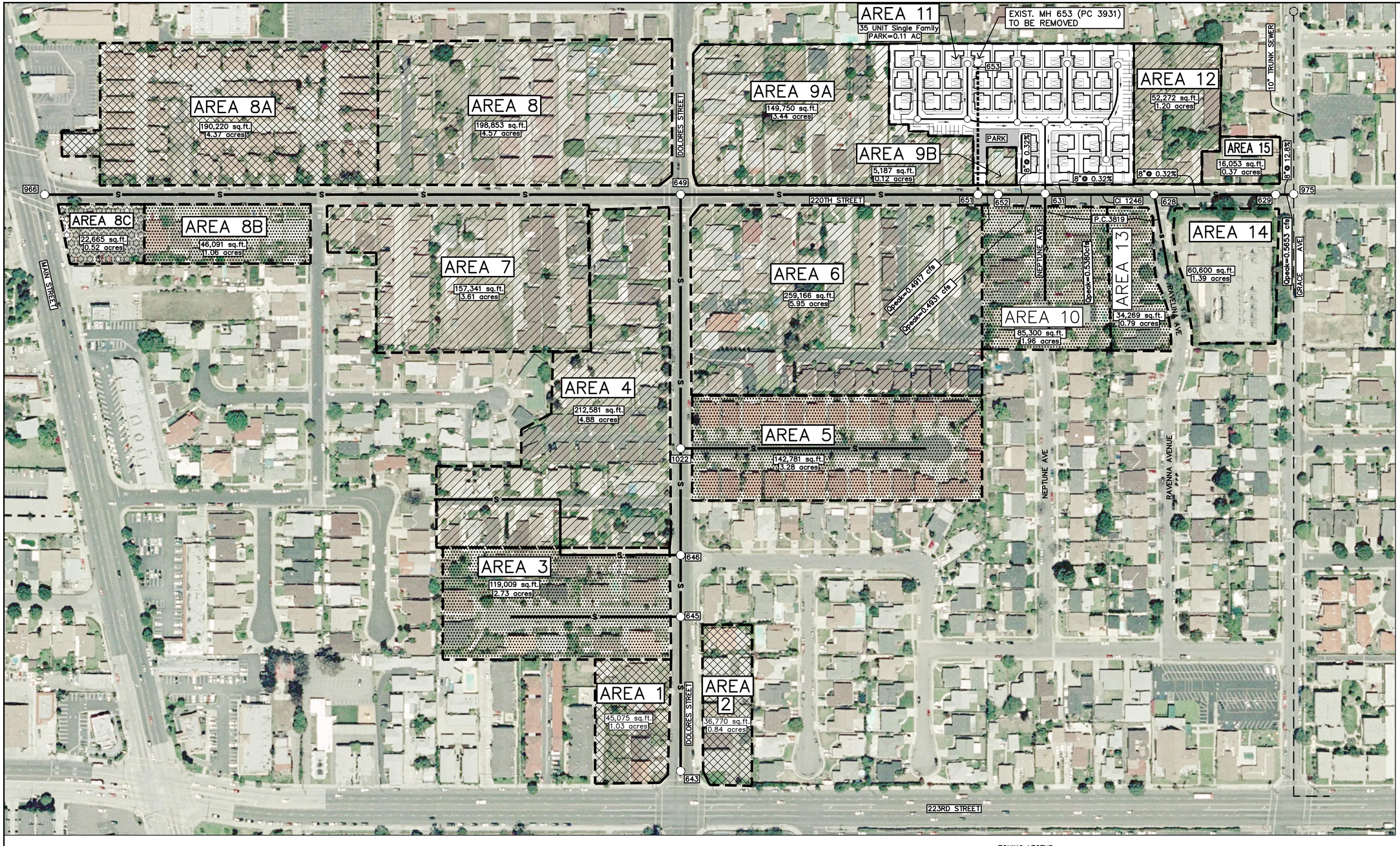
MAP REV
05-19-16

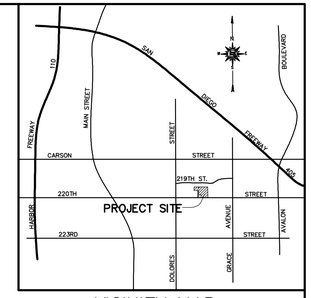
DATA BASE REV
06-10-86

CONSOLIDATED S.M.D.

T: 764 A-5

0219.0319.1705





VICINITY MAP
NOT TO SCALE

SCALE: 1" = 100'

HYDRAULIC ANALYSIS FOR EXISTING SEWER

Street Name	Land Utilization	Comment	Segment M.H. #	Segment M.H. #	Pipe Size (in.)	Pipe Slope (%)	Capacity 1/2 Full(<15°)	Area (Acres)	Zoning Coefficient (cfs/Ac)	Calculated Flow (cfs)	Cumulative Calculated Flow (cfs)	Cumulative Flow Depth (in)	% Full Theoretical Flow Depth/ (0.5 X Pipe Dia.)	% Full Cumulative Flow / Pipe Capacity)
220th Street	See Inset	Area 1 - Area 9A	651	652	8	0.32	0.311	See Inset	See Inset	0.4917	0.4917	5.296	132.40%	158.10%
220th Street	See Inset	Area 9B	652	631	8	0.32	0.311	See Inset	See Inset	0.0014	0.4931	5.307	132.68%	158.55%
220th Street	See Inset	Area 10 - Area 11	631	628	8	0.32	0.311	See Inset	See Inset	0.0449	0.5380	5.651	141.28%	172.99%
220th Street	See Inset	Area 12 - Trunk	628	975	8	0.32	0.311	See Inset	See Inset	0.0273	0.5653	5.871	146.78%	181.77%

ZONING LEGEND

- RESIDENTIAL, MULTI-FAMILY, 8 UNITS PER ACRE
- RESIDENTIAL, MULTI-FAMILY, 10-12 UNITS PER ACRE
- RESIDENTIAL, MULTI-FAMILY, 14-25 UNITS PER ACRE
- COMMERCIAL

LAND USE TABLE

AREA	LAND USE DESIGNATION	AREA ACRES	LOW COMMERCIAL OR	LOW RESIDENTIAL
AREA 8A		4.37	0.02	0.02
AREA 8		4.57	0.02	0.02
AREA 8B		1.06	0.00	0.00
AREA 8C		0.52	0.00	0.00
AREA 7		3.61	0.00	0.00
AREA 6		5.95	0.00	0.00
AREA 9A		3.44	0.02	0.02
AREA 9B		0.12	0.00	0.00
AREA 11		1.96	0.00	0.00
AREA 10		1.96	0.00	0.00
AREA 13	SINGLE FAMILY	0.79	0.00	0.00
AREA 14	RECONSTRUCT	1.39	0.00	0.00
AREA 12		1.20	0.00	0.00
AREA 15		0.37	0.00	0.00
AREA 4		4.88	0.00	0.00
AREA 5		3.28	0.00	0.00
AREA 3	DESIGNATION TRANSPORT	2.73	0.00	0.00
AREA 1		1.03	0.00	0.00
AREA 2		0.84	0.00	0.00

OWNER:

DON WILSON BUILDERS
23705 CRENSHAW BLVD. SUITE 200
TORRANCE, CA. 90505
ATTN: RICHARD WELTER (310) 539-9902

REGISTERED PROFESSIONAL ENGINEER
SEAN G. TOOMEY
No. 32363
Exp. 12-31-18
CIVIL
STATE OF CALIFORNIA

04/02/18
PROJECT ENGINEER DATE

△	DATE	REVISION	BY	APP

SCALE:	CHK'D BY:	APPROVED BY:	DATE:	W.O. NO.	SHEET	OF
1"=100'			4-02-2018	5106-002-00	1	1

SIKAND
Engineering | Planning | Surveying
15230 Burbank Blvd,
Van Nuys, CA 91411
Tel: (818) 787-8550
Fax: (818) 901-7451
info@sikand.com

SEWER AREA STUDY FOR
VESTING TENTATIVE TRACT NO. 067200
IN THE CITY OF CARSON
COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

Date: 04/02/2018

X:\sikand\5106-002\00\Engineering\Sewers\dwg\2018 Sewer Area Revisions\VVT 067200 Sewer Area Study -04_02_2018.dwg, 4/5/2018 3:46:55 PM, 1:100

POCKET 2

EXISTING SEWER PLANS

LOMITA BLDG. DIST. NO. 7

PROFILE ALIGNMENT AND GRADE OF P.C. 3931
SANITARY SEWERS PAGE 1
TO BE CONSTRUCTED IN
R/W NORTH OF 220TH STREET

PRIVATE CONTRACT NO. 3931

W.S. 28

1 SHEET ; 2 PAGES

SCALE: VERT. 1"=5' HORIZ 1"=40' MARCH, 1956

23,084

PREPARED IN THE OFFICES OF

WALTER L. KUBASEK — CIVIL ENGINEER (2)

By Walter L. Kubasek
REG C E NO 8344

FOR LEGEND SEE PLAN NO. S-A-54

NOTES

GRADES TO WHICH THIS IMPROVEMENT IS TO BE CONSTRUCTED ARE SHOWN BY GRADE LINES AND FINISH GRADE POINTS FOR TOP OF CURBS, CENTER LINE OF STREETS, OR CENTER LINE OF ALLEYS AS SHOWN BY GRADE POINTS AT ALL POINTS BETWEEN DESIGNATED POINTS THE GRADE SHALL BE ESTABLISHED BY AS TO CONFORM TO A STRAIGHT LINE DRAWN BETWEEN SAID DESIGNATED POINTS

ELEVATIONS ARE IN FEET ABOVE U.S.C. & G. SEA LEVEL DATUM OF 1929.

THIS DRAWING AND THE DATA HEREON ARE HEREBY MADE A PART OF THE SPECIFICATIONS

WORK SHALL BE CONSTRUCTED ACCORDING TO SPECIFICATIONS ON FILE IN THE OFFICE OF THE COUNTY ENGINEER AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE COUNTY ENGINEER

BEFORE WORK CAN BE STARTED THE CONTRACTOR MUST OBTAIN A PERMIT [illegible] FROM THE L.A. COUNTY ROAD DEPT. 109 W. 2ND ST. AND MAKE A DEPOSIT WITH THE COUNTY TREASURER FOR [illegible] ING 233 SO. BROADWAY SUFFICIENT TO COVER THE COST OF COMPLETION, WHETHER BY CONTRACT OR FORCE ACCOUNT

APPROVAL OF THIS PLAN BY THE COUNTY ENGINEER DOES NOT CONSTITUTE AN APPROVAL AS TO THE ACCURACY OF THE LOCATION OF OR THE ELEVATION OF [illegible] OF ANY UNDERGROUND [illegible] OF THE LIMITS OF THIS PROJECT THIS NOTE APPLIES TO ALL [illegible]

IF WORK IS TO BE DONE IN A STATE HIGHWAY, A PERMIT MUST BE OBTAINED FROM THE STATE OF CALIFORNIA, DIVISION OF HIGHWAYS 120 SOUTH SPRING STREET

COUNTY OF LOS ANGELES, CALIFORNIA

APPROVED, JOHN A. LAMBIE, COUNTY ENGINEER

BY A. P. Collins
SANITATION ENGINEER

APPROVED, A. M. B. WN, CHIEF ENGINEER
CO SAN DIST. NO. 8

BY A. Posthuma
OFFICE ENGINEER

CHECKED BY S K Ouida 6-21-56
OFFICE OF COUNTY ENGINEER, REG C E NO D606

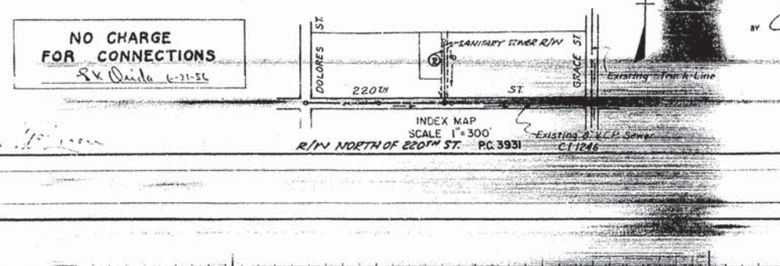
B.M. No. MM-26 Elev. 33.178 L.A.Co. ENGR. F.B. 1213 Pg107
220TH St. & Dolores St. NE Cor
L&N in P.C. Sag (RE 5326) in S.W. cor drive to ho # 309

Note: Locations of Underground Utilities are taken from records, and their correctness or completeness is in no way guaranteed. It shall be the contractors responsibility alone to definitely locate all underground lines of every nature, whether shown hereon or not and protect them from damage. The contractor shall bear the total expense of repairing pipes damaged by any operation in connection with the prosecution of the work.

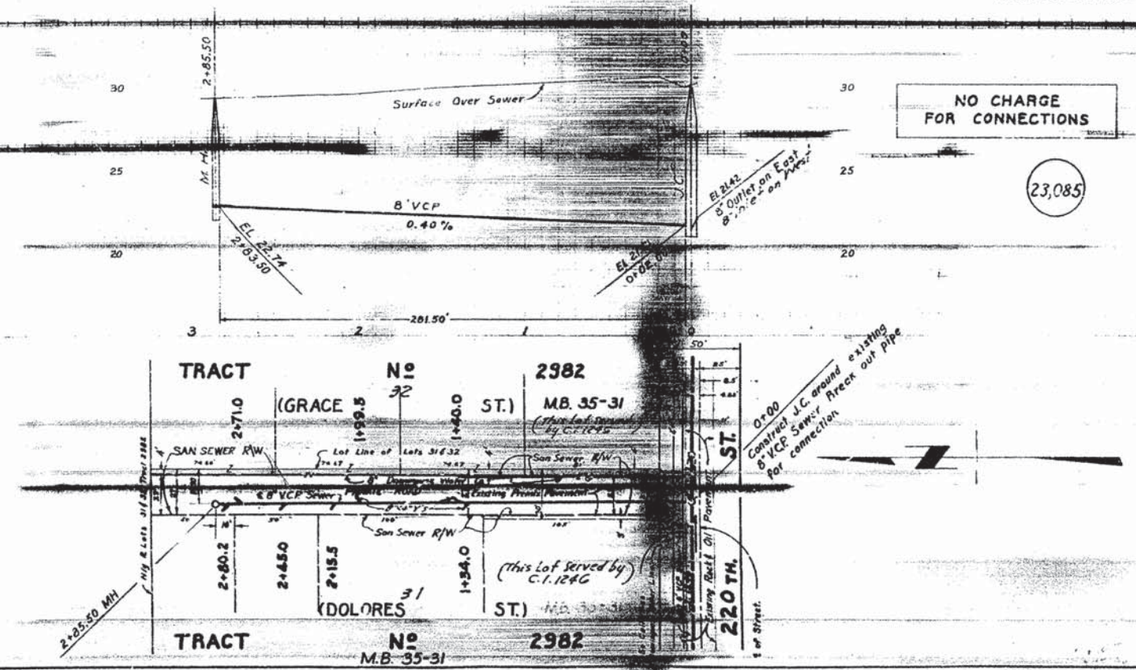
NOTES

1. PROVIDE STAKES ON THE PROPERTY LINE OR PROPERTY LINES PRODUCED AT RIGHT ANGLES TO THE SEWER LINE [illegible] LINE OF EACH MANHOLE.
2. NO REPRESENTATIVE OF THE COUNTY ENGINEER WILL SURVEY OR LAYOUT ANY PORTION OF THE WORK.
3. THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL FURNISH THE COUNTY ENGINEER WITH GRADE SHEETS [illegible] FOR ALL HOUSE LATERALS AND Y BRANCHES AND SHALL PROVIDE STAKES FOR THEM AT THEIR PROPER LOCATIONS W[illegible] ING PLAINLY MARKED. ANY CHANGE IN LOCATION SHALL BE REQUESTED IN WRITING BY THE OWNER OR HIS REPRESENTATIVE.
4. NO REVISIONS SHALL BE MADE ON THESE PLANS WITHOUT THE APPROVAL OF THE COUNTY ENGINEER
5. USE STANDARD MANHOLE FRAMES AND COVERS, S-A-31
6. USE STANDARD STRENGTH PIPE
7. USE CEMENT MORTAR FOR ALL VITRIFIED CLAY PIPE JOINTS.
8. RESURFACE ALL TRENCH WITHIN PAVED AREA TO MEET L. A. COUNTY ROAD DEPT., OR CALIF. STATE HIGHWAY [illegible] MENTS IN ACCORDANCE WITH PERMITS.
9. ENCASE FOUR FEET OF SEWER AT POINTS OF INTERFERENCE WITH POLES, S-A-119
10. HOUSE LATERALS TO BE CONSTRUCTED WITH INVERTS AT PROPERTY LINE [illegible] FEET BELOW CURB GRADE [illegible]
11. ALL STRUCTURES SHALL BE BRICK SEWER STRUCTURES, S-A-104.
12. FOR ALLOWABLE SEEPAGE TEST USE FORMULA NO. [illegible] SHEET, SEC. M
13. MANHOLE TOPS IN UNIMPROVED RIGHTS-OF-WAY TO BE SEWER WITH FINISHED GRADE.

NO CHARGE FOR CONNECTIONS
S K Ouida 6-21-56



P.C. 3931 PAGE 2



RL.

C.I 1296-1-5 Note arrival form →

BM. MM-25, Elev.=35.432, FB1213, pg. 106
Main St.℄ 220th St., at ℄ int.
Cut Spk. in Conc pvt., 11 E ℄ 2'S ℄ int.

35
30
25

E/ 35.50
26+67

E/ 35.42
26+47.00

25+77.00

M H

H.C.s
Y's extending Northerly to be laid horizontal

8"
O.

E/ 27.50
25+77.00

302.00

27 26 25

TRACT

PERMIT No. 35323

Boundary of District

25+77.00 M.H.

25+28.9

24186.2

24135.2

111.32

154

6" H.C.'s as noted above

8" Y as noted above

3'6

4'+2"

8" Stub

2W

220t

300.36

25+13.1

24180.7

24129.8

COLLECT ORD. FRONTAGE CHARGE $3.00 PER FRONT FT.

Existing 12" Keystone Trunk Sewer - San. Dist No. 8

50'± MIN.

TRACT

Proposed Widening

MAIN ST.

Ord. No. 2047

Line of Ord. No. 2047

10" Cement Conc. Pav't.

Asphaltic Conc. Pav't.

10" Cement Conc. Pav't.

Proposed Widening Line Ord. No. 2047

FB1213 pg. 116

C.I. 1246-1-4

H.C.s extending northerly to be constructed with ¼" rise per foot to curb line.

Y's extending Northerly to be laid horizontal

8236

35:432, FB1213, pg. 106.
t. at ℄ int.
t. 11 E&2's ℄ int.

El. 35.50
26+57

El. 35.42
26+47.00

25+77.00

22+75.00

19+75.00

35

30

25

Grade of North & South

Surface Over Sewer

M H

M H

M H

8" VCP
0.32%

8" VCP
0.32%

8" VC
0.32

El. 27.50
25+77.00

El. 26.53
22+75.00

El. 25.57
19+75.00

27 26 25 302.00 24 23 22 300.00 21 20 19 18 35

ST.

TRACT

PERMIT No. 35323

Line Ord. No. 2047

(Boundary of District)

Proposed Widening Line

MAIN

10' Cement Conc. Pav't.

Asphaltic Conc. Pav't.

½ of St.

10' Cement Conc. Pav't.

111.32 287 154 50 132 132 132 127 2" Won Pl.

6" H.C's as noted above

8" Y as noted above

3'6

8" Stub

2-W

25+18.5 24+35.0 23+00.2 22+82.5 21+91.7 20+99.6 19+99.5 18+99.5

25+77.00 M H

24+86.2 24+35.2 23+90.1 23+18.3 22+82.7 22+19.5 21+19.4 20+46.8 19+89.7 19+45.3 19+75.00 M H 18+99.5 18+32.0

29

Sou. Calif. Gas Co.

22+75.00 M H

6" H.C. as noted above

8" Stub

22nd TH

1 of 8" VCP Sewer

8"x6" Y's

Rock & Oil Surface

Curb Line

8" W (Redwood)

Dominguez Wa

Curb Li

ST.

COLLECT ORD. FRONTAGE CHARGE $3.00 PER FRONT FT.

Existing 12" Keystone Trunk Sewer - San. Dist. No. 8

80 Rds MIN.

TRACT

300.36

25+18.1 24+80.7 24+29.8 23+80.0 23+29.7 22+85.0 22+30.9 21+80.0 21+31.2 GULF AVE. 20+80.3 20+29.2 19+87.2 19+70.0 57.05 60 18+66.6 18+16.3

28

Dominguez W

FB1213 pg. 116

FB1213 pg. 119-130

C.I 1246-1-3

Note correct form

C.I.Nº 1246

BM MM-26, Elev.-33.178, F.B. 1213, Pg. 107
220 th St. & Dolores St., N.E. cor.
L.S. Nº A.R.E. Tag (R.E. 5326) in S.W. cor. Conc. base to ho. # 309

8935

Grade of North & South Curbs

16+25.00 M.H.

El. 33.15
13+16.87

13+14.87 J.C.

El. 32.90
12+72.00

35 30

30 25

25 20

10+00.00 M.H.

8" V.C.P.
0.32%

El. 24.45
16+25.00

El. 23.56
8" Inlet on North
8" Inlet on South

El. 23.46
13+16.87

El. 23.36
13+12.87

El. 22.36
10+00.00

350.00 — 308.13 — 312.87

18 17 16 15 14 13 12 11 10

Nº 2982
M.B. 35-31

TRACT

Gen. Petro. Co

Line Ord No. 25127

Line Ord No. 25123

Line Ord No. 25122

8' Gas

St. of Cal.

8" W (Redwood)

Dominguez Water Co.

132

Curb Line

St.

220TH

6 HC's

2" Won PL

8" Stubs

8"x6" Ys

DOLORES

Proposed Widening

Proposed Widening
12+32.8
Sou. Co. of Cal. Gas Co.

Existing 8" V.C.R. Sewer C.I. 1365

Nº 2983
M.B. 35-31

TRACT

FB 1213 Pg. 116

-130

C.T 1246-1-2

H.C.S extending northerly to be constructed with 1/4" rise per foot to curb line

C.I. Nº 1246

8934

Grade of North & South Curbs

Surface Over Sewer

El. 31.00 9+20.00

10+00.00

6+50.00

El. 28.60 4+20.00

3+00.00

El. 29.20 0+40.00

30 25

25-20

20 15

M.H.

8"VCP 0.32%

El. 21.24 6+50.00

El. 20.12 3+00.00

El. 19.28 0+37.00

350.00

350.00

263.00

10 9 8 7 6 5 4 3 2 1

N

Nº 2982 M.B. 35-31

TRACT

Existing 8" V.C.P. Sewer P.C. 3931

SANITARY SEWER R/W

Dominguez Water Co. 2" Won Pl. (Abandoned) 07

Sou. Calif. Gas Co 12"

Curb Line

Rock & Oil Surface

8" V.C.P Sewer

"HCS"

ST.

22.0 M

KEPTUNE AVE.

RAVENNA AVE.

Existing 8" V.C.P. Sewer P.C. 3819

Nº 17001 M.B. 528-28

COLLECT ORD. FRONT. CHARGE $3.00 PER FRONT FOOT & $80.00 MINIMUM

POR. OF LOT 26 TRACT Nº 2982 MB 35-31

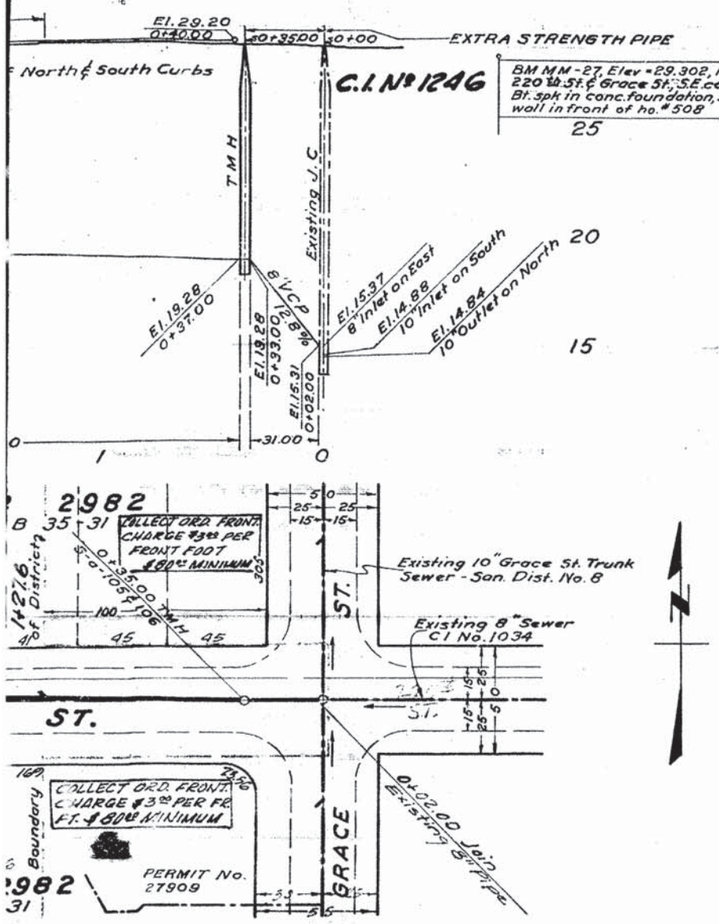
Boundary of District

PERMIT No. 27909

F B 1.213 pg. 131-144

Note Correct form →

Trim Line 7 C.I 1246-1-1



USE STANDARD STRENGTH PIPE EXCEPT AS NOTED
USE CEMENT MORTAR FOR ALL VITRIFIED CLAY PIPE JOINTS
TAGS AS SPECIFIED IN SECTION 48 OF THE SPECIFICATIONS SHALL BE OMITTED
CONSTRUCT HOUSE CONNECTIONS WITH INVERT AT CURB LINE 6 FEET BELOW CURB GRADE EXCEPT AS NOTED
ALL STRUCTURES SHALL BE BRICK SEWER STRUCTURES AS PER PLAN NO. S-a-104
USE STANDARD MANHOLE FRAMES AND COVERS AS PER PLAN NO. S-a-117
RESURFACE TRENCH WITHIN PAVED AREA WITH PREMIX ROCK AND OIL 3½" IN THICKNESS

COUNTY IMPROVEMENT NO. 1246

PROFILE, ALIGNMENT AND GRADE OF

SANITARY SEWERS

TO BE CONSTRUCTED IN

220TH STREET

BETWEEN GRACE ST. AND MAIN ST.

ONE SHEET

SCALE: VERT. 1"=10' HORIZ. 1"=40'

SEPTEMBER 1948

COUNTY OF LOS ANGELES, CALIFORNIA.

C. E. ARNOLD COUNTY ENGINEER

RECOMMENDED R.H. Gregory CHIEF DEPUTY APPROVED C.E. Arnold COUNTY ENGINEER

APPROVED AS TO FORM
H. W. KENNEDY
COUNTY COUNSEL
BY John D. Mahaffey DEPUTY

APPROVED Chief Engineer of County Sanitation District No 5

FOR LEGEND SEE PLAN NO. S-a-64

NOTE:
GRADES TO WHICH THIS IMPROVEMENT IS TO BE CONSTRUCTED ARE SHOWN ON PLANS AND PROFILES. GRADE POINTS FOR TOP OF CURB, CENTER LINE OF STREET OR CENTER LINE OF ALLEY ARE SHOWN BY CIRCLES ON PROFILES. AT ALL POINTS BETWEEN DESIGNATED POINTS THE GRADE SHALL BE ESTABLISHED SO AS TO CONFORM TO A STRAIGHT LINE DRAWN BETWEEN SAID DESIGNATED POINTS.
ELEVATIONS ARE IN FEET ABOVE U.S.G.S. DATUM OR MEAN SEA LEVEL.
UNIT PRICES FOR ADDITIONAL WORK WHICH MAY BE REQUIRED BUT WHICH CANNOT BE ASCERTAINED IN ADVANCE, SHALL BE SUBMITTED IN THE PROPOSAL.
THIS DRAWING AND THE DATA HEREON ARE HEREBY MADE A PART OF THE SPECIFICATIONS.

REFERENCES			
W. S. 28	DESIGNED	KUENZEL	AUG. 1948
A. B. 775	TRACED	KAWAKITA	AUG. 1948
F. B. 1213	CHECKED	SMELSER-MAGNESS	AUG. 1948

FB 1213 pg. 117
FB 1213, pg. 144

Undergrd checked 9-27-48 9-26-48

Trim Line

Appendix C

Noise

Noise Appendix

Field Noise Measurement Data Sheets

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: CAMBRA COURT - CANOGA | PROJECT #: 10029-07
SITE ID:
SITE ADDRESS:
OBSERVER(S): PETE VITAR
START DATE: 6/6/14 | END DATE: 6/6/14
START TIME: | END TIME:

METEOROLOGICAL CONDITIONS
TEMP: 69 F | HUMIDITY: 69 % R.H. | WIND: (CALM) LIGHT MODERATE
WINDSPD: MPH | DIR. N NE E SE S SW W NW | VARIABLE STEADY GUSTY
SKY: SUNNY CLEAR | OVRCAST | (PRTLY CLDY) | FOG | RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT: PICCOLO SLM-3 | TYPE 1 2 | SERIAL # 140317004
CALIBRATOR: B&W A CA 114 | SERIAL # 480151
CALIBRATION CHECK: PRE-TEST dBA SPL | POST-TEST dBA SPL | WINDSCRN YES

SETTINGS: A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
(ST1) 8-9	11:28	11:43	60.5	77.4	50.9				

COMMENTS
READING TAKEN IN FRONT OF 423 E. 220TH ST (RESIDENTIAL);
PRIMARY NOISE SOURCE IS TRAFFIC ON E. 220TH ST;

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT | DIST. TO RDWY C/L OR EOP: 29' FROM 220TH ST EOP
TRAFFIC COUNT DURATION: 15 MIN

COUNT 1 (OR RDWY 1)	DIRECTION	NB/EB	SB/WB	SPEED NB/EB	SPEED SB/WB
	AUTOS	76			
	MED TRKS	0			
	HVY TRKS	0			
	BUSES	0			
	MOTRCLS	0			

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ✓

COUNT 2 (OR RDWY 2)	MIN	NB/EB	SB/WB	SPEED NB/EB	SPEED SB/WB

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) (DISTD GARDENERS/LANDSCAPING NOISE)
OTHER: DISTANT CONSTRUCTION NOISE (PERIODIC HAMMERING);

DESCRIPTION / SKETCH
TERRAIN: HARD SOFT (MIXED) FLAT OTHER:
PHOTOS: 4766; 4767; 4768; 4769; 4770; 4771
OTHER COMMENTS / SKETCH

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT CAMBRIA COURT - CARSON PROJECT # 10029-07
SITE ID
SITE ADDRESS OBSERVER(S) PETE VITAR
START DATE 6/6/14 END DATE 6/6/14
START TIME END TIME

METEOROLOGICAL CONDITIONS
TEMP 71 F HUMIDITY 65 % R.H. WIND (CALM) LIGHT MODERATE
WINDSPD MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY
SKY SUNNY (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-3 TYPE 1 2 SERIAL # M0317004
CALIBRATOR BSWA CA 114 SERIAL # 480151
CALIBRATION CHECK PRE-TEST dBA SPL POST-TEST dBA SPL WINDSCRN YES

SETTINGS A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
(ST2) 10-11	11:54	12:10	58.9	78.5	52.0				

COMMENTS
READING TAKEN ALONGSIDE 405 E. 220TH ST (RESIDENTIAL), AT FRONT ~~[illegible]~~ OF HOME, ON ALLEY SIDE; PRIMARY NOISE SOURCE IS TRAFFIC ON E. 220TH ST.

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT DIST. TO RDWY C/L OR (EOP): 35' FROM EOP ON 220TH ST
TRAFFIC COUNT DURATION: 15 MIN SPEED ___ MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ✓	COUNT 2 (OR RDWY 2) NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	68								
MED TRKS	0								
HVY TRKS	0								
BUSES	0								
MOTRCLS	0								

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES (DIST. BARKING DOGS) (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) (DISTD GARDENERS/LANDSCAPING NOISE)
OTHER:

DESCRIPTION / SKETCH
TERRAIN HARD SOFT (MIXED) FLAT OTHER:
PHOTOS 4773; 4774; 4775; 4776; 4777; 4778;
OTHER COMMENTS / SKETCH

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT CAMBRIA COURT - CANSO | PROJECT # 10029-07
SITE ID
SITE ADDRESS | OBSERVER(S) PETE VITAR
START DATE 6/6/14 | END DATE 6/6/14
START TIME | END TIME

METEOROLOGICAL CONDITIONS
TEMP 71 F | HUMIDITY 65 % R.H. | WIND (CALM) LIGHT MODERATE
WINDSPD MPH | DIR. N NE E SE S SW W NW | VARIABLE STEADY GUSTY
SKY SUNNY (CLEAR) | OVRCAST PRTLY CLDY FOG | RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-3 | TYPE 1 2 | SERIAL # 140317004
CALIBRATOR BSWA CA 114 | SERIAL # 480151
CALIBRATION CHECK PRE-TEST dBA SPL | POST-TEST dBA SPL | WINDSCRN YES

SETTINGS A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

	REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
(ST3)	12-13	12:12	12:28	54.4	78.4	50.6				

COMMENTS
LEADING TAKEN AT BACK PROPERTY LINE OF 358 E. 219TH ST (RESIDENTIAL) IN ALLEY; PRIMARY NOISE SOURCE IS CARS USING ALLEY TO ACCESS RESIDENCE DRIVEWAYS (LESS THAN 10 CARS USED ALLEY); SECONDARY IS TRAFFIC ON E. 220TH ST (APX 300' TO EOP)

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER: APX 300' FROM EOP ON E. 220TH ST
ROADWAY TYPE: MIXED CONCRETE/~~ASPHALT~~ GRAVEL IN ALLEY | RDWY C/L OR (EOP)
TRAFFIC COUNT DURATION: — MIN SPEED — MIN SPEED

DIRECTION	COUNT 1 (OR RDWY 1) NB/EB	COUNT 1 (OR RDWY 1) SB/WB	COUNT 1 (OR RDWY 1) NB/EB	COUNT 1 (OR RDWY 1) SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE	COUNT 2 (OR RDWY 2) NB/EB	COUNT 2 (OR RDWY 2) SB/WB	COUNT 2 (OR RDWY 2) NB/EB	COUNT 2 (OR RDWY 2) SB/WB
AUTOS									
MED TRKS									
HVY TRKS									
BUSES									
MOTRCLS									

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING (DIST. TRAFFIC (LIST RDWYS BELOW)) (DIST'D GARDENERS/LANDSCAPING NOISE)
OTHER: TRAFFIC ON E. 220TH ST.; ~~HUMMING~~ BIRDS OCCASIONAL SOUND OF WIND CHIMES ON NEARBY HOME PORCHES

DESCRIPTION / SKETCH
TERRAIN HARD SOFT (MIXED) FLAT OTHER:
PHOTOS 4780; 4781; 4782; 4783; 4784;
OTHER COMMENTS / SKETCH

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT CAMBRIA COURT - CARSON PROJECT # 10029-07
SITE ID
SITE ADDRESS OBSERVER(S) PETE VITAR
START DATE 6/6/14 END DATE 6/6/14
START TIME END TIME

METEOROLOGICAL CONDITIONS
TEMP 71 F HUMIDITY 65 % R.H. WIND (CALM) LIGHT MODERATE
WINDSPD MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY
SKY SUNNY (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SCM-3 TYPE 1 2 SERIAL # 140317004
CALIBRATOR BSWA CA 114 SERIAL # 480151
CALIBRATION CHECK PRE-TEST dBA SPL POST-TEST dBA SPL WINDSCRN YES

SETTINGS A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

(ST4) REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
14-15	12:38	12:53	62.3	81.0	54.2				

COMMENTS
READING ~~TAKEN~~ ALONGSIDE 22003 RAVENNA AVE (RESIDENCE) ON E. 220TH ST SIDE; PRIMARY NOISE SOURCE IS TRAFFIC ON E. 220TH ST; METER APX 36 FROM RAVENNA AVE EOP;

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT DIST. TO RDWY C/L OR (EOP): 5' TO EOP ON E. 220TH ST

TRAFFIC COUNT DURATION: 15 MIN

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB SPEED	SB/WB SPEED
AUTOS	116			
MED TRKS	1			
HVY TRKS	0			
BUSES	0			
MOTRCLS	0			

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ✓

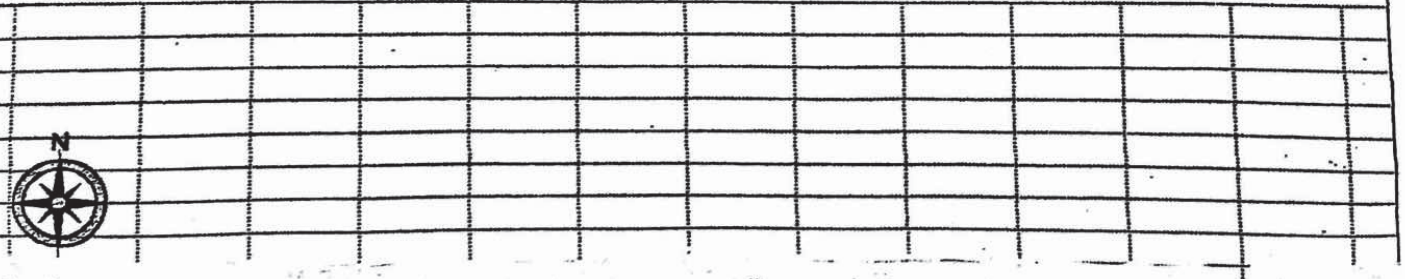
COUNT 2 (OR RDWY 2) ___ MIN

NB/EB	SB/WB	NB/EB SPEED	SB/WB SPEED

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES (DIST. BARKING DOGS) (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING (DIST. CONVRSTNS / YELLING) DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH
TERRAIN HARD SOFT (MIXED) FLAT OTHER:
PHOTOS 4786; 4787; 4788; 4789; 4790; 4791;
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT CAMBRIA COURT - CANOGA PROJECT # 10029-07
SITE ID
SITE ADDRESS OBSERVER(S) PETE VITAR
START DATE 6/6/14 END DATE 6/6/14
START TIME END TIME

METEOROLOGICAL CONDITIONS
TEMP 71 F HUMIDITY 65 % R.H. WIND (CALM) LIGHT MODERATE
WINDSPD MPH DIR. N NE E SE S SW W NW VARIABLE STEADY GUSTY
SKY SUNNY (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-3 TYPE 1 2 SERIAL # 1403170004
CALIBRATOR B&K CA 114 SERIAL # 480151
CALIBRATION CHECK PRE-TEST dBA SPL POST-TEST dBA SPL WINDSCRN YES

SETTINGS A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
(STS) 16-17	12:59	13:14	63.2	81.2	52.0				

COMMENTS
READING TAKEN IN FRONT OF 334 E. 220TH ST (RESIDENTIAL);
PRIMARY NOISE SOURCE IS TRAFFIC ON E. 220TH ST;

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT DIST. TO RDWY C/L OR (EOP): 22'

TRAFFIC COUNT DURATION: 15 MIN SPEED ___ MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ✓	COUNT 2 (OR RDWY 2) NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	103								
MED TRKS	1								
HVY TRKS	0								
BUSES	2								
MOTRCLS	0								

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES (DIST. BARKING DOGS) (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING (DIST. CONVRSTNS / YELLING) DIST. TRAFFIC (LIST RDWYS BELOW) (DIST'D GARDENERS/LANDSCAPING NOISE)
OTHER: DISTANT CONSTRUCTION NOISE (OCCASIONAL GRINDER NOISE DURING PART OF READING)

DESCRIPTION / SKETCH
TERRAIN HARD SOFT (MIXED) FLAT OTHER:
PHOTOS 4793; 4794; 4795; 4796; 4797
OTHER COMMENTS / SKETCH

Construction Noise Model Input / Output

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/27/2019
Case Description: Cambria Court Project - Demolition

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residence - Nearest	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	20	0
Excavator	No	40		80.7	30	0
Excavator	No	40		80.7	50	0
Excavator	No	40		80.7	200	0
Dozer	No	40		81.7	20	0
Dozer	No	40		81.7	50	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Day Lmax	Noise Limits (dBA) Day Leq	Evening Lmax	Evening Leq
Concrete Saw	97.5	90.5	N/A	N/A	N/A	N/A
Excavator	85.1	81.2	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A
Dozer	89.6	85.6	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A
Total	97.5	92.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residence - Typical	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	100	0
Excavator	No	40		80.7	100	0
Excavator	No	40		80.7	100	0
Excavator	No	40		80.7	100	0
Dozer	No	40		81.7	100	0

Dozer	No	40	81.7	100	0	

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A
Total	83.6	80.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/27/2019
Case Description: Cambria Court Project - Site Preparation

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Nearest	Residential	65	60	55

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dozer	No	40		81.7	20	0
Dozer	No	40		81.7	30	0
Dozer	No	40		81.7	200	0
Backhoe	No	40		77.6	30	0
Front End Loader	No	40		79.1	50	0
Tractor	No	40	84		200	0
Backhoe	No	40		77.6	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	89.6	85.6	N/A	N/A	N/A	N/A
Dozer	86.1	82.1	N/A	N/A	N/A	N/A
Dozer	69.6	65.6	N/A	N/A	N/A	N/A
Backhoe	82	78	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A
Tractor	72	68	N/A	N/A	N/A	N/A

Backhoe		77.6	73.6	N/A	N/A	N/A	N/A
	Total	89.6	88.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Typical	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	100	0
Dozer	No	40		81.7	100	0
Dozer	No	40		81.7	100	0
Backhoe	No	40		77.6	100	0
Front End Loader	No	40		79.1	100	0
Tractor	No	40	84		100	0
Backhoe	No	40		77.6	100	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		75.6	71.7	N/A	N/A	N/A	N/A
Dozer		75.6	71.7	N/A	N/A	N/A	N/A
Dozer		75.6	71.7	N/A	N/A	N/A	N/A
Backhoe		71.5	67.6	N/A	N/A	N/A	N/A
Front End Loader		73.1	69.1	N/A	N/A	N/A	N/A
Tractor		78	74	N/A	N/A	N/A	N/A
Backhoe		71.5	67.6	N/A	N/A	N/A	N/A
	Total	78	79.5	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/27/2019
Case Description: Cambria Court Project - Grading

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Nearest	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	20	0
Grader	No	40	85		30	0
Dozer	No	40		81.7	200	0
Backhoe	No	40		77.6	30	0
Front End Loader	No	40		79.1	50	0
Tractor	No	40	84		200	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	88.7	84.7	N/A	N/A	N/A	N/A
Grader	89.4	85.5	N/A	N/A	N/A	N/A
Dozer	69.6	65.6	N/A	N/A	N/A	N/A
Backhoe	82	78	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A
Tractor	72	68	N/A	N/A	N/A	N/A
Total	89.4	88.8	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residence - Typical	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	100	0
Grader	No	40	85		100	0
Dozer	No	40		81.7	100	0
Backhoe	No	40		77.6	100	0
Front End Loader	No	40		79.1	100	0
Tractor	No	40	84		100	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	74.7	70.7	N/A	N/A	N/A	N/A
Grader	79	75	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A

	Total	79	79.9	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/27/2019
Case Description: Cambria Court Project - Building Construction 1

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Nearest	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	20	0
Man Lift	No	20		74.7	30	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	30	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		200	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	200	0
Welder / Torch	No	40		74	50	0

			Results			
	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	88.5	80.6	N/A	N/A	N/A	N/A
Man Lift	79.1	72.1	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A
Man Lift	79.1	72.1	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A
Tractor	72	68	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A
Total	88.5	84.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night

Residence - Typical	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Generator	No	50		80.6	100	0
Tractor	No	40	84		100	0
Front End Loader	No	40		79.1	100	0
Backhoe	No	40		77.6	100	0
Welder / Torch	No	40		74	100	0

		Results				
	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	74.5	66.6	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A
Total	78	78.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/27/2019
Case Description: Cambria Court Project - Building Construction 2

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Nearest	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	20	0

Man Lift	No	20		74.7	30	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	30	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		200	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	200	0
Welder / Torch	No	40		74	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	88.5	80.6	N/A	N/A	N/A	N/A
Man Lift	79.1	72.1	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A
Man Lift	79.1	72.1	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A
Tractor	72	68	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A
Total	88.5	84.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Typical	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Generator	No	50		80.6	100	0
Tractor	No	40	84		100	0
Front End Loader	No	40		79.1	100	0
Backhoe	No	40		77.6	100	0
Welder / Torch	No	40		74	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	74.5	66.6	N/A	N/A	N/A	N/A

Man Lift		68.7	61.7	N/A	N/A	N/A	N/A
Man Lift		68.7	61.7	N/A	N/A	N/A	N/A
Man Lift		68.7	61.7	N/A	N/A	N/A	N/A
Generator		74.6	71.6	N/A	N/A	N/A	N/A
Tractor		78	74	N/A	N/A	N/A	N/A
Front End Loader		73.1	69.1	N/A	N/A	N/A	N/A
Backhoe		71.5	67.6	N/A	N/A	N/A	N/A
Welder / Torch		68	64	N/A	N/A	N/A	N/A
	Total	78	78.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/27/2019
Case Description: Cambria Court Project - Building Construction 3

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residence - Nearest	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	20	0
Man Lift	No	20		74.7	30	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	30	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		200	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	200	0
Welder / Torch	No	40		74	50	0

	Calculated (dBA)		Results	Noise Limits (dBA)		
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	88.5	80.6	N/A	N/A	N/A	N/A
Man Lift	79.1	72.1	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A
Man Lift	79.1	72.1	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A
Tractor	72	68	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A

Backhoe		65.5	61.5	N/A	N/A	N/A	N/A
Welder / Torch		74	70	N/A	N/A	N/A	N/A
	Total	88.5	84.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Typical	Residential	65	60	55

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Crane	No	16		80.6	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Generator	No	50		80.6	100	0
Tractor	No	40	84		100	0
Front End Loader	No	40		79.1	100	0
Backhoe	No	40		77.6	100	0
Welder / Torch	No	40		74	100	0

			Results			
	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	74.5	66.6	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A
Total	78	78.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 6/27/2019
Case Description: Cambria Court Project - Building Construction 4

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Nearest	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	20	0
Man Lift	No	20		74.7	30	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	30	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		200	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	200	0
Welder / Torch	No	40		74	50	0

		Results					
		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		88.5	80.6	N/A	N/A	N/A	N/A
Man Lift		79.1	72.1	N/A	N/A	N/A	N/A
Man Lift		62.7	55.7	N/A	N/A	N/A	N/A
Man Lift		79.1	72.1	N/A	N/A	N/A	N/A
Generator		80.6	77.6	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Front End Loader		79.1	75.1	N/A	N/A	N/A	N/A
Backhoe		65.5	61.5	N/A	N/A	N/A	N/A
Welder / Torch		74	70	N/A	N/A	N/A	N/A
	Total	88.5	84.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Typical	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Generator	No	50		80.6	100	0
Tractor	No	40	84		100	0

Front End Loader	No	40	79.1	100	0
Backhoe	No	40	77.6	100	0
Welder / Torch	No	40	74	100	0

			Results			
	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	74.5	66.6	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A
Total	78	78.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/27/2019
Case Description: Cambria Court Project - Paving

				---- Receptor #1 ----	
		Baselines (dBA)			
Description	Land Use	Daytime	Evening	Night	
Residence - Nearest	Residential	65	60	55	

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Concrete Mixer Truck	No	40		78.8	20	0
Concrete Mixer Truck	No	40		78.8	30	0
Paver	No	50		77.2	200	0
Pumps	No	50		80.9	30	0
Pumps	No	50		80.9	50	0
Roller	No	20		80	30	0
Roller	No	20		80	50	0
Backhoe	No	40		77.6	200	0

			Results			
	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	

Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck		86.8	82.8	N/A	N/A	N/A	N/A
Concrete Mixer Truck		83.2	79.3	N/A	N/A	N/A	N/A
Paver		65.2	62.2	N/A	N/A	N/A	N/A
Pumps		85.4	82.4	N/A	N/A	N/A	N/A
Pumps		80.9	77.9	N/A	N/A	N/A	N/A
Roller		84.4	77.4	N/A	N/A	N/A	N/A
Roller		80	73	N/A	N/A	N/A	N/A
Backhoe		65.5	61.5	N/A	N/A	N/A	N/A
	Total	86.8	87.7	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Typical	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	100	0
Concrete Mixer Truck	No	40		78.8	100	0
Paver	No	50		77.2	100	0
Pumps	No	50		80.9	100	0
Pumps	No	50		80.9	100	0
Roller	No	20		80	100	0
Roller	No	20		80	100	0
Backhoe	No	40		77.6	100	0

Results

		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck		72.8	68.8	N/A	N/A	N/A	N/A
Concrete Mixer Truck		72.8	68.8	N/A	N/A	N/A	N/A
Paver		71.2	68.2	N/A	N/A	N/A	N/A
Pumps		74.9	71.9	N/A	N/A	N/A	N/A
Pumps		74.9	71.9	N/A	N/A	N/A	N/A
Roller		74	67	N/A	N/A	N/A	N/A
Roller		74	67	N/A	N/A	N/A	N/A
Backhoe		71.5	67.6	N/A	N/A	N/A	N/A
	Total	74.9	78.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 6/27/2019
Case Description: Cambria Court Project - Architectural Coating

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Nearest	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	20	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	85.6	81.6	N/A	N/A	N/A	N/A
Total	85.6	81.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residence - Typical	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A
Total	71.6	67.7	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Traffic Noise Model Input / Output

Dudek					**10 July 2019**						
MG					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**10029.07**						**a State highway agency substantiates the use**				
RUN:	**Cambria Court Resi Carson - Existing**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Roadway1	12.0	point1	1	1,044.5	2,084.7	25.00				Average	
		point3	3	1,347.1	2,083.9	25.00					
Neptune Avenue	12.0	point36	36	2,141.9	1,508.0	25.00				Average	
		point25	25	2,138.6	2,084.8	25.00					
Roadway1-2-2-2-2	12.0	point38	38	2,399.5	1,511.3	25.00				Average	
		point27	27	2,403.0	1,651.1	25.00				Average	
		point28	28	2,433.9	1,759.6	25.00				Average	
		point29	29	2,427.2	1,848.9	25.00				Average	
		point30	30	2,385.2	1,944.7	25.00				Average	
		point31	31	2,381.2	2,085.0	25.00					
Roadway1-2-2-2-2-2-2	12.0	point40	40	2,674.9	1,519.5	25.00				Average	
		point33	33	2,666.2	2,087.2	25.00				Average	
		point34	34	2,672.4	2,620.5	25.00				Average	
		point2	2	2,672.4	2,879.2	25.00					
Roadway1-2-2	12.0	point42	42	1,348.5	1,541.4	25.00				Average	
		point21	21	1,350.2	2,077.9	25.00				Average	
		point22	22	1,350.2	2,498.9	25.00				Average	
		point23	23	1,347.5	2,950.8	25.00					
Roadway1-2-2	12.0	point44	44	1,034.2	2,503.2	25.00				Average	
		point12	12	1,348.4	2,504.8	25.00					
Roadway1-2-2-2	12.0	point45	45	1,352.4	2,505.0	25.00				Average	
		point13	13	1,407.5	2,523.4	25.00				Average	
		point14	14	1,716.5	2,538.0	25.00				Average	
		point15	15	2,023.8	2,548.4	25.00				Average	
		point16	16	2,329.4	2,548.4	25.00				Average	

Dudek **10 July 2019**

MG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Percentages

PROJECT/CONTRACT: **10029.07**

RUN: **Cambria Court Resi Carson - Existing**

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
Roadway1	point1	1	0	0	0	0	0	0	0	0	0	0	0
	point3	3											
Neptune Avenue	point36	36	0	0	0	0	0	0	0	0	0	0	0
	point25	25											
Roadway1-2-2-2-2	point38	38	0	0	0	0	0	0	0	0	0	0	0
	point27	27	0	0	0	0	0	0	0	0	0	0	0
	point28	28	0	0	0	0	0	0	0	0	0	0	0
	point29	29	0	0	0	0	0	0	0	0	0	0	0
	point30	30	0	0	0	0	0	0	0	0	0	0	0
	point31	31											
Roadway1-2-2-2-2-2-2	point40	40	0	0	0	0	0	0	0	0	0	0	0
	point33	33	0	0	0	0	0	0	0	0	0	0	0
	point34	34	0	0	0	0	0	0	0	0	0	0	0
	point2	2											
Roadway1-2-2	point42	42	0	0	0	0	0	0	0	0	0	0	0
	point21	21	0	0	0	0	0	0	0	0	0	0	0
	point22	22	0	0	0	0	0	0	0	0	0	0	0
	point23	23											
Roadway1-2-2	point44	44	0	0	0	0	0	0	0	0	0	0	0
	point12	12											
Roadway1-2-2-2	point45	45	400	97	30	2	30	1	30	0	0	0	0
	point13	13	400	97	30	2	30	1	30	0	0	0	0
	point14	14	400	97	30	2	30	1	30	0	0	0	0

	point15	15	400	97	30	2	30	1	30	0	0	0	0
	point16	16	400	97	30	2	30	1	30	0	0	0	0
	point17	17	400	97	30	2	30	1	30	0	0	0	0
	point18	18	400	97	30	2	30	1	30	0	0	0	0
	point19	19											
East 220th St - Dolores to Neptune	point46	46	498	97	30	2	30	1	30	0	0	0	0
	point4	4	498	97	30	2	30	1	30	0	0	0	0
	point5	5	498	97	30	2	30	1	30	0	0	0	0
	point6	6											
Roadway1-2-2	point47	47	0	0	0	0	0	0	0	0	0	0	0
	point10	10											
East 220th St - Neptune to Grace	point48	48	491	97	30	2	30	1	30	0	0	0	0
	point7	7	491	97	30	2	30	1	30	0	0	0	0
	point8	8	491	97	30	2	30	1	30	0	0	0	0
	point9	9											

Dudek						**10 July 2019**					
MG						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**10029.07**										
RUN:	**Cambria Court Resi Carson - Existing**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	2,189.5	2,136.5	25.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	1,994.8	2,128.9	25.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	1,982.8	2,414.3	25.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	2,309.8	2,062.1	25.00	5.00	0.00	66	10.0	8.0	Y
ST5	5	1	1,769.5	2,054.5	25.00	5.00	0.00	66	10.0	8.0	Y

Dudek 10 July 2019
MG TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Existing

Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per Unit Area	$ per Unit Vol.	Top Width	Run:Rise	$ per Unit Length			X	Y	Z	at Point	Seg Ht Incre-ment	Perturbs #Up	#Dn	On Struct?	Important Reflec-tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1-2-2	W	0.00	99.99	0.00				0.00	point86	86	2,446.9	1,929.9	25.00	5.00	0.00	0	0		
									point17	17	2,448.0	1,963.8	25.00	5.00	0.00	0	0		
									point18	18	2,472.1	1,964.9	25.00	5.00					
Barrier1-2-2-2-2	W	0.00	99.99	0.00				0.00	point99	99	2,465.5	1,853.3	25.00	5.00	0.00	0	0		
									point20	20	2,466.6	1,909.1	25.00	5.00	0.00	0	0		
									point21	21	2,481.9	1,906.9	25.00	5.00					

Dudek 10 July 2019
MG TNM 2.5

INPUT: BUILDING ROWS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - E

Building Row Name	Average Height	Building Percent	Points No.	Coordinates (ground) X	Y	Z
	ft	%		ft	ft	ft
Building1	12.00	80	1	1,013.9	2,554.4	25.00
			2	1,286.5	2,550.9	25.00
			3	1,289.9	2,830.4	25.00
Building2	12.00	80	4	1,392.3	2,703.6	25.00
			5	1,390.6	2,575.2	25.00
			6	1,996.5	2,583.9	25.00
			7	2,343.7	2,589.1	25.00
			8	2,510.4	2,653.3	25.00
			9	2,621.5	2,686.3	25.00
			10	2,619.8	2,856.4	25.00
Building4	12.00	80	14	1,038.2	2,465.8	25.00
			15	1,307.3	2,471.0	25.00
			16	1,307.3	2,132.5	25.00
			17	1,059.0	2,137.7	25.00
Building5	12.00	80	18	1,387.9	2,138.3	25.00
			19	1,375.3	2,420.7	25.00
			20	1,406.0	2,418.5	25.00
			21	1,402.7	2,486.3	25.00
			22	1,780.0	2,488.5	25.00
			23	1,985.6	2,504.9	25.00
			24	2,315.9	2,509.3	25.00
			25	2,404.5	2,510.3	25.00
			26	2,498.5	2,558.5	25.00
			27	2,636.3	2,584.7	25.00

			28	2,640.7	2,125.4	25.00
			29	2,226.2	2,129.7	25.00
			30	2,225.7	2,341.7	25.00
Building6	12.00	80	31	2,173.2	2,347.2	25.00
			32	2,174.3	2,137.2	25.00
			33	2,021.2	2,131.7	25.00
			34	2,014.6	2,406.2	25.00
Building7	12.00	80	35	1,954.4	2,411.7	25.00
			36	1,961.0	2,136.1	25.00
			37	1,388.9	2,138.3	25.00
Building8	12.00	80	38	3,053.8	2,478.0	25.00
			39	2,701.4	2,481.4	25.00
			40	2,701.4	2,806.1	25.00
Building10	12.00	80	45	3,024.3	2,394.6	25.00
			46	2,699.6	2,398.1	25.00
			47	2,704.9	2,142.9	25.00
			48	2,994.8	2,144.6	25.00
Building11	12.00	80	49	2,707.9	1,734.7	25.00
			50	2,701.0	2,048.9	25.00
			51	3,037.8	2,045.5	25.00
			52	3,046.0	1,590.7	25.00
Building12	12.00	80	53	2,350.3	1,835.7	25.00
			54	2,340.4	2,052.3	25.00
			55	2,173.1	2,056.6	25.00
			56	2,176.4	1,829.2	25.00
Building13	12.00	80	57	2,093.2	1,843.4	25.00
			58	2,088.9	2,043.5	25.00
			59	1,969.7	2,042.4	25.00
			60	1,969.7	2,020.5	25.00
			61	1,852.6	2,020.5	25.00
			62	1,855.9	1,836.8	25.00
Building14	12.00	80	63	1,812.2	1,839.0	25.00
			64	1,815.5	2,035.9	25.00
			65	1,376.9	2,030.4	25.00
			66	1,374.7	1,968.1	25.00
Building15	12.00	80	67	1,298.6	1,733.2	25.00

			68	1,302.1	2,042.2	25.00
			69	1,151.0	2,050.9	25.00

Dudek
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Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Existing
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	59.8	66	59.8	10	----	59.8	0.0	8	-8.0
ST2	2	1	0.0	60.9	66	60.9	10	----	60.9	0.0	8	-8.0
ST3	3	1	0.0	49.8	66	49.8	10	----	49.8	0.0	8	-8.0
ST4	4	1	0.0	62.4	66	62.4	10	----	62.4	0.0	8	-8.0
ST5	5	1	0.0	61.5	66	61.5	10	----	61.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	5	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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INPUT: ROADWAYS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Exist w Prj

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Roadway1	12.0	point1	1	1,044.5	2,084.7	25.00				Average	
		point3	3	1,347.1	2,083.9	25.00					
Roadway1-2-2	12.0	point36	36	2,141.9	1,508.0	25.00				Average	
		point25	25	2,138.6	2,084.8	25.00					
Roadway1-2-2-2-2	12.0	point38	38	2,399.5	1,511.3	25.00				Average	
		point27	27	2,403.0	1,651.1	25.00				Average	
		point28	28	2,433.9	1,759.6	25.00				Average	
		point29	29	2,427.2	1,848.9	25.00				Average	
		point30	30	2,385.2	1,944.7	25.00				Average	
		point31	31	2,381.2	2,085.0	25.00					
Roadway1-2-2-2-2-2-2	12.0	point40	40	2,674.9	1,519.5	25.00				Average	
		point33	33	2,666.2	2,087.2	25.00				Average	
		point34	34	2,672.4	2,620.5	25.00				Average	
		point2	2	2,672.4	2,879.2	25.00					
Roadway1-2-2	12.0	point42	42	1,348.5	1,541.4	25.00				Average	
		point21	21	1,350.2	2,077.9	25.00				Average	
		point22	22	1,350.2	2,498.9	25.00				Average	
		point23	23	1,347.5	2,950.8	25.00					
Roadway1-2-2	12.0	point44	44	1,034.2	2,503.2	25.00				Average	
		point12	12	1,348.4	2,504.8	25.00					
Roadway1-2-2-2	12.0	point45	45	1,352.4	2,505.0	25.00				Average	
		point13	13	1,407.5	2,523.4	25.00				Average	
		point14	14	1,716.5	2,538.0	25.00				Average	
		point15	15	2,023.8	2,548.4	25.00				Average	
		point16	16	2,329.4	2,548.4	25.00				Average	

		point17	17	2,391.2	2,568.3	25.00				Average	
		point18	18	2,531.7	2,623.0	25.00				Average	
		point19	19	2,669.2	2,628.2	25.00					
East 220th St - Dolores to Neptune	32.0	point46	46	1,355.3	2,083.9	25.00				Average	
		point4	4	1,833.6	2,088.2	25.00				Average	
		point5	5	2,000.2	2,090.8	25.00				Average	
		point6	6	2,140.1	2,088.7	25.00					
Roadway1-2-2	12.0	point47	47	2,674.8	2,091.5	25.00				Average	
		point10	10	3,065.4	2,095.0	25.00					
East 220th St - Neptune to Grace	32.0	point147	147	2,140.1	2,088.7	25.00				Average	
		point7	7	2,202.8	2,089.4	25.00				Average	
		point8	8	2,395.0	2,090.8	25.00				Average	
		point9	9	2,663.1	2,091.5	25.00					

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INPUT: TRAFFIC FOR LAeq1h Percentages
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Exist w Prj

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
Roadway1	point1	1	0	0	0	0	0	0	0	0	0	0	0
	point3	3											
Roadway1-2-2	point36	36	0	0	0	0	0	0	0	0	0	0	0
	point25	25											
Roadway1-2-2-2-2	point38	38	0	0	0	0	0	0	0	0	0	0	0
	point27	27	0	0	0	0	0	0	0	0	0	0	0
	point28	28	0	0	0	0	0	0	0	0	0	0	0
	point29	29	0	0	0	0	0	0	0	0	0	0	0
	point30	30	0	0	0	0	0	0	0	0	0	0	0
	point31	31											
Roadway1-2-2-2-2-2-2	point40	40	0	0	0	0	0	0	0	0	0	0	0
	point33	33	0	0	0	0	0	0	0	0	0	0	0
	point34	34	0	0	0	0	0	0	0	0	0	0	0
	point2	2											
Roadway1-2-2	point42	42	0	0	0	0	0	0	0	0	0	0	0
	point21	21	0	0	0	0	0	0	0	0	0	0	0
	point22	22	0	0	0	0	0	0	0	0	0	0	0
	point23	23											
Roadway1-2-2	point44	44	0	0	0	0	0	0	0	0	0	0	0
	point12	12											
Roadway1-2-2-2	point45	45	400	97	30	2	30	1	30	0	0	0	0
	point13	13	400	97	30	2	30	1	30	0	0	0	0
	point14	14	400	97	30	2	30	1	30	0	0	0	0

	point15	15	400	97	30	2	30	1	30	0	0	0	0
	point16	16	400	97	30	2	30	1	30	0	0	0	0
	point17	17	400	97	30	2	30	1	30	0	0	0	0
	point18	18	400	97	30	2	30	1	30	0	0	0	0
	point19	19											
East 220th St - Dolores to Neptune	point46	46	511	97	30	2	30	1	30	0	0	0	0
	point4	4	511	97	30	2	30	1	30	0	0	0	0
	point5	5	511	97	30	2	30	1	30	0	0	0	0
	point6	6											
Roadway1-2-2	point47	47	0	0	0	0	0	0	0	0	0	0	0
	point10	10											
East 220th St - Neptune to Grace	point147	147	508	97	30	2	30	1	30	0	0	0	0
	point7	7	508	97	30	2	30	1	30	0	0	0	0
	point8	8	508	97	30	2	30	1	30	0	0	0	0
	point9	9											

Dudek						**10 July 2019**					
MG						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**10029.07**										
RUN:	**Cambria Court Resi Carson - Exist w Prj**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	2,189.5	2,136.5	25.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	1,994.8	2,128.9	25.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	1,982.8	2,414.3	25.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	2,309.8	2,062.1	25.00	5.00	0.00	66	10.0	8.0	Y
ST5	5	1	1,769.5	2,054.5	25.00	5.00	0.00	66	10.0	8.0	Y

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INPUT: BARRIERS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Exist w Prj

Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per Unit Area	$ per Unit Vol.	Top Width	Run:Rise	$ per Unit Length			X	Y	Z	at Point	Seg Ht Incre-ment	Perturbs #Up	#Dn	On Struct?	Important Reflec-tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1-2-2	W	0.00	99.99	0.00				0.00	point86	86	2,446.9	1,929.9	25.00	5.00	0.00	0	0		
									point17	17	2,448.0	1,963.8	25.00	5.00	0.00	0	0		
									point18	18	2,472.1	1,964.9	25.00	5.00					
Barrier1-2-2-2-2	W	0.00	99.99	0.00				0.00	point99	99	2,465.5	1,853.3	25.00	5.00	0.00	0	0		
									point20	20	2,466.6	1,909.1	25.00	5.00	0.00	0	0		
									point21	21	2,481.9	1,906.9	25.00	5.00					
Barrier30	W	0.00	99.99	0.00				0.00	point100	100	2,084.2	2,178.1	25.00	15.00	0.00	0	0		
									point102	102	2,084.6	2,145.6	25.00	15.00	0.00	0	0		
									point103	103	2,118.9	2,145.2	25.00	15.00	0.00	0	0		
									point104	104	2,118.5	2,180.3	25.00	15.00					
Barrier30-2-2	W	0.00	99.99	0.00				0.00	point241	241	2,023.6	2,317.6	25.00	15.00	0.00	0	0		
									point134	134	2,024.0	2,281.5	25.00	15.00	0.00	0	0		
									point135	135	2,058.3	2,282.8	25.00	15.00	0.00	0	0		
									point136	136	2,058.3	2,317.6	25.00	15.00					
Barrier30-2-2	W	0.00	99.99	0.00				0.00	point243	243	2,083.7	2,227.2	25.00	15.00	0.00	0	0		
									point106	106	2,084.6	2,192.9	25.00	15.00	0.00	0	0		
									point107	107	2,118.1	2,192.0	25.00	15.00	0.00	0	0		
									point108	108	2,118.5	2,227.6	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point245	245	2,146.7	2,180.7	25.00	15.00	0.00	0	0		
									point110	110	2,147.1	2,145.2	25.00	15.00	0.00	0	0		
									point111	111	2,181.2	2,145.7	25.00	15.00					
Barrier30-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point246	246	2,181.2	2,145.7	25.00	15.00	0.00	0	0		
									point112	112	2,180.6	2,180.7	25.00	15.00					
Barrier30-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point247	247	2,204.9	2,180.7	25.00	15.00	0.00	0	0		
									point122	122	2,204.9	2,146.4	25.00	15.00	0.00	0	0		
									point123	123	2,239.1	2,146.4	25.00	15.00	0.00	0	0		
									point124	124	2,239.1	2,182.0	25.00	15.00					
Barrier30-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point250	250	2,146.3	2,227.2	25.00	15.00	0.00	0	0		
									point114	114	2,147.1	2,191.1	25.00	15.00	0.00	0	0		
									point115	115	2,180.1	2,192.0	25.00	15.00	0.00	0	0		
									point116	116	2,180.6	2,227.2	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point252	252	2,204.4	2,226.7	25.00	15.00	0.00	0	0		
									point118	118	2,205.3	2,191.1	25.00	15.00	0.00	0	0		
									point119	119	2,238.3	2,192.0	25.00	15.00	0.00	0	0		
									point120	120	2,238.7	2,227.2	25.00	15.00					

Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point256	256	2,277.1	2,227.1	25.00	15.00	0.00	0	0		
									point130	130	2,277.1	2,191.8	25.00	15.00	0.00	0	0		
									point131	131	2,311.9	2,191.3	25.00	15.00	0.00	0	0		
									point132	132	2,311.9	2,227.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point258	258	2,277.7	2,181.2	25.00	15.00	0.00	0	0		
									point126	126	2,277.7	2,145.3	25.00	15.00	0.00	0	0		
									point127	127	2,312.4	2,145.1	25.00	15.00	0.00	0	0		
									point128	128	2,312.1	2,180.6	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point260	260	1,810.0	2,316.7	25.00	15.00	0.00	0	0		
									point194	194	1,810.4	2,280.7	25.00	15.00	0.00	0	0		
									point195	195	1,844.3	2,281.1	25.00	15.00	0.00	0	0		
									point196	196	1,844.3	2,317.6	25.00	15.00					
Barrier31-2	W	0.00	99.99	0.00				0.00	point261	261	1,811.3	2,406.8	25.00	15.00	0.00	0	0		
									point202	202	1,811.8	2,370.7	25.00	15.00	0.00	0	0		
									point203	203	1,845.6	2,371.2	25.00	15.00	0.00	0	0		
									point204	204	1,845.6	2,407.6	25.00	15.00					
Barrier31-2-2-2	W	0.00	99.99	0.00				0.00	point263	263	1,872.2	2,315.8	25.00	15.00	0.00	0	0		
									point206	206	1,872.6	2,279.8	25.00	15.00	0.00	0	0		
									point207	207	1,906.5	2,280.2	25.00	15.00	0.00	0	0		
									point208	208	1,906.5	2,316.7	25.00	15.00					
Barrier30-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point265	265	1,810.9	2,360.2	25.00	15.00	0.00	0	0		
									point198	198	1,811.3	2,324.2	25.00	15.00	0.00	0	0		
									point101	101	1,845.2	2,324.6	25.00	15.00					
Barrier31-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point267	267	1,872.2	2,406.8	25.00	15.00	0.00	0	0		
									point214	214	1,872.6	2,370.7	25.00	15.00	0.00	0	0		
									point215	215	1,906.5	2,371.2	25.00	15.00	0.00	0	0		
									point216	216	1,906.5	2,407.6	25.00	15.00					
Barrier31-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point269	269	1,872.2	2,360.6	25.00	15.00	0.00	0	0		
									point210	210	1,872.6	2,324.6	25.00	15.00	0.00	0	0		
									point211	211	1,906.5	2,325.0	25.00	15.00	0.00	0	0		
									point212	212	1,906.5	2,361.5	25.00	15.00					
Barrier31-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point271	271	1,916.5	2,316.2	25.00	15.00	0.00	0	0		
									point218	218	1,917.0	2,280.2	25.00	15.00	0.00	0	0		
									point219	219	1,950.9	2,280.7	25.00	15.00	0.00	0	0		
									point220	220	1,950.9	2,317.1	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point273	273	1,918.3	2,406.8	25.00	15.00	0.00	0	0		
									point226	226	1,918.7	2,370.7	25.00	15.00	0.00	0	0		
									point227	227	1,952.6	2,371.2	25.00	15.00	0.00	0	0		
									point228	228	1,952.6	2,407.6	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point275	275	1,916.5	2,360.2	25.00	15.00	0.00	0	0		
									point222	222	1,917.0	2,324.2	25.00	15.00	0.00	0	0		
									point223	223	1,950.9	2,324.6	25.00	15.00	0.00	0	0		
									point224	224	1,950.9	2,361.1	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point277	277	1,979.2	2,315.8	25.00	15.00	0.00	0	0		
									point230	230	1,979.6	2,279.8	25.00	15.00	0.00	0	0		
									point231	231	2,013.5	2,280.2	25.00	15.00	0.00	0	0		
									point232	232	2,013.5	2,316.7	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point279	279	1,980.0	2,406.3	25.00	15.00	0.00	0	0		
									point238	238	1,980.5	2,370.3	25.00	15.00	0.00	0	0		

									point239	239	2,014.3	2,370.7	25.00	15.00	0.00	0	0		
									point200	200	2,014.3	2,407.2	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point281	281	1,979.2	2,361.5	25.00	15.00	0.00	0	0		
									point234	234	1,979.6	2,325.5	25.00	15.00	0.00	0	0		
									point235	235	2,013.5	2,325.9	25.00	15.00	0.00	0	0		
									point236	236	2,013.5	2,362.4	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point283	283	2,024.9	2,407.6	25.00	15.00	0.00	0	0		
									point142	142	2,025.3	2,371.6	25.00	15.00	0.00	0	0		
									point143	143	2,059.6	2,372.9	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point285	285	2,023.6	2,361.9	25.00	15.00	0.00	0	0		
									point138	138	2,024.0	2,325.9	25.00	15.00	0.00	0	0		
									point139	139	2,058.3	2,327.2	25.00	15.00	0.00	0	0		
									point140	140	2,058.3	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point287	287	2,059.6	2,372.9	25.00	15.00	0.00	0	0		
									point144	144	2,059.6	2,407.6	25.00	15.00					
Barrier30-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point288	288	2,085.3	2,317.1	25.00	15.00	0.00	0	0		
									point146	146	2,085.8	2,281.1	25.00	15.00	0.00	0	0		
									point147	147	2,120.1	2,282.4	25.00	15.00	0.00	0	0		
									point148	148	2,120.1	2,317.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point290	290	2,085.8	2,408.0	25.00	15.00	0.00	0	0		
									point154	154	2,086.2	2,372.0	25.00	15.00	0.00	0	0		
									point155	155	2,120.5	2,373.3	25.00	15.00	0.00	0	0		
									point156	156	2,120.5	2,408.0	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point292	292	2,085.3	2,362.4	25.00	15.00	0.00	0	0		
									point150	150	2,085.8	2,326.3	25.00	15.00	0.00	0	0		
									point151	151	2,120.1	2,327.7	25.00	15.00	0.00	0	0		
									point152	152	2,120.1	2,362.4	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point294	294	2,131.4	2,407.2	25.00	15.00	0.00	0	0		
									point166	166	2,131.9	2,371.2	25.00	15.00	0.00	0	0		
									point167	167	2,166.1	2,372.4	25.00	15.00	0.00	0	0		
									point168	168	2,166.1	2,407.2	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point297	297	2,130.6	2,318.0	25.00	15.00	0.00	0	0		
									point158	158	2,131.0	2,282.0	25.00	15.00	0.00	0	0		
									point159	159	2,165.3	2,283.3	25.00	15.00	0.00	0	0		
									point160	160	2,165.3	2,318.0	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point298	298	2,130.6	2,361.9	25.00	15.00	0.00	0	0		
									point162	162	2,131.0	2,325.9	25.00	15.00	0.00	0	0		
									point163	163	2,165.3	2,327.2	25.00	15.00	0.00	0	0		
									point164	164	2,165.3	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point300	300	2,191.4	2,317.1	25.00	15.00	0.00	0	0		
									point170	170	2,191.9	2,281.1	25.00	15.00	0.00	0	0		
									point171	171	2,226.2	2,282.4	25.00	15.00	0.00	0	0		
									point172	172	2,226.2	2,317.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point302	302	2,192.8	2,361.9	25.00	15.00	0.00	0	0		
									point174	174	2,193.2	2,325.9	25.00	15.00	0.00	0	0		
									point175	175	2,227.5	2,327.2	25.00	15.00	0.00	0	0		
									point176	176	2,227.5	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point303	303	2,191.9	2,407.6	25.00	15.00	0.00	0	0		
									point178	178	2,192.3	2,371.6	25.00	15.00	0.00	0	0		

									point179	179	2,226.6	2,372.9	25.00	15.00	0.00	0	0		
									point180	180	2,226.6	2,407.6	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point306	306	2,237.1	2,317.1	25.00	15.00	0.00	0	0		
									point182	182	2,237.5	2,281.1	25.00	15.00	0.00	0	0		
									point183	183	2,271.9	2,282.4	25.00	15.00	0.00	0	0		
									point184	184	2,271.9	2,317.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point308	308	2,238.4	2,361.9	25.00	15.00	0.00	0	0		
									point186	186	2,238.9	2,325.9	25.00	15.00	0.00	0	0		
									point187	187	2,273.1	2,327.2	25.00	15.00	0.00	0	0		
									point188	188	2,273.1	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point310	310	2,238.4	2,407.6	25.00	15.00	0.00	0	0		
									point190	190	2,238.9	2,371.6	25.00	15.00	0.00	0	0		
									point191	191	2,273.1	2,372.9	25.00	15.00	0.00	0	0		
									point192	192	2,273.1	2,407.6	25.00	15.00					
Barrier103	W	0.00	99.99	0.00				0.00	point311	311	2,084.4	2,144.8	25.00	3.50	0.00	0	0		
									point313	313	2,084.4	2,130.9	25.00	3.50	0.00	0	0		
									point314	314	2,109.9	2,131.3	25.00	3.50	0.00	0	0		
									point315	315	2,109.5	2,144.4	25.00	3.50					
Barrier103-2	W	0.00	99.99	0.00				0.00	point348	348	1,979.9	2,144.8	25.00	6.00	0.00	0	0		
									point341	341	2,005.3	2,145.2	25.00	6.00					
Barrier103-2-2	W	0.00	99.99	0.00				0.00	point349	349	2,005.3	2,145.2	25.00	6.00	0.00	0	0		
									point342	342	2,004.9	2,200.0	25.00	6.00	0.00	0	0		
									point343	343	2,072.4	2,199.7	25.00	6.00	0.00	0	0		
									point344	344	2,072.8	2,144.9	25.00	6.00	0.00	0	0		
									point345	345	2,073.4	2,145.2	25.00	6.00	0.00	0	0		
									point346	346	2,084.4	2,145.2	25.00	6.00					
Barrier103-2	W	0.00	99.99	0.00				0.00	point352	352	2,109.5	2,144.4	25.00	6.00	0.00	0	0		
									point316	316	2,155.5	2,144.6	25.00	6.00					
Barrier103-2-2	W	0.00	99.99	0.00				0.00	point353	353	2,155.5	2,144.6	25.00	3.50	0.00	0	0		
									point317	317	2,155.5	2,131.0	25.00	3.50	0.00	0	0		
									point318	318	2,180.6	2,131.1	25.00	3.50	0.00	0	0		
									point319	319	2,180.3	2,145.2	25.00	3.50					
Barrier103-2-2-2	W	0.00	99.99	0.00				0.00	point354	354	2,180.3	2,145.2	25.00	6.00	0.00	0	0		
									point320	320	2,205.8	2,146.0	25.00	6.00					
Barrier103-2-2-2-2	W	0.00	99.99	0.00				0.00	point355	355	2,205.8	2,146.0	25.00	3.50	0.00	0	0		
									point321	321	2,206.2	2,131.4	25.00	3.50	0.00	0	0		
									point322	322	2,230.0	2,131.1	25.00	3.50	0.00	0	0		
									point323	323	2,230.1	2,145.7	25.00	3.50					
Barrier103-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point356	356	2,230.1	2,145.7	25.00	6.00	0.00	0	0		
									point324	324	2,286.3	2,144.5	25.00	6.00					
Barrier103-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point357	357	2,286.3	2,144.5	25.00	3.50	0.00	0	0		
									point325	325	2,286.4	2,131.5	25.00	3.50	0.00	0	0		
									point326	326	2,310.7	2,132.0	25.00	3.50	0.00	0	0		
									point327	327	2,310.7	2,145.0	25.00	3.50					
Barrier103-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point358	358	2,310.7	2,145.0	25.00	6.00	0.00	0	0		
									point329	329	2,324.3	2,144.1	25.00	6.00	0.00	0	0		
									point330	330	2,322.4	2,423.5	25.00	6.00	0.00	0	0		
									point331	331	1,799.8	2,420.9	25.00	6.00	0.00	0	0		
									point332	332	1,801.1	2,281.1	25.00	6.00	0.00	0	0		

									point333	333	1,800.3	2,280.7	25.00	6.00	0.00	0	0		
									point334	334	1,800.3	2,247.5	25.00	6.00	0.00	0	0		
									point335	335	1,842.4	2,247.2	25.00	6.00	0.00	0	0		
									point336	336	1,842.4	2,232.5	25.00	6.00	0.00	0	0		
									point337	337	1,883.6	2,232.5	25.00	6.00	0.00	0	0		
									point338	338	1,883.9	2,221.4	25.00	6.00	0.00	0	0		
									point339	339	1,980.2	2,222.3	25.00	6.00	0.00	0	0		
									point340	340	1,979.9	2,144.8	25.00	6.00					

Dudek 10 July 2019
MG TNM 2.5

INPUT: BUILDING ROWS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - E

Building Row Name	Average Height	Building Percent	Points No.	Coordinates (ground) X	Y	Z
	ft	%		ft	ft	ft
Building1	12.00	80	1	1,013.9	2,554.4	25.00
			2	1,286.5	2,550.9	25.00
			3	1,289.9	2,830.4	25.00
Building2	12.00	80	4	1,392.3	2,703.6	25.00
			5	1,390.6	2,575.2	25.00
			6	1,996.5	2,583.9	25.00
			7	2,343.7	2,589.1	25.00
			8	2,510.4	2,653.3	25.00
			9	2,621.5	2,686.3	25.00
			10	2,619.8	2,856.4	25.00
Building4	12.00	80	14	1,038.2	2,465.8	25.00
			15	1,307.3	2,471.0	25.00
			16	1,307.3	2,132.5	25.00
			17	1,059.0	2,137.7	25.00
Building5	12.00	80	18	1,387.9	2,138.3	25.00
			19	1,375.3	2,420.7	25.00
			20	1,406.0	2,418.5	25.00
			21	1,402.7	2,486.3	25.00
			22	1,780.0	2,488.5	25.00
			23	1,985.6	2,504.9	25.00
			24	2,315.9	2,509.3	25.00
			25	2,404.5	2,510.3	25.00
			26	2,498.5	2,558.5	25.00
			27	2,636.3	2,584.7	25.00

			28	2,640.7	2,125.4	25.00
			29	2,343.0	2,128.3	25.00
Building8	12.00	80	38	3,053.8	2,478.0	25.00
			39	2,701.4	2,481.4	25.00
			40	2,701.4	2,806.1	25.00
Building10	12.00	80	45	3,024.3	2,394.6	25.00
			46	2,699.6	2,398.1	25.00
			47	2,704.9	2,142.9	25.00
			48	2,994.8	2,144.6	25.00
Building11	12.00	80	49	2,707.9	1,734.7	25.00
			50	2,701.0	2,048.9	25.00
			51	3,037.8	2,045.5	25.00
			52	3,046.0	1,590.7	25.00
Building12	12.00	80	53	2,350.3	1,835.7	25.00
			54	2,340.4	2,052.3	25.00
			55	2,173.1	2,056.6	25.00
			56	2,176.4	1,829.2	25.00
Building13	12.00	80	57	2,093.2	1,843.4	25.00
			58	2,088.9	2,043.5	25.00
			59	1,969.7	2,042.4	25.00
			60	1,969.7	2,020.5	25.00
			61	1,852.6	2,020.5	25.00
			62	1,855.9	1,836.8	25.00
Building14	12.00	80	63	1,812.2	1,839.0	25.00
			64	1,815.5	2,035.9	25.00
			65	1,376.9	2,030.4	25.00
			66	1,374.7	1,968.1	25.00
Building15	12.00	80	67	1,298.6	1,733.2	25.00
			68	1,302.1	2,042.2	25.00
			69	1,151.0	2,050.9	25.00
Building7-2	12.00	80	70	1,961.0	2,136.1	25.00
			37	1,388.9	2,138.3	25.00

Dudek
MG
10 July 2019
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Exist w Prj
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	60.0	66	60.0	10	----	60.0	0.0	8	-8.0
ST2	2	1	0.0	61.0	66	61.0	10	----	61.0	0.0	8	-8.0
ST3	3	1	0.0	43.0	66	43.0	10	----	43.0	0.0	8	-8.0
ST4	4	1	0.0	62.4	66	62.4	10	----	62.4	0.0	8	-8.0
ST5	5	1	0.0	61.6	66	61.6	10	----	61.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	5	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek					**10 July 2019**						
MG					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**10029.07**						**a State highway agency substantiates the use**				
RUN:	**Cambria Court Resi Carson - Future**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Roadway1	12.0	point1	1	1,044.5	2,084.7	25.00				Average	
		point3	3	1,347.1	2,083.9	25.00					
Neptune Avenue	12.0	point36	36	2,141.9	1,508.0	25.00				Average	
		point25	25	2,138.6	2,084.8	25.00					
Roadway1-2-2-2-2	12.0	point38	38	2,399.5	1,511.3	25.00				Average	
		point27	27	2,403.0	1,651.1	25.00				Average	
		point28	28	2,433.9	1,759.6	25.00				Average	
		point29	29	2,427.2	1,848.9	25.00				Average	
		point30	30	2,385.2	1,944.7	25.00				Average	
		point31	31	2,381.2	2,085.0	25.00					
Roadway1-2-2-2-2-2-2	12.0	point40	40	2,674.9	1,519.5	25.00				Average	
		point33	33	2,666.2	2,087.2	25.00				Average	
		point34	34	2,672.4	2,620.5	25.00				Average	
		point2	2	2,672.4	2,879.2	25.00					
Roadway1-2-2	12.0	point42	42	1,348.5	1,541.4	25.00				Average	
		point21	21	1,350.2	2,077.9	25.00				Average	
		point22	22	1,350.2	2,498.9	25.00				Average	
		point23	23	1,347.5	2,950.8	25.00					
Roadway1-2-2	12.0	point44	44	1,034.2	2,503.2	25.00				Average	
		point12	12	1,348.4	2,504.8	25.00					
Roadway1-2-2-2	12.0	point45	45	1,352.4	2,505.0	25.00				Average	
		point13	13	1,407.5	2,523.4	25.00				Average	
		point14	14	1,716.5	2,538.0	25.00				Average	
		point15	15	2,023.8	2,548.4	25.00				Average	
		point16	16	2,329.4	2,548.4	25.00				Average	

		point17	17	2,391.2	2,568.3	25.00				Average	
		point18	18	2,531.7	2,623.0	25.00				Average	
		point19	19	2,669.2	2,628.2	25.00					
East 220th St - Dolores to Neptune	32.0	point46	46	1,355.3	2,083.9	25.00				Average	
		point4	4	1,833.6	2,088.2	25.00				Average	
		point5	5	2,000.2	2,090.8	25.00				Average	
		point6	6	2,140.1	2,088.7	25.00					
Roadway1-2-2	12.0	point47	47	2,674.8	2,091.5	25.00				Average	
		point10	10	3,065.4	2,095.0	25.00					
East 220th St - Neptune to Grace	32.0	point48	48	2,140.1	2,088.7	25.00				Average	
		point7	7	2,202.8	2,089.4	25.00				Average	
		point8	8	2,395.0	2,090.8	25.00				Average	
		point9	9	2,663.1	2,091.5	25.00					

Dudek **10 July 2019**

MG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Percentages

PROJECT/CONTRACT: **10029.07**

RUN: **Cambria Court Resi Carson - Future**

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
Roadway1	point1	1	0	0	0	0	0	0	0	0	0	0	0
	point3	3											
Neptune Avenue	point36	36	0	0	0	0	0	0	0	0	0	0	0
	point25	25											
Roadway1-2-2-2-2	point38	38	0	0	0	0	0	0	0	0	0	0	0
	point27	27	0	0	0	0	0	0	0	0	0	0	0
	point28	28	0	0	0	0	0	0	0	0	0	0	0
	point29	29	0	0	0	0	0	0	0	0	0	0	0
	point30	30	0	0	0	0	0	0	0	0	0	0	0
	point31	31											
Roadway1-2-2-2-2-2-2	point40	40	0	0	0	0	0	0	0	0	0	0	0
	point33	33	0	0	0	0	0	0	0	0	0	0	0
	point34	34	0	0	0	0	0	0	0	0	0	0	0
	point2	2											
Roadway1-2-2	point42	42	0	0	0	0	0	0	0	0	0	0	0
	point21	21	0	0	0	0	0	0	0	0	0	0	0
	point22	22	0	0	0	0	0	0	0	0	0	0	0
	point23	23											
Roadway1-2-2	point44	44	0	0	0	0	0	0	0	0	0	0	0
	point12	12											
Roadway1-2-2-2	point45	45	400	97	30	2	30	1	30	0	0	0	0
	point13	13	400	97	30	2	30	1	30	0	0	0	0
	point14	14	400	97	30	2	30	1	30	0	0	0	0

	point15	15	400	97	30	2	30	1	30	0	0	0	0
	point16	16	400	97	30	2	30	1	30	0	0	0	0
	point17	17	400	97	30	2	30	1	30	0	0	0	0
	point18	18	400	97	30	2	30	1	30	0	0	0	0
	point19	19											
East 220th St - Dolores to Neptune	point46	46	534	97	30	2	30	1	30	0	0	0	0
	point4	4	534	97	30	2	30	1	30	0	0	0	0
	point5	5	534	97	30	2	30	1	30	0	0	0	0
	point6	6											
Roadway1-2-2	point47	47	0	0	0	0	0	0	0	0	0	0	0
	point10	10											
East 220th St - Neptune to Grace	point48	48	526	97	30	2	30	1	30	0	0	0	0
	point7	7	526	97	30	2	30	1	30	0	0	0	0
	point8	8	526	97	30	2	30	1	30	0	0	0	0
	point9	9											

Dudek						**10 July 2019**					
MG						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**10029.07**										
RUN:	**Cambria Court Resi Carson - Future**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	2,189.5	2,136.5	25.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	1,994.8	2,128.9	25.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	1,982.8	2,414.3	25.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	2,309.8	2,062.1	25.00	5.00	0.00	66	10.0	8.0	Y
ST5	5	1	1,769.5	2,054.5	25.00	5.00	0.00	66	10.0	8.0	Y

Dudek 10 July 2019
MG TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Future

Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per Unit Area	$ per Unit Vol.	Top Width	Run:Rise	$ per Unit Length			X	Y	Z	at Point	Seg Ht Increment	#Up	#Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1-2-2	W	0.00	99.99	0.00				0.00	point86	86	2,446.9	1,929.9	25.00	5.00	0.00	0	0		
									point17	17	2,448.0	1,963.8	25.00	5.00	0.00	0	0		
									point18	18	2,472.1	1,964.9	25.00	5.00					
Barrier1-2-2-2-2	W	0.00	99.99	0.00				0.00	point99	99	2,465.5	1,853.3	25.00	5.00	0.00	0	0		
									point20	20	2,466.6	1,909.1	25.00	5.00	0.00	0	0		
									point21	21	2,481.9	1,906.9	25.00	5.00					

Dudek					**10 July 2019**	
MG					**TNM 2.5**	
INPUT: BUILDING ROWS						
PROJECT/CONTRACT:	**10029.07**					
RUN:	**Cambria Court Resi Carson - F**					
Building Row			**Points**			
Name	**Average**	**Building**	**No.**	**Coordinates (ground)**		
	Height	**Percent**		**X**	**Y**	**Z**
	ft	%		ft	ft	ft
Building1	12.00	80	1	1,013.9	2,554.4	25.00
			2	1,286.5	2,550.9	25.00
			3	1,289.9	2,830.4	25.00
Building2	12.00	80	4	1,392.3	2,703.6	25.00
			5	1,390.6	2,575.2	25.00
			6	1,996.5	2,583.9	25.00
			7	2,343.7	2,589.1	25.00
			8	2,510.4	2,653.3	25.00
			9	2,621.5	2,686.3	25.00
			10	2,619.8	2,856.4	25.00
Building4	12.00	80	14	1,038.2	2,465.8	25.00
			15	1,307.3	2,471.0	25.00
			16	1,307.3	2,132.5	25.00
			17	1,059.0	2,137.7	25.00
Building5	12.00	80	18	1,387.9	2,138.3	25.00
			19	1,375.3	2,420.7	25.00
			20	1,406.0	2,418.5	25.00
			21	1,402.7	2,486.3	25.00
			22	1,780.0	2,488.5	25.00
			23	1,985.6	2,504.9	25.00
			24	2,315.9	2,509.3	25.00
			25	2,404.5	2,510.3	25.00
			26	2,498.5	2,558.5	25.00
			27	2,636.3	2,584.7	25.00

			28	2,640.7	2,125.4	25.00
			29	2,226.2	2,129.7	25.00
			30	2,225.7	2,341.7	25.00
Building6	12.00	80	31	2,173.2	2,347.2	25.00
			32	2,174.3	2,137.2	25.00
			33	2,021.2	2,131.7	25.00
			34	2,014.6	2,406.2	25.00
Building7	12.00	80	35	1,954.4	2,411.7	25.00
			36	1,961.0	2,136.1	25.00
			37	1,388.9	2,138.3	25.00
Building8	12.00	80	38	3,053.8	2,478.0	25.00
			39	2,701.4	2,481.4	25.00
			40	2,701.4	2,806.1	25.00
Building10	12.00	80	45	3,024.3	2,394.6	25.00
			46	2,699.6	2,398.1	25.00
			47	2,704.9	2,142.9	25.00
			48	2,994.8	2,144.6	25.00
Building11	12.00	80	49	2,707.9	1,734.7	25.00
			50	2,701.0	2,048.9	25.00
			51	3,037.8	2,045.5	25.00
			52	3,046.0	1,590.7	25.00
Building12	12.00	80	53	2,350.3	1,835.7	25.00
			54	2,340.4	2,052.3	25.00
			55	2,173.1	2,056.6	25.00
			56	2,176.4	1,829.2	25.00
Building13	12.00	80	57	2,093.2	1,843.4	25.00
			58	2,088.9	2,043.5	25.00
			59	1,969.7	2,042.4	25.00
			60	1,969.7	2,020.5	25.00
			61	1,852.6	2,020.5	25.00
			62	1,855.9	1,836.8	25.00
Building14	12.00	80	63	1,812.2	1,839.0	25.00
			64	1,815.5	2,035.9	25.00
			65	1,376.9	2,030.4	25.00
			66	1,374.7	1,968.1	25.00
Building15	12.00	80	67	1,298.6	1,733.2	25.00

			68	1,302.1	2,042.2	25.00
			69	1,151.0	2,050.9	25.00

Dudek
MG
10 July 2019
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Future
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	60.1	66	60.1	10	----	60.1	0.0	8	-8.0
ST2	2	1	0.0	61.2	66	61.2	10	----	61.2	0.0	8	-8.0
ST3	3	1	0.0	49.8	66	49.8	10	----	49.8	0.0	8	-8.0
ST4	4	1	0.0	62.6	66	62.6	10	----	62.6	0.0	8	-8.0
ST5	5	1	0.0	61.8	66	61.8	10	----	61.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	5	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek					**10 July 2019**						
MG					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**10029.07**						**a State highway agency substantiates the use**				
RUN:	**Cambria Court Resi Carson - Fut w Prj**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Roadway1	12.0	point1	1	1,044.5	2,084.7	25.00				Average	
		point3	3	1,347.1	2,083.9	25.00					
Roadway1-2-2	12.0	point36	36	2,141.9	1,508.0	25.00				Average	
		point25	25	2,138.6	2,084.8	25.00					
Roadway1-2-2-2-2	12.0	point38	38	2,399.5	1,511.3	25.00				Average	
		point27	27	2,403.0	1,651.1	25.00				Average	
		point28	28	2,433.9	1,759.6	25.00				Average	
		point29	29	2,427.2	1,848.9	25.00				Average	
		point30	30	2,385.2	1,944.7	25.00				Average	
		point31	31	2,381.2	2,085.0	25.00					
Roadway1-2-2-2-2-2-2	12.0	point40	40	2,674.9	1,519.5	25.00				Average	
		point33	33	2,666.2	2,087.2	25.00				Average	
		point34	34	2,672.4	2,620.5	25.00				Average	
		point2	2	2,672.4	2,879.2	25.00					
Roadway1-2-2	12.0	point42	42	1,348.5	1,541.4	25.00				Average	
		point21	21	1,350.2	2,077.9	25.00				Average	
		point22	22	1,350.2	2,498.9	25.00				Average	
		point23	23	1,347.5	2,950.8	25.00					
Roadway1-2-2	12.0	point44	44	1,034.2	2,503.2	25.00				Average	
		point12	12	1,348.4	2,504.8	25.00					
Roadway1-2-2-2	12.0	point45	45	1,352.4	2,505.0	25.00				Average	
		point13	13	1,407.5	2,523.4	25.00				Average	
		point14	14	1,716.5	2,538.0	25.00				Average	
		point15	15	2,023.8	2,548.4	25.00				Average	
		point16	16	2,329.4	2,548.4	25.00				Average	

		point17	17	2,391.2	2,568.3	25.00				Average	
		point18	18	2,531.7	2,623.0	25.00				Average	
		point19	19	2,669.2	2,628.2	25.00					
East 220th St - Dolores to Neptune	32.0	point46	46	1,355.3	2,083.9	25.00				Average	
		point4	4	1,833.6	2,088.2	25.00				Average	
		point5	5	2,000.2	2,090.8	25.00				Average	
		point6	6	2,140.1	2,088.7	25.00					
Roadway1-2-2	12.0	point47	47	2,674.8	2,091.5	25.00				Average	
		point10	10	3,065.4	2,095.0	25.00					
East 220th St - Neptune to Grace	32.0	point147	147	2,140.1	2,088.7	25.00				Average	
		point7	7	2,202.8	2,089.4	25.00				Average	
		point8	8	2,395.0	2,090.8	25.00				Average	
		point9	9	2,663.1	2,091.5	25.00					

Dudek **10 July 2019**
MG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Percentages
PROJECT/CONTRACT: **10029.07**
RUN: **Cambria Court Resi Carson - Fut w Prj**

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
Roadway1	point1	1	0	0	0	0	0	0	0	0	0	0	0
	point3	3											
Roadway1-2-2	point36	36	0	0	0	0	0	0	0	0	0	0	0
	point25	25											
Roadway1-2-2-2-2	point38	38	0	0	0	0	0	0	0	0	0	0	0
	point27	27	0	0	0	0	0	0	0	0	0	0	0
	point28	28	0	0	0	0	0	0	0	0	0	0	0
	point29	29	0	0	0	0	0	0	0	0	0	0	0
	point30	30	0	0	0	0	0	0	0	0	0	0	0
	point31	31											
Roadway1-2-2-2-2-2-2	point40	40	0	0	0	0	0	0	0	0	0	0	0
	point33	33	0	0	0	0	0	0	0	0	0	0	0
	point34	34	0	0	0	0	0	0	0	0	0	0	0
	point2	2											
Roadway1-2-2	point42	42	0	0	0	0	0	0	0	0	0	0	0
	point21	21	0	0	0	0	0	0	0	0	0	0	0
	point22	22	0	0	0	0	0	0	0	0	0	0	0
	point23	23											
Roadway1-2-2	point44	44	0	0	0	0	0	0	0	0	0	0	0
	point12	12											
Roadway1-2-2-2	point45	45	400	97	30	2	30	1	30	0	0	0	0
	point13	13	400	97	30	2	30	1	30	0	0	0	0
	point14	14	400	97	30	2	30	1	30	0	0	0	0

	point15	15	400	97	30	2	30	1	30	0	0	0	0
	point16	16	400	97	30	2	30	1	30	0	0	0	0
	point17	17	400	97	30	2	30	1	30	0	0	0	0
	point18	18	400	97	30	2	30	1	30	0	0	0	0
	point19	19											
East 220th St - Dolores to Neptune	point46	46	547	97	30	2	30	1	30	0	0	0	0
	point4	4	547	97	30	2	30	1	30	0	0	0	0
	point5	5	547	97	30	2	30	1	30	0	0	0	0
	point6	6											
Roadway1-2-2	point47	47	0	0	0	0	0	0	0	0	0	0	0
	point10	10											
East 220th St - Neptune to Grace	point147	147	542	97	30	2	30	1	30	0	0	0	0
	point7	7	542	97	30	2	30	1	30	0	0	0	0
	point8	8	542	97	30	2	30	1	30	0	0	0	0
	point9	9											

Dudek						**10 July 2019**					
MG						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**10029.07**										
RUN:	**Cambria Court Resi Carson - Fut w Prj**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	2,189.5	2,136.5	25.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	1,994.8	2,128.9	25.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	1,982.8	2,414.3	25.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	2,309.8	2,062.1	25.00	5.00	0.00	66	10.0	8.0	Y
ST5	5	1	1,769.5	2,054.5	25.00	5.00	0.00	66	10.0	8.0	Y
M1	7	1	2,039.3	2,210.1	25.00	5.00	0.00	66	10.0	8.0	Y

Dudek 10 July 2019
MG TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Fut w Prj

Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per Unit Area	$ per Unit Vol.	Top Width	Run:Rise	$ per Unit Length			X	Y	Z	at Point	Seg Ht Incre-ment	Perturbs #Up	#Dn	On Struct?	Important Reflec-tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1-2-2	W	0.00	99.99	0.00				0.00	point86	86	2,446.9	1,929.9	25.00	5.00	0.00	0	0		
									point17	17	2,448.0	1,963.8	25.00	5.00	0.00	0	0		
									point18	18	2,472.1	1,964.9	25.00	5.00					
Barrier1-2-2-2-2	W	0.00	99.99	0.00				0.00	point99	99	2,465.5	1,853.3	25.00	5.00	0.00	0	0		
									point20	20	2,466.6	1,909.1	25.00	5.00	0.00	0	0		
									point21	21	2,481.9	1,906.9	25.00	5.00					
Barrier30	W	0.00	99.99	0.00				0.00	point100	100	2,084.2	2,178.1	25.00	15.00	0.00	0	0		
									point102	102	2,084.6	2,145.6	25.00	15.00	0.00	0	0		
									point103	103	2,118.9	2,145.2	25.00	15.00	0.00	0	0		
									point104	104	2,118.5	2,180.3	25.00	15.00					
Barrier30-2-2	W	0.00	99.99	0.00				0.00	point241	241	2,023.6	2,317.6	25.00	15.00	0.00	0	0		
									point134	134	2,024.0	2,281.5	25.00	15.00	0.00	0	0		
									point135	135	2,058.3	2,282.8	25.00	15.00	0.00	0	0		
									point136	136	2,058.3	2,317.6	25.00	15.00					
Barrier30-2-2	W	0.00	99.99	0.00				0.00	point243	243	2,083.7	2,227.2	25.00	15.00	0.00	0	0		
									point106	106	2,084.6	2,192.9	25.00	15.00	0.00	0	0		
									point107	107	2,118.1	2,192.0	25.00	15.00	0.00	0	0		
									point108	108	2,118.5	2,227.6	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point245	245	2,146.7	2,180.7	25.00	15.00	0.00	0	0		
									point110	110	2,147.1	2,145.2	25.00	15.00	0.00	0	0		
									point111	111	2,181.2	2,145.7	25.00	15.00					
Barrier30-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point246	246	2,181.2	2,145.7	25.00	15.00	0.00	0	0		
									point112	112	2,180.6	2,180.7	25.00	15.00					
Barrier30-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point247	247	2,204.9	2,180.7	25.00	15.00	0.00	0	0		
									point122	122	2,204.9	2,146.4	25.00	15.00	0.00	0	0		
									point123	123	2,239.1	2,146.4	25.00	15.00	0.00	0	0		
									point124	124	2,239.1	2,182.0	25.00	15.00					
Barrier30-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point250	250	2,146.3	2,227.2	25.00	15.00	0.00	0	0		
									point114	114	2,147.1	2,191.1	25.00	15.00	0.00	0	0		
									point115	115	2,180.1	2,192.0	25.00	15.00	0.00	0	0		
									point116	116	2,180.6	2,227.2	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point252	252	2,204.4	2,226.7	25.00	15.00	0.00	0	0		
									point118	118	2,205.3	2,191.1	25.00	15.00	0.00	0	0		
									point119	119	2,238.3	2,192.0	25.00	15.00	0.00	0	0		
									point120	120	2,238.7	2,227.2	25.00	15.00					

Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point256	256	2,277.1	2,227.1	25.00	15.00	0.00	0	0		
									point130	130	2,277.1	2,191.8	25.00	15.00	0.00	0	0		
									point131	131	2,311.9	2,191.3	25.00	15.00	0.00	0	0		
									point132	132	2,311.9	2,227.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point258	258	2,277.7	2,181.2	25.00	15.00	0.00	0	0		
									point126	126	2,277.7	2,145.3	25.00	15.00	0.00	0	0		
									point127	127	2,312.4	2,145.1	25.00	15.00	0.00	0	0		
									point128	128	2,312.1	2,180.6	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point260	260	1,810.0	2,316.7	25.00	15.00	0.00	0	0		
									point194	194	1,810.4	2,280.7	25.00	15.00	0.00	0	0		
									point195	195	1,844.3	2,281.1	25.00	15.00	0.00	0	0		
									point196	196	1,844.3	2,317.6	25.00	15.00					
Barrier31-2	W	0.00	99.99	0.00				0.00	point261	261	1,811.3	2,406.8	25.00	15.00	0.00	0	0		
									point202	202	1,811.8	2,370.7	25.00	15.00	0.00	0	0		
									point203	203	1,845.6	2,371.2	25.00	15.00	0.00	0	0		
									point204	204	1,845.6	2,407.6	25.00	15.00					
Barrier31-2-2-2	W	0.00	99.99	0.00				0.00	point263	263	1,872.2	2,315.8	25.00	15.00	0.00	0	0		
									point206	206	1,872.6	2,279.8	25.00	15.00	0.00	0	0		
									point207	207	1,906.5	2,280.2	25.00	15.00	0.00	0	0		
									point208	208	1,906.5	2,316.7	25.00	15.00					
Barrier30-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point265	265	1,810.9	2,360.2	25.00	15.00	0.00	0	0		
									point198	198	1,811.3	2,324.2	25.00	15.00	0.00	0	0		
									point101	101	1,845.2	2,324.6	25.00	15.00					
Barrier31-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point267	267	1,872.2	2,406.8	25.00	15.00	0.00	0	0		
									point214	214	1,872.6	2,370.7	25.00	15.00	0.00	0	0		
									point215	215	1,906.5	2,371.2	25.00	15.00	0.00	0	0		
									point216	216	1,906.5	2,407.6	25.00	15.00					
Barrier31-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point269	269	1,872.2	2,360.6	25.00	15.00	0.00	0	0		
									point210	210	1,872.6	2,324.6	25.00	15.00	0.00	0	0		
									point211	211	1,906.5	2,325.0	25.00	15.00	0.00	0	0		
									point212	212	1,906.5	2,361.5	25.00	15.00					
Barrier31-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point271	271	1,916.5	2,316.2	25.00	15.00	0.00	0	0		
									point218	218	1,917.0	2,280.2	25.00	15.00	0.00	0	0		
									point219	219	1,950.9	2,280.7	25.00	15.00	0.00	0	0		
									point220	220	1,950.9	2,317.1	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point273	273	1,918.3	2,406.8	25.00	15.00	0.00	0	0		
									point226	226	1,918.7	2,370.7	25.00	15.00	0.00	0	0		
									point227	227	1,952.6	2,371.2	25.00	15.00	0.00	0	0		
									point228	228	1,952.6	2,407.6	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point275	275	1,916.5	2,360.2	25.00	15.00	0.00	0	0		
									point222	222	1,917.0	2,324.2	25.00	15.00	0.00	0	0		
									point223	223	1,950.9	2,324.6	25.00	15.00	0.00	0	0		
									point224	224	1,950.9	2,361.1	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point277	277	1,979.2	2,315.8	25.00	15.00	0.00	0	0		
									point230	230	1,979.6	2,279.8	25.00	15.00	0.00	0	0		
									point231	231	2,013.5	2,280.2	25.00	15.00	0.00	0	0		
									point232	232	2,013.5	2,316.7	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point279	279	1,980.0	2,406.3	25.00	15.00	0.00	0	0		
									point238	238	1,980.5	2,370.3	25.00	15.00	0.00	0	0		

									point239	239	2,014.3	2,370.7	25.00	15.00	0.00	0	0		
									point200	200	2,014.3	2,407.2	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point281	281	1,979.2	2,361.5	25.00	15.00	0.00	0	0		
									point234	234	1,979.6	2,325.5	25.00	15.00	0.00	0	0		
									point235	235	2,013.5	2,325.9	25.00	15.00	0.00	0	0		
									point236	236	2,013.5	2,362.4	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point283	283	2,024.9	2,407.6	25.00	15.00	0.00	0	0		
									point142	142	2,025.3	2,371.6	25.00	15.00	0.00	0	0		
									point143	143	2,059.6	2,372.9	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point285	285	2,023.6	2,361.9	25.00	15.00	0.00	0	0		
									point138	138	2,024.0	2,325.9	25.00	15.00	0.00	0	0		
									point139	139	2,058.3	2,327.2	25.00	15.00	0.00	0	0		
									point140	140	2,058.3	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point287	287	2,059.6	2,372.9	25.00	15.00	0.00	0	0		
									point144	144	2,059.6	2,407.6	25.00	15.00					
Barrier30-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point288	288	2,085.3	2,317.1	25.00	15.00	0.00	0	0		
									point146	146	2,085.8	2,281.1	25.00	15.00	0.00	0	0		
									point147	147	2,120.1	2,282.4	25.00	15.00	0.00	0	0		
									point148	148	2,120.1	2,317.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point290	290	2,085.8	2,408.0	25.00	15.00	0.00	0	0		
									point154	154	2,086.2	2,372.0	25.00	15.00	0.00	0	0		
									point155	155	2,120.5	2,373.3	25.00	15.00	0.00	0	0		
									point156	156	2,120.5	2,408.0	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point292	292	2,085.3	2,362.4	25.00	15.00	0.00	0	0		
									point150	150	2,085.8	2,326.3	25.00	15.00	0.00	0	0		
									point151	151	2,120.1	2,327.7	25.00	15.00	0.00	0	0		
									point152	152	2,120.1	2,362.4	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point294	294	2,131.4	2,407.2	25.00	15.00	0.00	0	0		
									point166	166	2,131.9	2,371.2	25.00	15.00	0.00	0	0		
									point167	167	2,166.1	2,372.4	25.00	15.00	0.00	0	0		
									point168	168	2,166.1	2,407.2	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point297	297	2,130.6	2,318.0	25.00	15.00	0.00	0	0		
									point158	158	2,131.0	2,282.0	25.00	15.00	0.00	0	0		
									point159	159	2,165.3	2,283.3	25.00	15.00	0.00	0	0		
									point160	160	2,165.3	2,318.0	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point298	298	2,130.6	2,361.9	25.00	15.00	0.00	0	0		
									point162	162	2,131.0	2,325.9	25.00	15.00	0.00	0	0		
									point163	163	2,165.3	2,327.2	25.00	15.00	0.00	0	0		
									point164	164	2,165.3	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point300	300	2,191.4	2,317.1	25.00	15.00	0.00	0	0		
									point170	170	2,191.9	2,281.1	25.00	15.00	0.00	0	0		
									point171	171	2,226.2	2,282.4	25.00	15.00	0.00	0	0		
									point172	172	2,226.2	2,317.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point302	302	2,192.8	2,361.9	25.00	15.00	0.00	0	0		
									point174	174	2,193.2	2,325.9	25.00	15.00	0.00	0	0		
									point175	175	2,227.5	2,327.2	25.00	15.00	0.00	0	0		
									point176	176	2,227.5	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point303	303	2,191.9	2,407.6	25.00	15.00	0.00	0	0		
									point178	178	2,192.3	2,371.6	25.00	15.00	0.00	0	0		

									point179	179	2,226.6	2,372.9	25.00	15.00	0.00	0	0		
									point180	180	2,226.6	2,407.6	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point306	306	2,237.1	2,317.1	25.00	15.00	0.00	0	0		
									point182	182	2,237.5	2,281.1	25.00	15.00	0.00	0	0		
									point183	183	2,271.9	2,282.4	25.00	15.00	0.00	0	0		
									point184	184	2,271.9	2,317.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point308	308	2,238.4	2,361.9	25.00	15.00	0.00	0	0		
									point186	186	2,238.9	2,325.9	25.00	15.00	0.00	0	0		
									point187	187	2,273.1	2,327.2	25.00	15.00	0.00	0	0		
									point188	188	2,273.1	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point310	310	2,238.4	2,407.6	25.00	15.00	0.00	0	0		
									point190	190	2,238.9	2,371.6	25.00	15.00	0.00	0	0		
									point191	191	2,273.1	2,372.9	25.00	15.00	0.00	0	0		
									point192	192	2,273.1	2,407.6	25.00	15.00					
Barrier103	W	0.00	99.99	0.00				0.00	point311	311	2,084.4	2,144.8	25.00	3.50	0.00	0	0		
									point313	313	2,084.4	2,130.9	25.00	3.50	0.00	0	0		
									point314	314	2,109.9	2,131.3	25.00	3.50	0.00	0	0		
									point315	315	2,109.5	2,144.4	25.00	3.50					
Barrier103-2	W	0.00	99.99	0.00				0.00	point348	348	1,979.9	2,144.8	25.00	6.00	0.00	0	0		
									point341	341	2,005.3	2,145.2	25.00	6.00					
Barrier103-2-2	W	0.00	99.99	0.00				0.00	point349	349	2,005.3	2,145.2	25.00	6.00	0.00	0	0		
									point342	342	2,004.9	2,200.0	25.00	6.00	0.00	0	0		
									point343	343	2,072.4	2,199.7	25.00	6.00	0.00	0	0		
									point344	344	2,072.8	2,144.9	25.00	6.00	0.00	0	0		
									point345	345	2,073.4	2,145.2	25.00	6.00	0.00	0	0		
									point346	346	2,084.4	2,145.2	25.00	6.00					
Barrier103-2	W	0.00	99.99	0.00				0.00	point352	352	2,109.5	2,144.4	25.00	6.00	0.00	0	0		
									point316	316	2,155.5	2,144.6	25.00	6.00					
Barrier103-2-2	W	0.00	99.99	0.00				0.00	point353	353	2,155.5	2,144.6	25.00	3.50	0.00	0	0		
									point317	317	2,155.5	2,131.0	25.00	3.50	0.00	0	0		
									point318	318	2,180.6	2,131.1	25.00	3.50	0.00	0	0		
									point319	319	2,180.3	2,145.2	25.00	3.50					
Barrier103-2-2-2	W	0.00	99.99	0.00				0.00	point354	354	2,180.3	2,145.2	25.00	6.00	0.00	0	0		
									point320	320	2,205.8	2,146.0	25.00	6.00					
Barrier103-2-2-2-2	W	0.00	99.99	0.00				0.00	point355	355	2,205.8	2,146.0	25.00	3.50	0.00	0	0		
									point321	321	2,206.2	2,131.4	25.00	3.50	0.00	0	0		
									point322	322	2,230.0	2,131.1	25.00	3.50	0.00	0	0		
									point323	323	2,230.1	2,145.7	25.00	3.50					
Barrier103-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point356	356	2,230.1	2,145.7	25.00	6.00	0.00	0	0		
									point324	324	2,286.3	2,144.5	25.00	6.00					
Barrier103-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point357	357	2,286.3	2,144.5	25.00	3.50	0.00	0	0		
									point325	325	2,286.4	2,131.5	25.00	3.50	0.00	0	0		
									point326	326	2,310.7	2,132.0	25.00	3.50	0.00	0	0		
									point327	327	2,310.7	2,145.0	25.00	3.50					
Barrier103-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point358	358	2,310.7	2,145.0	25.00	6.00	0.00	0	0		
									point329	329	2,324.3	2,144.1	25.00	6.00	0.00	0	0		
									point330	330	2,322.4	2,423.5	25.00	6.00	0.00	0	0		
									point331	331	1,799.8	2,420.9	25.00	6.00	0.00	0	0		
									point332	332	1,801.1	2,281.1	25.00	6.00	0.00	0	0		

									point333	333	1,800.3	2,280.7	25.00	6.00	0.00	0	0		
									point334	334	1,800.3	2,247.5	25.00	6.00	0.00	0	0		
									point335	335	1,842.4	2,247.2	25.00	6.00	0.00	0	0		
									point336	336	1,842.4	2,232.5	25.00	6.00	0.00	0	0		
									point337	337	1,883.6	2,232.5	25.00	6.00	0.00	0	0		
									point338	338	1,883.9	2,221.4	25.00	6.00	0.00	0	0		
									point339	339	1,980.2	2,222.3	25.00	6.00	0.00	0	0		
									point340	340	1,979.9	2,144.8	25.00	6.00					

Dudek 10 July 2019
MG TNM 2.5

INPUT: BUILDING ROWS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - F

Building Row Name	Average Height	Building Percent	Points No.	Coordinates (ground) X	Y	Z
	ft	%		ft	ft	ft
Building1	12.00	80	1	1,013.9	2,554.4	25.00
			2	1,286.5	2,550.9	25.00
			3	1,289.9	2,830.4	25.00
Building2	12.00	80	4	1,392.3	2,703.6	25.00
			5	1,390.6	2,575.2	25.00
			6	1,996.5	2,583.9	25.00
			7	2,343.7	2,589.1	25.00
			8	2,510.4	2,653.3	25.00
			9	2,621.5	2,686.3	25.00
			10	2,619.8	2,856.4	25.00
Building4	12.00	80	14	1,038.2	2,465.8	25.00
			15	1,307.3	2,471.0	25.00
			16	1,307.3	2,132.5	25.00
			17	1,059.0	2,137.7	25.00
Building5	12.00	80	18	1,387.9	2,138.3	25.00
			19	1,375.3	2,420.7	25.00
			20	1,406.0	2,418.5	25.00
			21	1,402.7	2,486.3	25.00
			22	1,780.0	2,488.5	25.00
			23	1,985.6	2,504.9	25.00
			24	2,315.9	2,509.3	25.00
			25	2,404.5	2,510.3	25.00
			26	2,498.5	2,558.5	25.00
			27	2,636.3	2,584.7	25.00

			28	2,640.7	2,125.4	25.00
			29	2,343.0	2,128.3	25.00
Building8	12.00	80	38	3,053.8	2,478.0	25.00
			39	2,701.4	2,481.4	25.00
			40	2,701.4	2,806.1	25.00
Building10	12.00	80	45	3,024.3	2,394.6	25.00
			46	2,699.6	2,398.1	25.00
			47	2,704.9	2,142.9	25.00
			48	2,994.8	2,144.6	25.00
Building11	12.00	80	49	2,707.9	1,734.7	25.00
			50	2,701.0	2,048.9	25.00
			51	3,037.8	2,045.5	25.00
			52	3,046.0	1,590.7	25.00
Building12	12.00	80	53	2,350.3	1,835.7	25.00
			54	2,340.4	2,052.3	25.00
			55	2,173.1	2,056.6	25.00
			56	2,176.4	1,829.2	25.00
Building13	12.00	80	57	2,093.2	1,843.4	25.00
			58	2,088.9	2,043.5	25.00
			59	1,969.7	2,042.4	25.00
			60	1,969.7	2,020.5	25.00
			61	1,852.6	2,020.5	25.00
			62	1,855.9	1,836.8	25.00
Building14	12.00	80	63	1,812.2	1,839.0	25.00
			64	1,815.5	2,035.9	25.00
			65	1,376.9	2,030.4	25.00
			66	1,374.7	1,968.1	25.00
Building15	12.00	80	67	1,298.6	1,733.2	25.00
			68	1,302.1	2,042.2	25.00
			69	1,151.0	2,050.9	25.00
Building7-2	12.00	80	70	1,961.0	2,136.1	25.00
			37	1,388.9	2,138.3	25.00

Dudek
MG
10 July 2019
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Fut w Prj
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	60.3	66	60.3	10	----	60.3	0.0	8	-8.0
ST2	2	1	0.0	61.3	66	61.3	10	----	61.3	0.0	8	-8.0
ST3	3	1	0.0	43.0	66	43.0	10	----	43.0	0.0	8	-8.0
ST4	4	1	0.0	62.7	66	62.7	10	----	62.7	0.0	8	-8.0
ST5	5	1	0.0	61.9	66	61.9	10	----	61.9	0.0	8	-8.0
M1	7	1	0.0	45.7	66	45.7	10	----	45.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	6	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek 10 July 2019
MG TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Fut w Prj 2n

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Roadway1	12.0	point1	1	1,044.5	2,084.7	25.00				Average	
		point3	3	1,347.1	2,083.9	25.00					
Roadway1-2-2	12.0	point36	36	2,141.9	1,508.0	25.00				Average	
		point25	25	2,138.6	2,084.8	25.00					
Roadway1-2-2-2-2	12.0	point38	38	2,399.5	1,511.3	25.00				Average	
		point27	27	2,403.0	1,651.1	25.00				Average	
		point28	28	2,433.9	1,759.6	25.00				Average	
		point29	29	2,427.2	1,848.9	25.00				Average	
		point30	30	2,385.2	1,944.7	25.00				Average	
		point31	31	2,381.2	2,085.0	25.00					
Roadway1-2-2-2-2-2-2	12.0	point40	40	2,674.9	1,519.5	25.00				Average	
		point33	33	2,666.2	2,087.2	25.00				Average	
		point34	34	2,672.4	2,620.5	25.00				Average	
		point2	2	2,672.4	2,879.2	25.00					
Roadway1-2-2	12.0	point42	42	1,348.5	1,541.4	25.00				Average	
		point21	21	1,350.2	2,077.9	25.00				Average	
		point22	22	1,350.2	2,498.9	25.00				Average	
		point23	23	1,347.5	2,950.8	25.00					
Roadway1-2-2	12.0	point44	44	1,034.2	2,503.2	25.00				Average	
		point12	12	1,348.4	2,504.8	25.00					
Roadway1-2-2-2	12.0	point45	45	1,352.4	2,505.0	25.00				Average	
		point13	13	1,407.5	2,523.4	25.00				Average	
		point14	14	1,716.5	2,538.0	25.00				Average	
		point15	15	2,023.8	2,548.4	25.00				Average	
		point16	16	2,329.4	2,548.4	25.00				Average	

		point17	17	2,391.2	2,568.3	25.00				Average	
		point18	18	2,531.7	2,623.0	25.00				Average	
		point19	19	2,669.2	2,628.2	25.00					
East 220th St - Dolores to Neptune	32.0	point46	46	1,355.3	2,083.9	25.00				Average	
		point4	4	1,833.6	2,088.2	25.00				Average	
		point5	5	2,000.2	2,090.8	25.00				Average	
		point6	6	2,140.1	2,088.7	25.00					
Roadway1-2-2	12.0	point47	47	2,674.8	2,091.5	25.00				Average	
		point10	10	3,065.4	2,095.0	25.00					
East 220th St - Neptune to Grace	32.0	point147	147	2,140.1	2,088.7	25.00				Average	
		point7	7	2,202.8	2,089.4	25.00				Average	
		point8	8	2,395.0	2,090.8	25.00				Average	
		point9	9	2,663.1	2,091.5	25.00					

Dudek 10 July 2019
MG TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Percentages
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Fut w Prj 2n

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
Roadway1	point1	1	0	0	0	0	0	0	0	0	0	0	0
	point3	3											
Roadway1-2-2	point36	36	0	0	0	0	0	0	0	0	0	0	0
	point25	25											
Roadway1-2-2-2-2	point38	38	0	0	0	0	0	0	0	0	0	0	0
	point27	27	0	0	0	0	0	0	0	0	0	0	0
	point28	28	0	0	0	0	0	0	0	0	0	0	0
	point29	29	0	0	0	0	0	0	0	0	0	0	0
	point30	30	0	0	0	0	0	0	0	0	0	0	0
	point31	31											
Roadway1-2-2-2-2-2-2	point40	40	0	0	0	0	0	0	0	0	0	0	0
	point33	33	0	0	0	0	0	0	0	0	0	0	0
	point34	34	0	0	0	0	0	0	0	0	0	0	0
	point2	2											
Roadway1-2-2	point42	42	0	0	0	0	0	0	0	0	0	0	0
	point21	21	0	0	0	0	0	0	0	0	0	0	0
	point22	22	0	0	0	0	0	0	0	0	0	0	0
	point23	23											
Roadway1-2-2	point44	44	0	0	0	0	0	0	0	0	0	0	0
	point12	12											
Roadway1-2-2-2	point45	45	400	97	30	2	30	1	30	0	0	0	0
	point13	13	400	97	30	2	30	1	30	0	0	0	0
	point14	14	400	97	30	2	30	1	30	0	0	0	0

	point15	15	400	97	30	2	30	1	30	0	0	0	0
	point16	16	400	97	30	2	30	1	30	0	0	0	0
	point17	17	400	97	30	2	30	1	30	0	0	0	0
	point18	18	400	97	30	2	30	1	30	0	0	0	0
	point19	19											
East 220th St - Dolores to Neptune	point46	46	547	97	30	2	30	1	30	0	0	0	0
	point4	4	547	97	30	2	30	1	30	0	0	0	0
	point5	5	547	97	30	2	30	1	30	0	0	0	0
	point6	6											
Roadway1-2-2	point47	47	0	0	0	0	0	0	0	0	0	0	0
	point10	10											
East 220th St - Neptune to Grace	point147	147	542	97	30	2	30	1	30	0	0	0	0
	point7	7	542	97	30	2	30	1	30	0	0	0	0
	point8	8	542	97	30	2	30	1	30	0	0	0	0
	point9	9											

Dudek						**10 July 2019**					
MG						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**10029.07**										
RUN:	**Cambria Court Resi Carson - Fut w Prj 2n**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1- 2nd Flr	1	1	2,189.5	2,136.5	25.00	15.00	0.00	66	10.0	8.0	Y
ST2	2	1	1,994.8	2,128.9	25.00	5.00	0.00	66	10.0	8.0	
ST3 - 2nd Flr	3	1	1,982.8	2,414.3	25.00	15.00	0.00	66	10.0	8.0	Y
ST4	4	1	2,309.8	2,062.1	25.00	5.00	0.00	66	10.0	8.0	
ST5	5	1	1,769.5	2,054.5	25.00	5.00	0.00	66	10.0	8.0	
M1	7	1	2,039.3	2,210.1	25.00	5.00	0.00	66	10.0	8.0	

Dudek 10 July 2019
MG TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Fut w Prj 2n

Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per Unit Area	$ per Unit Vol.	Top Width	Run:Rise	$ per Unit Length			X	Y	Z	at Point	Seg Ht Incre-ment	#Up	#Dn	On Struct?	Important Reflec-tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1-2-2	W	0.00	99.99	0.00				0.00	point86	86	2,446.9	1,929.9	25.00	5.00	0.00	0	0		
									point17	17	2,448.0	1,963.8	25.00	5.00	0.00	0	0		
									point18	18	2,472.1	1,964.9	25.00	5.00					
Barrier1-2-2-2-2	W	0.00	99.99	0.00				0.00	point99	99	2,465.5	1,853.3	25.00	5.00	0.00	0	0		
									point20	20	2,466.6	1,909.1	25.00	5.00	0.00	0	0		
									point21	21	2,481.9	1,906.9	25.00	5.00					
Barrier30	W	0.00	99.99	0.00				0.00	point100	100	2,084.2	2,178.1	25.00	15.00	0.00	0	0		
									point102	102	2,084.6	2,145.6	25.00	15.00	0.00	0	0		
									point103	103	2,118.9	2,145.2	25.00	15.00	0.00	0	0		
									point104	104	2,118.5	2,180.3	25.00	15.00					
Barrier30-2-2	W	0.00	99.99	0.00				0.00	point241	241	2,023.6	2,317.6	25.00	15.00	0.00	0	0		
									point134	134	2,024.0	2,281.5	25.00	15.00	0.00	0	0		
									point135	135	2,058.3	2,282.8	25.00	15.00	0.00	0	0		
									point136	136	2,058.3	2,317.6	25.00	15.00					
Barrier30-2-2	W	0.00	99.99	0.00				0.00	point243	243	2,083.7	2,227.2	25.00	15.00	0.00	0	0		
									point106	106	2,084.6	2,192.9	25.00	15.00	0.00	0	0		
									point107	107	2,118.1	2,192.0	25.00	15.00	0.00	0	0		
									point108	108	2,118.5	2,227.6	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point245	245	2,146.7	2,180.7	25.00	15.00	0.00	0	0		
									point110	110	2,147.1	2,145.2	25.00	15.00	0.00	0	0		
									point111	111	2,181.2	2,145.7	25.00	15.00					
Barrier30-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point246	246	2,181.2	2,145.7	25.00	15.00	0.00	0	0		
									point112	112	2,180.6	2,180.7	25.00	15.00					
Barrier30-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point247	247	2,204.9	2,180.7	25.00	15.00	0.00	0	0		
									point122	122	2,204.9	2,146.4	25.00	15.00	0.00	0	0		
									point123	123	2,239.1	2,146.4	25.00	15.00	0.00	0	0		
									point124	124	2,239.1	2,182.0	25.00	15.00					
Barrier30-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point250	250	2,146.3	2,227.2	25.00	15.00	0.00	0	0		
									point114	114	2,147.1	2,191.1	25.00	15.00	0.00	0	0		
									point115	115	2,180.1	2,192.0	25.00	15.00	0.00	0	0		
									point116	116	2,180.6	2,227.2	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point252	252	2,204.4	2,226.7	25.00	15.00	0.00	0	0		
									point118	118	2,205.3	2,191.1	25.00	15.00	0.00	0	0		
									point119	119	2,238.3	2,192.0	25.00	15.00	0.00	0	0		
									point120	120	2,238.7	2,227.2	25.00	15.00					

Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point256	256	2,277.1	2,227.1	25.00	15.00	0.00	0	0		
									point130	130	2,277.1	2,191.8	25.00	15.00	0.00	0	0		
									point131	131	2,311.9	2,191.3	25.00	15.00	0.00	0	0		
									point132	132	2,311.9	2,227.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point258	258	2,277.7	2,181.2	25.00	15.00	0.00	0	0		
									point126	126	2,277.7	2,145.3	25.00	15.00	0.00	0	0		
									point127	127	2,312.4	2,145.1	25.00	15.00	0.00	0	0		
									point128	128	2,312.1	2,180.6	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point260	260	1,810.0	2,316.7	25.00	15.00	0.00	0	0		
									point194	194	1,810.4	2,280.7	25.00	15.00	0.00	0	0		
									point195	195	1,844.3	2,281.1	25.00	15.00	0.00	0	0		
									point196	196	1,844.3	2,317.6	25.00	15.00					
Barrier31-2	W	0.00	99.99	0.00				0.00	point261	261	1,811.3	2,406.8	25.00	15.00	0.00	0	0		
									point202	202	1,811.8	2,370.7	25.00	15.00	0.00	0	0		
									point203	203	1,845.6	2,371.2	25.00	15.00	0.00	0	0		
									point204	204	1,845.6	2,407.6	25.00	15.00					
Barrier31-2-2-2	W	0.00	99.99	0.00				0.00	point263	263	1,872.2	2,315.8	25.00	15.00	0.00	0	0		
									point206	206	1,872.6	2,279.8	25.00	15.00	0.00	0	0		
									point207	207	1,906.5	2,280.2	25.00	15.00	0.00	0	0		
									point208	208	1,906.5	2,316.7	25.00	15.00					
Barrier30-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point265	265	1,810.9	2,360.2	25.00	15.00	0.00	0	0		
									point198	198	1,811.3	2,324.2	25.00	15.00	0.00	0	0		
									point101	101	1,845.2	2,324.6	25.00	15.00					
Barrier31-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point267	267	1,872.2	2,406.8	25.00	15.00	0.00	0	0		
									point214	214	1,872.6	2,370.7	25.00	15.00	0.00	0	0		
									point215	215	1,906.5	2,371.2	25.00	15.00	0.00	0	0		
									point216	216	1,906.5	2,407.6	25.00	15.00					
Barrier31-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point269	269	1,872.2	2,360.6	25.00	15.00	0.00	0	0		
									point210	210	1,872.6	2,324.6	25.00	15.00	0.00	0	0		
									point211	211	1,906.5	2,325.0	25.00	15.00	0.00	0	0		
									point212	212	1,906.5	2,361.5	25.00	15.00					
Barrier31-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point271	271	1,916.5	2,316.2	25.00	15.00	0.00	0	0		
									point218	218	1,917.0	2,280.2	25.00	15.00	0.00	0	0		
									point219	219	1,950.9	2,280.7	25.00	15.00	0.00	0	0		
									point220	220	1,950.9	2,317.1	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point273	273	1,918.3	2,406.8	25.00	15.00	0.00	0	0		
									point226	226	1,918.7	2,370.7	25.00	15.00	0.00	0	0		
									point227	227	1,952.6	2,371.2	25.00	15.00	0.00	0	0		
									point228	228	1,952.6	2,407.6	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point275	275	1,916.5	2,360.2	25.00	15.00	0.00	0	0		
									point222	222	1,917.0	2,324.2	25.00	15.00	0.00	0	0		
									point223	223	1,950.9	2,324.6	25.00	15.00	0.00	0	0		
									point224	224	1,950.9	2,361.1	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point277	277	1,979.2	2,315.8	25.00	15.00	0.00	0	0		
									point230	230	1,979.6	2,279.8	25.00	15.00	0.00	0	0		
									point231	231	2,013.5	2,280.2	25.00	15.00	0.00	0	0		
									point232	232	2,013.5	2,316.7	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point279	279	1,980.0	2,406.3	25.00	15.00	0.00	0	0		
									point238	238	1,980.5	2,370.3	25.00	15.00	0.00	0	0		

									point239	239	2,014.3	2,370.7	25.00	15.00	0.00	0	0		
									point200	200	2,014.3	2,407.2	25.00	15.00					
Barrier31-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point281	281	1,979.2	2,361.5	25.00	15.00	0.00	0	0		
									point234	234	1,979.6	2,325.5	25.00	15.00	0.00	0	0		
									point235	235	2,013.5	2,325.9	25.00	15.00	0.00	0	0		
									point236	236	2,013.5	2,362.4	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point283	283	2,024.9	2,407.6	25.00	15.00	0.00	0	0		
									point142	142	2,025.3	2,371.6	25.00	15.00	0.00	0	0		
									point143	143	2,059.6	2,372.9	25.00	15.00					
Barrier30-2-2-2-2	W	0.00	99.99	0.00				0.00	point285	285	2,023.6	2,361.9	25.00	15.00	0.00	0	0		
									point138	138	2,024.0	2,325.9	25.00	15.00	0.00	0	0		
									point139	139	2,058.3	2,327.2	25.00	15.00	0.00	0	0		
									point140	140	2,058.3	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point287	287	2,059.6	2,372.9	25.00	15.00	0.00	0	0		
									point144	144	2,059.6	2,407.6	25.00	15.00					
Barrier30-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point288	288	2,085.3	2,317.1	25.00	15.00	0.00	0	0		
									point146	146	2,085.8	2,281.1	25.00	15.00	0.00	0	0		
									point147	147	2,120.1	2,282.4	25.00	15.00	0.00	0	0		
									point148	148	2,120.1	2,317.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point290	290	2,085.8	2,408.0	25.00	15.00	0.00	0	0		
									point154	154	2,086.2	2,372.0	25.00	15.00	0.00	0	0		
									point155	155	2,120.5	2,373.3	25.00	15.00	0.00	0	0		
									point156	156	2,120.5	2,408.0	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point292	292	2,085.3	2,362.4	25.00	15.00	0.00	0	0		
									point150	150	2,085.8	2,326.3	25.00	15.00	0.00	0	0		
									point151	151	2,120.1	2,327.7	25.00	15.00	0.00	0	0		
									point152	152	2,120.1	2,362.4	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point294	294	2,131.4	2,407.2	25.00	15.00	0.00	0	0		
									point166	166	2,131.9	2,371.2	25.00	15.00	0.00	0	0		
									point167	167	2,166.1	2,372.4	25.00	15.00	0.00	0	0		
									point168	168	2,166.1	2,407.2	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point297	297	2,130.6	2,318.0	25.00	15.00	0.00	0	0		
									point158	158	2,131.0	2,282.0	25.00	15.00	0.00	0	0		
									point159	159	2,165.3	2,283.3	25.00	15.00	0.00	0	0		
									point160	160	2,165.3	2,318.0	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point298	298	2,130.6	2,361.9	25.00	15.00	0.00	0	0		
									point162	162	2,131.0	2,325.9	25.00	15.00	0.00	0	0		
									point163	163	2,165.3	2,327.2	25.00	15.00	0.00	0	0		
									point164	164	2,165.3	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point300	300	2,191.4	2,317.1	25.00	15.00	0.00	0	0		
									point170	170	2,191.9	2,281.1	25.00	15.00	0.00	0	0		
									point171	171	2,226.2	2,282.4	25.00	15.00	0.00	0	0		
									point172	172	2,226.2	2,317.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point302	302	2,192.8	2,361.9	25.00	15.00	0.00	0	0		
									point174	174	2,193.2	2,325.9	25.00	15.00	0.00	0	0		
									point175	175	2,227.5	2,327.2	25.00	15.00	0.00	0	0		
									point176	176	2,227.5	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point303	303	2,191.9	2,407.6	25.00	15.00	0.00	0	0		
									point178	178	2,192.3	2,371.6	25.00	15.00	0.00	0	0		

									point179	179	2,226.6	2,372.9	25.00	15.00	0.00	0	0		
									point180	180	2,226.6	2,407.6	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point306	306	2,237.1	2,317.1	25.00	15.00	0.00	0	0		
									point182	182	2,237.5	2,281.1	25.00	15.00	0.00	0	0		
									point183	183	2,271.9	2,282.4	25.00	15.00	0.00	0	0		
									point184	184	2,271.9	2,317.1	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point308	308	2,238.4	2,361.9	25.00	15.00	0.00	0	0		
									point186	186	2,238.9	2,325.9	25.00	15.00	0.00	0	0		
									point187	187	2,273.1	2,327.2	25.00	15.00	0.00	0	0		
									point188	188	2,273.1	2,361.9	25.00	15.00					
Barrier30-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point310	310	2,238.4	2,407.6	25.00	15.00	0.00	0	0		
									point190	190	2,238.9	2,371.6	25.00	15.00	0.00	0	0		
									point191	191	2,273.1	2,372.9	25.00	15.00	0.00	0	0		
									point192	192	2,273.1	2,407.6	25.00	15.00					
Barrier103	W	0.00	99.99	0.00				0.00	point311	311	2,084.4	2,144.8	25.00	3.50	0.00	0	0		
									point313	313	2,084.4	2,130.9	25.00	3.50	0.00	0	0		
									point314	314	2,109.9	2,131.3	25.00	3.50	0.00	0	0		
									point315	315	2,109.5	2,144.4	25.00	3.50					
Barrier103-2	W	0.00	99.99	0.00				0.00	point348	348	1,979.9	2,144.8	25.00	6.00	0.00	0	0		
									point341	341	2,005.3	2,145.2	25.00	6.00					
Barrier103-2-2	W	0.00	99.99	0.00				0.00	point349	349	2,005.3	2,145.2	25.00	6.00	0.00	0	0		
									point342	342	2,004.9	2,200.0	25.00	6.00	0.00	0	0		
									point343	343	2,072.4	2,199.7	25.00	6.00	0.00	0	0		
									point344	344	2,072.8	2,144.9	25.00	6.00	0.00	0	0		
									point345	345	2,073.4	2,145.2	25.00	6.00	0.00	0	0		
									point346	346	2,084.4	2,145.2	25.00	6.00					
Barrier103-2	W	0.00	99.99	0.00				0.00	point352	352	2,109.5	2,144.4	25.00	6.00	0.00	0	0		
									point316	316	2,155.5	2,144.6	25.00	6.00					
Barrier103-2-2	W	0.00	99.99	0.00				0.00	point353	353	2,155.5	2,144.6	25.00	3.50	0.00	0	0		
									point317	317	2,155.5	2,131.0	25.00	3.50	0.00	0	0		
									point318	318	2,180.6	2,131.1	25.00	3.50	0.00	0	0		
									point319	319	2,180.3	2,145.2	25.00	3.50					
Barrier103-2-2-2	W	0.00	99.99	0.00				0.00	point354	354	2,180.3	2,145.2	25.00	6.00	0.00	0	0		
									point320	320	2,205.8	2,146.0	25.00	6.00					
Barrier103-2-2-2-2	W	0.00	99.99	0.00				0.00	point355	355	2,205.8	2,146.0	25.00	3.50	0.00	0	0		
									point321	321	2,206.2	2,131.4	25.00	3.50	0.00	0	0		
									point322	322	2,230.0	2,131.1	25.00	3.50	0.00	0	0		
									point323	323	2,230.1	2,145.7	25.00	3.50					
Barrier103-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point356	356	2,230.1	2,145.7	25.00	6.00	0.00	0	0		
									point324	324	2,286.3	2,144.5	25.00	6.00					
Barrier103-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point357	357	2,286.3	2,144.5	25.00	3.50	0.00	0	0		
									point325	325	2,286.4	2,131.5	25.00	3.50	0.00	0	0		
									point326	326	2,310.7	2,132.0	25.00	3.50	0.00	0	0		
									point327	327	2,310.7	2,145.0	25.00	3.50					
Barrier103-2-2-2-2-2-2-2	W	0.00	99.99	0.00				0.00	point358	358	2,310.7	2,145.0	25.00	6.00	0.00	0	0		
									point329	329	2,324.3	2,144.1	25.00	6.00	0.00	0	0		
									point330	330	2,322.4	2,423.5	25.00	6.00	0.00	0	0		
									point331	331	1,799.8	2,420.9	25.00	6.00	0.00	0	0		
									point332	332	1,801.1	2,281.1	25.00	6.00	0.00	0	0		

									point333	333	1,800.3	2,280.7	25.00	6.00	0.00	0	0		
									point334	334	1,800.3	2,247.5	25.00	6.00	0.00	0	0		
									point335	335	1,842.4	2,247.2	25.00	6.00	0.00	0	0		
									point336	336	1,842.4	2,232.5	25.00	6.00	0.00	0	0		
									point337	337	1,883.6	2,232.5	25.00	6.00	0.00	0	0		
									point338	338	1,883.9	2,221.4	25.00	6.00	0.00	0	0		
									point339	339	1,980.2	2,222.3	25.00	6.00	0.00	0	0		
									point340	340	1,979.9	2,144.8	25.00	6.00					

Dudek					**10 July 2019**	
MG					**TNM 2.5**	
INPUT: BUILDING ROWS						
PROJECT/CONTRACT:	**10029.07**					
RUN:	**Cambria Court Resi Carson - F**					
Building Row			**Points**			
Name	**Average**	**Building**	**No.**	**Coordinates (ground)**		
	Height	**Percent**		**X**	**Y**	**Z**
	ft	%		ft	ft	ft
Building1	12.00	80	1	1,013.9	2,554.4	25.00
			2	1,286.5	2,550.9	25.00
			3	1,289.9	2,830.4	25.00
Building2	12.00	80	4	1,392.3	2,703.6	25.00
			5	1,390.6	2,575.2	25.00
			6	1,996.5	2,583.9	25.00
			7	2,343.7	2,589.1	25.00
			8	2,510.4	2,653.3	25.00
			9	2,621.5	2,686.3	25.00
			10	2,619.8	2,856.4	25.00
Building4	12.00	80	14	1,038.2	2,465.8	25.00
			15	1,307.3	2,471.0	25.00
			16	1,307.3	2,132.5	25.00
			17	1,059.0	2,137.7	25.00
Building5	12.00	80	18	1,387.9	2,138.3	25.00
			19	1,375.3	2,420.7	25.00
			20	1,406.0	2,418.5	25.00
			21	1,402.7	2,486.3	25.00
			22	1,780.0	2,488.5	25.00
			23	1,985.6	2,504.9	25.00
			24	2,315.9	2,509.3	25.00
			25	2,404.5	2,510.3	25.00
			26	2,498.5	2,558.5	25.00
			27	2,636.3	2,584.7	25.00

			28	2,640.7	2,125.4	25.00
			29	2,343.0	2,128.3	25.00
Building8	12.00	80	38	3,053.8	2,478.0	25.00
			39	2,701.4	2,481.4	25.00
			40	2,701.4	2,806.1	25.00
Building10	12.00	80	45	3,024.3	2,394.6	25.00
			46	2,699.6	2,398.1	25.00
			47	2,704.9	2,142.9	25.00
			48	2,994.8	2,144.6	25.00
Building11	12.00	80	49	2,707.9	1,734.7	25.00
			50	2,701.0	2,048.9	25.00
			51	3,037.8	2,045.5	25.00
			52	3,046.0	1,590.7	25.00
Building12	12.00	80	53	2,350.3	1,835.7	25.00
			54	2,340.4	2,052.3	25.00
			55	2,173.1	2,056.6	25.00
			56	2,176.4	1,829.2	25.00
Building13	12.00	80	57	2,093.2	1,843.4	25.00
			58	2,088.9	2,043.5	25.00
			59	1,969.7	2,042.4	25.00
			60	1,969.7	2,020.5	25.00
			61	1,852.6	2,020.5	25.00
			62	1,855.9	1,836.8	25.00
Building14	12.00	80	63	1,812.2	1,839.0	25.00
			64	1,815.5	2,035.9	25.00
			65	1,376.9	2,030.4	25.00
			66	1,374.7	1,968.1	25.00
Building15	12.00	80	67	1,298.6	1,733.2	25.00
			68	1,302.1	2,042.2	25.00
			69	1,151.0	2,050.9	25.00
Building7-2	12.00	80	70	1,961.0	2,136.1	25.00
			37	1,388.9	2,138.3	25.00

Dudek
MG

10 July 2019
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 10029.07
RUN: Cambria Court Resi Carson - Fut w Prj 2n
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1- 2nd Flr	1	1	0.0	60.2	66	60.2	10	----	60.2	0.0	8	-8.0
ST2	2	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
ST3 - 2nd Flr	3	1	0.0	53.6	66	53.6	10	----	53.6	0.0	8	-8.0
ST4	4	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
ST5	5	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
M1	7	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	6	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

		point17	17	2,391.2	2,568.3	25.00				Average	
		point18	18	2,531.7	2,623.0	25.00				Average	
		point19	19	2,669.2	2,628.2	25.00					
East 220th St - Dolores to Neptune	32.0	point46	46	1,355.3	2,083.9	25.00				Average	
		point4	4	1,833.6	2,088.2	25.00				Average	
		point5	5	2,000.2	2,090.8	25.00				Average	
		point6	6	2,140.1	2,088.7	25.00					
Roadway1-2-2	12.0	point47	47	2,674.8	2,091.5	25.00				Average	
		point10	10	3,065.4	2,095.0	25.00					
East 220th St - Neptune to Grace	32.0	point48	48	2,140.1	2,088.7	25.00				Average	
		point7	7	2,202.8	2,089.4	25.00				Average	
		point8	8	2,395.0	2,090.8	25.00				Average	
		point9	9	2,663.1	2,091.5	25.00					

Appendix D

Transportation

Existing Traffic Counts

National Data & Surveying Services

Intersection Turning Movement Count

Location: Dolores St & 220th St
City: Carson
Control: Signalized

Project ID: 19-05358-001
Date: 6/4/2019

Total

NS/EW Streets:	Dolores St				Dolores St				220th St				220th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	9	21	1	0	2	7	9	0	8	23	2	0	1	26	0	0	109
7:15 AM	10	32	1	0	4	33	15	0	7	30	4	0	6	37	3	0	182
7:30 AM	18	44	9	0	12	53	27	0	4	30	9	0	11	53	1	0	271
7:45 AM	30	66	10	0	3	86	34	0	9	36	22	0	14	74	7	0	391
8:00 AM	34	65	10	1	3	25	18	0	16	36	19	0	2	55	12	0	296
8:15 AM	15	42	4	0	4	18	13	0	8	37	14	0	4	34	1	0	194
8:30 AM	8	25	3	0	2	20	10	0	5	24	8	0	2	23	4	0	134
8:45 AM	3	27	2	0	2	22	7	0	3	25	4	0	1	18	4	0	118
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	127	322	40	1	32	264	133	0	60	241	82	0	41	320	32	0	1695
APPROACH %'s :	25.92%	65.71%	8.16%	0.20%	7.46%	61.54%	31.00%	0.00%	15.67%	62.92%	21.41%	0.00%	10.43%	81.42%	8.14%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	97	217	33	1	22	182	92	0	37	139	64	0	31	216	21	0	1152
PEAK HR FACTOR :	0.713	0.822	0.825	0.250	0.458	0.529	0.676	0.000	0.578	0.939	0.727	0.000	0.554	0.730	0.438	0.000	0.737
	0.791				0.602				0.845				0.705				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	42	6	0	6	41	8	0	9	42	12	0	7	30	2	0	206
4:15 PM	8	31	7	0	4	32	8	0	8	40	16	0	5	28	9	0	196
4:30 PM	7	28	7	0	7	39	10	0	19	93	10	0	5	43	4	0	272
4:45 PM	7	28	3	0	9	37	11	0	18	61	9	0	3	29	8	0	223
5:00 PM	7	35	5	0	4	31	7	0	12	65	8	0	2	40	5	0	221
5:15 PM	4	46	3	0	5	46	4	0	14	92	15	0	2	23	6	0	260
5:30 PM	6	38	8	0	12	38	9	0	14	77	11	0	3	35	5	0	256
5:45 PM	6	30	7	0	5	47	13	0	9	66	18	0	8	33	8	0	250
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	46	278	46	0	52	311	70	0	103	536	99	0	35	261	47	0	1884
APPROACH %'s :	12.43%	75.14%	12.43%	0.00%	12.01%	71.82%	16.17%	0.00%	13.96%	72.63%	13.41%	0.00%	10.20%	76.09%	13.70%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	23	149	23	0	26	162	33	0	49	300	52	0	15	131	24	0	987
PEAK HR FACTOR :	0.821	0.810	0.719	0.000	0.542	0.862	0.635	0.000	0.875	0.815	0.722	0.000	0.469	0.819	0.750	0.000	0.949
	0.920				0.850				0.829				0.867				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Grace Ave & 220th St
City: Carson
Control: 4-Way Stop

Project ID: 19-05358-002
Date: 6/4/2019

Total

NS/EW Streets:	Grace Ave				Grace Ave				220th St				220th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	5	0	0	1	7	5	0	7	21	1	0	4	14	0	0	72
7:15 AM	8	9	2	0	4	10	9	0	10	27	6	0	3	27	6	0	121
7:30 AM	12	18	5	0	4	14	9	0	9	52	6	0	4	52	3	0	188
7:45 AM	18	38	17	0	11	27	10	0	12	41	3	0	3	53	12	0	245
8:00 AM	12	28	7	0	8	13	5	0	8	36	3	0	3	41	8	0	172
8:15 AM	3	22	5	0	1	9	2	0	7	31	3	0	2	26	3	0	114
8:30 AM	1	12	4	0	5	8	2	0	5	22	2	0	5	22	4	0	92
8:45 AM	3	8	5	0	4	10	5	1	6	25	1	0	1	11	0	0	80
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	64	140	45	0	38	98	47	1	64	255	25	0	25	246	36	0	1084
APPROACH %'s :	25.70%	56.22%	18.07%	0.00%	20.65%	53.26%	25.54%	0.54%	18.60%	74.13%	7.27%	0.00%	8.14%	80.13%	11.73%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	50	93	31	0	27	64	33	0	39	156	18	0	13	173	29	0	726
PEAK HR FACTOR :	0.694	0.612	0.456	0.000	0.614	0.593	0.825	0.000	0.813	0.750	0.750	0.000	0.813	0.816	0.604	0.000	0.741
	0.596				0.646				0.795				0.790				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	19	4	0	6	12	5	0	7	41	3	0	1	28	5	0	134
4:15 PM	1	10	6	1	7	17	5	0	14	38	1	0	4	33	3	0	140
4:30 PM	3	13	9	0	4	11	11	0	17	72	11	0	0	32	3	0	186
4:45 PM	2	20	8	0	10	14	8	0	8	48	5	0	2	27	5	0	157
5:00 PM	4	25	9	0	8	7	7	0	9	55	6	0	0	34	3	0	167
5:15 PM	4	13	2	0	5	21	0	0	8	75	6	0	3	22	2	0	161
5:30 PM	3	20	4	0	9	22	12	0	20	63	7	0	3	33	2	0	198
5:45 PM	6	16	5	0	14	20	9	0	13	56	7	0	1	23	3	0	173
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	26	136	47	1	63	124	57	0	96	448	46	0	14	232	26	0	1316
APPROACH %'s :	12.38%	64.76%	22.38%	0.48%	25.82%	50.82%	23.36%	0.00%	16.27%	75.93%	7.80%	0.00%	5.15%	85.29%	9.56%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	17	74	20	0	36	70	28	0	50	249	26	0	7	112	10	0	699
PEAK HR FACTOR :	0.708	0.740	0.556	0.000	0.643	0.795	0.583	0.000	0.625	0.830	0.929	0.000	0.583	0.824	0.833	0.000	0.883
	0.730				0.779				0.903				0.849				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Avalon Blvd & 220th St
City: Carson
Control: Signalized

Project ID: 19-05358-003
Date: 6/4/2019

Total

NS/EW Streets:	Avalon Blvd				Avalon Blvd				220th St				220th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	144	5	0	8	124	3	2	12	5	5	1	7	8	3	0	328
7:15 AM	4	169	12	0	13	157	12	1	19	6	6	0	7	13	11	0	430
7:30 AM	9	208	17	0	13	185	16	3	21	22	10	0	13	20	21	0	558
7:45 AM	12	251	36	0	24	234	14	2	26	32	9	0	15	49	24	0	728
8:00 AM	16	247	9	0	22	216	13	2	25	34	12	0	17	21	47	0	681
8:15 AM	4	211	6	0	10	164	8	1	23	10	7	0	11	22	7	0	484
8:30 AM	9	189	6	0	13	136	10	3	11	10	10	0	6	10	6	0	419
8:45 AM	3	214	8	0	8	153	4	2	19	8	7	0	16	2	16	0	460
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	58	1633	99	0	111	1369	80	16	156	127	66	1	92	145	135	0	4088
APPROACH %'s :	3.24%	91.23%	5.53%	0.00%	7.04%	86.87%	5.08%	1.02%	44.57%	36.29%	18.86%	0.29%	24.73%	38.98%	36.29%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	41	917	68	0	69	799	51	8	95	98	38	0	56	112	99	0	2451
PEAK HR FACTOR :	0.641	0.913	0.472	0.000	0.719	0.854	0.797	0.667	0.913	0.721	0.792	0.000	0.824	0.571	0.527	0.000	0.842
	0.858				0.846				0.813				0.759				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	237	7	0	20	198	15	2	21	20	7	0	8	16	10	0	569
4:15 PM	5	209	10	2	25	191	13	6	22	16	9	0	11	13	12	0	544
4:30 PM	7	237	9	2	22	208	17	2	23	40	8	0	10	18	11	0	614
4:45 PM	4	243	12	2	26	244	18	3	24	37	9	0	9	13	9	0	653
5:00 PM	9	231	11	2	21	219	16	4	24	29	6	0	12	11	16	0	611
5:15 PM	6	240	6	0	27	243	19	2	36	44	16	0	10	12	24	0	685
5:30 PM	6	247	12	2	21	220	14	6	32	43	7	0	4	21	16	0	651
5:45 PM	8	211	13	4	30	201	18	0	30	43	13	0	12	14	33	0	630
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	53	1855	80	14	192	1724	130	25	212	272	75	0	76	118	131	0	4957
APPROACH %'s :	2.65%	92.66%	4.00%	0.70%	9.27%	83.24%	6.28%	1.21%	37.92%	48.66%	13.42%	0.00%	23.38%	36.31%	40.31%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	25	961	41	6	95	926	67	15	116	153	38	0	35	57	65	0	2600
PEAK HR FACTOR :	0.694	0.973	0.854	0.750	0.880	0.949	0.882	0.625	0.806	0.869	0.594	0.000	0.729	0.679	0.677	0.000	0.949
	0.967				0.948				0.799				0.853				

Prepared by National Data & Surveying Services

VOLUME

220th St Bet. Dolores St & Neptune Ave

Day: Tuesday
Date: 6/4/2019

City: Carson
Project #: CA19_5359_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,712	2,264	4,976

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			2		5		7		12:00			29		43		72	
00:15			0		5		5		12:15			24		37		61	
00:30			1		6		7		12:30			56		41		97	
00:45			2	5	1	17	3	22	12:45			44	153	28	149	72	302
01:00			1		4		5		13:00			44		29		73	
01:15			2		1		3		13:15			42		36		78	
01:30			1		2		3		13:30			33		38		71	
01:45			1	5	0	7	1	12	13:45			39	158	50	153	89	311
02:00			1		3		4		14:00			38		38		76	
02:15			1		0		1		14:15			54		33		87	
02:30			2		2		4		14:30			52		39		91	
02:45			4	8	1	6	5	14	14:45			55	199	46	156	101	355
03:00			6		1		7		15:00			51		34		85	
03:15			0		0		0		15:15			55		28		83	
03:30			2		2		4		15:30			59		33		92	
03:45			1	9	0	3	1	12	15:45			67	232	41	136	108	368
04:00			2		3		5		16:00			53		33		86	
04:15			1		1		2		16:15			48		40		88	
04:30			3		8		11		16:30			99		50		149	
04:45			5	11	4	16	9	27	16:45			68	268	36	149	104	427
05:00			5		6		11		17:00			67		43		110	
05:15			6		5		11		17:15			94		33		127	
05:30			11		5		16		17:30			99		43		142	
05:45			19	41	14	30	33	71	17:45			81	341	47	165	128	507
06:00			13		17		30		18:00			59		47		106	
06:15			9		15		24		18:15			55		44		99	
06:30			11		22		33		18:30			61		31		92	
06:45			22	55	27	81	49	136	18:45			40	215	43	165	83	380
07:00			30		23		53		19:00			34		30		64	
07:15			34		45		79		19:15			39		29		68	
07:30			53		66		119		19:30			41		36		77	
07:45			41	158	90	224	131	382	19:45			24	138	19	114	43	252
08:00			44		60		104		20:00			19		25		44	
08:15			41		33		74		20:15			25		15		40	
08:30			29		26		55		20:30			21		34		55	
08:45			30	144	20	139	50	283	20:45			10	75	15	89	25	164
09:00			15		35		50		21:00			15		18		33	
09:15			30		24		54		21:15			15		23		38	
09:30			21		31		52		21:30			18		11		29	
09:45			31	97	23	113	54	210	21:45			17	65	14	66	31	131
10:00			32		25		57		22:00			17		4		21	
10:15			20		42		62		22:15			11		6		17	
10:30			34		19		53		22:30			17		11		28	
10:45			44	130	21	107	65	237	22:45			11	56	9	30	20	86
11:00			26		24		50		23:00			7		9		16	
11:15			36		26		62		23:15			3		3		6	
11:30			35		32		67		23:30			7		4		11	
11:45			32	129	38	120	70	249	23:45			3	20	2	18	5	38
TOTALS				792		863		**1655**	**TOTALS**				1920		1390		**3321**
SPLIT %				47.9%		52.1%		**33.3%**	**SPLIT %**				57.8%		41.9%		**66.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,712	2,264	4,976

AM Peak Hour			07:30	07:15	**07:15**	**PM Peak Hour**			17:00	17:30	**17:00**
AM Pk Volume			179	261	**433**	**PM Pk Volume**			341	181	**507**
Pk Hr Factor			0.844	0.725	**0.826**	**Pk Hr Factor**			0.861	0.963	**0.893**
7 - 9 Volume	0	0	302	363	**665**	**4 - 6 Volume**	0	0	609	325	**934**
7 - 9 Peak Hour			07:30	07:15	**07:15**	**4 - 6 Peak Hour**			17:00	16:15	**17:00**
7 - 9 Pk Volume	0	0	179	261	**433**	**4 - 6 Pk Volume**	0	0	341	169	**507**
Pk Hr Factor	0.000	0.000	0.844	0.725	**0.826**	**Pk Hr Factor**	0.000	0.000	0.861	0.845	**0.893**

Prepared by National Data & Surveying Services

VOLUME

220th St Bet. Grace Ave & Avalon Blvd

Day: Tuesday
Date: 6/4/2019

City: Carson
Project #: CA19_5359_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,636	2,273	4,909

AM Period	NB	SB	EB		WB		TOTAL	
00:00			2		7		9	
00:15			5		9		14	
00:30			2		9		11	
00:45			1	10	2	27	3	37
01:00			5		4		9	
01:15			2		2		4	
01:30			1		2		3	
01:45			4	12	3	11	7	23
02:00			0		3		3	
02:15			1		0		1	
02:30			1		2		3	
02:45			3	5	2	7	5	12
03:00			5		1		6	
03:15			0		0		0	
03:30			2		0		2	
03:45			3	10	1	2	4	12
04:00			3		2		5	
04:15			3		1		4	
04:30			3		1		4	
04:45			8	17	2	6	10	23
05:00			6		4		10	
05:15			7		2		9	
05:30			15		3		18	
05:45			19	47	10	19	29	66
06:00			13		10		23	
06:15			15		10		25	
06:30			19		15		34	
06:45			22	69	25	60	47	129
07:00			23		14		37	
07:15			33		41		74	
07:30			56		52		108	
07:45			65	177	76	183	141	360
08:00			57		55		112	
08:15			35		35		70	
08:30			30		32		62	
08:45			29	151	11	133	40	284
09:00			22		31		53	
09:15			35		22		57	
09:30			28		20		48	
09:45			31	116	23	96	54	212
10:00			35		20		55	
10:15			20		44		64	
10:30			29		25		54	
10:45			41	125	31	120	72	245
11:00			24		26		50	
11:15			32		28		60	
11:30			26		29		55	
11:45			32	114	37	120	69	234
TOTALS				853		784		**1637**
SPLIT %				52.1%		47.9%		**33.3%**

PM Period	NB	SB	EB		WB		TOTAL	
12:00			26		37		63	
12:15			31		35		66	
12:30			49		37		86	
12:45			39	145	31	140	70	285
13:00			49		28		77	
13:15			43		35		78	
13:30			42		47		89	
13:45			44	178	64	174	108	352
14:00			43		47		90	
14:15			50		29		79	
14:30			52		36		88	
14:45			47	192	50	162	97	354
15:00			45		36		81	
15:15			46		39		85	
15:30			59		33		92	
15:45			68	218	39	147	107	365
16:00			50		41		91	
16:15			49		45		94	
16:30			72		40		112	
16:45			73	244	45	171	118	415
17:00			70		39		109	
17:15			83		41		124	
17:30			81		35		116	
17:45			72	306	39	154	111	460
18:00			58		48		106	
18:15			50		43		93	
18:30			43		25		68	
18:45			36	187	52	168	88	355
19:00			31		33		64	
19:15			35		43		78	
19:30			36		39		75	
19:45			17	119	20	135	37	254
20:00			14		26		40	
20:15			22		17		39	
20:30			23		40		63	
20:45			15	74	15	98	30	172
21:00			21		15		36	
21:15			16		19		35	
21:30			9		13		22	
21:45			13	59	19	66	32	125
22:00			15		10		25	
22:15			9		11		20	
22:30			10		10		20	
22:45			9	43	12	43	21	86
23:00			9		13		22	
23:15			2		12		14	
23:30			5		4		9	
23:45			2	18	2	31	4	49
TOTALS				1783		1489		**3272**
SPLIT %				54.5%		45.5%		**66.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,636	2,273	4,909

AM Peak Hour		07:30	07:15	**07:15**
AM Pk Volume		213	224	**435**
Pk Hr Factor		0.819	0.737	**0.771**
7 - 9 Volume	0 0	328	316	**644**
7 - 9 Peak Hour		07:30	07:15	**07:15**
7 - 9 Pk Volume	0 0	213	224	**435**
Pk Hr Factor	0.000 0.000	0.819	0.737	**0.771**

PM Peak Hour		16:45	13:15	**16:45**
PM Pk Volume		307	193	**467**
Pk Hr Factor		0.925	0.754	**0.942**
4 - 6 Volume	0 0	550	325	**875**
4 - 6 Peak Hour		16:45	16:00	**16:45**
4 - 6 Pk Volume	0 0	307	171	**467**
Pk Hr Factor	0.000 0.000	0.925	0.950	**0.942**

Intersection Analysis

Existing Conditions

Scenario Report

Scenario:	EX AM
Command:	EX AM
Volume:	EX AM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	NONE
Trip Distribution:	NONE
Paths:	Default Path
Routes:	Default Route
Configuration:	EXISTING

Intersection Volume Report
Base Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	98	217	33	22	182	92	37	139	64	31	216	21
4	Avalon Boulev	41	917	68	77	799	51	95	98	38	56	112	99

Intersection Volume Report
Future Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	98	217	33	22	182	92	37	139	64	31	216	21
4	Avalon Boulev	41	917	68	77	799	51	95	98	38	56	112	99

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in V/C
# 1 Dolores Street/220th Street	B	xxxxx	0.693	B	xxxxx	0.693	+ 0.000
# 4 Avalon Boulevard/220th Street	C	xxxxx	0.750	C	xxxxx	0.750	+ 0.000

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dolores Street/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.693
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	B

Street Name:	Dolores Street						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	98	217	33	22	182	92	37	139	64	31	216	21
Growth 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
Initial Bse:	98	217	33	22	182	92	37	139	64	31	216	21
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	217	33	22	182	92	37	139	64	31	216	21
User 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
PHF Adj:	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
PHF Volume:	133	294	45	30	247	125	50	189	87	42	293	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	294	45	30	247	125	50	189	87	42	293	28
PCE 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
MLF 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
FinalVolume:	133	294	45	30	247	125	50	189	87	42	293	28
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.63	0.09	0.07	0.62	0.31	0.15	0.58	0.27	0.11	0.81	0.08
Final Sat.:	451	998	152	119	984	497	247	927	427	185	1290	125
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.30	0.02	0.25	0.25	0.03	0.20	0.20	0.03	0.23	0.23
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	213	256	0	0	0
Future Vol, veh/h	0	213	256	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	232	278	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	278	0	-	0	510	278
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	232	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1285	-	-	-	523	761
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	807	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1285	-	-	-	523	761
Mov Cap-2 Maneuver	-	-	-	-	523	-
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	807	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1285	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	156	18	13	173	29	50	93	31	27	64	33
Future Vol, veh/h	39	156	18	13	173	29	50	93	31	27	64	33
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	211	24	18	234	39	68	126	42	36	86	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.2	13.1	12.5	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	18%	6%	22%
Vol Thru, %	53%	73%	80%	52%
Vol Right, %	18%	8%	13%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	213	215	124
LT Vol	50	39	13	27
Through Vol	93	156	173	64
RT Vol	31	18	29	33
Lane Flow Rate	235	288	291	168
Geometry Grp	1	1	1	1
Degree of Util (X)	0.38	0.448	0.448	0.274
Departure Headway (Hd)	5.817	5.607	5.552	5.891
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	614	639	645	605
Service Time	3.89	3.676	3.62	3.972
HCM Lane V/C Ratio	0.383	0.451	0.451	0.278
HCM Control Delay	12.5	13.2	13.1	11.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.8	2.3	2.3	1.1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Boulevard/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.750
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	C

Street Name:	Avalon Boulevard						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	41	917	68	77	799	51	95	98	38	56	112	99
Growth 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
Initial Bse:	41	917	68	77	799	51	95	98	38	56	112	99
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	917	68	77	799	51	95	98	38	56	112	99
User 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
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	49	1089	81	91	949	61	113	116	45	67	133	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	1089	81	91	949	61	113	116	45	67	133	118
PCE 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
MLF 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
FinalVolume:	49	1089	81	91	949	61	113	116	45	67	133	118
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.86	0.14	1.00	1.88	0.12	1.00	0.72	0.28	1.00	0.53	0.47
Final Sat.:	1600	2979	221	1600	3008	192	1600	1153	447	1600	849	751
Capacity Analysis Module:												
Vol/Sat:	0.03	0.37	0.37	0.06	0.32	0.32	0.07	0.10	0.10	0.04	0.16	0.16
Crit Moves:		****			****			****			****	

Scenario Report

Scenario:	EX PM
Command:	EX PM
Volume:	EX PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	NONE
Trip Distribution:	NONE
Paths:	Default Path
Routes:	Default Route
Configuration:	EXISTING

Intersection Volume Report
Base Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	23	149	23	26	162	33	49	300	52	15	131	24
4	Avalon Boulev	31	961	41	110	926	67	116	153	38	35	57	65

Intersection Volume Report
Future Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	23	149	23	26	162	33	49	300	52	15	131	24
4	Avalon Boulev	31	961	41	110	926	67	116	153	38	35	57	65

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Dolores Street/220th Street	A	xxxxx	0.535	A	xxxxx	0.535	+ 0.000 V/C
# 4 Avalon Boulevard/220th Street	B	xxxxx	0.659	B	xxxxx	0.659	+ 0.000 V/C

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dolores Street/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.535
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Street Name:	Dolores Street						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	23	149	23	26	162	33	49	300	52	15	131	24
Growth 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
Initial Bse:	23	149	23	26	162	33	49	300	52	15	131	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	149	23	26	162	33	49	300	52	15	131	24
User 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
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	24	157	24	27	171	35	52	316	55	16	138	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	157	24	27	171	35	52	316	55	16	138	25
PCE 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
MLF 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
FinalVolume:	24	157	24	27	171	35	52	316	55	16	138	25
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.12	0.76	0.12	0.12	0.73	0.15	0.12	0.75	0.13	0.09	0.77	0.14
Final Sat.:	189	1223	189	188	1173	239	196	1197	207	141	1233	226
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.02	0.15	0.15	0.03	0.26	0.26	0.01	0.11	0.11
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	325	157	0	0	0
Future Vol, veh/h	0	325	157	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	353	171	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	171	0	-	0	524	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	353	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1406	-	-	-	514	873
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	711	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1406	-	-	-	514	873
Mov Cap-2 Maneuver	-	-	-	-	514	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	711	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1406	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	249	26	7	112	10	17	74	20	36	70	28
Future Vol, veh/h	50	249	26	7	112	10	17	74	20	36	70	28
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	283	30	8	127	11	19	84	23	41	80	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.9	9.6	9.8	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	15%	5%	27%
Vol Thru, %	67%	77%	87%	52%
Vol Right, %	18%	8%	8%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	325	129	134
LT Vol	17	50	7	36
Through Vol	74	249	112	70
RT Vol	20	26	10	28
Lane Flow Rate	126	369	147	152
Geometry Grp	1	1	1	1
Degree of Util (X)	0.191	0.506	0.212	0.228
Departure Headway (Hd)	5.438	4.932	5.196	5.398
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	660	735	692	665
Service Time	3.474	2.932	3.224	3.434
HCM Lane V/C Ratio	0.191	0.502	0.212	0.229
HCM Control Delay	9.8	12.9	9.6	10
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.7	2.9	0.8	0.9

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Boulevard/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.659
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Street Name:	Avalon Boulevard						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	31	961	41	110	926	67	116	153	38	35	57	65
Growth 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
Initial Bse:	31	961	41	110	926	67	116	153	38	35	57	65
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	961	41	110	926	67	116	153	38	35	57	65
User 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
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	33	1013	43	116	976	71	122	161	40	37	60	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	1013	43	116	976	71	122	161	40	37	60	68
PCE 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
MLF 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
FinalVolume:	33	1013	43	116	976	71	122	161	40	37	60	68
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.92	0.08	1.00	1.87	0.13	1.00	0.80	0.20	1.00	0.47	0.53
Final Sat.:	1600	3069	131	1600	2984	216	1600	1282	318	1600	748	852
Capacity Analysis Module:												
Vol/Sat:	0.02	0.33	0.33	0.07	0.33	0.33	0.08	0.13	0.13	0.02	0.08	0.08
Crit Moves:		****			****			****			****	

Existing plus Project Conditions

Scenario Report

Scenario:	EX + PROJ AM
Command:	EX + PROJ AM
Volume:	EX AM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	PROJ AM
Trip Distribution:	DISTRIBUTION
Paths:	Default Path
Routes:	Default Route
Configuration:	EXISTING

Trip Generation Report

Forecast for PROJ AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Cambria Cour	1.00	Cambria Court	6.00	20.00	6	20	26	100.0
	Zone 1 Subtotal					6	20	26	100.0
TOTAL						6	20	26	100.0

Intersection Volume Report
Base Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	98	217	33	22	182	92	37	139	64	31	216	21
4	Avalon Boulev	41	917	68	77	799	51	95	98	38	56	112	99

Intersection Volume Report
Future Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	98	217	33	22	182	92	37	141	64	32	222	22
4	Avalon Boulev	42	917	68	77	799	53	101	100	40	56	113	99

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Dolores Street/220th Street	B	xxxxx	0.693	B	xxxxx	0.700	+ 0.007 V/C
# 4 Avalon Boulevard/220th Street	C	xxxxx	0.750	C	xxxxx	0.755	+ 0.005 V/C

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dolores Street/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.700
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	B

Street Name:	Dolores Street						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module:												
Base Vol:	98	217	33	22	182	92	37	139	64	31	216	21
Growth 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
Initial Bse:	98	217	33	22	182	92	37	139	64	31	216	21
Added Vol:	0	0	0	0	0	0	0	2	0	1	6	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	217	33	22	182	92	37	141	64	32	222	22
User 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
PHF Adj:	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
PHF Volume:	133	294	45	30	247	125	50	191	87	43	301	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	294	45	30	247	125	50	191	87	43	301	30
PCE 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
MLF 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
FinalVolume:	133	294	45	30	247	125	50	191	87	43	301	30
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.63	0.09	0.07	0.62	0.31	0.15	0.59	0.26	0.12	0.80	0.08
Final Sat.:	451	998	152	119	984	497	245	932	423	186	1287	128
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.30	0.02	0.25	0.25	0.03	0.21	0.21	0.03	0.23	0.23
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	213	256	4	12	8
Future Vol, veh/h	2	213	256	4	12	8
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, %	2	2	2	2	2	2
Mvmt Flow	2	232	278	4	13	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	282	0	-	0	516	280
Stage 1	-	-	-	-	280	-
Stage 2	-	-	-	-	236	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1280	-	-	-	519	759
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	803	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1280	-	-	-	518	759
Mov Cap-2 Maneuver	-	-	-	-	518	-
Stage 1	-	-	-	-	765	-
Stage 2	-	-	-	-	803	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1280	-	-	-	593
HCM Lane V/C Ratio	0.002	-	-	-	0.037
HCM Control Delay (s)	7.8	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	166	19	13	176	29	50	93	31	27	64	33
Future Vol, veh/h	40	166	19	13	176	29	50	93	31	27	64	33
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	224	26	18	238	39	68	126	42	36	86	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.8	13.4	12.7	11.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	18%	6%	22%
Vol Thru, %	53%	74%	81%	52%
Vol Right, %	18%	8%	13%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	225	218	124
LT Vol	50	40	13	27
Through Vol	93	166	176	64
RT Vol	31	19	29	33
Lane Flow Rate	235	304	295	168
Geometry Grp	1	1	1	1
Degree of Util (X)	0.385	0.476	0.458	0.278
Departure Headway (Hd)	5.888	5.631	5.599	5.966
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	607	635	639	597
Service Time	3.967	3.706	3.674	4.054
HCM Lane V/C Ratio	0.387	0.479	0.462	0.281
HCM Control Delay	12.7	13.8	13.4	11.4
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.8	2.6	2.4	1.1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Boulevard/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.755
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Avalon Boulevard						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	41	917	68	77	799	51	95	98	38	56	112	99
Growth 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
Initial Bse:	41	917	68	77	799	51	95	98	38	56	112	99
Added Vol:	1	0	0	0	0	2	6	2	2	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	917	68	77	799	53	101	100	40	56	113	99
User 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
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	50	1089	81	91	949	63	120	119	48	67	134	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	50	1089	81	91	949	63	120	119	48	67	134	118
PCE 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
MLF 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
FinalVolume:	50	1089	81	91	949	63	120	119	48	67	134	118
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.86	0.14	1.00	1.88	0.12	1.00	0.71	0.29	1.00	0.53	0.47
Final Sat.:	1600	2979	221	1600	3001	199	1600	1143	457	1600	853	747
Capacity Analysis Module:												
Vol/Sat:	0.03	0.37	0.37	0.06	0.32	0.32	0.07	0.10	0.10	0.04	0.16	0.16
Crit Moves:		****			****			****			****	

Scenario Report

Scenario:	EX + PROJ PM
Command:	EX + PROJ PM
Volume:	EX PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	PROJ PM
Trip Distribution:	DISTRIBUTION
Paths:	Default Path
Routes:	Default Route
Configuration:	EXISTING

Trip Generation Report

Forecast for PROJ PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Cambria Cour	1.00	Cambria Court	22.00	13.00	22	13	35	100.0
	Zone 1 Subtotal					22	13	35	100.0
TOTAL						22	13	35	100.0

Intersection Volume Report
Base Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	23	149	23	26	162	33	49	300	52	15	131	24
4	Avalon Boulev	31	961	41	110	926	67	116	153	38	35	57	65

Intersection Volume Report
Future Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	23	149	24	27	162	33	49	307	52	16	135	25
4	Avalon Boulev	33	961	41	110	926	74	120	154	39	35	59	65

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Dolores Street/220th Street	A	xxxxx	0.535	A	xxxxx	0.541	+ 0.006 V/C
# 4 Avalon Boulevard/220th Street	B	xxxxx	0.659	B	xxxxx	0.663	+ 0.004 V/C

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dolores Street/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.541
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Street Name:	Dolores Street						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module:												
Base Vol:	23	149	23	26	162	33	49	300	52	15	131	24
Growth 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
Initial Bse:	23	149	23	26	162	33	49	300	52	15	131	24
Added Vol:	0	0	1	1	0	0	0	7	0	1	4	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	149	24	27	162	33	49	307	52	16	135	25
User 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
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	24	157	25	28	171	35	52	323	55	17	142	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	157	25	28	171	35	52	323	55	17	142	26
PCE 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
MLF 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
FinalVolume:	24	157	25	28	171	35	52	323	55	17	142	26
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.12	0.76	0.12	0.12	0.73	0.15	0.12	0.75	0.13	0.09	0.77	0.14
Final Sat.:	188	1216	196	195	1168	238	192	1204	204	145	1227	227
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.02	0.15	0.15	0.03	0.27	0.27	0.01	0.12	0.12
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	325	157	13	8	5
Future Vol, veh/h	9	325	157	13	8	5
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, %	2	2	2	2	2	2
Mvmt Flow	10	353	171	14	9	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	185	0	-	0	551	178
Stage 1	-	-	-	-	178	-
Stage 2	-	-	-	-	373	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1390	-	-	-	495	865
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	696	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1390	-	-	-	491	865
Mov Cap-2 Maneuver	-	-	-	-	491	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	696	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1390	-	-	-	589
HCM Lane V/C Ratio	0.007	-	-	-	0.024
HCM Control Delay (s)	7.6	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	51	256	27	7	123	10	18	74	20	36	70	29
Future Vol, veh/h	51	256	27	7	123	10	18	74	20	36	70	29
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	291	31	8	140	11	20	84	23	41	80	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.3	9.8	9.9	10.2
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	15%	5%	27%
Vol Thru, %	66%	77%	88%	52%
Vol Right, %	18%	8%	7%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	112	334	140	135
LT Vol	18	51	7	36
Through Vol	74	256	123	70
RT Vol	20	27	10	29
Lane Flow Rate	127	380	159	153
Geometry Grp	1	1	1	1
Degree of Util (X)	0.195	0.524	0.231	0.233
Departure Headway (Hd)	5.514	4.969	5.232	5.465
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	650	729	686	657
Service Time	3.552	2.969	3.266	3.503
HCM Lane V/C Ratio	0.195	0.521	0.232	0.233
HCM Control Delay	9.9	13.3	9.8	10.2
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.7	3.1	0.9	0.9

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Boulevard/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.663
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	B

Street Name:	Avalon Boulevard						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	31	961	41	110	926	67	116	153	38	35	57	65
Growth 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
Initial Bse:	31	961	41	110	926	67	116	153	38	35	57	65
Added Vol:	2	0	0	0	0	7	4	1	1	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	961	41	110	926	74	120	154	39	35	59	65
User 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
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	35	1013	43	116	976	78	126	162	41	37	62	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	1013	43	116	976	78	126	162	41	37	62	68
PCE 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
MLF 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
FinalVolume:	35	1013	43	116	976	78	126	162	41	37	62	68
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.92	0.08	1.00	1.85	0.15	1.00	0.80	0.20	1.00	0.48	0.52
Final Sat.:	1600	3069	131	1600	2963	237	1600	1277	323	1600	761	839
Capacity Analysis Module:												
Vol/Sat:	0.02	0.33	0.33	0.07	0.33	0.33	0.08	0.13	0.13	0.02	0.08	0.08
Crit Moves:		****			****			****			****	

Future Year 2022 Conditions

Scenario Report

Scenario:	OP YR AM
Command:	OP YR AM
Volume:	EX AM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	OP YR AM
Trip Distribution:	DISTRIBUTION
Paths:	Default Path
Routes:	Default Route
Configuration:	OP YR

Trip Generation Report

Forecast for CUMU AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
2	Carson Truck	1.00	Carson Truckin	91.00	27.00	91	27	118	18.4
	Zone 2 Subtotal					91	27	118	18.4
3	223rd Street	1.00	223rd Street C	1.00	2.00	1	2	3	0.5
	Zone 3 Subtotal					1	2	3	0.5
4	Birch Specif	1.00	Birch Specific	3.00	9.00	3	9	12	1.9
	Zone 4 Subtotal					3	9	12	1.9
5	Veterans Vil	1.00	Veterans Villa	13.00	23.00	13	23	36	5.6
	Zone 5 Subtotal					13	23	36	5.6
6	Union South	1.00	Union South Ba	124.00	163.00	124	163	287	44.8
	Zone 6 Subtotal					124	163	287	44.8
7	Carson Arts	1.00	Carson Arts Pr	5.00	16.00	5	16	21	3.3
	Zone 7 Subtotal					5	16	21	3.3
8	Carson Town	1.00	Carson Town Ce	102.00	62.00	102	62	164	25.6
	Zone 8 Subtotal					102	62	164	25.6
TOTAL						339	302	641	100.0

Intersection Volume Report
Base Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	99	220	33	22	185	93	38	141	65	31	219	21
4	Avalon Boulev	42	931	69	78	811	52	96	99	39	57	114	100

Intersection Volume Report
Future Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	99	220	33	22	185	93	38	146	65	31	226	21
4	Avalon Boulev	42	962	69	82	862	56	99	100	39	57	116	103

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Dolores Street/220th Street	C	xxxxx	0.702	C	xxxxx	0.708	+ 0.006 V/C
# 4 Avalon Boulevard/220th Street	C	xxxxx	0.760	C	xxxxx	0.780	+ 0.020 V/C

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dolores Street/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.708
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Dolores Street						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	98	217	33	22	182	92	37	139	64	31	216	21
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	99	220	33	22	185	93	38	141	65	31	219	21
Added Vol:	0	0	0	0	0	0	0	5	0	0	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	220	33	22	185	93	38	146	65	31	226	21
User 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
PHF Adj:	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
PHF Volume:	135	299	45	30	251	127	51	198	88	43	307	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	135	299	45	30	251	127	51	198	88	43	307	29
PCE 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
MLF 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
FinalVolume:	135	299	45	30	251	127	51	198	88	43	307	29
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.63	0.09	0.07	0.62	0.31	0.15	0.59	0.26	0.11	0.81	0.08
Final Sat.:	451	998	152	119	984	497	242	940	418	180	1297	122
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.30	0.02	0.25	0.25	0.03	0.21	0.21	0.03	0.24	0.24
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	220	266	0	0	0
Future Vol, veh/h	0	220	266	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	239	289	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	289	0	-	0	528	289
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	239	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1273	-	-	-	511	750
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	801	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1273	-	-	-	511	750
Mov Cap-2 Maneuver	-	-	-	-	511	-
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1273	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	162	18	13	182	29	51	94	31	27	65	33
Future Vol, veh/h	40	162	18	13	182	29	51	94	31	27	65	33
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	219	24	18	246	39	69	127	42	36	88	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.7	13.6	12.8	11.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	18%	6%	22%
Vol Thru, %	53%	74%	81%	52%
Vol Right, %	18%	8%	13%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	220	224	125
LT Vol	51	40	13	27
Through Vol	94	162	182	65
RT Vol	31	18	29	33
Lane Flow Rate	238	297	303	169
Geometry Grp	1	1	1	1
Degree of Util (X)	0.39	0.468	0.471	0.281
Departure Headway (Hd)	5.901	5.664	5.606	5.984
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	604	630	639	595
Service Time	3.983	3.741	3.683	4.072
HCM Lane V/C Ratio	0.394	0.471	0.474	0.284
HCM Control Delay	12.8	13.7	13.6	11.4
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.8	2.5	2.5	1.1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Boulevard/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.780
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Street Name:	Avalon Boulevard						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	41	917	68	77	799	51	95	98	38	56	112	99
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	42	931	69	78	811	52	96	99	39	57	114	100
Added Vol:	0	31	0	4	51	4	3	1	0	0	2	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	962	69	82	862	56	99	100	39	57	116	103
User 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
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	49	1142	82	98	1024	66	118	119	46	68	137	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	1142	82	98	1024	66	118	119	46	68	137	123
PCE 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
MLF 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
FinalVolume:	49	1142	82	98	1024	66	118	119	46	68	137	123
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.87	0.13	1.00	1.88	0.12	1.00	0.72	0.28	1.00	0.53	0.47
Final Sat.:	1600	2986	214	1600	3006	194	1600	1156	444	1600	845	755
Capacity Analysis Module:												
Vol/Sat:	0.03	0.38	0.38	0.06	0.34	0.34	0.07	0.10	0.10	0.04	0.16	0.16
Crit Moves:		****			****			****			****	

Scenario Report

Scenario:	OP YR PM
Command:	OP YR PM
Volume:	EX PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	OP YR PM
Trip Distribution:	DISTRIBUTION
Paths:	Default Path
Routes:	Default Route
Configuration:	OP YR

Trip Generation Report

Forecast for CUMU PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
2	Carson Truck	1.00	Carson Truckin	36.00	97.00	36	97	133	10.2
	Zone 2 Subtotal					36	97	133	10.2
3	223rd Street	1.00	223rd Street C	2.00	2.00	2	2	4	0.3
	Zone 3 Subtotal					2	2	4	0.3
4	Birch Specif	1.00	Birch Specific	9.00	5.00	9	5	14	1.1
	Zone 4 Subtotal					9	5	14	1.1
5	Veterans Vil	1.00	Veterans Villa	17.00	13.00	17	13	30	2.3
	Zone 5 Subtotal					17	13	30	2.3
6	Union South	1.00	Union South Ba	235.00	189.00	235	189	424	32.7
	Zone 6 Subtotal					235	189	424	32.7
7	Carson Arts	1.00	Carson Arts Pr	16.00	10.00	16	10	26	2.0
	Zone 7 Subtotal					16	10	26	2.0
8	Carson Town	1.00	Carson Town Ce	320.00	347.00	320	347	667	51.4
	Zone 8 Subtotal					320	347	667	51.4
TOTAL						635	663	1298	100.0

Intersection Volume Report
Base Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	23	151	23	26	164	33	50	304	53	15	133	24
4	Avalon Boulev	31	975	42	112	940	68	118	155	39	36	58	66

Intersection Volume Report
Future Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	24	151	23	26	164	33	50	318	54	15	145	24
4	Avalon Boulev	32	1042	42	117	986	73	124	162	40	36	64	72

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Dolores Street/220th Street	A	xxxxx	0.541	A	xxxxx	0.552	+ 0.011 V/C
# 4 Avalon Boulevard/220th Street	B	xxxxx	0.668	C	xxxxx	0.705	+ 0.037 V/C

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dolores Street/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.552
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Street Name:	Dolores Street						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	23	149	23	26	162	33	49	300	52	15	131	24
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	23	151	23	26	164	33	50	304	53	15	133	24
Added Vol:	1	0	0	0	0	0	0	14	1	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	151	23	26	164	33	50	318	54	15	145	24
User 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
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	26	159	25	28	173	35	52	336	57	16	153	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	159	25	28	173	35	52	336	57	16	153	26
PCE 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
MLF 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
FinalVolume:	26	159	25	28	173	35	52	336	57	16	153	26
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.12	0.76	0.12	0.12	0.73	0.15	0.12	0.75	0.13	0.08	0.79	0.13
Final Sat.:	196	1216	188	188	1173	239	189	1208	204	132	1257	211
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.02	0.15	0.15	0.03	0.28	0.28	0.01	0.12	0.12
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	345	172	0	0	0
Future Vol, veh/h	0	345	172	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	375	187	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	187	0	-	0	562	187
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	375	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1387	-	-	-	488	855
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1387	-	-	-	488	855
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	695	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1387	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	51	267	27	7	126	10	18	75	20	37	71	28
Future Vol, veh/h	51	267	27	7	126	10	18	75	20	37	71	28
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	303	31	8	143	11	20	85	23	42	81	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.8	10	10	10.3
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	15%	5%	27%
Vol Thru, %	66%	77%	88%	52%
Vol Right, %	18%	8%	7%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	113	345	143	136
LT Vol	18	51	7	37
Through Vol	75	267	126	71
RT Vol	20	27	10	28
Lane Flow Rate	128	392	163	155
Geometry Grp	1	1	1	1
Degree of Util (X)	0.198	0.544	0.238	0.237
Departure Headway (Hd)	5.565	4.991	5.268	5.522
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	643	725	681	649
Service Time	3.61	2.991	3.303	3.565
HCM Lane V/C Ratio	0.199	0.541	0.239	0.239
HCM Control Delay	10	13.8	10	10.3
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.7	3.3	0.9	0.9

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Boulevard/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.705
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Avalon Boulevard						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	31	961	41	110	926	67	116	153	38	35	57	65
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	31	975	42	112	940	68	118	155	39	36	58	66
Added Vol:	1	67	0	5	46	5	6	7	1	0	6	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	1042	42	117	986	73	124	162	40	36	64	72
User 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
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	34	1098	44	123	1039	77	130	171	42	37	67	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	1098	44	123	1039	77	130	171	42	37	67	76
PCE 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
MLF 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
FinalVolume:	34	1098	44	123	1039	77	130	171	42	37	67	76
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.92	0.08	1.00	1.86	0.14	1.00	0.80	0.20	1.00	0.47	0.53
Final Sat.:	1600	3077	123	1600	2979	221	1600	1286	314	1600	752	848
Capacity Analysis Module:												
Vol/Sat:	0.02	0.36	0.36	0.08	0.35	0.35	0.08	0.13	0.13	0.02	0.09	0.09
Crit Moves:		****			****			****			****	

Future Year 2022 plus Project Conditions

Scenario Report

Scenario:	OP YR + PROJ AM
Command:	OP YR + PROJ AM
Volume:	EX AM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	OP YR + PROJ AM
Trip Distribution:	DISTRIBUTION
Paths:	Default Path
Routes:	Default Route
Configuration:	OP YR

Trip Generation Report

Forecast for PROJ AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Cambria Cour	1.00	Cambria Court	6.00	20.00	6	20	26	3.9
	Zone 1 Subtotal					6	20	26	3.9
TOTAL						6	20	26	3.9

Trip Generation Report

Forecast for CUMU AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
2	Carson Truck	1.00	Carson Truckin	91.00	27.00	91	27	118	17.7
	Zone 2 Subtotal					91	27	118	17.7
3	223rd Street	1.00	223rd Street C	1.00	2.00	1	2	3	0.4
	Zone 3 Subtotal					1	2	3	0.4
4	Birch Specif	1.00	Birch Specific	3.00	9.00	3	9	12	1.8
	Zone 4 Subtotal					3	9	12	1.8
5	Veterans Vil	1.00	Veterans Villa	13.00	23.00	13	23	36	5.4
	Zone 5 Subtotal					13	23	36	5.4
6	Union South	1.00	Union South Ba	124.00	163.00	124	163	287	43.0
	Zone 6 Subtotal					124	163	287	43.0
7	Carson Arts	1.00	Carson Arts Pr	5.00	16.00	5	16	21	3.1
	Zone 7 Subtotal					5	16	21	3.1
8	Carson Town	1.00	Carson Town Ce	102.00	62.00	102	62	164	24.6
	Zone 8 Subtotal					102	62	164	24.6
TOTAL						339	302	641	96.1

Intersection Volume Report
Base Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	99	220	33	22	185	93	38	141	65	31	219	21
4	Avalon Boulev	42	931	69	78	811	52	96	99	39	57	114	100

Intersection Volume Report
Future Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	99	220	33	22	185	93	38	147	65	32	232	22
4	Avalon Boulev	43	962	69	82	862	58	105	102	41	57	117	103

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Dolores Street/220th Street	C	xxxxx	0.702	C	xxxxx	0.714	+ 0.013 V/C
# 4 Avalon Boulevard/220th Street	C	xxxxx	0.760	C	xxxxx	0.785	+ 0.026 V/C

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dolores Street/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.714
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Dolores Street						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	98	217	33	22	182	92	37	139	64	31	216	21
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	99	220	33	22	185	93	38	141	65	31	219	21
Added Vol:	0	0	0	0	0	0	0	6	0	1	13	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	220	33	22	185	93	38	147	65	32	232	22
User 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
PHF Adj:	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
PHF Volume:	135	299	45	30	251	127	51	200	88	44	315	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	135	299	45	30	251	127	51	200	88	44	315	30
PCE 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
MLF 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
FinalVolume:	135	299	45	30	251	127	51	200	88	44	315	30
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.63	0.09	0.07	0.62	0.31	0.15	0.59	0.26	0.11	0.81	0.08
Final Sat.:	451	998	152	119	984	497	241	943	416	181	1295	124
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.30	0.02	0.25	0.25	0.03	0.21	0.21	0.03	0.24	0.24
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	220	266	4	12	8
Future Vol, veh/h	2	220	266	4	12	8
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, %	2	2	2	2	2	2
Mvmt Flow	2	239	289	4	13	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	293	0	-	0	534	291
Stage 1	-	-	-	-	291	-
Stage 2	-	-	-	-	243	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1269	-	-	-	507	748
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	797	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1269	-	-	-	506	748
Mov Cap-2 Maneuver	-	-	-	-	506	-
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	797	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1269	-	-	-	581
HCM Lane V/C Ratio	0.002	-	-	-	0.037
HCM Control Delay (s)	7.8	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	41	172	19	13	185	29	51	94	31	27	65	33
Future Vol, veh/h	41	172	19	13	185	29	51	94	31	27	65	33
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	232	26	18	250	39	69	127	42	36	88	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.3	13.9	12.9	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	18%	6%	22%
Vol Thru, %	53%	74%	81%	52%
Vol Right, %	18%	8%	13%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	232	227	125
LT Vol	51	41	13	27
Through Vol	94	172	185	65
RT Vol	31	19	29	33
Lane Flow Rate	238	314	307	169
Geometry Grp	1	1	1	1
Degree of Util (X)	0.394	0.495	0.482	0.284
Departure Headway (Hd)	5.97	5.688	5.652	6.056
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	597	630	632	588
Service Time	4.059	3.768	3.732	4.153
HCM Lane V/C Ratio	0.399	0.498	0.486	0.287
HCM Control Delay	12.9	14.3	13.9	11.6
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.9	2.7	2.6	1.2

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Boulevard/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.785
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Avalon Boulevard						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	41	917	68	77	799	51	95	98	38	56	112	99
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	42	931	69	78	811	52	96	99	39	57	114	100
Added Vol:	1	31	0	4	51	6	9	3	2	0	3	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	962	69	82	862	58	105	102	41	57	117	103
User 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
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	51	1142	82	98	1024	69	125	122	48	68	139	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	1142	82	98	1024	69	125	122	48	68	139	123
PCE 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
MLF 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
FinalVolume:	51	1142	82	98	1024	69	125	122	48	68	139	123
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.87	0.13	1.00	1.87	0.13	1.00	0.72	0.28	1.00	0.53	0.47
Final Sat.:	1600	2986	214	1600	2999	201	1600	1146	454	1600	848	752
Capacity Analysis Module:												
Vol/Sat:	0.03	0.38	0.38	0.06	0.34	0.34	0.08	0.11	0.11	0.04	0.16	0.16
Crit Moves:		****			****			****			****	

Scenario Report

Scenario:	OP YR + PROJ PM
Command:	OP YR + PROJ PM
Volume:	EX PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	OP YR + PROJ PM
Trip Distribution:	DISTRIBUTION
Paths:	Default Path
Routes:	Default Route
Configuration:	OP YR

Trip Generation Report

Forecast for PROJ PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Cambria Cour	1.00	Cambria Court	22.00	13.00	22	13	35	2.6
	Zone 1 Subtotal					22	13	35	2.6
TOTAL						22	13	35	2.6

Trip Generation Report

Forecast for CUMU PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
2	Carson Truck	1.00	Carson Truckin	36.00	97.00	36	97	133	10.0
	Zone 2 Subtotal					36	97	133	10.0
3	223rd Street	1.00	223rd Street C	2.00	2.00	2	2	4	0.3
	Zone 3 Subtotal					2	2	4	0.3
4	Birch Specif	1.00	Birch Specific	9.00	5.00	9	5	14	1.1
	Zone 4 Subtotal					9	5	14	1.1
5	Veterans Vil	1.00	Veterans Villa	17.00	13.00	17	13	30	2.3
	Zone 5 Subtotal					17	13	30	2.3
6	Union South	1.00	Union South Ba	235.00	189.00	235	189	424	31.8
	Zone 6 Subtotal					235	189	424	31.8
7	Carson Arts	1.00	Carson Arts Pr	16.00	10.00	16	10	26	2.0
	Zone 7 Subtotal					16	10	26	2.0
8	Carson Town	1.00	Carson Town Ce	320.00	347.00	320	347	667	50.0
	Zone 8 Subtotal					320	347	667	50.0
TOTAL						635	663	1298	97.4

Intersection Volume Report
Base Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	23	151	23	26	164	33	50	304	53	15	133	24
4	Avalon Boulev	31	975	42	112	940	68	118	155	39	36	58	66

Intersection Volume Report
Future Volume Alternative

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
1	Dolores Stree	24	151	24	27	164	33	50	325	54	16	149	25
4	Avalon Boulev	34	1042	42	117	986	79	128	163	41	36	67	72

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Dolores Street/220th Street	A	xxxxx	0.541	A	xxxxx	0.558	+ 0.016 V/C
# 4 Avalon Boulevard/220th Street	B	xxxxx	0.668	C	xxxxx	0.709	+ 0.042 V/C

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dolores Street/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.558
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Street Name:	Dolores Street						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	23	149	23	26	162	33	49	300	52	15	131	24
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	23	151	23	26	164	33	50	304	53	15	133	24
Added Vol:	1	0	1	1	0	0	0	21	1	1	16	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	151	24	27	164	33	50	325	54	16	149	25
User 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
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	26	159	26	29	173	35	52	343	57	17	157	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	159	26	29	173	35	52	343	57	17	157	27
PCE 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
MLF 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
FinalVolume:	26	159	26	29	173	35	52	343	57	17	157	27
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.12	0.76	0.12	0.12	0.73	0.15	0.12	0.76	0.12	0.09	0.78	0.13
Final Sat.:	195	1210	195	195	1168	238	185	1214	201	136	1251	213
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.02	0.15	0.15	0.03	0.28	0.28	0.01	0.13	0.13
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	345	172	13	8	5
Future Vol, veh/h	9	345	172	13	8	5
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, %	2	2	2	2	2	2
Mvmt Flow	10	375	187	14	9	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	201	0	-	0	589	194
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	395	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1371	-	-	-	471	847
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1371	-	-	-	467	847
Mov Cap-2 Maneuver	-	-	-	-	467	-
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	681	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1371	-	-	-	564
HCM Lane V/C Ratio	0.007	-	-	-	0.025
HCM Control Delay (s)	7.6	0	-	-	11.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	274	28	7	137	10	19	75	20	37	71	29
Future Vol, veh/h	52	274	28	7	137	10	19	75	20	37	71	29
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	311	32	8	156	11	22	85	23	42	81	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.2	10.2	10.1	10.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	15%	5%	27%
Vol Thru, %	66%	77%	89%	52%
Vol Right, %	18%	8%	6%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	114	354	154	137
LT Vol	19	52	7	37
Through Vol	75	274	137	71
RT Vol	20	28	10	29
Lane Flow Rate	130	402	175	156
Geometry Grp	1	1	1	1
Degree of Util (X)	0.203	0.559	0.258	0.242
Departure Headway (Hd)	5.642	5.003	5.306	5.591
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	635	720	677	641
Service Time	3.684	3.031	3.343	3.632
HCM Lane V/C Ratio	0.205	0.558	0.258	0.243
HCM Control Delay	10.1	14.2	10.2	10.4
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	0.8	3.5	1	0.9

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Boulevard/220th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.709
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Avalon Boulevard						220th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	31	961	41	110	926	67	116	153	38	35	57	65
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	31	975	42	112	940	68	118	155	39	36	58	66
Added Vol:	3	67	0	5	46	11	10	8	2	0	9	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	1042	42	117	986	79	128	163	41	36	67	72
User 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
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	36	1098	44	123	1039	83	135	172	43	37	70	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	1098	44	123	1039	83	135	172	43	37	70	76
PCE 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
MLF 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
FinalVolume:	36	1098	44	123	1039	83	135	172	43	37	70	76
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.92	0.08	1.00	1.85	0.15	1.00	0.80	0.20	1.00	0.48	0.52
Final Sat.:	1600	3077	123	1600	2963	237	1600	1282	318	1600	770	830
Capacity Analysis Module:												
Vol/Sat:	0.02	0.36	0.36	0.08	0.35	0.35	0.08	0.13	0.13	0.02	0.09	0.09
Crit Moves:		****			****			****			****	

Queuing Analysis

Existing plus Project

2: 220th Street & Project Access Driveway Performance by movement

Intersection: 2: 220th Street & Project Access Driveway

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	13
95th Queue (ft)	37
Link Distance (ft)	190
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

2: 220th Street & Project Access Driveway Performance by movement

Intersection: 2: 220th Street & Project Access Driveway

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	38	30
Average Queue (ft)	2	9
95th Queue (ft)	18	32
Link Distance (ft)	458	190
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Future Year 2022 plus Project

2: 220th Street & Project Access Driveway Performance by movement

Intersection: 2: 220th Street & Project Access Driveway

Movement	SB
Directions Served	LR
Maximum Queue (ft)	35
Average Queue (ft)	13
95th Queue (ft)	37
Link Distance (ft)	190
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

2: 220th Street & Project Access Driveway Performance by movement

Intersection: 2: 220th Street & Project Access Driveway

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	27	30
Average Queue (ft)	2	10
95th Queue (ft)	15	33
Link Distance (ft)	458	190
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		