DEPARTMENT OF CITY PLANNING

APPEAL RECOMMENDATION REPORT

Central Los Angeles
Area Planning Commission

Date: April 26, 2022
Time: after 4:30 p.m.
Place: Due to concerns over COVID-19, the Central APC meeting will be conducted entirely telephonically by Zoom [https://zoom.us/].The meeting's telephone number and access code number will be provided no later than 72 hours before the meeting on the meeting agenda published at https://planning.lacity.org/about/commissions-boards-hearings and/or by contacting apccentral@lacity.org

Case No.: DIR-2020-3656-SPR-A1
CEQA No.: ENV-2020-3657-CE
Incidental Cases: N/A
Related Cases: None
Council No.: 14- De Leon
Plan Area: Central City
Plan Overlay: None
Certified NC: Central City
GPLU: High Density Residential
Zone: [Q]R5-4D-O

Applicant: Hope Street 1, LLC

Representative: Dana A. Sayles, three6ixty

Appellant: Evo Homeowner Association and Luma Homeowner Association

Public Hearing: Required; March 8, 2022
Appeal Status: Site Plan Review is appealable to Area Planning Commission
Expiration Date: April 26, 2022
Multiple Approval: No

PROJECT LOCATION: 1130 South Hope Street, Los Angeles, CA 90015

PROPOSED PROJECT: Site Plan Review for the construction, use, maintenance of a 112-guest room hotel with 528 square-feet of ground floor retail uses

REQUESTED ACTION:

1. **DETERMINE**, based on the whole of the administrative record, the Project is exempt from the California Environmental Quality Act (CEQA), pursuant to CEQA Guidelines, Section 15332, Article 19 (Class 32), and there is no substantial evidence demonstrating that an exception to the exemption pursuant to CEQA Guidelines, Section 15300.2 applies; and

2. **DENY** the Appeal filed by the Evo Homeowners Association and the Luma Homeowners Association, and **SUSTAIN** the decision of the Director's Determination in approving Site Plan Review Case No. DIR-2021-3656-SPR for the construction, use, and maintenance of a new 12 guest room hotel with 528 square-feet of ground floor retail uses.

3. **ADOPT** the Director's Determination Conditions of Approval and Findings.

VINCENT P. BERTONI, AICP

Director of Planning

Heather Bleemers, Senior City Planner

Eric Claros, City Planner

Jessica Jimenez, Planning Assistant
Telephone: (213) 978-1344
Email: jessica.jimene@lacity.org

*ADVICE TO PUBLIC: *The exact time this report will be considered during the meeting is uncertain since there may be several other items on the agenda. Written communications may be mailed to the Commission Secretariat, 200 North Spring Street, Room 272, Los Angeles. CA 90012 (Phone No. 213-978-1300). While all written communications are given to the Commission for consideration, the initial packets are sent to the week prior to the Commission's meeting date. If you challenge these agenda items in court, you may be limited to raising only those issues you or someone else raised at the public hearing agendized herein, or in written correspondence on these matters delivered to this agency at or prior to the public hearing. As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability, and upon request, will provide reasonable accommodation to ensure equal access to this programs, services and activities. Sign language interpreters, assistive listening devices, or other auxiliary aids and/or other services may be provided upon request. To ensure availability of services, please make your request not later than three working days (72 hours) prior to the meeting by calling the Commission Secretariat at (213) 978-1300.*

TABLE OF CONTENTS

APPEAL REPORT

BACKGROUND

The Site Plan Review project, Case No. DIR-2020-3656-SPR, was approved on November 17, 2021 to allow the construction, use, and maintenance of a new 112 guest room hotel with 528 square-feet of ground floor retail uses. The proposed floor area is 46,741 square-feet, with a floor area ratio of 6:1. The ground floor features a lobby/reception area, along with other hotel amenities including a conference room, business center, vending machine room, trash and recycling, loading area, common restrooms, and an elevator lobby. The guest rooms are evenly distributed – 16 rooms per floor – across seven floors. The proposed hotel is allowed under the site's zoning. The project is only seeking a Site Plan Review and is consistent with all underlying zoning regulations.

APPEAL ANALYSIS

On November 17, 2021, the Director of Planning approved a Site Plan Review at 1130 South Hope Street for the construction, use, and maintenance of a new 112 guest room hotel with 528 square-feet of ground floor retail uses. On December 1, 2021, the Department of City Planning received two timely appeals of the entire decision of the Director's Determination, by the Evo Homeowners Association and the Luma Homeowners Association represented by Sheri Bonstelle. The justification for the appeal consists of two separate letters from the each of the Homeowners Association.

APPEAL POINTS/STAFF RESPONSES

The appeal submitted by both parties contend the project design fails to comply with provisions of the Los Angeles Municipal Code, Downtown Design Guide, and the South Park Business Improvement

District Development Values. The appeal letters also provided comments on noise, traffic, air quality, and Green House Gases (GHG) during the operation and construction of the hotel as well as security issues. A synopsis of the appeal points from both letters are addressed in the responses below.

Appeal Point #1: The Appellant contends that the developer has not provided any traffic or parking study to evaluate the alley, driveway or queuing.

Staff Response to Appeal Point #1: The project's valet for off-site guest parking and ride-share drop offs will not impact surrounding buildings that share the public alley.

Valet, Parking, Trash Services

The appellant contends the project's valet for off-site guest parking and ride-share drop offs will impact the shared public alley, affecting resident of the surrounding building and trash vendors that service the building. The project does not provide a ride-share drop off area at the public alley and rather provides a ride-share drop off area at the front of the hotel along Hope Street.

The original project design included three levels of automated parking accessed from the rear alley. Although not required, the Applicant redesigned the project to remove on-site parking in favor of an off-site parking solution. Because parking will be off-site and the ride-share drop off area will be along Hope Street, there is no impact to the alley from hotel parking or ride-share.

Regarding trash and service vendors, the Project will be served just as other surrounding properties are served, from the alley. Although not required the applicant has voluntarily offered the following operational features to help reduce any perception of impact to the public alley:

- Install "Do Not Block Driveway" signs in accordance with the recommendations of a signage plan that will be prepared;
- Use the same trash vendor as the surrounding residential buildings to consolidate trash service and ensure efficient scheduling; and
- Install security cameras facing the public alley for security and compliance that will be monitored by the hotel's front desk.

Driveway and Traffic

As previously mentioned, a ride-share drop off area is not provided at the public alley, and a parking study is not required for this Project as there is no on-site parking for guests of the hotel. Two parking spaces for operations and building management are on-site and accessed from the alley, which mirrors the employee parking that the Evo and Luma residential buildings provide off the alley.

The Applicant prepared a Traffic Impact Assessment (TIA) for the Project in 2021. The Los Angeles Department of Transportation (LADOT) reviewed and approved the TIA, stating in its approval that "The assessment determined that the project would not have a significant transportation impact and further not have a significant Household or Work VMT impact. Thus, the TIA determined there would be no significant impacts per CEQA and LADOT transportation thresholds.

Furthermore, the TIA states "In light of the increasing populating of driver-for-hire transportation network companies (TNCs), LADOT requires an evaluation of passenger loading areas for development projects. It is not anticipated based on the project size and the project location that there would be any significant impacts from passenger loading at the project frontage. A curb-side loading zone is provided at the front of the project on Hope Street, as well as a loading zone at the north side of the building."

The project will provide 23 parking spaces, as required. Two spaces are provided on the ground floor and accessed from the alley for operations and building management. The remaining 21 spaces are provided off-site, located within 750 feet of the site at 1028 South Hope Street.

Appeal Point #2: The appellants contend an 8-story blank wall will provide no visual interest for the Luma residents and will create an echo and significantly increase noise in the alley.

Staff Response to Appeal Point #2: The 8-story wall adjacent to the Luma residential tower is compatible with existing and future development on adjacent properties and neighboring properties and will not create noise impacts.

Alley design

The 8-story wall adjacent to the Luma residential tower is compatible with existing and future development on adjacent properties and neighboring properties and will not create noise impacts. The referenced 8-story wall is the north façade of the building and is not "blank." The façade is designed to maximize privacy and minimize openings on the property line. Furthermore, during a working session with both the Evo and Luma HOAs, on November 16, 2020, during a working session with the HOA's the applicant inquired whether there was a desire to "articulate" the building with additional windows, balconies, or other features, and the response was a vocal "no."

The façade is only articulated with varying materials and colors, with exception of one window stack at the elevator lobby to provide natural light and air into that public pace on each floor. However, these varying materials and colors provide visual interest and ensure the wall is not a blank monotone.

The Appellants also assert that the wall will create an echo that significantly increases noise in the alley by reverberating noise from existing traffic, loading, and deliveries that occur in the alley. As detailed below, expert analysis in the record refutes this conjecture.

The Applicant conducted a detailed noise study, dated September 7, 2021 and prepared by Urban Crossroads, for the project that conclusively demonstrates there are no unmitigable operational noise impacts from the Project, and that the Project complies with the City's Noise Ordinance.

Furthermore, as described in the noise analysis, if the wall facing the alley was flat it would at most result in a three decibel (3-dB) sound increase. A 3-dB change in environmental noise is commonly considered a barely perceivable change in the ambient noise level of a given location (California Department of Transportation, 2020). However, per project plans, the north façade of the building would not be a flat wall. Rather, the façade would include substantial articulation thus diffusing, or scattering, sounds waves in multiple directions, resulting in less than a 3-dB sound increase. As such, any noise reflected off the façade of the proposed building would not result in a perceivable increase in noise levels and impacts would remain less than significant.

Appeal Point #3: The Appellants contend that the City should consider alleged shade/shadow impacts on the neighboring open spaces and pool area at the Evo and Luma buildings.

Staff Response to Appeal Point #3: A shade/shadow analysis, while not required, demonstrates the Project will not add to existing shade/shadow patterns.

The project is located in downtown Los Angeles in a transit priority area, and by law is exempt from considering shade and shadow issues. However, the applicant did conduct a shade and shadow study, which demonstrates that the Project does not have any more impacts on the pool and open space decks on the adjacent buildings than their own buildings currently shade those areas without the project. Thus, the project does not have any impact that does not already exist today.

Appeal Point #4: The Appellants contend the project will cause noise on the open rooftop and ground level valet areas that will be audible from the multiple adjacent residences across the 20 foot alley and that the Noise Study does not properly evaluate the operation and construction of the hotel and adjacent residents.

Staff Response to Appeal Point #4: The rooftop and ground level valet areas will not cause noise impacts to adjacent residences across the alley, and the applicant has agreed to limit rooftop hours. The Noise Study properly evaluates the operation and construction of the hotel and adjacent residents.

Noise

The applicant voluntarily agreed to restrict rooftop operating hours to the same as the adjacent buildings (Elleven, Luma, Evo). While there is no evidence that any rooftop use would cause noise impacts, the project's noise study analyzed these restricted hours and thus the operational noise analysis is more conservative than what is required by CEQA.

The Noise analysis prepared by Urban Crossroads identified four nearby receiver locations, all noise-sensitive residential uses (1133 South Hope Street, 1111 South Grand Avenue, 1155 South Grand, 1200 South Hope Street) and analyzed potential noise impacts at these locations based on noise-generating uses at the project including roof-top mechanical equipment and rooftop amenities. As discussed in the noise analysis, the project would not result in a significant noise impact during daytime or nighttime at the receiver locations and impacts would be less than significant.

The Appellants also assert the Letter of Determination does not provide limits on the hours of operation, including rooftop hours, and that there will not be sufficient hotel staff to monitor the sound. The City of Los Angeles does not regulate hours of operation as part of a stand-alone Site Plan Review application. Although not required, the applicant has agreed to reduce hours of operation. The rooftop will adhere to the same hours of operation as the surrounding residential building's (Evo, Elleven, and Luma buildings) rooftop hours, which close at 11:00p.m. Sunday through Thursday at until 12:00 a.m. Friday through Saturday. Hotel staff will be on-site to monitor and address noise.

Operation and Construction Noise

The Appellants assert the noise study prepared by Urban Crossroads does not evaluate impact of the operation and construction of the hotel on adjacent residents. As stated above, the Noise analysis identified four nearby receiver locations, all noise-sensitive residential uses (1133 South Hope Street, 1111 South Grand Avenue, 1155 South Grand Avenue, 1200 South Hope Street) and analyzed potential noise impacts at these locations based on noise-generating uses at the project including roof-top mechanical equipment and rooftop amenities. As discussed in the noise analysis, the project would not result in significant noise impacts during the daytime or nighttime at the receiver locations and impacts would be less than significant.

The construction management plan prepared includes construction equipment and complies with the City's set construction hours.

Appeal Point #5: The Appellants contend the project does not comply with a setback.

<u>Staff Response to Appeal Point #5:</u> The project complies with zoning regulations, including all setbacks.

<u>Setbacks</u>

The appellants assert the Los Angeles Municipal Code (LAMC) requires an 11-foot side yard and the Downtown Design Guide ("DDG") requires a 40-foot setback from an interior property line if the adjacent property may be developed, and that the adjacent property south lot may be developed as it is owned by the EVO Homeowners Association.

As identified in Ordinance No 179,067, effective September 23, 2007, and summarized in ZI No. 2385- all yard requirements were eliminated by the Greater Downtown Housing Incentive Area program for all projects. There are no yards applicable to projects in Downtown Los Angeles. The project complies with yards required by the Los Angeles Municipal Code.

Appellants refer to page 35 of the Downtown Design Guide (figure 6-2), which provides scenarios and recommendations for spacing between towers. This does not apply to the project because tower is defined as over 150 feet, and the project is 106 feet. Furthermore, the Downtown Design Guide is a guide and not a zoning document and the project is not required to provide any setbacks for a project of this height. As such, the project complies with yard and setback requirements.

<u>Appeal Point #6:</u> The Appellants assert that the Project does not comply with the Downtown Design Guidelines requirement to minimize neighbor impacts, and that mechanical equipment and lighting must be located away from residential uses.

<u>Staff Response to Appeal Point #6:</u> The Project complies with Downtown Design Guidelines requirement to minimize neighbor impact, including the location of its mechanical equipment and lighting.

<u>Downtown Design Guide</u>

Page 52 states that major mechanical systems, penthouses, and lighting should be designed to limit adverse impacts. The DDG states:

- "Mechanical equipment shall be either screened from the public" or "integrated with the architectural design of the building"
- Further, mechanical equipment "should not be placed on balconies or other private or common open space areas"
- Ventilation requirement "shall be located and designed away from the street and to minimize adverse effects on pedestrian comforts along the sidewalk"

The project complies with the Downtown Design Guidelines and locates mechanical equipment and lighting away from surrounding residential uses. The subject building ventilates vertically, not towards the neighboring residential buildings.

The Appellants also assert that the Project does not comply with a requirement for a series of open spaces publicly accessible at the street level and does not have sufficient hotel drop-off waiting area on Hope Street. Appellants misunderstand the application of the DDG to the Project.

The open space section of the DDG states, *"Determinations of open space and floor area should be implemented in a manner that maximizes opportunities for resident and public-serving open space, such as on rooftops, balconies, and building cutout areas,* ***taking into account limitations on developable space that constrain many downtown development projects****."* As confirmed by Department of City Planning Staff and the Director of Planning in approving the Site Plan Review, there is no open space required for the Project as a hotel project, and this provision for public-serving open space is not applicable because it is not feasible as the Project frontage is only 50 feet wide and significantly constrained as a parcel under 10,000 square feet.

<u>Appeal Point #7:</u> The Appellants assert that the projects traffic, noise, air quality, and greenhouse gas analysis will create an environmental impact.

<u>Staff Response to Appeal Point #7:</u> The project's traffic, noise, air quality, and greenhouse gas analysis provide substantial evidence that the project will not create any environmental impacts.

The Appellants assert that the Project did not provide parking and traffic studies. The Applicant prepared a Traffic Impact Study (TIA) in 2021, which LADOT subsequently reviewed and approved on February 23, 2021. See a detailed response to this point address above under item 1.b.

The Appellants also assert that the Project's air quality and greenhouse gas studies are flawed and require revisions. The Air Quality Analysis conducted by Urban Crossroads was conducted using CEQA significance criteria and SCAQMD regional significance thresholds. The Air Quality Analysis identified four nearby receiver locations, all noise-sensitive residential uses (1133 South Hope Street, 1111 South Grand Avenue, 1155 South Grand Avenue, 1200 South Hope Street) and analyzed potential air quality impacts at the nearest sensitive receptor, consistent with SCAQMD methodology. As discussed in detail in the Air Quality Analysis, the Project would not result in significant air quality impacts during operation or construction, and no mitigation is warranted. The comment does not include further information on how the analysis is flawed and is representative of the Appellants' general unsubstantiated claims.

Furthermore, Appellants claim that the Project did not provide a study of the public alley. LADOT does not require a study of the public alley and parking is satisfied by off-site parking.

<u>Appeal Point #8:</u> The Appellants contend that alcohol and restaurants should be prohibited.

<u>Staff Response to Appeal Point #8:</u> The City cannot restrict a restaurant or alcohol service as part of a Site Plan Review.

A future alcohol service would require a separate approval. A prior case for the property filed under Case No. ZA-2012-385-VCU-ZV-ZAA-TDR included a rooftop and bar, which was part of an appeal by the same Appellants, and thus the current project was specifically designed without any food or beverage outlets to minimize conflicts from those uses with adjacent neighbors.

<u>Appeal Point #9:</u> The Appellants claim that Planning Director erred or abused their discretion.

<u>Staff Response to Appeal Point #9:</u> The Planning Director did not err or abuse their discretion.

The project meets the Conditions of a Class 32 Exemption for CEQA, as outlined in the Exemption findings prepared for the project which include:

- The Project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

- The proposed development occurs within City limits on a project site of no more than five acres substantially surrounded by urban uses.
- The Project site has no value as habitat for endangered, rare, or threatened species.
- Approval of the Project would not result in significant effects relating to traffic, noise, air quality, or water quality.
- The site can be adequately served by all required utilities and public services.

The Exemption findings explain that the Exception to a Class 32 Categorical Exemption do not apply to the Project.

The case file includes comprehensive environmental documentation and extensive technical analysis to support the determination by the Director of Planning. These reports included but are not limited to, a Traffic Assessment dated September 2020 prepared by KOA, a Traffic Impact Study dated August 2021 prepared by KOA, and a Technical Memorandum dated February 8, 2021 prepared by KOA and subsequently reviewed by the Los Angeles Department of Transportation on February 23, 2021. In addition, the applicant provided a detailed Noise Impact Analysis dated September 7, 2021, an Air Quality Impact Analysis dated August 20, 2021, and a Green House Gas Analysis dated August 20, 2021, all prepared by Urban Crossroads. A Geotechnical engineering report investigation dated December 23, 2019, prepared by Rybak Geotechnical was submitted and reviewed. A Certificate of Compliance for Methane Test Data was conducted by Engineer Don Terras on January 31, 2021. Furthermore, the applicant provided a memo dated October 19, 2021 and prepared by Carlin Environmental Consulting confirming they had conducted methane testing requirements per LADBS code and deemed the site to be in the Methane Zone with level II design measures needed and plans have been submitted to LADBS for review and oversite.

CONCLUSION

In conclusion, the Appellant has not demonstrated how the Director's Determination erred or abused its discretion in approving DIR-2020-3656-SPR and has not provided any substantial evidence to dispute the findings of the Categorical Exemption. The Categorical Exemption is comprehensive and has been completed in full compliance with CEQA. As demonstrated by the responses to the appeal points, there are no new impacts or substantial increases in previously identified impacts that would result from the comments raised herein. The Director's Determination included correct findings of approval consistent with the provisions of CEQA. Therefore, in consideration of all the facts, Planning staff recommends that the appeal be denied, the decision of the Director's Determination be sustained, and it be determined that based on the whole of the administrative record, the Project is exempt from CEQA pursuant to CEQA Guidelines, Section 15332 (Class 32) and there is no substantial evidence demonstrating that an exception to the Exemption pursuant to CEQA Guidelines, Section 15300.2 applies.

Appeal Applications

APPEAL APPLICATION

Instructions and Checklist

Related Code Section: Refer to the City Planning case determination to identify the Zone Code section for the entitlement and the appeal procedure.

Purpose: This application is for the appeal of Department of City Planning determinations authorized by the Los Angeles Municipal Code (LAMC).

A. APPELLATE BODY/CASE INFORMATION

1. APPELLATE BODY

☑ Area Planning Commission ☐ City Planning Commission ☐ City Council ☐ Director of Planning
☐ Zoning Administrator

Regarding Case Number: DIR-2020-3656-SPR; ENV-2020-3657-CE

Project Address: 1130 South Hope Street, Los Angeles, CA 90012

Final Date to Appeal: 12/02/2021

2. APPELLANT

Appellant Identity:
(check all that apply)

☐ Representative ☐ Property Owner
☐ Applicant ☐ Operator of the Use/Site

☑ Person, other than the Applicant, Owner or Operator claiming to be aggrieved
Evo Homeowners Association c/o Luc Sasseville

☐ Person affected by the determination made by the **Department of Building and Safety**

☐ Representative ☐ Owner ☐ Aggrieved Party
☐ Applicant ☐ Operator

3. APPELLANT INFORMATION

Appellant's Name: Evo Homeowners Association c/o Luc Sasseville, General Manager

Company/Organization: Evo Homeowners Association

Mailing Address: 1155 South Grand Street

City: Los Angeles State: CA Zip: 90015

Telephone: (213) 741-2700 E-mail: lsasseville@actionlife.com

a. Is the appeal being filed on your behalf or on behalf of another party, organization or company?

☐ Self ☑ Other: Evo Homeowners Association

b. Is the appeal being filed to support the original applicant's position? ☐ Yes ☑ No

4. REPRESENTATIVE/AGENT INFORMATION

Representative/Agent name (if applicable): Sheri Bonstelle

Company: Jeffer Mangels Butler Mitchell LLP

Mailing Address: 1900 Avenue of the Stars, 7th Floor

City: Los Angeles State: CA. Zip: 90067

Telephone: (310) 712-6847 E-mail: syb@jmbm.com

5. JUSTIFICATION/REASON FOR APPEAL

a. Is the entire decision, or only parts of it being appealed? ☒ Entire ☐ Part

b. Are specific conditions of approval being appealed? ☐ Yes ☒ No

If Yes, list the condition number(s) here: ______

Attach a separate sheet providing your reasons for the appeal. Your reason must state:

☒ The reason for the appeal ☒ How you are aggrieved by the decision

☒ Specifically the points at issue ☒ Why you believe the decision-maker erred or abused their discretion

6. APPLICANT'S AFFIDAVIT

I certify that the statements contained in this application are complete and true:

Appellant Signature: DocuSigned by: BE6D0356150F409... Date: 11/23/2021 | 3:21 PM PST

GENERAL APPEAL FILING REQUIREMENTS

B. ***ALL CASES REQUIRE THE FOLLOWING ITEMS - SEE THE ADDITIONAL INSTRUCTIONS FOR SPECIFIC CASE TYPES***

1. Appeal Documents

a. Three (3) sets - The following documents are required for each appeal filed (1 original and 2 duplicates) Each case being appealed is required to provide three (3) sets of the listed documents.

- ☒ Appeal Application (form CP-7769)
- ☒ Justification/Reason for Appeal
- ☒ Copies of Original Determination Letter

b. Electronic Copy

☒ Provide an electronic copy of your appeal documents on a flash drive (planning staff will upload materials during filing and return the flash drive to you) or a CD (which will remain in the file). The following items must be saved as individual PDFs and labeled accordingly (e.g. "Appeal Form.pdf", "Justification/Reason Statement.pdf", or "Original Determination Letter.pdf" etc.). No file should exceed 9.8 MB in size.

c. Appeal Fee

☐ Original Applicant - A fee equal to 85% of the original application fee, provide a copy of the original application receipt(s) to calculate the fee per LAMC Section 19.01B 1.

☒ Aggrieved Party - The fee charged shall be in accordance with the LAMC Section 19.01B 1.

d. Notice Requirement

☐ Mailing List - All appeals require noticing per the applicable LAMC section(s). Original Applicants must provide noticing per the LAMC

☐ Mailing Fee - The appeal notice mailing fee is paid by the project applicant, payment is made to the City Planning's mailing contractor (BTC), a copy of the receipt must be submitted as proof of payment.

SPECIFIC CASE TYPES - APPEAL FILING INFORMATION

C. DENSITY BONUS / TRANSIT ORIENTED COMMUNITES (TOC)

1. Density Bonus/TOC
Appeal procedures for Density Bonus/TOC per LAMC Section 12.22.A 25 (g) f.

NOTE:
- Density Bonus/TOC cases, only the *on menu or additional incentives* items can be appealed.

- Appeals of Density Bonus/TOC cases can only be filed by adjacent owners or tenants (must have documentation), and always only appealable to the Citywide Planning Commission.

☐ Provide documentation to confirm adjacent owner or tenant status, i.e., a lease agreement, rent receipt, utility bill, property tax bill, ZIMAS, drivers license, bill statement etc.

D. WAIVER OF DEDICATION AND OR IMPROVEMENT

Appeal procedure for Waiver of Dedication or Improvement per LAMC Section 12.37 I.

NOTE:
- Waivers for By-Right Projects, can only be appealed by the owner.

- When a Waiver is on appeal and is part of a master land use application request or subdivider's statement for a project, the applicant may appeal pursuant to the procedures that governs the entitlement.

E. TENTATIVE TRACT/VESTING

1. Tentative Tract/Vesting - Appeal procedure for Tentative Tract / Vesting application per LAMC Section 17.54 A.

NOTE: Appeals to the City Council from a determination on a Tentative Tract (TT or VTT) by the Area or City Planning Commission must be filed within 10 days of the date of the written determination of said Commission.

☐ Provide a copy of the written determination letter from Commission.

F. BUILDING AND SAFETY DETERMINATION

☐ **1.** Appeal of the *Department of Building and Safety* determination, per LAMC 12.26 K 1, an appellant is considered the **Original Applicant** and must provide noticing and pay mailing fees.

a. Appeal Fee
☐ Original Applicant - The fee charged shall be in accordance with LAMC Section 19.01B 2, as stated in the Building and Safety determination letter, plus all surcharges. (the fee specified in Table 4-A, Section 98.0403.2 of the City of Los Angeles Building Code)

b. Notice Requirement
☐ Mailing Fee - The applicant must pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of receipt as proof of payment.

☐ **2.** Appeal of the *Director of City Planning* determination per LAMC Section 12.26 K 6, an applicant or any other aggrieved person may file an appeal, and is appealable to the Area Planning Commission or Citywide Planning Commission as noted in the determination.

a. Appeal Fee
☐ Original Applicant - The fee charged shall be in accordance with the LAMC Section 19.01 B 1 a.

b. Notice Requirement
☐ Mailing List - The appeal notification requirements per LAMC Section 12.26 K 7 apply.
☐ Mailing Fees - The appeal notice mailing fee is made to City Planning's mailing contractor (BTC), a copy of receipt must be submitted as proof of payment.

G. NUISANCE ABATEMENT

1. **Nuisance Abatement -** Appeal procedure for Nuisance Abatement per LAMC Section 12.27.1 C 4

NOTE:
- Nuisance Abatement is only appealable to the City Council.

a. **Appeal Fee**
- ☐ Aggrieved Party the fee charged shall be in accordance with the LAMC Section 19.01 B 1.

2. **Plan Approval/Compliance Review**
Appeal procedure for Nuisance Abatement Plan Approval/Compliance Review per LAMC Section 12.27.1 C 4.

a. **Appeal Fee**
- ☐ Compliance Review - The fee charged shall be in accordance with the LAMC Section 19.01 B.
- ☐ Modification - The fee shall be in accordance with the LAMC Section 19.01 B.

NOTES

A Certified Neighborhood Council (CNC) or a person identified as a member of a CNC or as representing the CNC may not file an appeal on behalf of the Neighborhood Council; persons affiliated with a CNC may only file as an individual on behalf of self.

***Please note** that the appellate body must act on your appeal within a time period specified in the Section(s) of the Los Angeles Municipal Code (LAMC) pertaining to the type of appeal being filed. The Department of City Planning will make its best efforts to have appeals scheduled prior to the appellate body's last day to act in order to provide due process to the appellant. If the appellate body is unable to come to a consensus or is unable to hear and consider the appeal prior to the last day to act, the appeal is automatically deemed denied, and the original decision will stand. The last day to act as defined in the LAMC may only be extended if formally agreed upon by the applicant.*

This Section for City Planning Staff Use Only		
Base Fee:	Reviewed & Accepted by (DSC Planner):	Date:
Receipt No:	Deemed Complete by (Project Planner):	Date:
☐ Determination authority notified	☐ Original receipt and BTC receipt (if original applicant)	

APPEAL JUSTIFICATION/REASON

1. **PROJECT INFORMATION.**

This Appeal is to the Central Area Planning Commission.

The Property is a 7,800 square foot lot located at 1130 South Hope Street, Los Angeles, CA (the **"Property"**). The proposed Project is a 112 room, 8 story, 106-foot limited-amenity hotel project on the Property. (the "**Hotel Project**")

Case Nos: DIR-2020-3656-SPR; ENV-2020-3657-CE.

2. **APPELLANT INFORMATION.**

The Appellant is Evo Homeowners Association c/o Luc Sasseville, General Manager. ("**Evo HOA**") The Evo condominium building is located directly adjacent to the Project across a 20 foot alley at 1155 South Grand Street, Los Angeles, CA.

3. **APPEAL JUSTIFICATION/REASON.**

(a) **Reason for the Appeal**

Evo HOA joins Luma Homeowners Association in all of their claims in their appeal, and incorporates them by reference herein. Evo HOA has significant concerns about impacts of construction and operation of the minimal service Hotel Project with few employees that provides no benefit to the community. The Project design fails to comply with provisions of the Municipal Code ("LAMC"), the mandatory requirements Downtown Design Guide ("Design Guide"), and the South Park Business Improvement District ("South Park BID") Development Values. It also fails to include mitigation measures to mitigate impacts of noise, traffic, air quality, and GHG during operation and construction. It also creates security issues, because the hotel has minimal staff to maintain a 112 room hotel with rooftop use; similar short term stay buildings in the neighborhood have recently contributed to a rise in crime in the area.

Evo HOA is appealing the Site Plan Review and CEQA Exemption for the Hotel Project to ensure that the entitlements include all of the conditions promised by the Developer, and mitigation measures required to mitigate environmental impacts of the Project and to comply with the Downtown Design Guidelines and City zoning code requirements.

(b) **How Appellant is Aggrieved by the Decision**

Evo HOA is located directly across the 20 foot alley from the Hotel Property, and includes a large driveway entrance, directly south of the Hotel Project. Evo HOA will be significantly impacted during construction and operation of the Hotel Project.

In summary, the Hotel Project is on a small 7,800 square foot lot with a 50 foot frontage on Hope Street, with the 20 foot public alley to the north and the private Evo driveway to the south. A primary concern is that the 112 or more guests driving to the valet area and ride share drop offs will queue past the alley and active Evo driveway and block traffic in and out of the residences at both the alley and the Evo entry. The developer has not provided any traffic or parking study to evaluate the valet timing and queuing. Second, the design of the Hotel Project, which is located just 20 feet from the adjacent Luma residential tower, includes an 8-story blank wall that provides no visual interest for the Luma residents, and will create an echo and significantly increase noise in the alley. Third, the noise from the open rooftop and valet areas will be audible from the multiple adjacent residences, and will be exacerbated by hotel guests that are often less considerate than residents in their own communities and with no employees to monitor the noise levels. Fourth, the Hotel Project does not provide a side yard setback on the south side facing the Evo property, which will eventually be developed and block all of the hotel's south facing rooms, including any fire department access. Fifth, the Hotel Project will have significant construction impacts that cannot be mitigated due to the small lot size and close proximity to the Luma and Evo buildings; these were inaccurately evaluated in the noise study, which assumes very quiet construction equipment that does not exist. The developer claims that they do not have to comply with shade/shadow, aesthetic, and other issues because they cannot be considered impacts under CEQA, but these issues are also in the South Park BID Development Values and Downtown Design Guide and are part of compatibility findings for Site Plan Review, and so must be evaluated as part of planning policy. Finally, the neighbors at Evo HOA are concerned that a minimal service hotel will cause safety and security concerns, because there will not be sufficient employees to monitor guest activities, similar to other extended hotels in the area, as evidenced in the LAPD reports. The 112 room Hotel Project is still significantly more dense than the prior approved hotel project with 44 guest rooms, which will necessarily increase impacts in traffic and noise.

(c) **Points at Issue**

(i) **Alley, Driveway and Queuing**. The Hotel Project is located on a small 7,800 square foot lot with a 50 foot street frontage, and with a 20 foot wide public alley to the north and east, and a private lot owned by Evo to the south. It is surrounded by the Luma, Elleven and Evo residential buildings to the north and north east. Hundreds of building residents use the alley daily to walk their dogs, go for a run, or enter or exit the parking structures by car, bicycle or on foot. The alley is also used for loading, trash and delivery for the residential buildings, including residential moving in or out of their residences. In addition, the private Evo drive to the south is very active with residents and guests driving in and out. The Hotel Project will include a valet for off-site guest parking and ride-share drop offs within the 50 foot street frontage. However, the Hotel Project does not provide any parking or traffic or parking study that shows there will not be a traffic impact caused by the valet and ride share and that the queuing for drop-off will not physically block the public alley on the north or private Evo drive on the south. The Hotel Project should be conditioned to provide the following, among other conditions: (i) require a traffic study to evaluate queuing, (ii) provide signage to avoid traffic blocking the alley and Evo driveway, (iii) paint street "no blocking" area in front of the alley and Evo driveway, (iv) provide cameras to monitor compliance, and (v) provide a valet or other employee available 24/7 to park the cars and ensure compliance with the no blocking rules. The Hotel Project parking must also comply with ADA and EV parking requirements. Without the traffic study, there is not substantial evidence in the record to justify a CEQA Exemption related to traffic and parking.

(ii) **Alley Design**. The Hotel Project, which is located just 20 feet from the adjacent residential tower, includes an 8-story blank wall that provides no visual interest for the Luma residents, and will create an echo and significantly increase noise in the alley. The developer claims that they do not have to consider aesthetic impacts under CEQA, but the Site Plan Review specifically requires a finding that the project *"is or will be compatible with existing and future* *development on adjacent properties and neighboring properties."* In addition, the blank wall will cause noise reverberation of the noise of existing traffic, loading and deliveries in the alley, and of the Hotel Project's loading and deliveries in the alley. The Developer must provide a noise study that studies the increased operational noise in the alley caused by the materials in the design. The wall should be designed to have more articulation and absorbent materials that will reduce noise and create visual interest on the ground and upper levels of the public alley. In addition, under Site Plan Review standards, the City must consider the shade/shadow impact on the neighboring open spaces and pool area at Evo and Luma.

(iii) **Operation and Construction Noise**. The Hotel Project will cause noise on the open rooftop and ground level valet areas that will be audible from the multiple adjacent residences across the 20 foot alley. It will be exacerbated by hotel guests that are often less considerate than residents in their own communities and with no employees to monitor the noise levels. The developer claims that the hours will be the same as Evo and Luma; however, the residences have HOA rules and common desire for quiet in the evening, whereas hotel guests are often on vacation, out later at night, and have less consideration for any impacts to their neighbors. In addition, the LOD does not provide any limits on the hours of operation, including the rooftop, despite the Neighborhood Council reliance on the proposed conditions. The minimal service hotel will not have sufficient staff to actively monitor the sound. As proposed by the Developer, the roof should be conditioned to (i) have hotel guests only, and not be open to the public, (ii) have no events, including guest or third party events on the roof, (iii) have no service of alcohol on the roof, or anywhere in the hotel, and (iv) be monitored by employees with a noise level device on the roof. In addition, the roof should close by 10 pm at night to comply with the City's Noise Ordinance.

As previously stated, the Noise Impact Analysis, dated October 15, 2020, by Urban Crossroads, ("**Noise Study**") fails to evaluate the impact of the operation and construction of the hotel on the closest residential units because the sensitive receptor location is down the street, fails to consider noise from the mechanical rooms, alley and rooftop uses, and fails to utilize the national FWHA noise standards in City EIRs and instead allows the study to take its own specific equipment testing. Because the Hotel Project will have noise impacts, the Developer cannot use the CEQA Exemption.

The construction noise of the Hotel Project will rise to the level of a significant impact due to the close proximity of the residences that are 20 feet across the alley. The Hotel Project should impose every feasible mitigation to reduce the noise to the greatest extent possible, including, but not limited to, limiting types of construction equipment, limiting construction hours, constructing sound buffering walls, regular noise monitoring, and prohibiting equipment that would block the alley traffic.

(iv) **Side Yard Setbacks.** The Hotel Project requires a side yard setback of 11 feet under the LAMC for an 8-story structure, and the Developer claims that a ZI does not require side yard setbacks for any development in the Downtown area. However, Evo HOA owns the south lot, and may develop it in the future as long as the driveway is maintained. All of the south facing hotel rooms would be completely blocked by any development on Evo's lot, and will not have access to light and air or Fire Department access to the windows. Evo HOA is not waiving any rights to fully develop their property in the future. The Design Guide requires a 40 foot setback from an interior property line if the adjacent property may be developed. Therefore, the Hotel Project should provide the required setback to the south lot.

(v) **Downtown Design Guide**. The Hotel Project fails to comply with the following additional requirements of the Downtown Design Guide:

(A) Minimizing Neighbor Impacts. The Design Guide specifically requires any development to minimize neighbor impacts, including locating mechanical and lighting away from residential uses, so that it is not visible and does not vent towards the residential neighbor. (p.52) Here, the mechanical rooms and ventilation shafts will vent into the neighboring Luma residences, the blank wall will increase noise levels in the alley, and the building will cause shade and shadow on the open spaces and pool area of adjacent residences.

(B) Public Art. The Design Guide requires that public art be integrated into the Downtown developments. (p. 65) The City's Art requirement provides that one percent of the construction cost is required for on-site art installation, although there is an in-lieu fee payment option. For Downtown projects, the Design Guide and good public policy require that art be integrated in the project. The Developer has not provided for any on-site art as a public benefit.

(C) Open Space. The Design Guide requires a series of open spaces for each project in the Downtown area, and requires a project to provide publicly accessible open spaces at street level that provide pedestrian linkages throughout Downtown. (Table 7-1) Here, the Hotel Project does not contain any public open space, and fails to even provide sufficient hotel drop off waiting area on Hope Street. The developer claims that the small lot precludes them from complying, but they can reduce the scale of development, provide yard setbacks, and include the required seating and open space.

(vi) **Environmental Review**. As stated above, the Developer has failed to provide any Traffic Impact Study or Parking Study to evaluate traffic impacts, even though the Air Quality Study and Greenhouse studies rely on a study by KOA Associates. The Air Quality and Greenhouse Gas studies are flawed, and require revisions in include closer sensitive receptors and proper screening thresholds used in the City of Los Angeles. The Air Quality Study and Greenhouse Gas Study, both by Urban Crossroads, dated October 19, 2020 have similar flaws, because the sensitive receptors are not located at the closest residential unit to the Hotel Project. The Greenhouse Gas Study also uses the wrong screening threshold, 3,000 MTCO2e/yr, based on thresholds used by the City of Menifee and others, but the City of Los Angeles has not adopted this threshold. In the absence of any adopted quantitative threshold, the significance of the Project's GHG emissions should be evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of GHG emissions, including CARB's 2017 Scoping Plan, SCAG's 2020-2045 RTP/SCS, the City's Green New Deal, and the Los Angeles Green Building Code.

The Developer has not provided an Alley Study to show how the queuing or parking would work efficiently considering the existing traffic in the alley (pre-Covid), and to show the clearances for loading vehicles in the small L-shaped alley. They have also not yet provided a Traffic Study to show the impacts of the traffic and parking on the neighborhood, including any ride share drop off on Hope Street. The Los Angeles Department of Building and Safety ("LADBS") provides standards for parking lot design, and requires a minimum reservoir for parking entrances to avoiding queueing in the public alley or street. The LOD states that the parking must be provided on site, but it is not shown in the Project plans in Exhibit A, and there has not been any evaluation of the congested alley use. CEQA review of future parking on the Property cannot be deferred, and must be part of the Project Description and analyzed at the time of Project approval.

In addition, no updated studies have been provided for the revised project. Finally, there is no evaluation of cumulative impacts with the significant number of existing projects under construction in the immediate vicinity.

(vii) **Restaurant and Alcoholic Beverages.** The Developer claimed at the Neighborhood Council meeting that the Hotel Project will not include any restaurant or alcohol service on site, including in mini bars or the retail space; this condition should be included in the LOD and require reconsideration of the hotel entitlements if alcohol service is added in the future.

(viii) **No Public Benefits**. The Hotel Project provides no public benefits to the community, including benefits offered by other hotel developments in the area. The developer could significantly improve the streetscape and ground level amenities for the community, including enhancing the project with additional setbacks and landscaping.

(d) **The Planning Director Erred or Abused Their Discretion**

The Planning Director erred and abused their discretion by approving the Site Plan Review and CEQA Exemption for the Hotel Project without requiring the hotel to comply with the Municipal Code and Downtown Design Guide setback and design requirements, and without requiring the necessary environmental review under CEQA to determine and mitigate impacts caused by noise, traffic, air quality, and GHG during operation and construction.

The Letter of Determination contains several errors or omissions. First, the LOD lists two public correspondence from the Downtown Los Angeles Neighborhood Council, but fails to identify the letters submitted by Evo HOA and Luma Homeowners Association opposing the Hotel Project and identifying necessary conditions and mitigation measures. These letters were provided and confirmed by e-mail and phone calls with the three separate planners that were assigned to the Hotel Project entitlements under its original planning filing and revised planning filing numbers. Second, Evo HOA and Luma Homeowners Association requested a public hearing on the Site Plan Review due to the significant concerns related to the proximity of the Hotel Project to their residences on several occasions. The staff planners and the Planning Director failed to respond to the request or to provide any reasons for not holding a public hearing.

Third, LOD Condition 2 identifies the "use" of the subject site as "the uses permitted in the underlying zone." The LOD must identify the Project use, a hotel use, and require a modification of the Site Plan Review and additional environmental review for any change of use. CEQA analysis requires an accurate, stable and finite Project description, which here is a hotel project. The CEQA exemption did not evaluate any other use for the Property, and so the LOD cannot approve it. Fourth, LOD Condition 3 limits the total floor area to 46,741 square feet, as shown in

Exhibit A, but must also limit the building to 112 hotel rooms, 8 story, and 106-feet in height. Again, the required accurate, stable and finite Project description requires a specific use and building envelope that was evaluated in the CEQA analysis.

Fifth, LOD Condition 4 requires on-site automobile parking in accordance with the LAMC; however, the attached plans in Exhibit A show a building with no parking on site. The Project cannot be in substantial conformance with Exhibit A (as required in LOD Condition 1) and provide on-site parking. The condition must require off-site parking in compliance with the LAMC provisions to permit the Hotel Project approved in Exhibit A. As part of the off-site parking, the hotel must provide valet service that is available 24 hours a day, provide a traffic study to evaluate and condition the valet use to the off-site parking, and provide designed drop-off area in front of the Hotel for both parking valet and ride share drop off. As stated above, the conditions must also provide that the alley and Evo driveway are not blocked at any time through signage, striping, cameras and other measures.

Sixth, LOD Condition 17 requires all mechanical equipment to be screened, but should provide specific conditions for the rooftop use that were described by the Developer's representative at the Neighborhood Council hearing. These included a passive quiet rooftop use that is completely surrounded by stairs and vertical circulation to the north, fully enclosed mechanical rooms to the east and west, and full foliage plantings along the south. The rooftop use may not include any events by a third party, and alcohol may not be served on the rooftop. The rooftop should have limited hours from 7 am to 10 pm to discourage any parties on the roof, consistent with the City's noise ordinance. Only Hotel guests may access the rooftop. There shall be no live music or amplified sound on the roof, and there should be a noise meter so that Hotel workers can monitor the noise level of the roof at all times.

Evo HOA reserves the right to request additional conditions or mitigation measures, and to bring additional claims or issues related to the Hotel Project.

APPLICATIONS:

APPEAL APPLICATION

Instructions and Checklist

Related Code Section: Refer to the City Planning case determination to identify the Zone Code section for the entitlement and the appeal procedure.

Purpose: This application is for the appeal of Department of City Planning determinations authorized by the Los Angeles Municipal Code (LAMC).

A. APPELLATE BODY/CASE INFORMATION

1. APPELLATE BODY

☑ Area Planning Commission ☐ City Planning Commission ☐ City Council ☐ Director of Planning
☐ Zoning Administrator

Regarding Case Number: DIR-2020-3656-SPR; ENV-2020-3657-CE

Project Address: 1130 South Hope Street, Los Angeles, CA

Final Date to Appeal: 12/02/2021

2. APPELLANT

Appellant Identity:
(check all that apply)

☐ Representative ☐ Property Owner
☐ Applicant ☐ Operator of the Use/Site

☑ Person, other than the Applicant, Owner or Operator claiming to be aggrieved
Peter Toumasis, Luma Homeowners Association

☐ Person affected by the determination made by the **Department of Building and Safety**

☐ Representative ☐ Owner ☐ Aggrieved Party
☐ Applicant ☐ Operator

3. APPELLANT INFORMATION

Appellant's Name: Peter Toumasis, Board President

Company/Organization: Luma Homeowners Association

Mailing Address: 1100 South Hope Street, Unit 1615

City: Los Angeles State: CA Zip: 90015

Telephone: (213) 417-9133 E-mail: toumasis33@mac.com

a. Is the appeal being filed on your behalf or on behalf of another party, organization or company?

☐ Self ☑ Other: Luma Homeowners Association

b. Is the appeal being filed to support the original applicant's position? ☐ Yes ☑ No

4. **REPRESENTATIVE/AGENT INFORMATION**

Representative/Agent name (if applicable): Sheri Bonstelle

Company: Jeffer Mangels Butler Mitchell LLP

Mailing Address: 1900 Avenue of the Stars, 7th Floor

City: Los Angeles State: CA Zip: 90067

Telephone: (310) 712-6847 E-mail: syb@jmbm.com

5. **JUSTIFICATION/REASON FOR APPEAL**

a. Is the entire decision, or only parts of it being appealed? ☑ Entire ☐ Part

b. Are specific conditions of approval being appealed? ☐ Yes ☑ No

If Yes, list the condition number(s) here: __________

Attach a separate sheet providing your reasons for the appeal. Your reason must state:

☑ The reason for the appeal ☑ How you are aggrieved by the decision

☑ Specifically the points at issue ☑ Why you believe the decision-maker erred or abused their discretion

6. **APPLICANT'S AFFIDAVIT**

I certify that the statements contained in this application are complete and true:

Appellant Signature: [signature] Date: 11/22/21

GENERAL APPEAL FILING REQUIREMENTS

B. ***ALL CASES REQUIRE THE FOLLOWING ITEMS - SEE THE ADDITIONAL INSTRUCTIONS FOR SPECIFIC CASE TYPES***

1. Appeal Documents

a. **Three (3) sets** - The following documents are required for each appeal filed (1 original and 2 duplicates) Each case being appealed is required to provide three (3) sets of the listed documents.

☑ Appeal Application (form CP-7769)
☑ Justification/Reason for Appeal
☑ Copies of Original Determination Letter

b. **Electronic Copy**

☑ Provide an electronic copy of your appeal documents on a flash drive (planning staff will upload materials during filing and return the flash drive to you) or a CD (which will remain in the file). The following items must be saved as individual PDFs and labeled accordingly (e.g. "Appeal Form.pdf", "Justification/Reason Statement.pdf", or "Original Determination Letter.pdf" etc.). No file should exceed 9.8 MB in size.

c. **Appeal Fee**

☐ Original Applicant - A fee equal to 85% of the original application fee, provide a copy of the original application receipt(s) to calculate the fee per LAMC Section 19.01B 1.

☑ Aggrieved Party - The fee charged shall be in accordance with the LAMC Section 19.01B 1.

d. **Notice Requirement**

☐ Mailing List - All appeals require noticing per the applicable LAMC section(s). Original Applicants must provide noticing per the LAMC

☐ Mailing Fee - The appeal notice mailing fee is paid by the project applicant, payment is made to the City Planning's mailing contractor (BTC), a copy of the receipt must be submitted as proof of payment.

SPECIFIC CASE TYPES - APPEAL FILING INFORMATION

C. DENSITY BONUS / TRANSIT ORIENTED COMMUNITES (TOC)

1. Density Bonus/TOC

Appeal procedures for Density Bonus/TOC per LAMC Section 12.22.A 25 (g) f.

NOTE:

- Density Bonus/TOC cases, <u>only</u> the *on menu or additional incentives* items can be appealed.

- Appeals of Density Bonus/TOC cases can only be filed by adjacent owners or tenants (must have documentation), and always <u>only</u> appealable to the Citywide Planning Commission.

  ☐ Provide documentation to confirm adjacent owner or tenant status, i.e., a lease agreement, rent receipt, utility bill, property tax bill, ZIMAS, drivers license, bill statement etc.

D. WAIVER OF DEDICATION AND OR IMPROVEMENT

Appeal procedure for Waiver of Dedication or Improvement per LAMC Section 12.37 I.

NOTE:

- Waivers for By-Right Projects, can <u>only</u> be appealed by the owner.

- When a Waiver is on appeal and is part of a master land use application request or subdivider's statement for a project, the applicant may appeal pursuant to the procedures that governs the entitlement.

E. TENTATIVE TRACT/VESTING

1. **Tentative Tract/Vesting** - Appeal procedure for Tentative Tract / Vesting application per LAMC Section 17.54 A.

NOTE: Appeals to the City Council from a determination on a Tentative Tract (TT or VTT) by the Area or City Planning Commission must be filed <u>within 10 days</u> of the <u>date of the written determination</u> of said Commission.

☐ Provide a copy of the written determination letter from Commission.

F. BUILDING AND SAFETY DETERMINATION

☐ **1.** Appeal of the <u>*Department of Building and Safety*</u> determination, per LAMC 12.26 K 1, an appellant is considered the **Original Applicant** and must provide noticing and pay mailing fees.

a. Appeal Fee

☐ Original Applicant - The fee charged shall be in accordance with LAMC Section 19.01B 2, as stated in the Building and Safety determination letter, plus all surcharges. (the fee specified in Table 4-A, Section 98.0403.2 of the City of Los Angeles Building Code)

b. Notice Requirement

☐ Mailing Fee - The applicant must pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of receipt as proof of payment.

☐ **2.** Appeal of the <u>*Director of City Planning*</u> determination per LAMC Section 12.26 K 6, an applicant or any other aggrieved person may file an appeal, and is appealable to the Area Planning Commission or Citywide Planning Commission as noted in the determination.

a. Appeal Fee

☐ Original Applicant - The fee charged shall be in accordance with the LAMC Section 19.01 B 1 a.

b. Notice Requirement

☐ Mailing List - The appeal notification requirements per LAMC Section 12.26 K 7 apply.

☐ Mailing Fees - The appeal notice mailing fee is made to City Planning's mailing contractor (BTC), a copy of receipt must be submitted as proof of payment.

G. NUISANCE ABATEMENT

1. **Nuisance Abatement -** Appeal procedure for Nuisance Abatement per LAMC Section 12.27.1 C 4

NOTE:
- Nuisance Abatement is only appealable to the City Council.

a. Appeal Fee

☐ Aggrieved Party the fee charged shall be in accordance with the LAMC Section 19.01 B 1.

2. **Plan Approval/Compliance Review**

Appeal procedure for Nuisance Abatement Plan Approval/Compliance Review per LAMC Section 12.27.1 C 4.

a. Appeal Fee

☐ Compliance Review - The fee charged shall be in accordance with the LAMC Section 19.01 B.

☐ Modification - The fee shall be in accordance with the LAMC Section 19.01 B.

NOTES

A Certified Neighborhood Council (CNC) or a person identified as a member of a CNC or as representing the CNC may not file an appeal on behalf of the Neighborhood Council; persons affiliated with a CNC may only file as an individual on behalf of self.

Please note *that the appellate body must act on your appeal within a time period specified in the Section(s) of the Los Angeles Municipal Code (LAMC) pertaining to the type of appeal being filed. The Department of City Planning will make its best efforts to have appeals scheduled prior to the appellate body's last day to act in order to provide due process to the appellant. If the appellate body is unable to come to a consensus or is unable to hear and consider the appeal prior to the last day to act, the appeal is automatically deemed denied, and the original decision will stand. The last day to act as defined in the LAMC may only be extended if formally agreed upon by the applicant.*

This Section for City Planning Staff Use Only		
Base Fee:	Reviewed & Accepted by (DSC Planner):	Date:
Receipt No:	Deemed Complete by (Project Planner):	Date:
☐ Determination authority notified	☐ Original receipt and BTC receipt (if original applicant)	

APPEAL JUSTIFICATION/REASON

1. **PROJECT INFORMATION.**

This Appeal is to the Central Area Planning Commission.

The Property is a 7,800 square foot lot located at 1130 South Hope Street, Los Angeles, CA (the **"Property"**). The proposed Project is a 112 room, 8 story, 106-foot limited-amenity hotel project on the Property. (the "**Hotel Project**")

Case Nos: DIR-2020-3656-SPR; ENV-2020-3657-CE.

2. **APPELLANT INFORMATION.**

The Appellant is Peter Toumasis, Board President, Luma Homeowners Association. ("**Luma HOA**") The Luma condominium building is located directly adjacent to the Project across a 20 foot alley at 1100 South Hope Street, Los Angeles, CA.

3. **APPEAL JUSTIFICATION/REASON.**

(a) **Reason for the Appeal**

Luma HOA has significant concerns about impacts of construction and operation of the minimal service Hotel Project with few employees that provides no benefit to the community. The Project design fails to comply with provisions of the Municipal Code ("LAMC"), the mandatory requirements Downtown Design Guide ("Design Guide"), and the South Park Business Improvement District ("South Park BID") Development Values. It also fails to include mitigation measures to mitigate impacts of noise, traffic, air quality, and GHG during operation and construction. It also creates security issues, because the hotel has minimal staff to maintain a 112 room hotel with rooftop use; similar short term stay buildings in the neighborhood have recently contributed to a rise in crime in the area.

Luma HOA is appealing the Site Plan Review and CEQA Exemption for the Hotel Project to ensure that the entitlements include all of the conditions promised by the Developer, and mitigation measures required to mitigate environmental impacts of the Project and to comply with the Downtown Design Guidelines and City zoning code requirements.

(b) **How Appellant is Aggrieved by the Decision**

Luma HOA is located directly across the 20 foot alley from the Hotel Property and will be significantly impacted during construction and operation of the Hotel Project.

In summary, the Hotel Project is on a small 7,800 square foot lot with a 50 foot frontage on Hope Street, with the 20 foot public alley to the north and the private Evo driveway to the south. A primary concern is that the 112 or more guests driving to the valet area and ride share drop offs will queue past the alley and active Evo driveway and block traffic in and out of the residences at both the alley and the Evo entry. The developer has not provided any traffic or parking study to evaluate the valet timing and queuing. Second, the design of the Hotel Project, which is located just 20 feet from the adjacent Luma residential tower, includes an 8-story blank wall that provides no visual interest for the Luma residents, and will create an echo and significantly increase noise in the alley. Third, the noise from the open rooftop and valet areas will be audible from the multiple adjacent residences, and will be exacerbated by hotel guests that are often less considerate than residents in their own communities and with no employees to monitor the noise levels. Fourth, the Hotel Project does not provide a side yard setback on the south side facing the Evo property, which will eventually be developed and block all of the hotel's south facing rooms, including any fire department access. Fifth, the Hotel Project will have significant construction impacts that cannot be mitigated due to the small lot size and close proximity to the Luma and Evo buildings; these were inaccurately evaluated in the noise study, which assumes very quiet construction equipment that does not exist. The developer claims that they do not have to comply with shade/shadow, aesthetic, and other issues because they cannot be considered impacts under CEQA, but these issues are also in the South Park BID Development Values and Downtown Design Guide and are part of compatibility findings for Site Plan Review, and so must be evaluated as part of planning policy. Finally, the neighbors at Luma HOA are concerned that a minimal service hotel will cause safety and security concerns, because there will not be sufficient employees to monitor guest activities, similar to other extended hotels in the area, as evidenced in the LAPD reports. The 112 room Hotel Project is still significantly more dense than the prior approved hotel project with 44 guest rooms, which will necessarily increase impacts in traffic and noise.

(c) **Points at Issue**

(i) **Alley, Driveway and Queuing**. The Hotel Project is located on a small 7,800 square foot lot with a 50 foot street frontage, and with a 20 foot wide public alley to the north and east, and a private lot owned by Evo to the south. It is surrounded by the Luma, Elleven and Evo residential buildings to the north and north east. Hundreds of building residents use the alley daily to walk their dogs, go for a run, or enter or exit the parking structures by car, bicycle or on foot. The alley is also used for loading, trash and delivery for the residential buildings, including residential moving in or out of their residences. In addition, the private Evo drive to the south is very active with residents and guests driving in and out. The Hotel Project will include a valet for off-site guest parking and ride-share drop offs within the 50 foot street frontage. However, the Hotel Project does not provide any parking or traffic or parking study that shows there will not be a traffic impact caused by the valet and ride share and that the queuing for drop-off will not physically block the public alley on the north or private Evo drive on the south. The Hotel Project should be conditioned to provide the following, among other conditions: (i) require a traffic study to evaluate queuing, (ii) provide signage to avoid traffic blocking the alley and Evo driveway, (iii) paint street "no blocking" area in front of the alley and Evo driveway, (iv) provide cameras to monitor compliance, and (v) provide a valet or other employee available 24/7 to park the cars and ensure compliance with the no blocking rules. The Hotel Project parking must also comply with ADA and EV parking requirements. Without the traffic study, there is not substantial evidence in the record to justify a CEQA Exemption related to traffic and parking.

(ii) **Alley Design**. The Hotel Project, which is located just 20 feet from the adjacent residential tower, includes an 8-story blank wall that provides no visual interest for the Luma residents, and will create an echo and significantly increase noise in the alley. The developer claims that they do not have to consider aesthetic impacts under CEQA, but the Site Plan Review specifically requires a finding that the project *"is or will be compatible with existing and future development on adjacent properties and neighboring properties."* In addition, the blank wall will cause noise reverberation of the noise of existing traffic, loading and deliveries in the alley, and of the Hotel Project's loading and deliveries in the alley. The Developer must provide a noise study that studies the increased operational noise in the alley caused by the materials in the design. The wall should be designed to have more articulation and absorbent materials that will reduce noise and create visual interest on the ground and upper levels of the public alley. The wall is located directly across the 20 foot alley from the Luma units facing the alley, and so the elevator and stair windows facing the alley should be opaque to minimize light flow into the Luma condominium units and to preserve privacy. In addition, under Site Plan Review standards, the City must consider the shade/shadow impact on the neighboring open spaces and pool area at Evo and Luma.

(iii) **Operation and Construction Noise**. The Hotel Project will cause noise on the open rooftop and ground level valet areas that will be audible from the multiple adjacent residences across the 20 foot alley. It will be exacerbated by hotel guests that are often less considerate than residents in their own communities and with no employees to monitor the noise levels. The developer claims that the hours will be the same as Evo and Luma; however, the residences have HOA rules and common desire for quiet in the evening, whereas hotel guests are often on vacation, out later at night, and have less consideration for any impacts to their neighbors. In addition, the LOD does not provide any limits on the hours of operation, including the rooftop, despite the Neighborhood Council reliance on the proposed conditions. The minimal service hotel will not have sufficient staff to actively monitor the sound. As proposed by the Developer, the roof should be conditioned to (i) have hotel guests only, and not be open to the public, (ii) have no events, including guest or third party events on the roof, (iii) have no service of alcohol on the roof, or anywhere in the hotel, and (iv) be monitored by employees with a noise level device on the roof. In addition, the roof should close by 10 pm at night to comply with the City's Noise Ordinance.

As previously stated, the Noise Impact Analysis, dated October 15, 2020, by Urban Crossroads, ("**Noise Study**") fails to evaluate the impact of the operation and construction of the hotel on the closest residential units because the sensitive receptor location is down the street, fails to consider noise from the mechanical rooms, alley and rooftop uses, and fails to utilize the national FWHA noise standards in City EIRs and instead allows the study to take its own specific equipment testing. Because the Hotel Project will have noise impacts, the Developer cannot use the CEQA Exemption.

The construction noise of the Hotel Project will rise to the level of a significant impact due to the close proximity of the residences that are 20 feet across the alley. The Hotel Project should impose every feasible mitigation to reduce the noise to the greatest extent possible, including, but not limited to, limiting types of construction equipment, limiting construction hours, constructing sound buffering walls, regular noise monitoring, and prohibiting equipment that would block the alley traffic.

(iv) **Side Yard Setbacks.** The Hotel Project requires a side yard setback of 11 feet under the LAMC for an 8-story structure, and the Developer claims that a ZI does not require side yard setbacks for any development in the Downtown area. However, Evo owns the south lot, and may develop it in the future as long as the driveway is maintained. All of the south facing hotel rooms would be completely blocked by any development on Evo's lot, and will not have access to light and air or Fire Department access to the windows. Evo is not waiving any rights to fully develop their property in the future. The Design Guide requires a 40 foot setback from an interior property line if the adjacent property may be developed. Therefore, the Hotel Project should provide the required setback to the south lot.

(v) **Downtown Design Guide**. The Hotel Project fails to comply with the following additional requirements of the Downtown Design Guide:

(A) Minimizing Neighbor Impacts. The Design Guide specifically requires any development to minimize neighbor impacts, including locating mechanical and lighting away from residential uses, so that it is not visible and does not vent towards the residential neighbor. (p.52) Here, the mechanical rooms and ventilation shafts will vent into the neighboring Luma residences, the blank wall will increase noise levels in the alley, and the building will cause shade and shadow on the open spaces and pool area of adjacent residences.

(B) Public Art. The Design Guide requires that public art be integrated into the Downtown developments. (p. 65) The City's Art requirement provides that one percent of the construction cost is required for on-site art installation, although there is an in-lieu fee payment option. For Downtown projects, the Design Guide and good public policy require that art be integrated in the project. The Developer has not provided for any on-site art as a public benefit.

(C) Open Space. The Design Guide requires a series of open spaces for each project in the Downtown area, and requires a project to provide publicly accessible open spaces at street level that provide pedestrian linkages throughout Downtown. (Table 7-1) Here, the Hotel Project does not contain any public open space, and fails to even provide sufficient hotel drop off waiting area on Hope Street. The developer claims that the small lot precludes them from complying, but they can reduce the scale of development, provide yard setbacks, and include the required seating and open space.

(vi) **Environmental Review**. As stated above, the Developer has failed to provide any Traffic Impact Study or Parking Study to evaluate traffic impacts, even though the Air Quality Study and Greenhouse studies rely on a study by KOA Associates. The Air Quality and Greenhouse Gas studies are flawed, and require revisions in include closer sensitive receptors and proper screening thresholds used in the City of Los Angeles. The Air Quality Study and Greenhouse Gas Study, both by Urban Crossroads, dated October 19, 2020 have similar flaws, because the sensitive receptors are not located at the closest residential unit to the Hotel Project. The Greenhouse Gas Study also uses the wrong screening threshold, 3,000 MTCO2e/yr, based on thresholds used by the City of Menifee and others, but the City of Los Angeles has not adopted this threshold. In the absence of any adopted quantitative threshold, the significance of the Project's GHG emissions should be evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of GHG emissions, including CARB's 2017 Scoping Plan, SCAG's 2020-2045 RTP/SCS, the City's Green New Deal, and the Los Angeles Green Building Code.

The Developer has not provided an Alley Study to show how the queuing or parking would work efficiently considering the existing traffic in the alley (pre-Covid), and to show the clearances for loading vehicles in the small L-shaped alley. They have also not yet provided a Traffic Study to show the impacts of the traffic and parking on the neighborhood, including any ride share drop off on Hope Street. The Los Angeles Department of Building and Safety ("LADBS") provides standards for parking lot design, and requires a minimum reservoir for parking entrances to avoiding queueing in the public alley or street. The LOD states that the parking must be provided on site, but it is not shown in the Project plans in Exhibit A, and there has not been any evaluation of the congested alley use. CEQA review of future parking on the Property cannot be deferred, and must be part of the Project Description and analyzed at the time of Project approval.

In addition, no updated studies have been provided for the revised project. Finally, there is no evaluation of cumulative impacts with the significant number of existing projects under construction in the immediate vicinity.

(vii) **Restaurant and Alcoholic Beverages.** The Developer claimed at the Neighborhood Council meeting that the Hotel Project will not include any restaurant or alcohol service on site, including in mini bars or the retail space; this condition should be included in the LOD and require reconsideration of the hotel entitlements if alcohol service is added in the future.

(viii) **No Public Benefits**. The Hotel Project provides no public benefits to the community, including benefits offered by other hotel developments in the area. The developer could significantly improve the streetscape and ground level amenities for the community, including enhancing the project with additional setbacks and landscaping.

(d) **The Planning Director Erred or Abused Their Discretion**

The Planning Director erred and abused their discretion by approving the Site Plan Review and CEQA Exemption for the Hotel Project without requiring the hotel to comply with the Municipal Code and Downtown Design Guide setback and design requirements, and without requiring the necessary environmental review under CEQA to determine and mitigate impacts caused by noise, traffic, air quality, and GHG during operation and construction.

The Letter of Determination contains several errors or omissions. First, the LOD lists two public correspondence from the Downtown Los Angeles Neighborhood Council, but fails to identify the letters submitted by Luma HOA and Evo Homeowners Association opposing the Hotel Project and identifying necessary conditions and mitigation measures. These letters were provided and confirmed by e-mail and phone calls with the three separate planners that were assigned to the Hotel Project entitlements under its original planning filing and revised planning filing numbers. Second, Luma HOA and Evo Homeowners Association requested a public hearing on the Site Plan Review due to the significant concerns related to the proximity of the Hotel Project to their residences on several occasions. The staff planners and the Planning Director failed to respond to the request or to provide any reasons for not holding a public hearing.

Third, LOD Condition 2 identifies the "use" of the subject site as "the uses permitted in the underlying zone." The LOD must identify the Project use, a hotel use, and require a modification of the Site Plan Review and additional environmental review for any change of use. CEQA analysis requires an accurate, stable and finite Project description, which here is a hotel project. The CEQA exemption did not evaluate any other use for the Property, and so the LOD cannot approve it. Fourth, LOD Condition 3 limits the total floor area to 46,741 square feet, as shown in

Exhibit A, but must also limit the building to 112 hotel rooms, 8 story, and 106-feet in height. Again, the required accurate, stable and finite Project description requires a specific use and building envelope that was evaluated in the CEQA analysis.

Fifth, LOD Condition 4 requires on-site automobile parking in accordance with the LAMC; however, the attached plans in Exhibit A show a building with no parking on site. The Project cannot be in substantial conformance with Exhibit A (as required in LOD Condition 1) and provide on-site parking. The condition must require off-site parking in compliance with the LAMC provisions to permit the Hotel Project approved in Exhibit A. As part of the off-site parking, the hotel must provide valet service that is available 24 hours a day, provide a traffic study to evaluate and condition the valet use to the off-site parking, and provide designed drop-off area in front of the Hotel for both parking valet and ride share drop off. As stated above, the conditions must also provide that the alley and Evo driveway are not blocked at any time through signage, striping, cameras and other measures.

Sixth, LOD Condition 17 requires all mechanical equipment to be screened, but should provide specific conditions for the rooftop use that were described by the Developer's representative at the Neighborhood Council hearing. These included a passive quiet rooftop use that is completely surrounded by stairs and vertical circulation to the north, fully enclosed mechanical rooms to the east and west, and full foliage plantings along the south. The rooftop use may not include any events by a third party, and alcohol may not be served on the rooftop. The rooftop should have limited hours from 7 am to 10 pm to discourage any parties on the roof, consistent with the City's noise ordinance. Only Hotel guests may access the rooftop. There shall be no live music or amplified sound on the roof, and there should be a noise meter so that Hotel workers can monitor the noise level of the roof at all times.

Luma HOA reserves the right to request additional conditions or mitigation measures, and to bring additional claims or issues related to the Hotel Project.

Categorical Exemption Justification

CITY OF LOS ANGELES

CALIFORNIA

ERIC GARCETTI
MAYOR

EXECUTIVE OFFICES
200 N. SPRING STREET, ROOM 525
LOS ANGELES, CA 90012-4801
(213) 978-1271

November 12, 2021

Hope Street 1, LLC (A)(O)
1434 East Oak Avenue
El Segundo, CA 90245

Dana A. Sayles (R)
Three6ixty
11287 West Washington Boulevard
Los Angeles, CA 90071

RE: Case No. DIR-2020-3656-SPR
Address: 1130 South Hope Street
Planning Area: Central
Zone : [Q]R5-4D-O
D. M. : 126A207, 127-5A207
C. D. : 14- De Leon
CEQA : ENV-2020-3657-CE

RE: ENV-2020-3657-CE (Categorical Exemption - Class 32)

The project site is a level, rectangular-shaped interior parcel of land consisting of one (1) lot encompassing a total area of approximately 7,829 square-feet (0.18 acres) located on the east side of Hope Street between 11th and 12th Street. The subject site has a street frontage of approximately 50 linear feet along Hope Street, a depth of 156 linear feet, and is bound by two public alleys to the north and east. The project site is currently vacant and is within a highly urban landscape without vegetation and on- and off-site trees. The project site is zoned [Q]R5-4D-O and is located within the Central City Community Plan Area which designates the land use of the subject property as High Density Residential. The Q condition restricts the use of the property to residential uses permitted in the R5 zone such as hotels, motels, and other commercial uses, and limits the commercial Floor Area Ratio (F.A.R) of the property to 2:1. The D limitation restricts the overall FAR of the Property to 6:1.The proposed uses are uses permitted in the [Q]R5-2D-O Zone.

The subject property is located within the Residential Hotel Unit Conversion Demolition Ordinance (ZI-2353), City Center/Central Industrial Development Guidelines and Controls for Residential Hotels (ZI-2487), Transit Priority Area in the City of Los Angeles (ZI-2452), Greater Downtown Housing Incentive Area (ZI-2385), City Center Redevelopment Project Area (ZI-2488), and the Los Angeles State Enterprise Zone (ZI-2374). The property is not within the boundaries of or subject to any other Specific Plan, Community Design Overlay, or Interim Control Ordinance. The project site is located the Puente Hills Blind Thrust Fault and a Methane Zone. The project does not fall within the Alquist-Priolo Fault Zone, a Preliminary Fault Rupture Study Area, a Flood Zone, Liquefaction Area, Landslide Area, Tsunami Inundation Zone, Hillside Area, or BOE Special Grading Area.

The project involves a new eight-story, 106-foot-high limited service hotel inclusive of 112 guest rooms and 528 square-feet of ground-floor commercial. The proposed floor area is 46,741 square-feet, with a floor area ratio of 6:1. The ground floor features a lobby/reception area, along with other hotel amenities including a conference room, business center, vending machine room, trash and recycling, loading area, common restrooms, and an elevator lobby. Additionally, the first floor includes a 528 square-foot commercial retail space along Hope Street. The guest rooms are evenly distributed – 16 rooms per floor – across seven floors. At this time, there is no proposal for a restaurant, bar, on-site food or beverage service, or mini-bars within the guestrooms. New landscaping is proposed along the ground floor and roof deck. Ground floor landscape will include approximately eight (8) Pygmy Date Palms and shrubs, while the rooftop includes approximately twenty-three (23) King Palms and a variety of shrubs.

The project is requesting the following discretionary actions:

1. Pursuant to LAMC Section 16.05, Site Plan Review for a new 112 guest room hotel with 528 square-feet of ground floor retail uses and;

2. Any additional actions as deemed necessary or desirable, including but not limited to demolition, tree removal, and building permits.

Generally, the surrounding lots are zoned [Q]R5-4D-O and are developed with commercial and residential uses. To the north, across the abutting public alley, properties are zoned [Q]R5-4D-O and are developed with a 19-story 236-unit mixed-use development (Luma). Abutting properties to the east, across the public alley, properties are zoned [Q]R5-4D-O and are developed with a 23-story 311-unit mixed-use development (Evo South). To the west, across Hope Street, properties are zoned [Q]R5-4D-O and are developed with a 31- to 40-story 730-unit mixed-use development (Hope + Flower). Abutting properties to the south, properties are zoned [Q]R5-4D-O and serve as a surface parking lot owned by the Evo Homeowners Association.

The proposed project would not have a significant effect on the environment. A “significant effect on the environment” is defined as “a substantial, or potentially substantial, adverse change in the environment” (CEQA Guidelines, Public Resources Code Section 21068). The proposed project and potential impacts were analyzed in accordance with the California Environmental Quality Act (CEQA) Guidelines, which establish guidelines and thresholds of significant impact, and provide the methods for determining whether or not the impacts of a proposed project reach or exceed those thresholds. Analysis of the proposed project has been determined that it is Categorically Exempt from environmental review pursuant to Article 19, Section 15332 of the CEQA Guidelines (Class 32) and there is no substantial evidence demonstrating that an exception to a categorical exemption pursuant to CEQA Guidelines, Section 15300.2 applies. On November 12, 2021, the subject project was issued a Notice of Exemption for a Class 32 Categorical Exemption.

CLASS 32 CATEGORICAL EXEMPTION

The proposed project qualifies for a Class 32 Categorical Exemption because it conforms to the definition of “In-fill Projects.” A project qualifies for a Class 32 Categorical Exemption if it is developed on an infill site and meets the following five conditions listed below.

(a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

The project site is zoned [Q]R5-4D-O and is located within the Central City Community Plan Area which designates the land use of the subject property as High Density Residential. The Q condition restricts the use of the property to residential uses permitted in the R5 zone, such as hotels, motels, and other commercial uses, and limits the commercial FAR of the property to 2:1. Residential uses are permitted in the R5 zone, and does not restrict density for guest rooms. The D limitation restricts the overall F.A. R of the property to 6:1 and unlimited height. The project site is 7,829 square feet (approximately 0.18 acres) in size and is currently vacant and undeveloped. The project will result in a mixed-use development. The proposed uses are uses that are permitted in the [Q]R5-2D-O Zone.

The subject property is located within the Residential Hotel Unit Conversion Demolition Ordinance (ZI-2353), City Center/Central Industrial Development Guidelines and Controls for Residential Hotels (ZI-2487), Transit Priority Area in the City of Los Angeles (ZI-2452), Greater Downtown Housing Incentive Area (ZI-2385), City Center Redevelopment Project Area (ZI-2488), and the Los Angeles State Enterprise Zone (ZI-2374). The property is not within the boundaries of or subject to any other Specific Plan, Community Design Overlay, or Interim Control Ordinance. The project site is located the Puente Hills Blind Thrust Fault and a Methane Zone. The project does not fall within the Alquist-Priolo Fault Zone, a Preliminary Fault Rupture Study Area, a Flood Zone, Liquefaction Area, Landslide Area, Tsunami Inundation Zone, Hillside Area, or BOE Special Grading Area. The property is not located within the boundaries of or subject to any other Specific Plan, Community Design Overlay, or Interim Control Ordinance.

The project meets the following objectives and policies of the Central City Community Plan:

<u>COMMERCIAL</u>

The Central City Community Plan serves to address a number of issues and opportunities present in the area, and recognizes the importance of retaining a viable and vibrant commercial sector. The proposed hotel with ancillary commercial space is consistent with this zone and land use designation. Additionally, the project is consistent with the following objectives and policies of the Community Plan:

> ***Objective 2-3:*** To promote land uses in Central City that will address the needs of all the visitors to Downtown for business, conventions, trade shows, and tourism
>
> > ***Policy 2-3.1:*** Support the development of a hotel and entertainment district surrounding the Convention Center/Staples Arena with linkages to other areas of Central City and the Figueroa corridor.
>
> ***Objective 2-4:*** To encourage a mix of uses which create an active, 24-hour downtown environment for current residents and which would also foster increased tourism.

The project's proposed hotel and commercial retail uses are uses permitted by the project site's [Q]R5-4D-O zoning, as well as, the underlying High Density Residential land use designation. Surrounding properties are developed with similar scale buildings and uses, including hotels and office buildings, restaurants, and retail shops. In addition, the project's proposed design will enhance the visual appearance and appeal of the existing commercial development. In addition, the project will provide additional retail land uses for visitors.

The design alternates different textures, colors, materials, and distinctive architectural treatments to add visual interest while avoiding dull and repetitive facades. The contemporary architecture includes a highlighted entry enclosure for entry identification, stepped contrasting panels for structure accent, polished stone at entry and a variety of colors for added contrast. The ground level will include signage lighting at the north portion of the ground level, accent lighting at landscaped areas, and ambient security lighting surrounding the building, thereby promoting a lively and pedestrian-oriented commercial environment. Furthermore, the project's design and proposed uses will enhance light industrial activity, and support job growth.

The project is in substantial conformance with the purposes, intent and provisions of the General Plan and Community plan and does not conflict with any applicable regulations or standards. The project will increase the active hours of the street by providing a 24/7 hotel use supported by ground-floor commercial retail stores and restaurants along the Hope Street corridor.

Therefore, the project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

(b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

The subject property is located wholly within the Central City Community Plan Area within the City of Los Angeles. The project site is 7,829 square feet (approximately 0.18 acres) in size and is currently vacant and undeveloped. The project site is substantially surrounded by urban uses and is not located near any areas designated for farmland or agricultural uses. The area surrounding the project site is fully built-out with a variety of commercial and residential uses that are consistent with their General Plan land use designations and zoning.

(c) The project site has no value as habitat for endangered, rare or threatened species:

The site is vacant and does not contain vegetation. It is located in a long-established urban environment which is fully developed with commercial and residential uses. Therefore, the project site has no value as habitat for endangered species, rare, or threatened species.

(d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality:

Traffic. A significant impact may occur if the project conflicts with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.3 of the State's CEQA Guidelines, the City of Los Angeles adopted vehicle miles traveled (VMT) as a criteria in determining transportation impacts under CEQA. The new Los Angeles Department of Transportation (LADOT), Transportation Assessment Guidelines (TAG) provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds. LADOT has established that any project resulting in a net increase of 250 or more daily vehicle trips requires a VMT analysis.

A Traffic Assessment Report, dated August 2021 was prepared by KOA Corporation in order to determine whether or not the proposed project would result in any significant effects relating to traffic. The Traffic Study found that the project would generate a net increase of 651 daily vehicle trips and a net increase of 4,000 daily vehicle miles traveled (VMT), thus requiring the proposed project to conduct a vehicle miles traveled (VMT) analysis.

The LADOT VMT Calculator tool measures project impact in terms of Household VMT per Capita, and Work VMT per Employee. DOT identified distinct thresholds for significant VMT impacts for each of the seven Area Planning Commission (APC) areas in the City. For the West Los Angeles APC area, in which the project is located, the following thresholds have been established:

- Household VMT per Capita: 6.0
- Work VMT per Employee: 7.6

As cited in the VMT Analysis report, prepared by KOA Corporation the proposed project is projected to have a Household VMT per capita of 0.0 since the project does not have a residential component and a Work VMT per employee of 7.6. Subsequently, LADOT completed its Transportation Impact Assessment and in a letter dated February 23, 2021, concluded that implementation of the proposed project would not result in a significant Household or Work VMT impact. Therefore, the project is not expected to result in any significant impact relating to traffic.

Noise. The project must comply with the City of Los Angeles Noise Ordinance No. 144,331 and 161,574 and any subsequent ordinances which prohibit the emission or creation of noise beyond certain levels. The Ordinances cover both operational noise levels (i.e. post-construction), as well as any noise impact during construction. Section 41.40 of the LAMC regulates noise from demolition and construction activities and prohibits construction activity (including demolition) and repair work, where the use of any power tool, device, or equipment would disturb persons occupying sleeping quarters in any dwelling hotel, apartment, or other place of residence, between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, and between 6:00 p.m. and 8:00 a.m. on Saturdays and holidays; all such activities are also prohibited on Sundays. Section 112.05 of the LAMC also specifies the maximum noise level of construction machinery that can be generated in any residential zone of the city or within 500 feet thereof. As the project is required to comply with the above ordinances and regulations, it will not result in any significant noise impacts. All construction-related noise impacts would be less than significant and temporary in nature.

A Noise Technical Report prepared by Urban Crossroads, dated August 2021 and attached to the subject environmental case file, concluded that no significant permanent operational or cumulative noise impacts are expected as a result of the proposed project (the Noise Study provides the full analysis). Given that the project would be required to comply with all existing and applicable noise regulations, the study concluded that the project would not result in any significant impacts and that no mitigation measures are necessary. Although noise arising from construction is unavoidable, the noise would be temporary and limited to the duration of the construction in any one location. Through compliance with all existing regulations governing both construction and operational noise, any noise impacts resulting from the project will be less than significant.

Air Quality. The South Coast Air Quality Management District (SCAQMD) is the agency primarily responsible for comprehensive air pollution control in the South Coast Air Basin and reducing emissions from area and point stationary, mobile, and indirect sources. The 2016 Air Quality Management Plan (AQMP) was prepared by SCAQMD and adopted in April 2017 to meet federal and state ambient air quality standards. A significant air quality impact may occur if a project is inconsistent with the AQMP or would in some way represent a substantial hindrance to employing the policies or obtaining the goals of that plan. As the project is an adaptive reuse of an existing office building, it is not expected to conflict with, or obstruct, the implementation of the AQMP and SCAQMD rules. The project is consistent with current zoning regulations and policies within the City of Los Angeles, allowing for the proposed development on the subject site. The project would also comply with the 2017 Los Angeles Green Building Code (LAGBC), which builds upon and sets higher standards than those in the 2016 California Green Building Standards Code. Additionally, the project's infill location would promote the concentration of development and commercial uses in an urban location with extensive infrastructure and access to public transit facilities, thus reducing the vehicle miles traveled for employees, residents, and visitors. Therefore, project impacts related to air quality will be less than significant.

Furthermore, an Air Quality Technical Report dated August 2021 was prepared by Urban Crossroads, which is included in the subject environmental case file. The study quantifies the estimated daily construction and operational emissions for various pollutants from the project site using CalEEMod simulations. Based on the simulation results, none of the construction and operational emissions are expected to exceed the South Coast Air Quality Management District (SCAQMD) air quality significance thresholds. The study does not recommend any mitigation measures as all construction and operational emissions are expected to be below the thresholds considered by SCAQMD to be significant under CEQA guidelines. Potential impacts related to air quality from the project will therefore be less than significant.

Water Quality. With regard to water quality, a significant impact would occur if the project would: 1) exceed wastewater treatment requirements of the Los Angeles Regional Water Quality Control Board (LARWQCB); 2) increase water consumption or wastewater generation to such a degree that the capacity of facilities currently serving the project site would be exceeded; or 3) increase surface water runoff, resulting in the need for expanded off-site storm water drainage facilities. All wastewater from the project would be treated according to requirements of the National Pollutant Discharge Elimination System (NPDES) permit authorized by the LARWQCB. Therefore, the proposed project would result in a less than significant impact related to wastewater treatment requirements.

Additionally, prior to any construction activities, the project applicant would be required to coordinate with the City of Los Angeles Bureau of Sanitation (BOS) to determine the exact wastewater conveyance requirements of the proposed project, and any upgrades to the wastewater lines in the vicinity of the project site that are needed to adequately serve the proposed project would be undertaken as part of the project. Therefore, the proposed project would not result in a significant impact related to water or wastewater infrastructure.

Lastly, development of the proposed project would maintain existing drainage patterns; site generated surface water runoff would continue to flow to the City's storm drain system. The proposed project would not create or contribute runoff water that would exacerbate any existing deficiencies in the storm drain system or provide substantial additional sources of polluted runoff. Therefore, the proposed project would not result in a significant impact related to existing storm drain capacities.

(e) The site can be adequately served by all required utilities and public services:

The site is currently and adequately served by the City's Department of Water and Power, the City's Bureau of Sanitation, the Southern California (SoCal) Gas Company, the Los Angeles Police Department, the Los Angeles Fire Department, Los Angeles Unified School District, Los Angeles Public Library, and other public services. These utilities and public services have continuously served the area for the past several decades. In addition, the California Green Code requires new construction to meet stringent efficiency standards for both water and power, such as high-efficiency toilets, dual-flush water closets, minimum irrigation standards, LED lighting, etc. As a result of these new building codes, which are required of all projects, it can be anticipated that the proposed project will not create any substantial impact on existing utilities and public services.

In addition, roof and site drainage as well as sewer availability must comply with Bureau of Engineering and Bureau of Sanitation standards; and hydrants, Fire Department Access, and Fire Safety must be reviewed and approved by the Los Angeles Fire Department before permits can be issued. Furthermore, the project must comply with all City Regulatory Compliance Measures (RCMs) that apply. Therefore, the proposed project can be adequately served by all required utilities and public services.

EXCEPTIONS TO CATEGORICAL EXEMPTIONS

The City has further considered whether the proposed project is subject to any of the six exceptions set forth in State CEQA Guidelines Section 15300.2 that would prohibit the use of any categorical exemption. Planning staff has determined that none of the exceptions apply to the proposed project, as described below.

(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

As the proposed project is not defined as a Class 3, 4, 5, 6 or 11 project, this exception is non-applicable. The project site in an urbanized area in the City of Los Angeles. The project site is not located in a particularly sensitive environment and is not located on a site containing wetlands, endangered species, or wildlife habitats; therefore, this exception is not applicable.

(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

The proposed project is consistent with the zone and land use as designated by the Central City Community Plan Area. A successive project of the same type and nature would reflect a development that is consistent with the underlying land use designation and the Los Angeles Municipal Code, and thus would be subject to the same regulations and requirements, including development standards and environmental impacts. The impacts of each subsequent project will be mitigated if necessary, and thus will not result in a cumulative impact. The project would not result in a cumulatively considerable contribution to any impact. The threshold of significance for a cumulatively considerable contribution to a traffic impact is the same as the threshold of significance for a project impact. Therefore, since the project would not exceed that threshold, it would have neither a project-specific significant impact, nor the potential to result in a cumulatively considerable contribution to a significant traffic impact. The same is true for air quality thresholds of significance; the project does not have the potential to result in a project-specific significant air quality impact, and therefore, does not have the potential to result in a cumulatively considerable contribution to a significant air quality impact.

Regulatory Compliance Measures (RCMs) in the City of Los Angeles regulate impacts related to Air Quality, Construction Noise/Vibrations, Operational Noise/Vibrations, and Transportation/traffic. Numerous Los Angeles Municipal Code Sections provide requirements for construction activities and ensure impacts from construction related noise, traffic, and parking are less than significant. The Noise Regulation Ordinance, No. 144,331, provides regulatory compliance measures related to construction noise and maximum noise levels for all activities. LAMC Section 62 provides specific regulatory compliance measures related to construction traffic and parking. LAMC Section 41 requires construction site postings listing representative contact information and permitted construction/demolition hours as established by the Department of Building and Safety. Additionally, there is insufficient evidence to conclude that significant impacts will occur based on past project approvals or in progress entitlement applications and that the proposed project will have adverse impacts on the cumulative impacts of construction noise and transportation/traffic in this area. Further, there is insufficient evidence to conclude that the proposed project will be under construction at the same time as projects within the vicinity. Thus, this exception does not apply.

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

The project site is located in an urbanized area within the City of Los Angeles, and consists of commercial uses and operations that are compatible with the surrounding urban development and consistent with the underlying zoning. The project site fronts along Hope Street, a long-established major commercial thoroughfare, containing a variety of commercial and residential uses. In addition, the project site does not demonstrate any unusual circumstances, and the project will not generate any significant impacts regarding traffic, noise, air quality, or water quality. There are no special districts or other known circumstances that indicate a sensitive surrounding environment. Thus, there are no unusual circumstances which may lead to a significant effect on the environment.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

Based on a review of the California Scenic Highway Mapping System, the subject site is not located along a California State Scenic Highway and will not impact any identified scenic resources, including trees, historic buildings, rock outcroppings, or other similar resources, within a highway officially designated as a State Scenic Highway. Therefore, this exception does not apply.

(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

Based on a review of the California Department of Toxic Substances Control "Envirostor Database," no known hazardous waste sites are located on the project site. Additionally, there are also no listed hazardous waste sites within the immediate vicinity of the project site. The subject property is currently developed with commercial office uses, which are not expected to utilize hazardous waste or materials that pose significant constraint on the site. It is not located in a Hazardous Waste / Border Zone Property area as designated by the City of Los Angeles.

Carlin conducted methane testing on January 31, 2021, per the Los Angeles Department of Building and Safety (LADBS) code and has deemed the site to be in the Methane Zone with level II design measures needed. On October 19, 2021, Carlin Environmental Consultant confirmed appropriate channels for methane mitigation measures and requirements LADBS. The design measures for this site are per Table 1A on sheet 4 of the LADBS Standard Methane Guidelines. As such, the plans have been submitted to LADBS for review and oversite.

Therefore, this exception for a Class 32 Categorical Exemption does not apply.

(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

The project site has not been identified as a historic resource by local or state agencies, and the project site has not been determined to be eligible for listing in the National Register of Historic Places, California Register of Historical Resources, or the Los Angeles Historic-Cultural Monuments Register. In addition, the project site is not located within a Historic Preservation Overlay Zone and thus not subject to historic preservation review. For these reasons, the proposed project would not constitute a substantial adverse change in the significance of a historic resource as defined by CEQA, therefore, this exception does not apply.

CONCLUSION

The project involves a new eight-story, 106-foot-high limited service hotel inclusive of 112 guest rooms and 528 square-feet of ground-floor commercial. The proposed floor area is 46,741 square-feet, with a floor area ratio of 6:1. The ground floor features a lobby/reception area, along with other hotel amenities including a conference room, business center, vending machine room, trash and recycling, loading area, common restrooms, and an elevator lobby. Additionally, the first floor includes a 528 square-foot commercial retail space along Hope Street. The guest rooms are evenly distributed – 16 rooms per floor – across seven floors. At this time, there is no proposal for a restaurant, bar, on-site food or beverage service, or mini-bars within the guestrooms. New landscaping is proposed along the ground floor and roof deck. Ground floor landscape will include approximately eight (8) Pygmy Date Palms and shrubs, while the rooftop includes approximately twenty-three (23) King Palms and a variety of shrubs.

The property is located within a Los Angeles State Enterprise Zone (ZI-2129). Per the Central City parking requirements, vehicle parking is not required for ground floor retail spaces under 7,500 square feet. The project provides 23 vehicle parking spaces- two of which are provided on the ground floor and accessed by the side and rear alley via Hope Street and 12th Street and twenty-two of which will be located within 750 feet of the site at 1028 South Hope Street, pursuant to LAMC 12.21.A.4(g). In compliance with Ordinance No. 185480, the hotel provides 16 bicycle parking spaces (of which 8 will be reserved for long-term use and 8 for short-term use) to satisfy its base bicycle parking requirements. In addition, pursuant to LAMC 12.21.A.4,16 additional bicycle parking spaces will be provided as a replacement for four (4) automobile parking spaces, for a total of 32 bicycle parking spaces.

The project is consistent with the surrounding developments and is entirely consistent with the existing General Plan land use designation, zoning requirements of the LAMC. The project will not generate a significant number of vehicle trips and will not result in any significant impacts to land use planning, environmental habitat, noise, air quality, or water quality. The project site is located in an urbanized and long-developed area, and thus will be adequately served by all required public utilities and services.

Furthermore, the project is not in a particularly sensitive environment, and will not impact an environmental resource of hazardous or critical concern that is designated, precisely mapped, or officially adopted by any federal, state, or local agency. The project will not result in any significant impacts and, therefore, will not make a cumulatively considerable contribution to any significant impacts that are not already accounted for by the General Plan and future environmental clearances. The project does not present any unusual circumstances that would result in a significant impact on the environment and would not constitute a substantial adverse change in the significance of a historic resource as defined by CEQA. Therefore, none of the possible exceptions to Categorical Exemptions, found in Section 15300.2 Exceptions, apply to this project, and as such, the project qualifies for a Class 32 Categorical Exemption.

Letter of Determination

CITY OF LOS ANGELES

CALIFORNIA

ERIC GARCETTI
MAYOR

November 17, 2021

Hope Street 1, LLC (A/O)
1434 East Oak Avenue
El Segundo, CA 90245

Dana A. Sayles (R)
three6ixty
11287 West Washington Boulevard
Culver City, CA 90230

Case No. DIR-2021-3656-SPR
CEQA: ENV-2020-3657-CE
Location: 1130 South Hope Street
Council District: 14- de Leon
Neighborhood Council: Central City
Community Plan Area: Central City
Land Use Designation: High Density Residential
Zone: [Q]R5-4D-O
Legal Description: Lot 6, SUBDIVISION OF BLOCK 79 ORD'S SURVEY

Last Day to File an Appeal: December 02, 2021

DETERMINATION - SITE PLAN REVIEW

Pursuant to Los Angeles Municipal Code Section 16.05, as the designee of the Director of Planning, I hereby:

DETERMINE, based on the whole of the administrative record, that the project is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, Section 15332, Article 19 (Class 32), and there is no substantial evidence demonstrating that an exception to a categorical exemption pursuant to CEQA Guidelines, Section 15300.2 applies;

CONDITIONALLY APPROVE a Site Plan Review for a new 112 guest room hotel with 528 square-feet of ground floor retail uses; and

Adopt the attached findings.

This approval is subject to the following terms and conditions:

<u>Conditions of Approval</u>

Pursuant to Section 16.05 of the LAMC, the following conditions are hereby imposed upon the use of the subject property:

1. **Site Development.** Except as modified herein, the project shall be in substantial conformance with the plans and materials submitted by the Applicant, stamped "Exhibit A," and attached to the subject case file. Minor deviations may be allowed in order to comply with the provisions of the LAMC or the project conditions. Changes beyond minor deviations required by other City Departments or the LAMC may not be made without prior review by the Department of City Planning, Expedited Processing Section, and written approval by the Director of Planning. Each change shall be identified and justified in writing.

2. **Use.** The use of the subject site shall be limited to the uses permitted in the underlying zone.

3. **Floor Area.** The total floor area shall be limited to a maximum of 46,741 square feet.

4. **Vehicular Parking.** On-site automobile parking shall be provided in accordance with L.A.M.C. Section 12.21-A, 4 of the Municipal Code prior to the Certificate of Occupancy.

5. **Vehicular Access.** Vehicular Access shall be limited to two (2) existing alleys that can be accessed via Hope Street and 12th Street.

6. **Bicycle Parking.** All bicycle parking shall be provided in conformance with the bicycle parking requirements of L.A.M.C. Sections 12.21-A, 4 and 12.21-A,16.

7. **Pedestrian Connectivity and Access.** Provide direct and clearly identifiable path of travel for pedestrians from Hope Street using landscaping, special paving, or otherwise well-marked pedestrian walkways to, from and across the site.

8. **Landscaping.**

   a. All open areas not used for buildings, driveways, parking areas, or walkways shall be attractively landscaped and maintained in accordance with a landscape plan and an automatic irrigation plan, prepared by a licensed Landscape Architect and to the satisfaction of the decision maker.

   b. Planting of any required trees within the public right-of-way shall obtain approval from the Urban Forestry Division prior to obtaining approval from the Department of City Planning. In the event that a required tree cannot be planted within the public right-of-way, those trees shall be planted on-site.

9. **Street Trees.** Install street trees and tree wells as required by Urban Forestry Division.

10. **Street Lights.** Install street lights as required by Bureau of Street Lighting.

11. **Trash.** All trash collection and storage areas shall be located on-site and not visible from the public right-of-way.

   a. Trash bins shall be located within a gated, covered, enclosure constructed of materials to match the exterior wall and materials of the building.

   b. Trash storage bins shall not be placed in or block access to required parking.

12. **Maintenance:**

   a. The subject property (including all trash storage areas, associate parking facilities, sidewalks, yard areas, parkways, and exterior walls along the property lines) shall be maintained in an attractive condition and shall be kept free of trash and debris.

b. All graffiti on the site shall be removed or painted over to match the color of the surface to which it is applied within 24 hours of its occurrence.

13. **Lighting.** Outdoor lighting shall be designed and installed with shielding, such that the light source does not illuminate adjacent residential properties or the public right- of-way, nor the above night skies.

14. **Signage.** On-site signs shall be limited to the maximum allowable under the Municipal Code.

15. **Materials.** The project's new proposed building fa9ades shall include at least three (3) different high quality exterior building materials to be in substantial compliance with Exhibit A.

16. **Building Entrances Openings.** Building Entrances and windows shall be provided on the north, east, west, and south building facades, as shown in the Elevations on Exhibit A.

17. **Rooftop Screening.** All mechanical equipment on the roof shall be fully screened from view of any abutting properties and the public right-of-way.

Administrative Conditions

18. **Approval, Verification and Submittals.** Copies of any approvals, guarantees or verification of consultations, review of approval, plans, etc., as may be required by the subject conditions, shall be provided to the Department of City Planning for placement in the subject file.

19. **Code Compliance.** Use, area, height, and area regulations of the zone classification(s) of the subject property shall be complied with, except where granted conditions differ herein.

20. **Covenant.** Prior to the issuance of any permits relative to this matter, an agreement concerning all the information contained in these conditions shall be recorded in the County Recorder's Office. The agreement shall run with the land and shall be binding on any subsequent property owners, heirs or assigns. The agreement shall be submitted to the Department of City Planning for approval before being recorded. After recordation, a copy bearing the Recorder's number and date shall be provided to the Department of City Planning for attachment to the file.

21. **Definition.** Any agencies, public officials or legislation referenced in these conditions shall mean those agencies, public offices legislation or their successors, designees, or amendments to any legislation.

22. **Enforcement.** Compliance with these conditions and the intent of these conditions shall be to the satisfaction of the Department of City Planning and any designated agency, or the agency's successor and in accordance with any stated laws or regulations, or any amendments thereto.

23. **Building Plans.** Page 1 of this grant and all conditions of approval shall be printed on the building plans submitted to the Department of City Planning and the Department of Building and Safety.

24. **Utilization of Concurrent Entitlement.** Site Plan Review requires completion of all applicable conditions of approval to the satisfaction of the Department of City Planning. The applicant/owner shall have a period of three years from the effective date of the subject grant for the Site Plan Review to effectuate the terms of this entitlement by securing a building

permit. Thereafter, the entitlements shall be deemed terminated and the property owner shall be required to secure a new authorization for the use. If a building permit is obtained during this period, but subsequently expires, this determination shall expire with the building permit.

25. **Corrective Conditions.** The authorized use shall be conducted at all times with due regard for the character of the surrounding district, and the right is reserved to the City Planning Commission or the Director of Planning, pursuant to Section 12.27.1 of the Municipal Code, to impose additional corrective conditions, if in the decision makers' opinion, such actions are proven necessary for the protection of persons in the neighborhood or occupants of adjacent property.

26. **Expedited Processing Section Fees.** Prior to the clearance of any conditions, the applicant shall show proof that all fees have been paid to the Department of City Planning, Expedited Processing Section.

27. INDEMNIFICATION AND REIMBURSEMENT OF LITIGATION COSTS.

Applicant shall do all of the following:

a. Defend, indemnify and hold harmless the City from any and all actions against the City relating to or arising out of, in whole or in part, the City's processing and approval of this entitlement, including but not limited to, an action to attack, challenge, set aside, void, or otherwise modify or annul the approval of the entitlement, the environmental review of the entitlement, or the approval of subsequent permit decisions, or to claim personal property damage, including from inverse condemnation or any other constitutional claim.

b. Reimburse the City for any and all costs incurred in defense of an action related to or arising out of the City's processing and approval of the entitlement, including but not limited to payment of all court costs and attorney's fees, costs of any judgments or awards against the City (including an award of attorney's fees), damages, and/or settlement costs.

c. Submit an initial deposit for the City's litigation costs to the City within 10 days' notice of the City tendering defense to the Applicant and requesting a deposit. The initial deposit shall be in an amount set by the City Attorney's Office, in its sole discretion, based on the nature and scope of action, but in no event shall the initial deposit be less than $50,000. The City's failure to notice or collect the deposit does not relieve the Applicant from responsibility to reimburse the City pursuant to the requirement in paragraph (b).

d. Submit supplemental deposits upon notice by the City. Supplemental deposits may be required in an increased amount from the initial deposit if found necessary by the City to protect the City's interests. The City's failure to notice or collect the deposit does not relieve the Applicant from responsibility to reimburse the City pursuant to the requirement in paragraph (b).

e. If the City determines it necessary to protect the City's interest, execute an indemnity and reimbursement agreement with the City under terms consistent with the requirements of this condition.

The City shall notify the applicant within a reasonable period of time of its receipt of any action and the City shall cooperate in the defense. If the City fails to notify the applicant of any claim, action, or proceeding in a reasonable time, or if the City fails to reasonably cooperate in the defense, the applicant shall not thereafter be responsible to defend, indemnify or hold harmless the City.

The City shall have the sole right to choose its counsel, including the City Attorney's office or outside counsel. At its sole discretion, the City may participate at its own expense in the defense of any action, but such participation shall not relieve the applicant of any obligation imposed by this condition. In the event the Applicant fails to comply with this condition, in whole or in part, the City may withdraw its defense of the action, voids its approval of the entitlement, or take any other action. The City retains the right to make all decisions with respect to its representations in any legal proceeding, including its inherent right to abandon or settle litigation.

For purposes of this condition, the following definitions apply:

"City" shall be defined to include the City, its agents, officers, boards, commissions, committees, employees, and volunteers.

"Action" shall be defined to include suits, proceedings (including those held under alternative dispute resolution procedures), claims, or lawsuits. Actions include actions, as defined herein, alleging failure to comply with <u>any</u> federal, state or local law.

Nothing in the definitions included in this paragraph are intended to limit the rights of the City or the obligations of the Applicant otherwise created by this condition.

BACKGROUND

The project site is a level, rectangular-shaped interior parcel of land consisting of one (1) lot encompassing a total area of approximately 7,829 square-feet (0.18 acres) located on the east side of Hope Street between 11th and 12th Street. The subject site has a street frontage of approximately 50 linear feet along Hope Street, a depth of 156 linear feet, and is bound by two public alleys to the north and east. The project site is currently vacant and is within a highly urban landscape without vegetation and on- and off-site trees.

The project site is zoned [Q]R5-4D-O and is located within the Central City Community Plan Area which designates the land use of the subject property as High Density Residential. The Q condition restricts the use of the property to residential uses permitted in the R5 zone such as hotels, motels, and other commercial uses, and limits the commercial Floor Area Ratio (F.A.R) of the property to 2:1. The D limitation restricts the overall F.A.R of the Property to 6:1. The proposed uses are uses permitted in the [Q]R5-2D-O Zone.

The subject property is located within the Residential Hotel Unit Conversion Demolition Ordinance (ZI-2353), City Center/Central Industrial Development Guidelines and Controls for Residential Hotels (ZI-2487), Transit Priority Area in the City of Los Angeles (ZI-2452), Greater Downtown Housing Incentive Area (ZI-2385), City Center Redevelopment Project Area (ZI-2488), and the Los Angeles State Enterprise Zone (ZI-2374). The property is not within the boundaries of or subject to any other Specific Plan, Community Design Overlay, or Interim Control Ordinance. The project site is located the Puente Hills Blind Thrust Fault and a Methane Zone. The project does not fall within the Alquist-Priolo Fault Zone, a Preliminary Fault Rupture Study Area, a Flood Zone, Liquefaction Area, Landslide Area, Tsunami Inundation Zone, Hillside Area, or BOE Special Grading Area.

The project involves a new eight-story, 106-foot-high limited service hotel inclusive of 112 guest rooms and 528 square-feet of ground-floor commercial. The proposed floor area is 46,741 square-feet, with a floor area ratio of 6:1. The ground floor features a lobby/reception area, along with other hotel amenities including a conference room, business center, vending machine room, trash and recycling, loading area, common restrooms, and an elevator lobby. The guest rooms are evenly distributed – 16 rooms per floor – across seven floors. At this time, there is no proposal for a restaurant, bar, on-site food or beverage service, or mini-bars within the guestrooms. Additionally, the first floor includes a 528 square-foot commercial retail space along Hope Street. New landscaping is proposed along the ground floor and roof deck. Ground floor landscape will include approximately eight (8) Pygmy Date Palms and shrubs, while the rooftop includes approximately twenty-three (23) King Palms and a variety of shrubs.

The property is located within a Los Angeles State Enterprise Zone (ZI-2129). Per the Central City parking requirements, vehicle parking is not required for ground floor retail spaces under 7,500 square feet. The project provides twenty-three (23) vehicle parking spaces – two (2) of which are provided on the ground floor and accessed by the side and rear alley via Hope Street and 12th Street and twenty-two (22) of which will be located within 750 feet of the site at 1028 South Hope Street, pursuant to LAMC 12.21.A.4(g). In compliance with Ordinance No. 185480, the hotel provides 16 bicycle parking spaces (of which 8 will be reserved for long-term use and 8 for short-term use) to satisfy its base bicycle parking requirements. In addition, pursuant to LAMC 12.21.A.4,16 additional bicycle parking spaces will be provided as a replacement for four (4) automobile parking spaces, for a total of 32 bicycle parking spaces.

The building features a roof deck with substantial guest amenity spaces, including multiple lounge areas with barbecue and dining spaces, and two exercise areas. The entire roof is designated for passive lounge activity and no rooftop bar/lounge or other food and beverage outlet is proposed. The building's basement level features an additional lounge area and fitness room for exclusive use by hotel guests. The guest rooms average 340 square-feet in size. All rooms feature a private bathroom and wet bar as a convenience to the guests, with a mini-refrigerator, microwave, coffee maker, and other limited-service convenience amenities. No cooktop burners or ovens are proposed. Therefore, the proposed hotel guest rooms do not include kitchens, as defined by LAMC 12.03. All bathroom and plumbing fixtures will be water-conserving fixtures.

The design alternates different textures, colors, materials, and distinctive architectural treatments to add visual interest while avoiding dull and repetitive facades. The contemporary architecture includes a highlighted entry enclosure for entry identification, stepped contrasting panels for structure accent, polished stone at entry and a variety of colors to add contrast. The ground level will include signage lighting at the north portion of the ground level, accent lighting at landscaped areas, and ambient security lighting surrounding the building. Landscaping around the building will include a mix of ground cover and trees to complement the architecture. Plant material has been selected for temperature hardiness and low water use. A loading area is provided at the rear of the property and can be accessed via the abutting alleys to the north and east.

Generally, the surrounding lots are zoned [Q]R5-4D-O and are developed with mixed-use developments. To the north, across the abutting public alley, properties are zoned [Q]R5-4D-O and are developed with a 19-story 236-unit mixed-use development (Luma). Abutting properties to the east, across the public alley, are zoned [Q]R5-4D-O and are developed with a 23-story 311-unit mixed-use development (Evo South). To the west, across Hope Street, properties are zoned [Q]R5-4D-O and are developed with a 31- to 40-story 730-unit mixed-use development (Hope + Flower). Abutting properties to the south, properties are zoned [Q]R5-4D-O and serve as a surface parking lot owned by the Evo Homeowners Association.

General Plan Land Use

The Central City Community Plan Map designates the subject property for High Density Residential land uses, corresponding to the R5 Zone and Height District No. 4. The project site is zoned [Q]R5-4D-O and is thus consistent with the General Plan's land use designation for the site. The subject property is located within the Residential Hotel Unit Conversion Demolition Ordinance (ZI-2353), City Center/Central Industrial Development Guidelines and Controls for Residential Hotels (ZI-2487), Transit Priority Area in the City of Los Angeles (ZI-2452), Greater Downtown Housing Incentive Area (ZI-2385), City Center Redevelopment Project Area (ZI-2488), and the Los Angeles State Enterprise Zone (ZI-2374). The property is not within the boundaries of or subject to any other Specific Plan, Community Design Overlay, or Interim Control Ordinance

Streets

Hope Street, adjoining the subject property to the west, is a designated Avenue II, dedicated to a roadway width of 56 feet and dedicated to a right-of-way width of 86 feet and improved with asphalt roadway, concrete curb, gutter, and sidewalk.

Alley, adjoining the subject property to the north is a dedicated 20-foot alley improved with asphalt and concrete gutter.

Alley, adjoining the subject property to the east is a dedicated 20-foot alley improved with asphalt and concrete gutter.

Previous Relevant Cases on the Subject Property:

ZA-2012-3185-VCU-ZV-ZAA-TDR – On November 12, 2013, the Zoning Administrator approved a Conditional Use Permit to allow a hotel within 500 feet of residential uses; a conditional use permit to allow the sale and dispensing of a full line of alcoholic beverages within the hotel's restaurant, basement lounge, roof top deck and within the guest room mini-bars, a variance to allow zero on-site parking spaces in lieu of the four on-site spaces required pursuant to LAMC Section 12.21-A,4(i); a variance to allow no on-site loading areas as otherwise required by LAMC Section 12.21-C,6; a variance to allow a partially unenclosed roof top deck with a bar and pool area on the9th floor of the building in lieu of the requirement of LAMC Section 12.14-A,1(b)(3) that such an area be within a completely enclosed building; an adjustment to allow a zero-foot front, rear and side yard in lieu of the 15-foot front yard, a 13-foot side yard and 20-foot rear yard otherwise required by LAMC Sections 12.12-C, 1, 2, 3, respectively; and a Floor Area Deviation to allow a Transfer of Floor Area of less than 50,000 square-feet to permit an increase of 13,000 square feet over and above the maximum allowed floor area otherwise permitted on the site, located at 1130 South Hope Street.

Public Correspondence

On September 14, 2021, the Board of Directors of the Downtown Los Angeles Neighborhood Council (DLANC) voted to support Case No. DIR-2020-3656-DIR.

On August 17, 2021, the Board of Directors of the Downtown Los Angeles Neighborhood Council Planning and Land Use Committee (PLUC) voted to support Case No. DIR-2020-3656-DIR.

SITE PLAN REVIEW FINDINGS

I have reviewed the subject development project and hereby find the following findings based on the information contained in the application, the report of the Site Plan Review, staff reports received from other departments, supplemental written documents submitted and review of environmental impacts associated with the project pursuant to Section 16.05-C of the Municipal Code:

1. The project is in substantial conformance with the purposes, intent and provisions of

the General Plan, applicable community plan, and does not conflict with any applicable regulations, standards, and any applicable specific plan.

There are eleven elements of the General Plan. Each of these Elements establishes policies that provide for the regulatory environment in managing the City and for addressing environmental concerns and problems. The majority of the policies derived from these Elements are in the form of code requirements of the Los Angeles Municipal Code. The project does not propose to deviate from any of the requirements of the Los Angeles Municipal Code.

The Central City Community Plan Map designates the subject property for High Density Residential land uses, corresponding to the R5 Zone. The project site is zoned [Q]R5-4D-O and is thus consistent with the General Plan's land use designation for the site. The subject property is located within the Residential Hotel Unit Conversion Demolition Ordinance (ZI-2353), City Center/Central Industrial Development Guidelines and Controls for Residential Hotels (ZI-2487), Transit Priority Area in the City of Los Angeles (ZI-2452), Greater Downtown Housing Incentive Area (ZI-2385), City Center Redevelopment Project Area (ZI-2488), and the Los Angeles State Enterprise Zone (ZI-2374). The property is not within the boundaries of or subject to any other Specific Plan, Community Design Overlay, or Interim Control Ordinance

Framework Element

The Framework Element for the General Plan (Framework Element) was adopted by the City of Los Angeles in December 1996 and re adopted in August 2001. The Framework Element provides guidance regarding policy issues for the entire City of Los Angeles, including the project site. The Framework Element also sets forth a Citywide comprehensive long range growth strategy and defines Citywide polices regarding such issues as land use, housing, urban form, neighborhood design, open space, economic development, transportation, infrastructure, and public services. The Framework Element includes the following goals, objectives and policies relevant to the instant request:

Goal 3A: A physically balanced distribution of land uses that contributes towards and facilitates the City's long-term fiscal and economic viability, revitalization of economically depressed areas, conservation of existing residential neighborhoods, equitable distribution of public resources, conservation of natural resources, provision of adequate infrastructure and public services, reduction of traffic congestion and improvement of air quality, enhancement of recreation and open space opportunities, assurance of environmental justice and a healthful living environment, and achievement of the vision for a more livable city.

Objective 3.1: Accommodate a diversity of uses that support the needs of the City's existing and future residents, businesses, and visitors.

Policy 3.1.1: Identify areas on the Long-Range Land Use Diagram and in the community plans sufficient for the development of a diversity of uses that serve the needs of existing and future residents (housing, employment, retail, entertainment, cultural/institutional, educational, health, services, recreation, and similar uses), provide job opportunities, and support visitors and tourism.

Objective 3.2: Provide for the spatial distribution of development that promotes an improved quality of life by facilitating a reduction of vehicular trips, vehicle miles traveled, and air pollution.

Policy 3.2.1: Provide a pattern of development consisting of distinct districts, centers, boulevards, and neighborhoods that are differentiated by their functional role, scale, and character. This shall be accomplished by considering factors such as the existing concentrations of use, community-oriented activity centers that currently or potentially service adjacent neighborhoods, and existing or potential public transit corridors and stations.

Policy 3.2.2: Establish, through the Framework Long-Range Land Use Diagram, community plans, and other implementing tools, patterns and types of development that improve the integration of housing with commercial uses and the integration of public services and various densities of residential development within neighborhoods at appropriate locations.

Policy 3.2.4: Provide for the siting and design of new development that maintains the prevailing scale and character of the City's stable residential neighborhoods and enhance the character of commercial and industrial districts.

Objective 3.4: Encourage new multi-family residential, retail commercial, and office development in the City's neighborhood districts, community, regional, and downtown centers as well as along primary transit corridors/boulevards, while at the same time conserving existing neighborhoods and related districts.

Policy 3.4.1: Conserve existing stable residential neighborhoods and lower-intensity commercial districts and encourage the majority of new commercial and mixed-use (integrated commercial and residential) development to be located (a) in a network of neighborhood districts, community, regional, and downtown centers, (b) in proximity to rail and bus transit stations and corridors, and (c) along the City's major boulevards, referred to as districts, centers, and mixed-use boulevards, in accordance with the Framework Long-Range Land Use Diagram.

Goal 3F: Mixed-use centers that provide jobs, entertainment, and serve the region.

Objective 3.10: Reinforce existing and encourage the development of new regional centers that accommodate a broad range of uses that serve, provide job opportunities, and are accessible to the region, are compatible with adjacent land uses, and are developed to enhance urban lifestyles.

Policy 3.10.1: Accommodate land uses that serve a regional market in areas designated as "Regional Center" in accordance with [Table 3-6]. Retail uses and services that support and are integrated with the primary uses shall be permitted. The range and densities/intensities of uses permitted in any area shall be identified in the community plans.

Policy 3.10.3: Promote the development of high-activity areas in appropriate locations that are designed to induce pedestrian activity, in accordance with Pedestrian-Oriented District Policies 3.16.1 through 3.16.3, and provide adequate transitions with adjacent residential uses at the edges of the centers.

Policy 3.10.4: Provide for the development of public streetscape improvements, where appropriate.

Objective 3.16: Accommodate land uses, locate and design buildings, and implement streetscape amenities that enhance pedestrian activity.

Goal 3A: A physically balanced distribution of land uses that contributes towards and facilitates the City's long-term fiscal and economic viability, revitalization of economically depressed areas, conservation of existing residential neighborhoods, equitable distribution of public resources, conservation of natural resources, provision of adequate infrastructure and public services, reduction of traffic congestion and improvement of air quality, enhancement of recreation and open space opportunities, assurance of environmental justice and a healthful living environment, and achievement of the vision for a more livable city.

The project proposes up to a maximum of 112 hotel rooms and 528 square feet of ground-floor commercial space that will result in a favorable mix of uses that serves to create jobs, provide regional and international accommodations, amenities, support services, and businesses along Hope Street. Additionally, the project site is less than 0.25 miles from the existing LA Metro Bus routes 30, 37, 76, 70, 78, and 79. Other public transit services in close proximity include DOT Dash Line 439, 431, and 437. Close proximity to these aforementioned resources and services will contribute to the City's goal to reduce Vehicle Miles Traveled (VMT) and pollution. The project's opportune location will address and support the existing and growing regional and international demand in accessibility to future large-scale events, including the 2026 FIFA World Cup, and the 2028 Olympics, as well as ongoing sporting, entertainment, tourism, and business in general.

The project involves a new eight-story, 106-foot high limited service hotel with 112 guest rooms and 528 square-feet of ground-floor commercial. The proposed floor area is 46,741 square-feet, with a floor area ratio of 6:1. New materials will provide greater lighting and visibility for pedestrians and motorists alike, and will support increased commercial activity through new hotel, retail, and dining uses.

Mobility Plan 2035

The Mobility Element guides development of a citywide transportation system with the goal of ensuring the efficient movement of people and goods. The Mobility Element recognizes that primary emphasis must be placed on maximizing the efficiency of existing and proposed transportation infrastructure through advanced transportation technology, reduction of vehicle trips, and focused growth in proximity to public transit.

The Mobility Element of the General Plan (Mobility Plan 2035) is not likely to be affected by the recommended action herein. The project is subject to the following public right-of- way improvements (Planning Case Referral Form Reference Number 202000192): a 3-foot dedication along Hope Street to provide half right away of 43 feet; the repair of a broken curb on Hope Street; installation of street trees to the satisfaction of the Urban Forestry Division of the Bureau of Street Services; installation of street lights as required by the Bureau of Street Lighting. Adjoining the project site are Hope Street to the west, a designated Avenue II, and an alley to the north and east. The project as designed and conditioned meets the following policies of Mobility Plan 2035:

> ***Policy 2.3:*** Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.

The project's design, including building orientation, will facilitate walking both into and within the development site, creating a safe and comfortable walking environment. The project includes dedicated walkways from the public right of way to the main entrances. In addition, the project will include striped crosswalks throughout the parking lot.

> ***Policy 3.1:*** Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes - including goods movement - as integral components of the City's transportation system.

The project will provide Code-required bicycle parking thereby supporting "first-mile, last-mile solutions," creating the opportunity for workers to access to the project by bicycle and transit.

> ***Policy 3.8:*** Provide bicyclists with convenient, secure and well-maintained bicycle facilities.

In compliance with Ordinance No. 185480, the hotel provides 16 bicycle parking spaces (of which 8 will be reserved for long-term use and 8 for short-term use) to satisfy its base bicycle parking requirements. In addition, pursuant to LAMC 12.21.A.4,16 additional bicycle parking spaces will be provided as a replacement for four (4) automobile parking spaces, for a total of 32 bicycle parking spaces. Thus, both employees and visitors will have access to bike parking that is conveniently distributed throughout the site.

Central City Community Plan

Adopted in 2003, the purpose of Central City Community Plan is to guide future development of the Community. The Plan is intended to promote an arrangement of land use, circulation, and services which will encourage and contribute to the economic, social and physical health, safety, welfare, and convenience of the Community, within the larger framework of the City; guide the development, betterment, and change of the Community to meet existing and anticipated needs and conditions; contribute to a healthful and pleasant environment; balance growth and stability; reflect economic potentialities and limitations, land development and other trends; and protect investment to the extent reasonable and feasible. The project meets the intent of the following goal, objectives and policies of the Central City Community Plan relating to commercial uses:

The Central City Community Plan serves to address a number of issues and opportunities present in the area, and recognizes the importance of retaining a viable and vibrant commercial sector. The proposed hotel with ancillary commercial space is consistent with this zone and land use designation. Additionally, the project is consistent with the following objectives and policies of the Community Plan:

Objective 2-3: To promote land uses in Central City that will address the needs of all the visitors to Downtown for business, conventions, trade shows, and tourism.

Policy 2-3.1: Support the development of a hotel and entertainment district surrounding the Convention Center/Staples Arena with linkages to other areas of Central City and the Figueroa corridor.

Objective 2-4: To encourage a mix of uses which create an active, 24-hour downtown environment for current residents and which would also foster increased tourism.

The project's proposed hotel and commercial retail uses are uses permitted by the project site's [Q]R5-4D-O zoning, as well as, the underlying High Density Residential land use designation. Surrounding properties are developed with similar scale buildings and uses, including hotels and office buildings, restaurants, and retail shops. In addition, the project's proposed design will enhance the visual appearance and appeal of the existing commercial development. In addition, the project will provide additional retail land uses for visitors.

The design alternates different textures, colors, materials, and distinctive architectural treatments to add visual interest while avoiding dull and repetitive facades. The contemporary architecture includes a highlighted entry enclosure for entry identification, stepped contrasting panels for structure accent, polished stone at entry and a variety of colors to add contrast. The ground level will include signage lighting at the north portion of the ground level, accent lighting at landscaped areas, and ambient security lighting surrounding the building. Furthermore, the project's design and proposed uses will enhance light industrial activity, and support job growth.

The project is in substantial conformance with the purposes, intent and provisions of the General Plan and the Central City Community plan and does not conflict with any applicable regulations or standards.

2. **That the project consists of an arrangement of buildings and structures (including height, bulk and setbacks), off-street parking facilities, loading areas, lighting, landscaping, trash collection, and other such pertinent improvements that is or will be compatible with existing and future development on neighboring properties.**

Compatibility with Existing and Future Development

Generally, the surrounding lots are zoned [Q]R5-4D-O and are developed commercial and mixed uses. To the north, across the abutting public alley, properties are zoned [Q]R5-4D-O and are developed with a 19-story 236-unit mixed use development (Luma). Abutting properties to the east, across the public alley, properties are zoned [Q]R5-4D-O and are developed with a 23-story 311-unit mixed use development (Evo South). To the west, across Hope Street, properties are zoned [Q]R5-4D-O and are developed with a 31 to 40-story 730 unit mixed use development (Hope + Flower). Abutting properties to the south are zoned [Q]R5-4D-O and serve as a surface parking lot owned by the Evo Homeowners Association.

The project site is zoned [Q]R5-4D-O and is located within the Central City Community Plan Area which designates the land use of the subject property as High Density Residential. The Q condition restricts the use of the property to residential uses permitted in the R5 zone, such as hotels, motels, and other commercial uses, and limits the commercial FAR of the property to 2:1. Residential uses are permitted in the R5 zone and does not restrict density for guest rooms. The D limitation restricts the overall FAR of the Property to 6:1 and unlimited height. The project site is 7,829 square feet (approximately 0.18 acres) in size and is currently vacant and undeveloped. The project will result in a mixed-use development. The proposed uses are permitted in the [Q]R5-2D-O Zone.

The proposed mixed-use project will improve the visual character of the area. The project will enhance and modernize the vacant lot through the building's exterior facades, including glazing, finishes, colors and lighting that will enhance surrounding development. The contemporary architecture includes a highlighted entry enclosure for entry identification, stepped contrasting panels for structure accent, polished stone at entry and a variety of colors to add contrast. The ground level will include signage lighting at the north portion of the ground level, accent lighting at landscaped areas, and ambient security lighting surrounding the building. The building's massing, height, bulk and setbacks are currently consistent with surrounding properties. Additionally, the project will provide mechanical screening at the roof of the building.

The property is located within a Los Angeles State Enterprise Zone (ZI-2129). Per the Central City parking requirements, vehicle parking is not required for ground floor retail spaces under 7,500 square feet. The project provides 23 vehicle parking spaces- two of which are provided on the ground floor and accessed by the side and rear alley via Hope Street and 12th Street and twenty-two of which will be located within 750 feet of the site at 1028 South Hope Street, pursuant to LAMC 12.21.A.4(g). In compliance with Ordinance No. 185480, the hotel provides 16 bicycle parking spaces (of which 8 will be reserved for long-term use and 8 for short-term use) to satisfy its base bicycle parking requirements. In addition, pursuant to LAMC 12.21.A.4,16 additional bicycle parking spaces will be provided as a replacement for four (4) automobile parking spaces, for a total of 32 bicycle parking spaces.

The project's proposed hotel and commercial retail uses are uses permitted by the project site's [Q]R5-4D-O zoning, as well as, the underlying High Density Residential land use designation. Surrounding properties are developed with similar uses mixed-use buildings. In addition, the project's proposed design will enhance the visual appearance and appeal of the vacant lot. The project will not only address new employment opportunities, but also provide additional retail shopping, dining and entertainment uses that serve visitors and tourists.

Arrangement of Buildings (Height, Bulk, Setbacks)

As previously stated, the project site is zoned [Q]R5-4D-O and is located within the Central City Community Plan Area which designates the land use of the subject property as High Density Residential. The Q condition restricts the use of the property to residential uses permitted in the R5 zone, such as hotels, motels, and other commercial uses, and limits the commercial FAR of the property to 2:1. Residential uses are permitted in the R5 zone, and does not restrict density for guest rooms. The D limitation restricts the overall FAR of the Property to 6:1 and unlimited height. The project site is 7,829 square feet (approximately 0.18 acres) in size and is currently vacant and undeveloped. The project will result in a mixed-use development. The proposed uses are uses that are permitted in the [Q]R5-2D-O Zone. The proposed building height is 8-stories high (106') with a total building area of 46,741 square-feet, and a floor area ratio of approximately 6:1.

Parking, Loading Areas, Trash Collection

Currently, the site does not provide any vehicle parking. The property is located within a Los Angeles State Enterprise Zone (ZI-2129). Per the Central City parking requirements, vehicle parking is not required for ground floor retail spaces under 7,500 square feet. The project provides 23 vehicle parking spaces- two of which are provided on the ground floor and accessed by the side and rear alley via Hope Street and 12th Street and twenty-two of which will be located within 750 feet of the site at 1028 South Hope Street, pursuant to LAMC 12.21.A.4(g). In compliance with Ordinance No. 185480, the hotel provides 16 bicycle parking spaces (of which 8 will be reserved for long-term use and 8 for short-term use) to satisfy its base bicycle parking requirements. In addition, pursuant to LAMC 12.21.A.4,16 additional bicycle parking spaces will be provided as a replacement for four (4) automobile parking spaces, for a total of 32 bicycle parking spaces.

The project will provide a trash enclosures and collection area, as well as the site's loading areas at the rear of the ground floor. Access to the two on-site vehicle parking spaces are also provided through the rear alley and can accessed by the side and rear alley via Hope Street and 12th Street. Valet for the hotel and commercial uses will be provided along Hope Street. There is no vehicle entrance proposed on Hope Street to prioritize active lobby and retail uses towards the Hope Street Boulevard frontage and streetscape.

In conformance with the L.A.M.C. Section 16.05, all buildings are required to include their own individual on-site trash collection area for both refuse and recyclable materials. Trash storage areas have been conditioned to be enclosed so as to minimize visibility from the public right of way.

Landscaping

The project will contain approximately 1,975 square feet of landscaped area. The property does not contain any protected trees, as defined by the City's Municipal Code, Ordinance No. 177,404. Ground floor landscape will include approximately eight (8) Pygmy Date Palms and shrubs, while the rooftop will include approximately twenty-three (23) King Palms and a variety of shrubs. The total landscape coverage amounts to approximately twenty-five (25) percent of the total subject property.

Lighting

The project has been conditioned to install additional pedestrian-scale and security lighting that would be shielded and down-casted within the site in a manner that prevents the illumination of adjacent public rights-of-way, adjacent properties, and the night sky. Ground level lighting will activate and enhance the pedestrian environment at night.

The project has been conditioned, herein, to ensure that the proposed arrangement of buildings, off-street parking facilities, and other such pertinent improvements will be compatible with existing and future development on neighboring properties.

3. **That any residential project provides recreational and service amenities in order to improve habitability for the residents and minimize impacts on neighboring properties.**

The project involves a new eight-story, 106-foot high limited service hotel with 112 guest rooms and 528 square-feet of ground-floor commercial. No residential uses are proposed as part of the project. As a commercial development, the proposed project is not subject to the City's open space requirements pursuant to LAMC Section 12.21-G,2. The project's approval however, has been conditioned, requiring that all open areas not used for buildings, driveways, and parking areas be attractively landscaped, include an automatic irrigation system, and maintained in accordance with a landscape plan prepared by a licensed landscape architect or licensed architect.

ADDITIONAL MANDATORY FINDINGS

4. The National Flood Insurance Program rate maps, which are a part of the Flood Hazard Management Specific Plan adopted by the City Council by Ordinance No. 172,081, have been reviewed and it has been determined that this project is located in Zone X, an area of minimal flood hazard.

Authorization - Time Limit and Transferability

The authorization granted herein shall be for a three year period from the effective date. If building permits are not issued and construction work is not begun within such time and carried on diligently so that building permits do not lapse, this approval shall become null and void. There are no time extensions available beyond this three year period. Furthermore, this grant is not a permit or license and that permits and licenses required by all applicable laws must be obtained from the proper agency.

In the event the property is sold, leased, rented or occupied by any person or corporation other than yourself, it is incumbent that you advise such person or corporation regarding the conditions of this authorization. If any portion of the authorization is utilized, the conditions and requirement of the grant will become operative and must be strictly observed

Appeal Period - Effective Date

The applicant's attention is called to the fact that this grant is not a permit or license and that any permits and licenses required by law must be obtained from the proper public agency. Furthermore, if any condition of this grant is violated or if the same be not complied with, then the applicant or his successor in interest may be prosecuted for violating these conditions the same as for any violation of the requirements contained in the Municipal Code.

The Determination in this matter will become effective after fifteen (15) days from the date of mailing of this determination unless an appeal there from is filed with the Department of City Planning. It is strongly advised that appeals be filed early during the appeal period and in person so that imperfections/incompleteness may be corrected before the appeal period expires. Any appeal must be filed on the prescribed forms accompanied by the required fee, a copy of this Determination, and received and receipted at a public office of the Department of City Planning on or before the above date or the appeal will not be accepted. Forms are available on-line at http://cityplanning.lacity.org/. Planning Department public offices are located at:

APPEAL PERIOD - EFFECTIVE DATE

The Determination in this matter will become effective after December 02, 2021 unless an appeal there from is filed with the City Planning Department. It is strongly advised that appeals be filed early during the appeal period and in person so that imperfections/ incompleteness may be corrected before the appeal period expires. Any appeal must be filed on the prescribed forms, accompanied by the required fee, a copy of this Determination, and received and receipted at a public office of the Department of City Planning on or before the above date or the appeal will not be accepted. Forms are available on-line at www.cityplanning.lacity.org.

Planning Department public offices are located at:

Downtown	San Fernando Valley	West Los Angeles
Figueroa Plaza 201 North Figueroa Street, 4th Floor Los Angeles, CA 90012 (213) 482-7077	Marvin Braude San Fernando Valley Constituent Service Center 6262 Van Nuys Boulevard, Room 251 Van Nuys, CA 91401 (818) 374-5050	West Los Angeles Development Services Center 1828 Sawtelle Boulevard, 2nd Floor Los Angeles, CA 90025 (310) 231-2598

The applicant is further advised that all subsequent contact with this office regarding this Determination must be with the decision-maker who acted on the case. This would include clarification, verification of condition compliance and plans or building permit applications, etc., and shall be accomplished by appointment only, in order to assure that you receive service with a minimum amount of waiting. You should advise any consultant representing you of this requirement as well.

The time in which a party may seek judicial review of this determination is governed by California Code of Civil Procedures Section 1094.6. Under that provision, a petitioner may seek judicial review of any decision of the City pursuant to California Code of Civil Procedure Section 1090.18, only if the petition for writ of mandate pursuant to that section is filed no later than the 90th day following the date on which the City's decision becomes final.

VINCENT P. BERTONI, AICP
Director of Planning

APPROVED BY:

Heather Bleemers
Senior City Planner

Jessica C. Jimenez

Jessica Jimenez
Planning Assistant

REVIEWED BY:

Eric Claros

Eric Claros
City Planner

Attachments:
Exhibit A: Architectural Plans and Landscape Plans

24 x 36

HOTEL
1130 S. HOPE STREET

OWNER
HOPE STREET 1, LLC

ARCHITECT
BGA Bucilla Group Architecture
ARCHITECTURE | PLANNING | URBAN DESIGN | INTERIOR DESIGN

SHEET INDEX:

CS	COVER / INDEX SHEET
CS-1.0	PROGRAM SUMMARY
CS-2.0	IMAGERY - BUILDING
CS-3.0	SITE/VICINITY MAP
SP-1.0	ALTA SURVEY
SP-1.1	PLOT PLAN

COMPOSITE BUILDING PLAN

1.0	L0 - BASEMENT PLAN
2.0	L1 - GROUND FLOOR PLAN
3.0	L2, L3 - TYP. FLAT LEVEL (CONC.)
4.0	L4 TO L8 - TYP. FLAT LEVEL (WOOD)
5.0	L9 - ROOF DECK LEVEL
5.1	L10 - ROOF PLAN

COMPOSITE BUILDING SECTION

7.0	BUILDING SECTION 'A-A'
	BUILDING SECTION 'B-B'

COMPOSITE BUILDING ELEVATION

8.1	FRONT ELEVATION
	LEFT SIDE ELEVATION
8.2	RIGHT SIDE ELEVATION
	REAR ELEVATION

UNIT PLAN TYPE

9.1	TYPE A, A1, B, B1, C & D

LANDSCAPE PLANS

L-1	COMPOSITE PLANS
L-2	GROUND FLOOR
L-3	ROOF DECK LEVEL

EXHIBIT "A"
Page No. 1 of 21
Case No. DIR-2020-3656-SPR

ARCHITECT:
BUCILLA GROUP ARCHITECTURE

STAMP
LICENSED ARCHITECT STATE OF CALIFORNIA

Project:
HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave.
El Segundo, CA 90045

NO. DATE DESCRIPTION

Project Number:
BGA No. 19036

Sheet Title:
PROJECT OVERVIEW

Sheet No.:
CS

UPDATED: 09/13/21

PLOT PLAN SUMMARY

Project Address	1130 South Hope Street Los Angeles, CA 90015
Legal Description	
Tract / Lot	Subdivision Block 79 / 6
APN	5139-021-004
Jurisdictional	
Community Plan Area	Central City
Area Planning Com.	Central
Neighborhood Council	Downtown Los Angeles
Council District	CD 14
Census Tract	2079
LADBS District Office	Los Angeles Metro
Commercial District	Southpark

Zoning	(Q)R5-4D-O
General Plan Use	High Density Residential
General Plan Notes	Yes
Central City Parking	Yes
Downtown Parking	Yes
RPA - Redev. Proj. Area	City Center
ZI - Zoning Information	1 2488 - City Center 2 2374 - LA St. Enterprise Zone 3 2487 - City Ctr / Ct Dev GL's & Controls for Res Hotels 4 2385 - Grt DT Housing Inc. Area 5 2353 - Res Hotel Unit C/D Ord 6 2452 - Transit Priority in LA

Site	per October 2019 survey	SF	
Gross Lot		7,829	
Density		RS	
Allowed		unlimited	
Provided		112	
Floor Area	CP-7150 (6/12/19)	FAR	SF
Allowed		6.0	46,974
Proposed		6.0	46,741
TFAR		0.0	
Building Height	CP-7150 (6/12/19)	LF	
Allowed		unlimited	
Proposed	8 story	106'-0"	
Setbacks	South Park District	min avg / max avg	
Dedication	Front Pl	3'	
Required	Front walk easement per DOG	3' avg	
Provided	Front with Retail	0'	
Provided	Sides & Rear	0'	

Auto Parking		
Retail - Required	P/ZC 2002-011	No.
528 sf at ground level	LAMC < 7,500 sf retail not req	0
Hotel - Required	Central City District Park Except	112 rooms
1st 20 rooms	1 - 20 rooms = 20 / 2	10
2nd 20 rooms	21 - 40 rooms = 20 / 4	5
82 rooms	41 - 112 rooms = 72 / 6	12
Sub-total		27
less 15%	per bike parking reduction =	-4
Total		23
Hotel - Provided		No.
HC Auto	provided off site	1
HC Van	provided off site	1
Hotel - autos	provided off site	19
Hotel - staff autos	provided at bldg rear	2
Sub-Total		23
less 2 spaces	parking on site	-2
Total	parking off site	21
HC & EVA - Provided	Location	No.
HC - Handicap Spaces	provided off site	
EVA Spaces	provided off site	
EVA Charging station req	provided off site	

Bike Parking	LAMC Table 12.21 A.16 (a)(2)	
Retail - Required	Location	Provided
Short Term - 2 bikes	1 rack / 2 bikes at ROW	2
Long Term - 2 bikes	1 rack / 2 bikes at ROW	2
Hotel - Required	Location	Provided
Short Term - 1/20 guest rms	3 racks / 6 bikes at ROW	6
Long Term - 1/20 guest rms	3 racks / 6 bikes at B1 - Basement	6
Per bike parking reduction	8 racks / 16 bikes at B1 - bsmt	16
Loading / Unloading	LAMC - Bldg sf > 50,000 sf	SF
Required		600
Provided		664
Hotel Amenity		SF
Guest	basement level	1,926
Guest	ground level	2,717
Guest	roof level	2,612
Total		7,255
Hotel Landscape		No.
ground level	at west and south side	540
roof level	at rooftop	445
Total		985

UPDATED: 09/13/21

PROGRAM SUMMARY

Basement Level / Ground Level / 7 Guest Room Levels - 16 rooms per floor / Rooftop

9/7/2021 112 guest rooms

Open Space	L9	L2 - L8	L1	B1	Total
	Roof Level	Guest Levels	Ground Level	Basement Level	Provided
B1 - Common				1,926	1,926
L1 - Common			2,717		2,717
L9 - Common	2,612				2,612
					7,255

L2 - L8				
Guest Room	Guest Rm SF	No of Guest Rm	No of Levels	Total
A	351	8	7	19,656
		2808		
B	394	2	7	5,516
		788		
C	285	4	7	7,980
		1140		
D	353	2	7	4,942
		706		
		16		38,094
		5442		

Site SF	
Gross Lot	7,829
FAR	6.0
Buildable	46,741

* per survey

Bldg SF	L3-L9
Gst Rm	5,442
Common	659
Non FAR	987
Ext Void	294
Int SMP	297
Total	7,679

Common Area	
Corridor	659
Lobby	150
Total	809

Level Area	Level Desig.	Gross SF	Park SF	Park Total	Common Area	Amenity OS	NON FAR	NRSF	Efficiency %	Guest Rm / Floor	FAR
Roof	L9					2,612	987				
Flat	L8	7,679			809		1,665	5,442	71	16	6,014
Flat	L7	7,679			809		1,665	5,442	71	16	6,014
Flat	L6	7,679			809		1,665	5,442	71	16	6,014
Flat	L5	7,679			809		1,665	5,442	71	16	6,014
Flat	L4	7,679			809		1,665	5,442	71	16	6,014
Flat	L3	7,679			809		1,665	5,442	71	16	6,014
Flat	L2	7,679			809		1,665	5,442	71	16	6,014
Ground	L1	7,230	1,212			2,717	3,301				2,717
Bsmt	B1	7,679				1,926	5,753				1,926
Total		68,682	1,212	0	5,663	7,255	21,696	38,094		112	46,741

NON FAR
Guest Room Floor

NON FAR	Area	SF ea	no / flr	SF	
Stair 1 & 2		180	2	360	
Smoke Vestibule		62	2	124	
Elevator 1 & 2		92	2	184	
Trash Room & Chute		60	1	60	
Mech Room		52	1	52	
Exterior Walls				207	987
EXTERIOR	Area	SF ea	no / flr	SF	
Exterior - Void				294	294
INT SMP WALLS	Area	SF ea	no / flr	SF	
Interior - Struct. Walls	14x0.5	7	20	140	
Interior - Plumb'g Shafts	16x0.5	8	22	176	
Interior - Mech Shafts	1.5x2.5	3.75	18	67.5	383.5
					1,665

EXHIBIT "A"
Page No. 2 of 21
Case No. DIR-2020-3656-SPR

ARCHITECT:
BUCILLA GROUP ARCHITECTURE
INCORPORATED
Architecture Planning Interior Design Historic Preservation Land Use Entitlements
18782 MacArthur Blvd., Suite 270, Irvine, CA 92612 TEL 949 851 9020 www.bg-architecture.com

STAMP

LICENSED ARCHITECT
Greg G. Bucilla
C-29873
REN. 06-30-2021
STATE OF CALIFORNIA

Project:
HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave,
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	041520	SPR Submittal
	080420	SPR Resubmittal
	090920	SPR Resubmittal
	120820	SPR Resubmittal
	091321	SPR Resubmittal

CASE NO: ZA-2020-3656-ZAA-ZV-SPR
DD SUBM. DATE: 09/15/21
PLOT DATE: 02/03/21

Project Number:
BGA No. 19036

Sheet Title:
PLOT PLAN SUMMARY
PROGRAM SUMMARY
FAR CALCS. PER CITY

Sheet No.:
CS-1.0

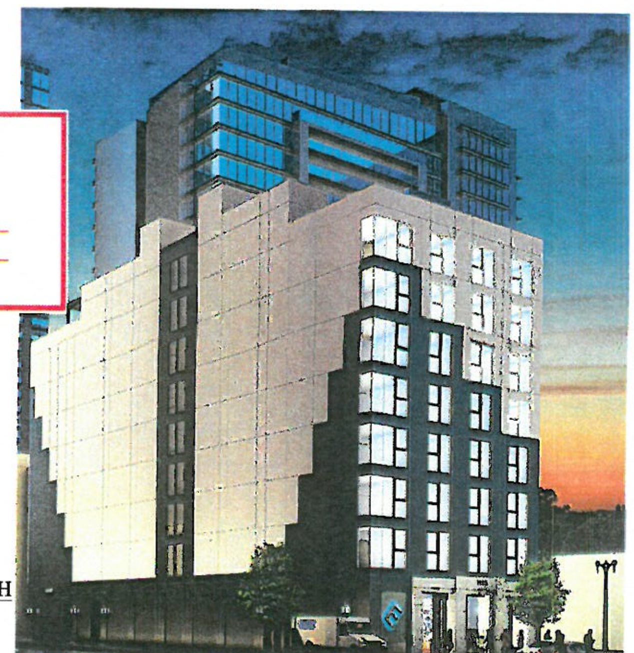
24 x 36

HOPE STREET FRONTAGE

WEST & SOUTH CORNER

EXHIBIT "A"

Page No. 3 of 21
Case No. DIR-2020-3656-SPR



WEST & NORTH CORNER

ARCHITECT:
BUCILLA GROUP ARCHITECTURE

STAMP

LICENSED ARCHITECT · STATE OF CALIFORNIA

Project:
HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave.,
El Segundo, CA 90045

NO. DATE	DESCRIPTION
041520	SPR Submittal
030420	SPR Resubmittal
070820	SPR Resubmittal
110820	SPR Resubmittal
031321	SPR Resubmittal

30 SUBM. DATE: 02/15/21
PLOT DATE: 02/03/21

Project Number:
BCA No. 19036

Sheet Title:
BUILDING IMAGERY

Sheet No.:
CS-2.0

24 x 36

ROOFTOP OVERVIEW

VIEW LOOKING EAST FROM BUILDING FRONTAGE

LOUNGE AREA / PUTTING GREEN

LOUNGE AREA / ELEV. LOBBY

EXHIBIT "A"
Page No. 4 of 21
Case No. DIR-2020-3656-SPR

ROOF DECK IMAGERY

ARCHITECT:
BUCILLA GROUP ARCHITECTURE

STAMP

Project:
HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave.
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	11/16/20	SPR Submittal
	08/04/20	SPR Resubmittal
	09/08/20	SPR Resubmittal
	10/09/20	SPR Resubmittal
	08/13/21	SPR Resubmittal

Project Number:
BGA No. 19036

Sheet Title:
ROOF DECK IMAGERY

Sheet No.:
CS-2.1

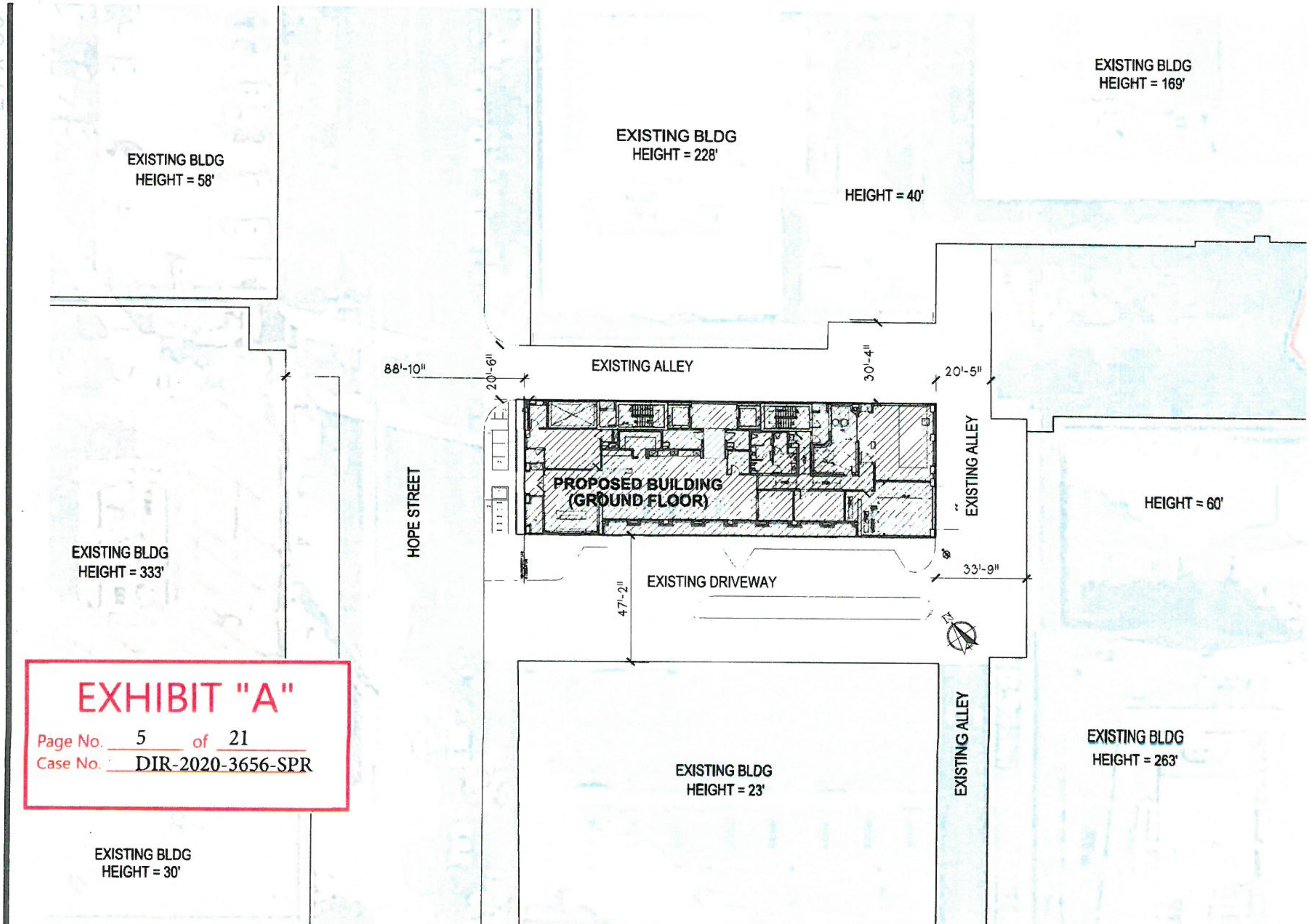


EXHIBIT "A"

Page No. 5 of 21

Case No. DIR-2020-3656-SPR

SITE / VICINITY MAP WITH GROUND FLOOR

SEE SP-1.1 FOR SITE PLAN SCALE: 1/16" = 1'-0"

ARCHITECT:

BUCILLA GROUP ARCHITECTURE

STAMP

Project:

HOTEL

1130 South Hope Street
Los Angeles, California 90015

OWNER

HOPE STREET 1, LLC

1434 East Oak Ave.
El Segundo, CA 90045

NO. DATE	DESCRIPTION
041520	SPR Submittal
060420	SPR Resubmittal
080520	SPR Resubmittal
100820	SPR Resubmittal
031321	SPR Resubmittal

Project Number:

BGA No. 19036

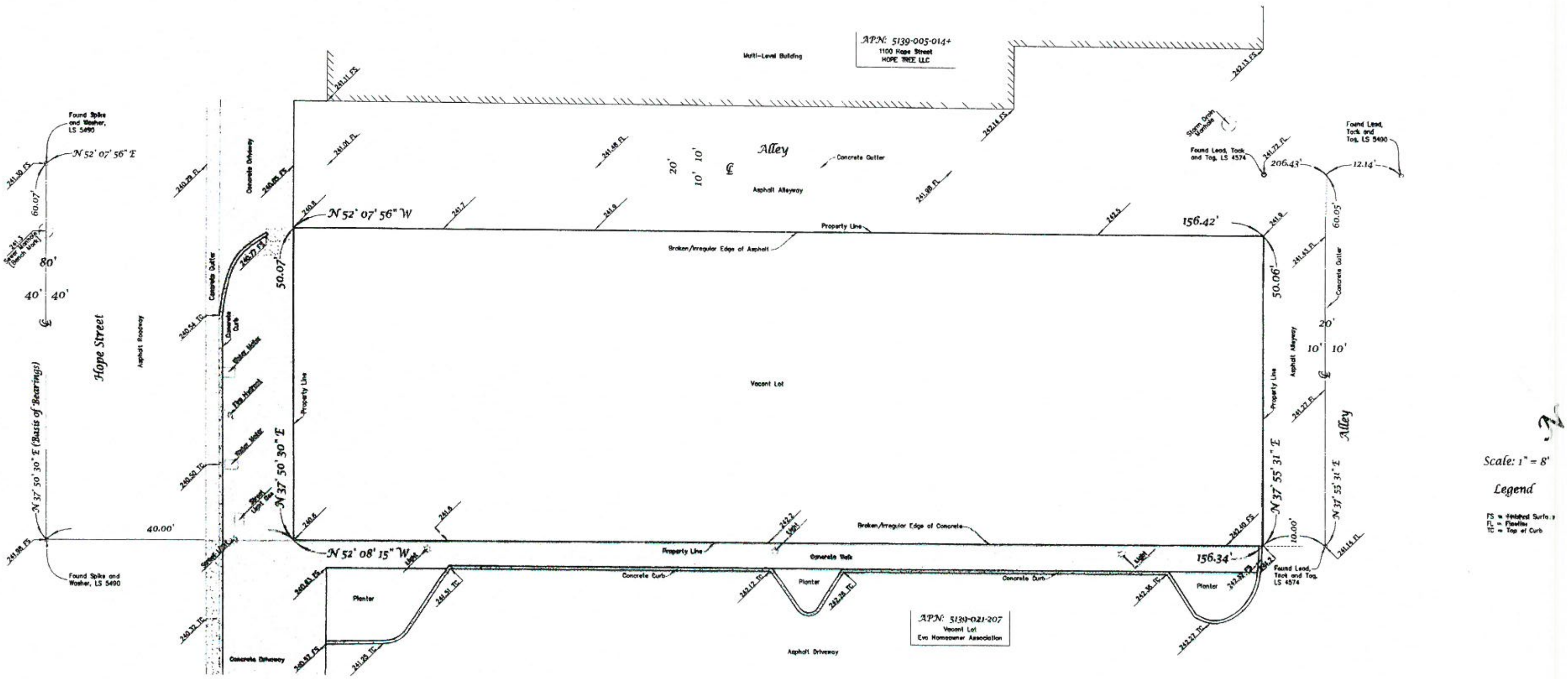
Sheet Title:

SITE / VICINITY MAP WITH GROUND FLOOR

Sheet No.:

CS-3.0

A.L.T.A./NSPS Land Title/Architectural Survey



LEGAL DESCRIPTION: ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

LOT 6 IN BLOCK 79 OF ORD'S SURVEY, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 31, PAGE 90 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN: 5139-021-004

TITLE REPORT: THE TITLE REPORT DATED OCTOBER 2, 2019 BY CHICAGO TITLE COMPANY, ORDER NO. 00112488-994-LT2-JC, WAS USED AND IS A PART OF THIS SURVEY.

SITE ADDRESS: 1130 SOUTH HOPE STREET, LOS ANGELES

AREA: 7,829 SQUARE FEET, 0.18 ACRES

BOUNDARY: THE PROPERTY LINES SHOWN HEREON ARE RECORD PER THE LEGAL DESCRIPTION AND RELATED DOCUMENTS, UNLESS OTHERWISE NOTED. THE PROPERTY LINES ARE ADJUSTED TO BEST FIT PER FOUND CITY CENTERLINE AND/OR SURVEY MONUMENTS, AND OCCUPATION.

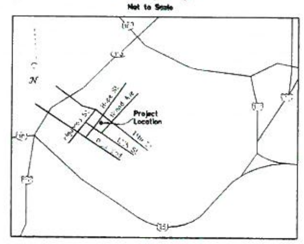
BASIS OF BEARINGS: THE BEARING OF NORTH 37° 50' 30" EAST WAS USED ON THE CENTERLINE OF SOUTH HOME STREET PER ORD'S SURVEY BOOK 31 PAGE 90, AS SHOWN HEREON.

FLOOD ZONE: ZONE X, AS SHOWN ON FLOOD INSURANCE RATE MAP DATED SEPTEMBER 26, 2008, COMMUNITY PANEL NO. 06037C-1620-F; THIS PROPERTY IS NOT IN A SPECIAL

EXHIBIT "A"
Page No. 6 of 21
Case No. DIR-2020-3656-SPR

...IS BASED WERE MADE IN ACCORDANCE WITH 2011 MINIMUM STANDARD DETAIL ...ND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 3, 4, 8, 11(a), 13, 20(a) OF ...E MAP WAS COMPLETED ON NOVEMBER 12, 2019.

Vicinity Map
Not to Scale

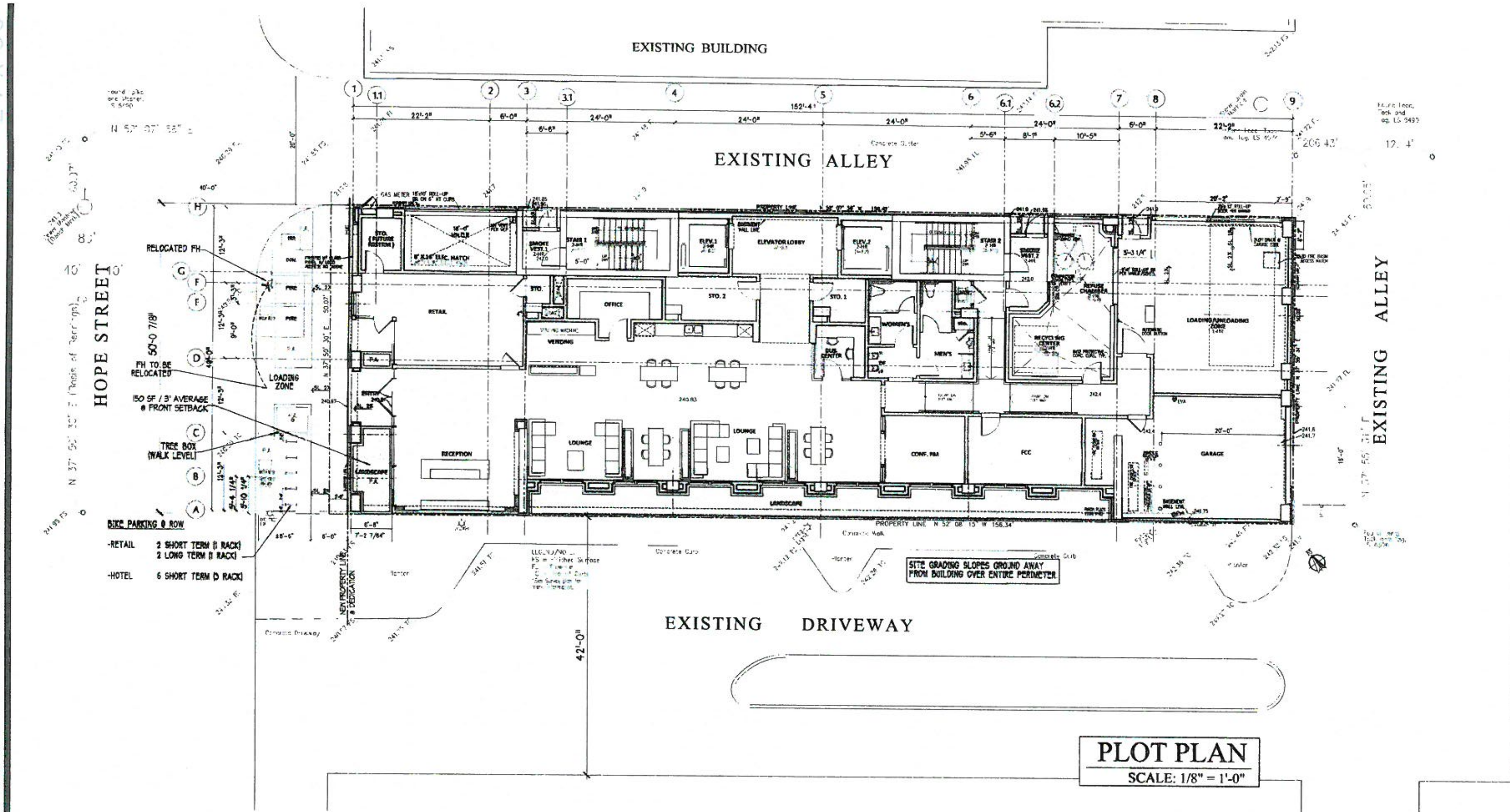


Plan Prepared For: ElPo01 Hope, LLC
1434 E. Oak Avenue
El Segundo, CA 90245

Plan Prepared By: M & M & Co.
26074 Avenue Hall Suite 12
Santa Clarita, CA 91355
(818) 891-9100
Gregory M. Amoroso, L.S. 8771

ALTA SURVEY

SP-1.0



BIKE PARKING @ ROW

-RETAIL 2 SHORT TERM (1 RACK)
2 LONG TERM (1 RACK)

-HOTEL 6 SHORT TERM (3 RACK)

PLOT PLAN

SCALE: 1/8" = 1'-0"

UPDATED: 04/30/21

PLOT PLAN SUMMARY

Project Address	1130 South Hope Street Los Angeles, CA 90015
Legal Description	
Tract / Lot	Subdivision Block 79 / 6
APN	5139 021-004
Jurisdictional	
Community Plan Area	Central City
Area Planning Com.	Central
Neighborhood Council	Downtown Los Angeles
Council District	CD 14

Zoning	(Q)R5-4D-O
General Plan Use	High Density Residential
General Plan Notes	Yes
Central City Parking	Yes
Downtown Parking	Yes
RPA - Redev. Proj. Area	City Center
ZI - Zoning Information	1 2488 - City Center 2 2374 - LA St. Enterprise Zone 3 2487 - City Ctr / Cl Dev GL's & Controls for Res Hotels 4 2385 - Grt DT Housing Inc. Area 5 2353 - Res Hotel Unit C/O Ord 6 2452 - Transit Priority in LA

Site	per October 2019 survey	SF	
Gross Lot		7,829	
Density		#S	
Allowed		unlimited	
Provided		112	
Floor Area	CP-7150 (6/13/19)	FAR	SF
Allowed		6.0	46,974
Proposed		6.0	46,741
TFAR		0.0	
Building Height	CP-7150 (6/13/19)	H	
Allowed		unlimited	
Proposed	8 story	106'-0"	
Setbacks	South Park District	min/avg / max	
Dedication	front PL	3'	
Required	Front walk easement per DDG	3' avg	
Provided	Front with Retail	0'	
Provided	Sides & Rear	0'	

Auto Parking		
Retail - Required	PF2C 2002-011	No.
528 sf at ground level	LAMC < 7,500 sf retail not req	0
Hotel - Required	Central City District Park Except	112 rooms
1st 20 rooms	1 - 20 rooms = 20 / 2	10
2nd 20 rooms	21 - 40 rooms = 20 / 4	5
82 rooms	41 - 112 rooms = 72 / 8	12
Sub-total		27
less 15%	per bike parking reduction =	-4
Total		23
Hotel - Provided		No.
HC Auto	provided off site	1
HC Van	provided off site	1
Hotel - autos	provided off site	19
Hotel - staff autos	provided at bldg rear	2
Sub-Total		23
less 2 spaces	parking on site	-2
Total	parking off site	21
HC & EVA - Provided	Location	No.
HC - Handicap Spaces	provided off site	
EVA Spaces	provided off site	
EVA Charging station req	provided off site	

Bike Parking	LAMC Table 12.21 A.16 (a)(2)	
Retail - Required	Location	Provided
Short Term - 2 bikes	1 rack / 2 bikes at ROW	2
Long Term - 2 bikes	1 rack / 2 bikes at ROW	2
Hotel - Required	Location	Provided
Short Term - 1/20 guest rms	3 racks / 6 bikes at ROW	6
Long Term - 1/20 guest rms	3 racks / 6 bikes at B1 - Basement	6
Per bike parking reduction	8 racks / 16 bikes at B1 - bsmt	16
Loading / Unloading	LAMC - Bldg sf > 50,000 sf	SF
Required		600
Provided		664
Hotel Amenity		SF
Guest	basement level	1,926
Guest	ground level	2,717
Guest	roof level	2,612
Total		7,255
Hotel Landscape		No.
ground level	at west and south side	540
roof level	at rooftop	445
Total		985

EXHIBIT "A"

Page No. 7 of 21

Case No. DIR-2020-3656-SPR

ANS.

ARCHITECTURE:

BUCILLA GROUP ARCHITECTURE

STAMP

LICENSED ARCHITECT STATE OF CALIFORNIA

Project:

HOTEL

1130 South Hope Street
Los Angeles, California 90015

OWNER

HOPE STREET 1, LLC

1434 East Oak Ave.
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	041520	SPR Submittal
	060420	SPR Resubmittal
	100320	SPR Resubmittal
	100820	SPR Resubmittal
	031321	SPR Resubmittal

SD SUBM. DATE: 02/15/21
PLOT DATE: 03/03/21

Project Number:

BGA No. 19036

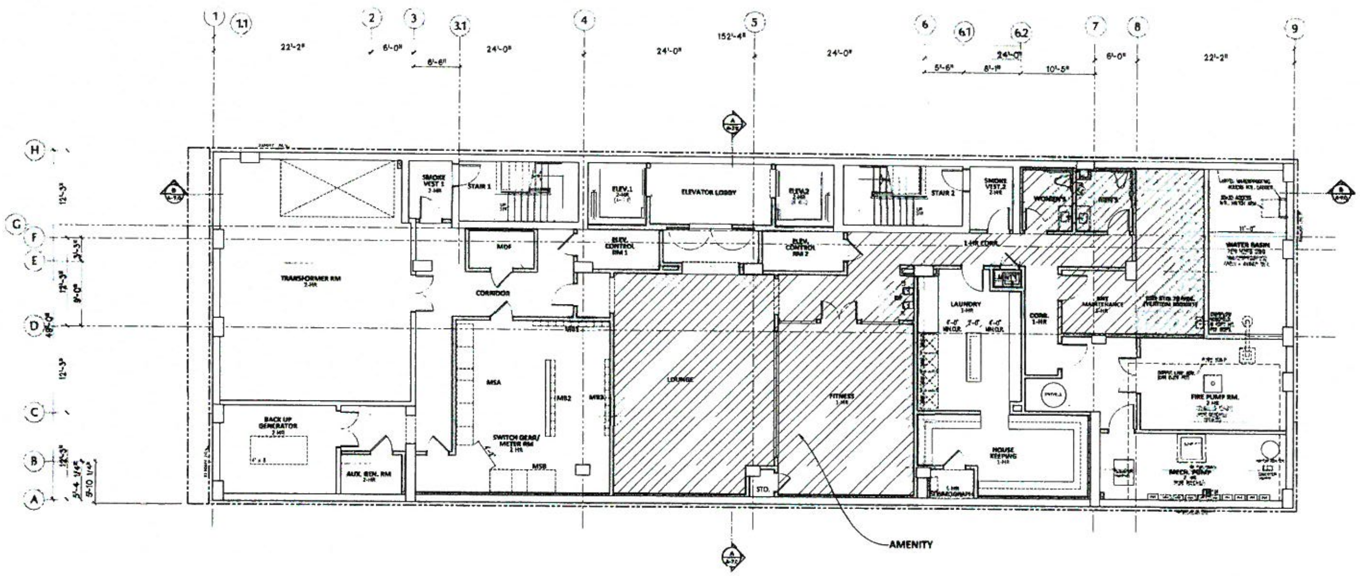
Sheet Title:

PLOT PLAN

Sheet No.:

SP-1.1

24 X 36



L0 - BASEMENT FLOOR PLAN

SCALE: 1/8" = 1'-0"

0 8' 16' 32'

ARCHITECT:

BUCILLA GROUP ARCHITECTURE

STAMP

Project:

HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave,
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	041520	SPR Submittal
	080420	SPR Resubmittal
	092020	SPR Resubmittal
	100820	SPR Resubmittal
	031321	SPR Resubmittal

SUBM. DATE: 02/15/21
PLOT DATE: 32/03/21

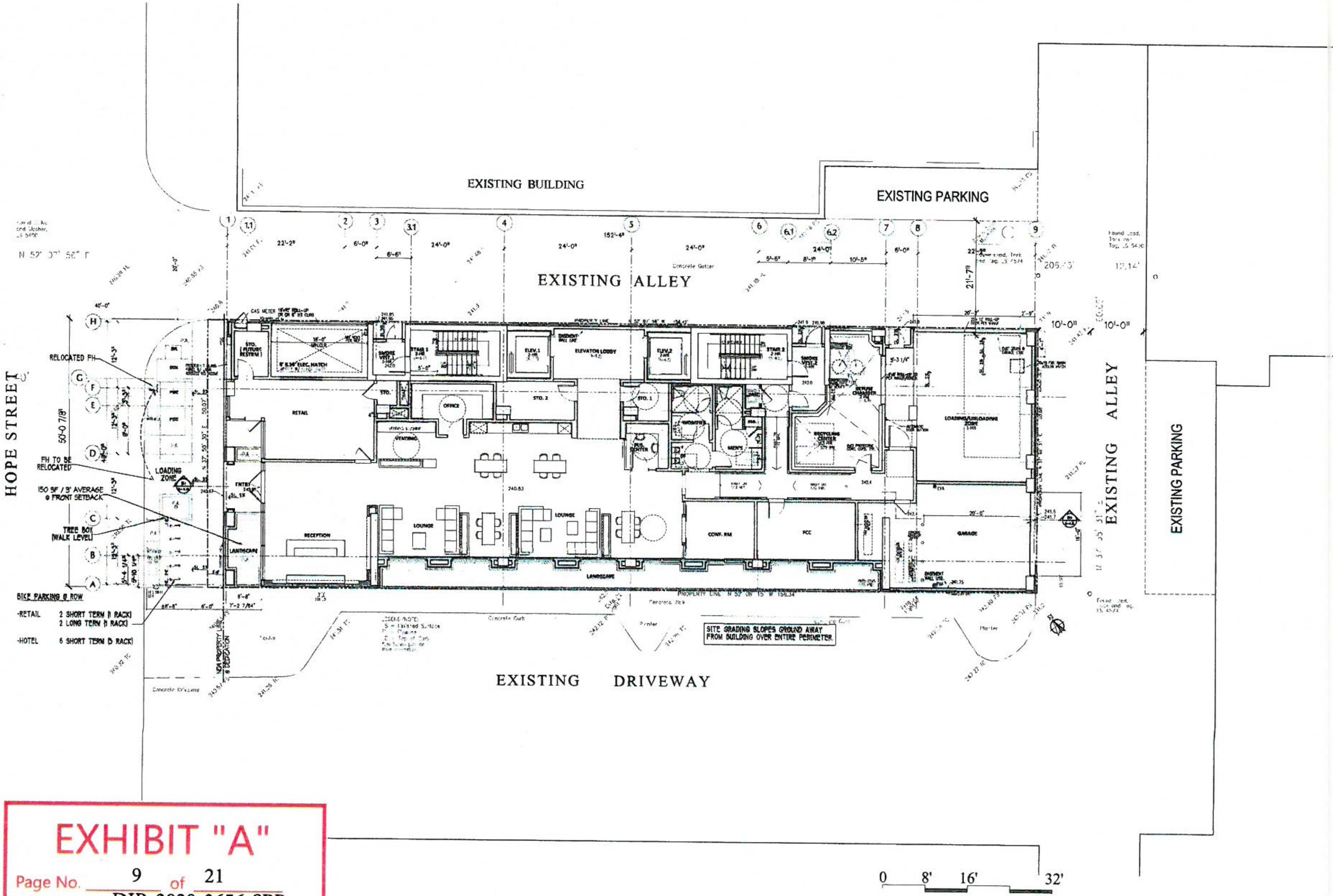
Project Number:
BCA No. 19036

Sheet Title:
L0 - BASEMENT FLOOR PLAN

Sheet No.:
1.0

EXHIBIT "A"
Page No. 8 of 21
Case No. DIR-2020-3656-SPR

24 x 36



L1-GROUND FLOOR PLAN

SCALE: 1/8" = 1'-0"

ARCHITECT:

BUCILLA GROUP ARCHITECTURE

STAMP

Project:

HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave.,
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	061620	SPR Submittal
	080420	SPR Resubmittal
	100820	SPR Resubmittal
	100820	SPR Resubmittal
	031321	SPR Resubmittal

SUBM. DATE: 02/15/21
PLOT DATE: 32/03/21

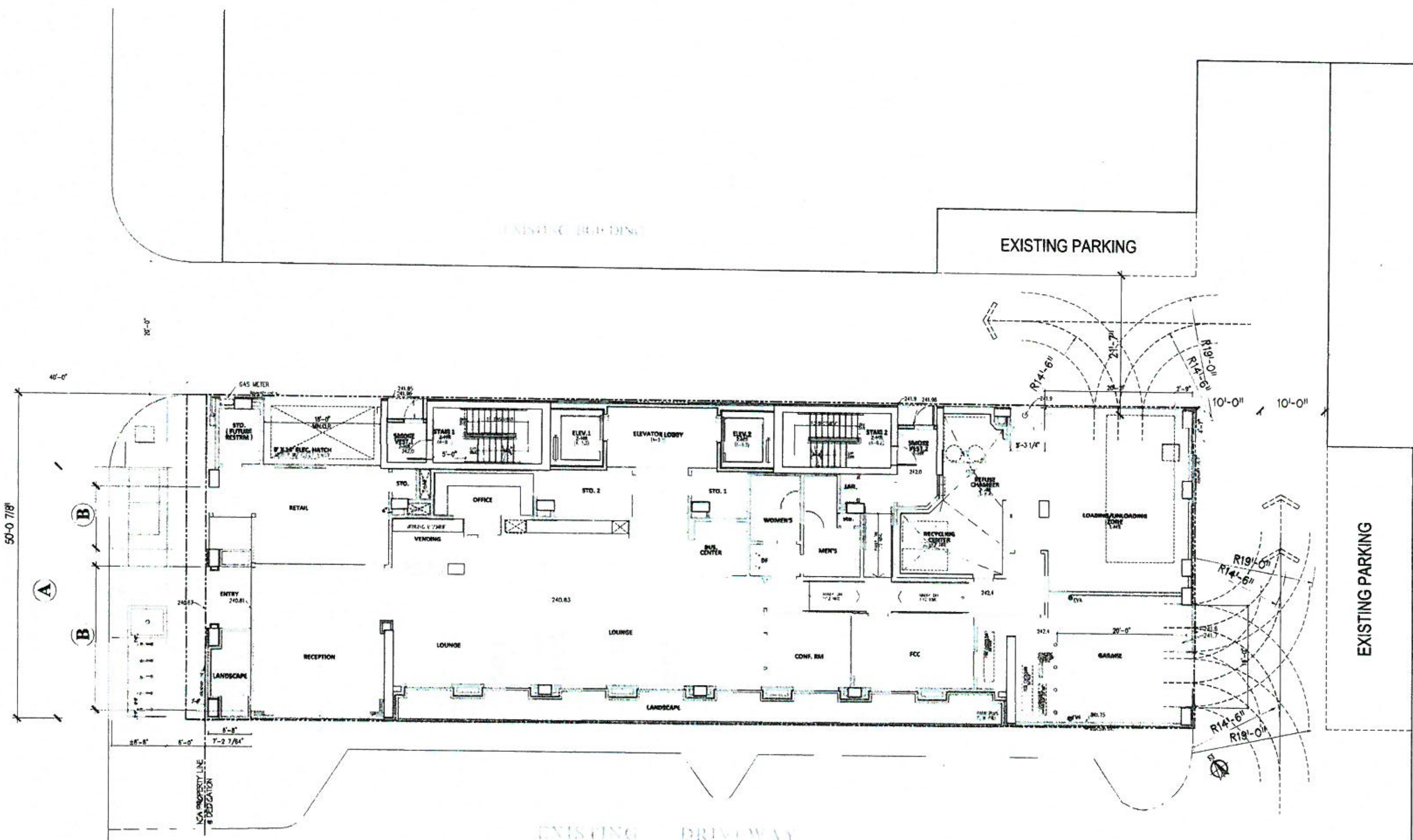
Project Number:
BCA No. 19036

Sheet Title:
L1 - GROUND FLOOR PLAN

Sheet No.:
2.0

EXHIBIT "A"
Page No. 9 of 21
Case No. DIR-2020-3656-SPR

24 x 36



(A)	FRONTAGE LOBBY & RETAIL	50'	37'-9" = 75% OF 50' FRONTAGE
(B)	FRONTAGE STOREFRONT GLAZING	50'	31'-0" = 62% OF 50' FRONTAGE

0 8' 16' 32'

L1-GROUND FLOOR PLAN

SCALE: 1/8" = 1'-0"

ARCHITECT:
LUCILLA GROUP ARCHITECTURE

STAMP

LICENSED ARCHITECT
STATE OF CALIFORNIA

Project :

HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave.
El Segundo, CA 90045

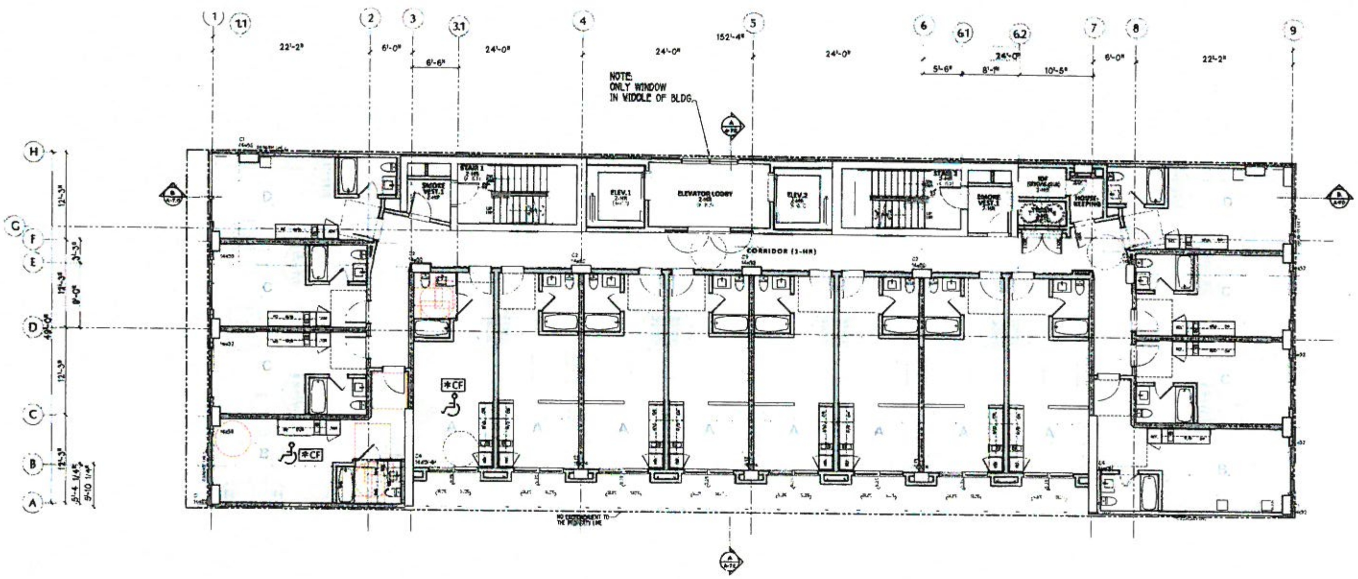
NO. DATE	DESCRIPTION
041520	SPR Submittal
050420	SPR Resubmittal
050920	SPR Resubmittal
100820	SPR Resubmittal
281321	SPR Resubmittal

Project Number :
BGA No. 19036

Sheet Title :
L1 - GROUND FLOOR PLAN

Sheet No. :
2.0 A -(DOT)

24 x 36



L2 TO L3 - UNIT LEVEL (CONC. CONSTRUCTION)

SCALE: 1/8" = 1'-0"

0 8' 16' 32'

EXHIBIT "A"

Page No. 11 of 21

Case No. DIR-2020-3656-SPR

ARCHITECTURE:

BUCILLA GROUP ARCHITECTURE

STAMP

Project:

HOTEL

1130 South Hope Street
Los Angeles, California 90015

OWNER

HOPE STREET 1, LLC

1434 East Oak Ave.,
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	041520	SPR Submittal
	080420	SPR Resubmittal
	090320	SPR Resubmittal
	100920	SPR Resubmittal
	081321	SPR Resubmittal

SD SUBM. DATE: 02/15/21

PLOT DATE: 02/03/21

Project Number:

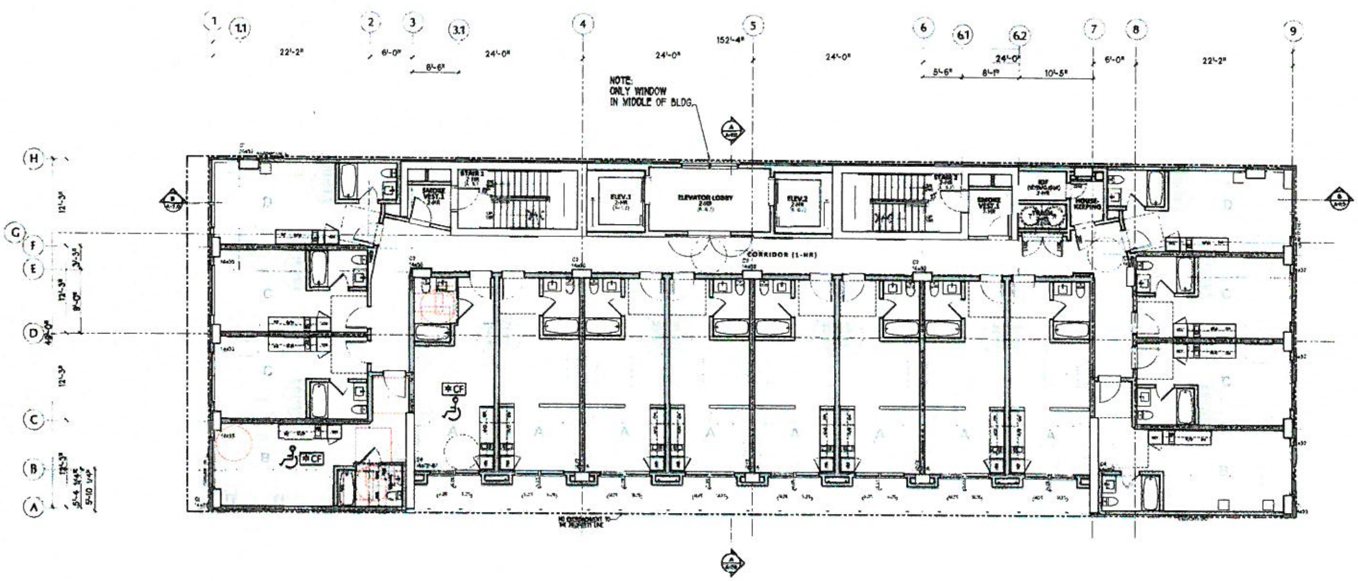
BGA No. 19036

Sheet Title:

L2 TO L3 - UNIT LEVEL (CONC. CONSTRUCTION)

Sheet No.:

4.0



0 8' 16' 32'

L4 TO L8 - UNIT LEVEL (WOOD CONSTRUCTION)

SCALE: 1/8" = 1'-0"

EXHIBIT "A"

Page No. 12 of 21
Case No. DIR-2020-3656-SPR

ARCHITECT:
BUCILLA GROUP ARCHITECTURE

STAMP

Project:
HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave.,
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	041520	SPR Submittal
	080420	SPR Resubmittal
	090820	SPR Resubmittal
	100820	SPR Resubmittal
	091321	SPR Resubmittal

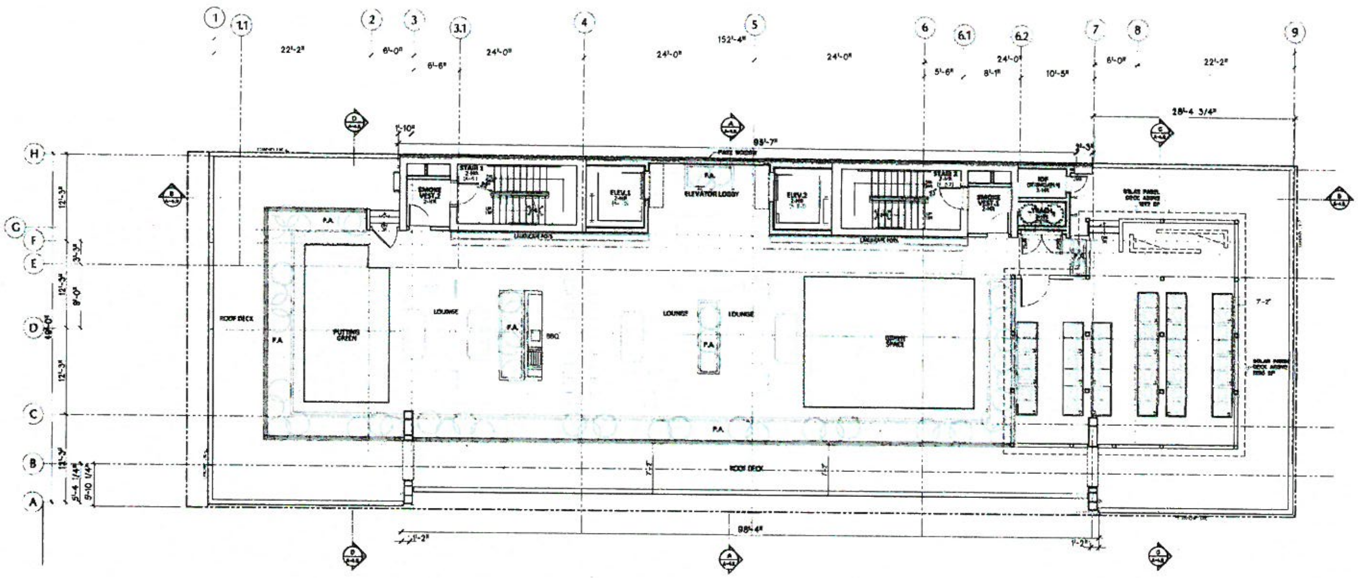
CASE NO.:
DO SUBM. DATE: 02/15/21
PLOT DATE: 02/03/21

Project Number:
BGA No. 19036

Sheet Title:
L4 TO L8 - UNIT LEVEL (WOOD CONSTRUCTION)

Sheet No.:
4.1

24 x 36



L9 - ROOF DECK LEVEL

SCALE: 1/8" = 1'-0"

0 8' 16' 32'

EXHIBIT "A"

Page No. 13 of 21

Case No. DIR-2020-3656-SPR

ARCHITECT:

PUCILLA GROUP ARCHITECTURE

STAMP

LICENSED ARCHITECT STATE OF CALIFORNIA

Project:

HOTEL

1130 South Hope Street
Los Angeles, California 90015

OWNER

HOPE STREET 1, LLC

1434 East Oak Ave.,
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	341520	SPR Submittal
	080420	SPR Resubmittal
	290820	SPR Resubmittal
	100820	SPR Resubmittal
	891321	SPR Resubmittal

DD SUBM. DATE: 02/15/21

PLOT DATE: 02/03/21

Project number:

BGA No. 19036

Sheet Title:

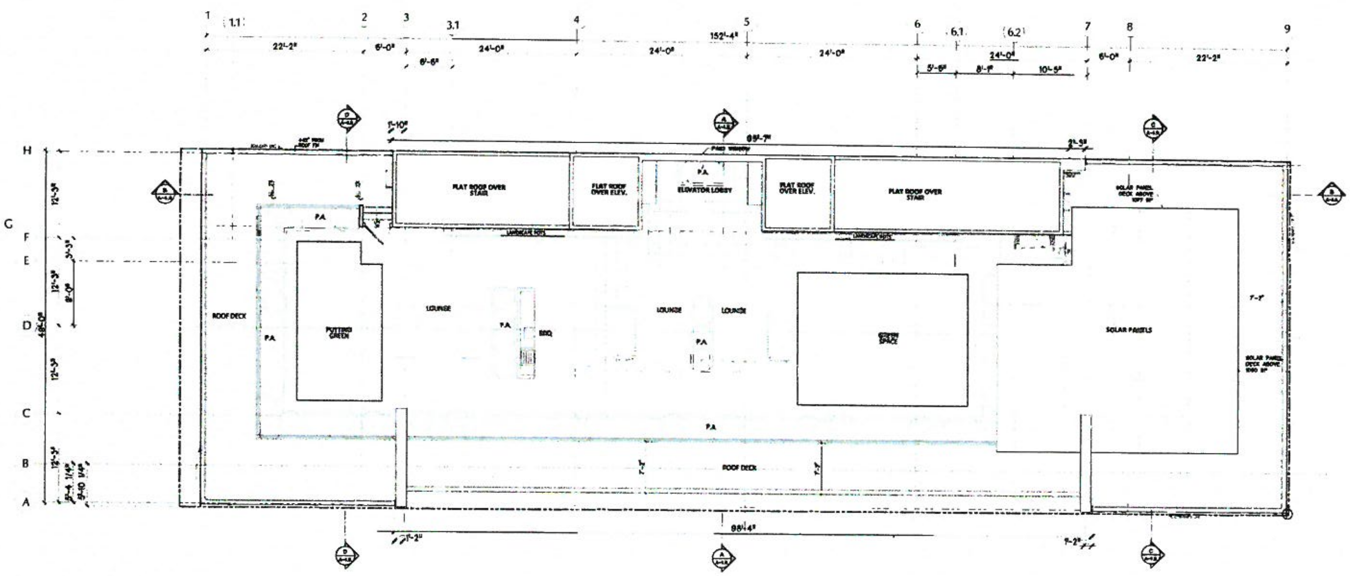
L9 - ROOF DECK LEVEL

Sheet No.:

A-5.0

24 x 36

24 x 36



L10 - ROOF PLAN

SCALE: 1/8" = 1'-0"

EXHIBIT "A"

Page No. 14 of 21

Case No. DIR-2020-3656-SPR

ARCHITECT:

BUCILLA GROUP ARCHITECTURE

ARCHITECTURE PLANNING INTERIOR DESIGN HISTORIC PRESERVATION LEED VALUE ENGINEERING

STAMP

Project :

HOTEL

1130 South Hope Street
Los Angeles, California 90015

OWNER

HOPE STREET 1, LLC

1434 East Oak Ave.,
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	041520	SPR Submittal
	060420	SPR Resubmittal
	080920	SPR Resubmittal
	100620	SPR Resubmittal
	091321	SPR Resubmittal

CASE NO:
DO SUBM. DATE: 02/15/21
PLOT DATE: 02/03/21

Project Number :

BGA No. 19036

Sheet Title :

L10 - ROOF PLAN

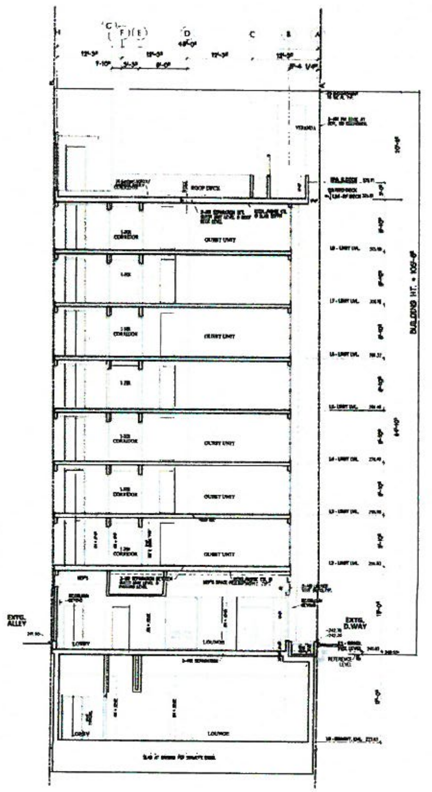
Sheet No. :

A-5.1

EXHIBIT "A"

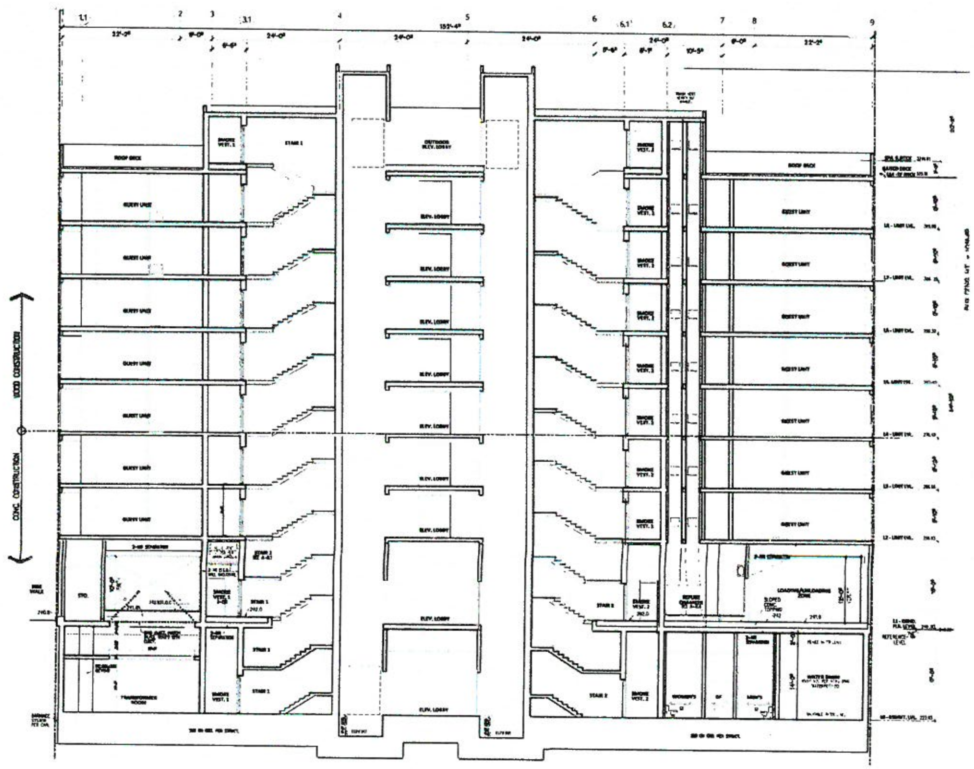
Page No. 15 of 21

Case No. DIR-2020-3656-SPR



SECTION A - A

SCALE: 3/32" = 1'-0"



SECTION B - B

SCALE: 3/32" = 1'-0"

0 32' 64'

ARCHITECT:

BUCILLA GROUP ARCHITECTURE

ARCHITECTURE PLANNING INTERIOR DESIGN HISTORIC PRESERVATION LEED VALUE ENGINEERING

STAMP

LICENSED ARCHITECT STATE OF CALIFORNIA

Project:

HOTEL

1130 South Hope Street
Los Angeles, California 90015

OWNER

HOPE STREET 1, LLC

1434 East Oak Ave.,
El Segundo, CA 90045

NO	DATE	DESCRIPTION
	041520	SPR Submittal
	060420	SPR Resubmittal
	090920	SPR Resubmittal
	130820	SPR Resubmittal
	031321	SPR Resubmittal

DO BI BM. DATE: 02/15/21

PLOT DATE: 02/03/21

Project Number:

BGA No. 19036

Sheet Title:

SECTION A - A
SECTION B - B

Sheet No.:

7.0

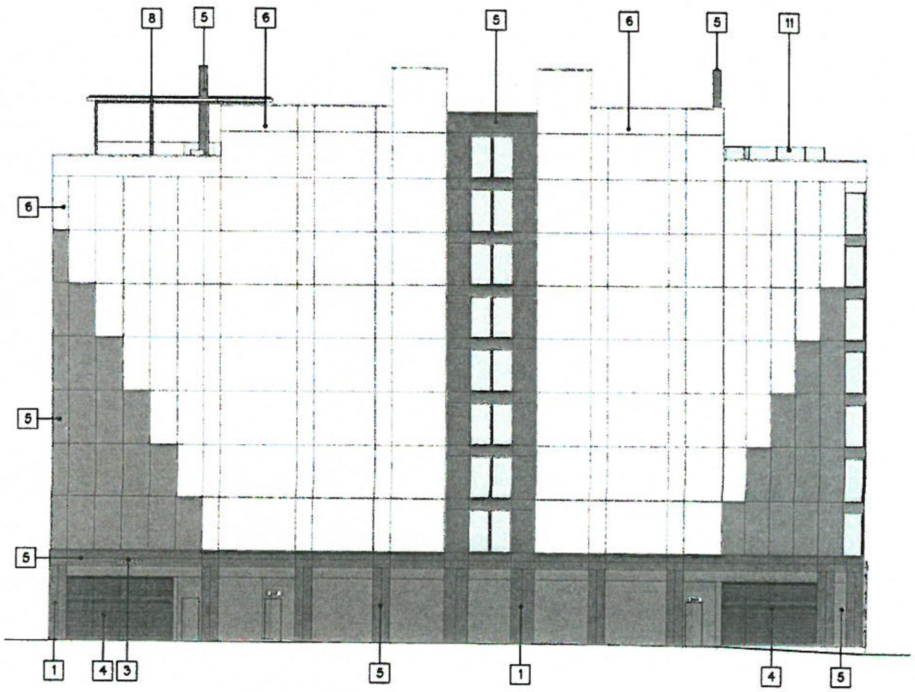
EXHIBIT "A"

Page No. 16 of 21

Case No. DIR-2020-3656-SPR

BUILDING COLOR AND MATERIAL SUMMARY

No.	Arch Element / Location	Specification / Color	Glazing
1	Façade Entry / Bldg base L1	Panel / Stone	
2	Store Front / frontage & side	Aluminum / Dark Bronze	PPG/Starphire
3	Signage	Gloss Panel / Aluminum Letter	
4	Roll up Doors	Ribbed Metal / Med Grey	
5	Panel / L2 - Rooftop	Trespa Panel / Black	
6	Panel / L2 - Rooftop	Trespa Panel / White	
7	Panel / L2 - Rooftop	Trespa Panel / Grey	
8	Posts / Solar frame	Metal / Dark Bronze	
9	Windows / L1 - L8	Aluminum / Dark Bronze	PPG/Starphire
10	Windows / L2 - L8	Aluminum / Dark Bronze	PPG / Frosted
11	Glass Panel / inserted into u-shaped railing channel	Aluminum / Dark Bronze	PPG/Starphire
12	Raised Pavers / Rooftop	Stone / Travertine Grey	



NORTH ELEVATION (LEFT SIDE)

SCALE: 3/32" = 1'-0"

WEST ELEVATION (FRONT)

SCALE: 3/32" = 1'-0"

0 32' 64'

ARCHITECT:

BUCILLA GROUP ARCHITECTURE

STAMP

Project:

HOTEL

1130 South Hope Street
Los Angeles, California 90015

OWNER

HOPE STREET 1, LLC

1434 East Oak Ave.,
El Segundo, CA 90045

NO	DATE	DESCRIPTION
	041520	SPR Submittal
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	090920	SPR Resubmittal
	100820	SPR Resubmittal
	091321	SPR Resubmittal

DD SUBM. DATE: 02/15/21

PLOT DATE: 02/03/21

Project Number:

BGA No. 19036

Sheet Title:

LEFT SIDE ELEV.
FRONT ELEV

Sheet No.:

8.1

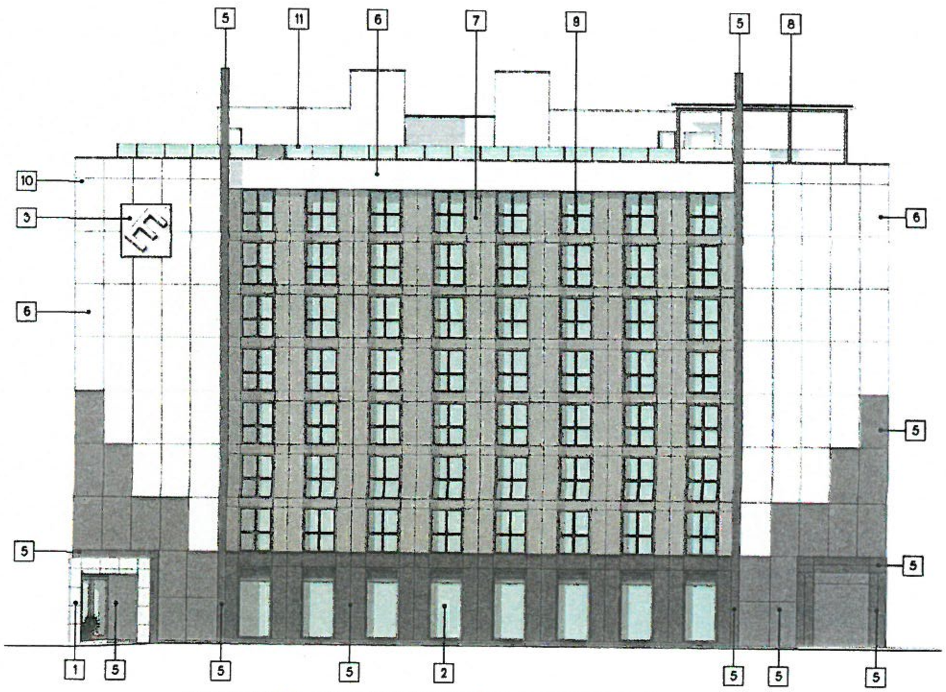
24 x 36

24 x 36

EXHIBIT "A"

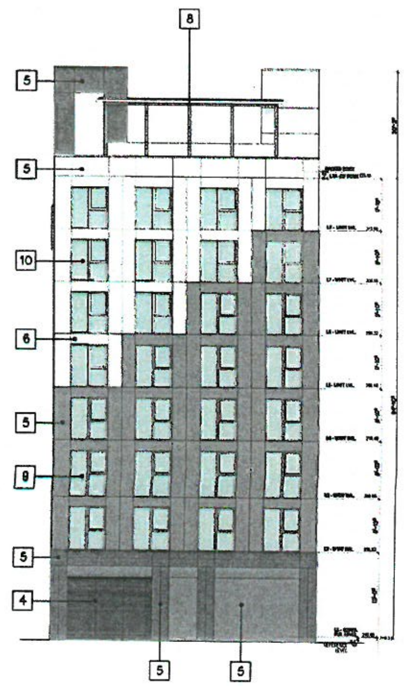
Page No. 17 of 21

Case No. DIR-2020-3656-SPR



SOUTH ELEVATION (RIGHT SIDE)

SCALE: 3/32" = 1'-0"



EAST ELEVATION (REAR)

SCALE: 3/32" = 1'-0"

0 32' 64'

BUILDING COLOR AND MATERIAL SUMMARY

No.	Arch Element / Location	Specification / Color	Glazing
1	Façade Entry / Bldg base L1	Panel / Stone	
2	Store Front / frontage & side	Aluminum / Dark Bronze	PPG/Starphire
3	Signage	Gloss Panel / Aluminum Letter	
4	Roll up Doors	Ribbed Metal / Med Grey	
5	Panel / L2 - Rooftop	Trespa Panel / Black	
6	Panel / L2 - Rooftop	Trespa Panel / White	
7	Panel / L2 - Rooftop	Trespa Panel / Grey	
8	Posts / Solar frame	Metal / Dark Bronze	
9	Windows / L1 - L8	Aluminum / Dark Bronze	PPG/Starphire
10	Windows / L2 - L8	Aluminum / Dark Bronze	PPG / Frosted
11	Glass Panel / inserted into u-shaped railing channel	Aluminum / Dark Bronze	PPG/Starphire
12	Raised Pavers / Rooftop	Stone / Travertine Grey	

ARCHITECT:

BUCILLA GROUP ARCHITECTURE

STAMP

LICENSED ARCHITECT · STATE OF CALIFORNIA

Project:

HOTEL

1130 South Hope Street
Los Angeles, California 90015

OWNER

HOPE STREET 1, LLC

1434 East Oak Ave.,
El Segundo, CA 90045

NO	DATE	DESCRIPTION
	041520	SPR Submittal
	060420	SPR Resubmittal
	090920	SPR Resubmittal
	100820	SPR Resubmittal
	091321	SPR Resubmittal

PLOT DATE: 02/03/21

Project Number:

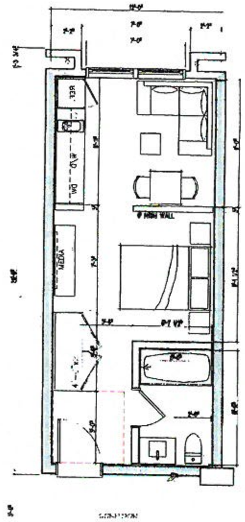
BGA No. 19036

Sheet Title:

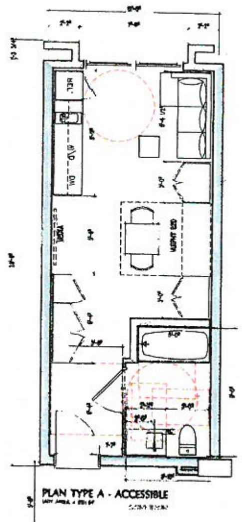
RIGHT SIDE ELEV.
REAR ELEV

Sheet No.:

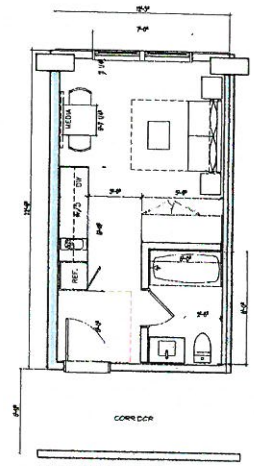
8.2



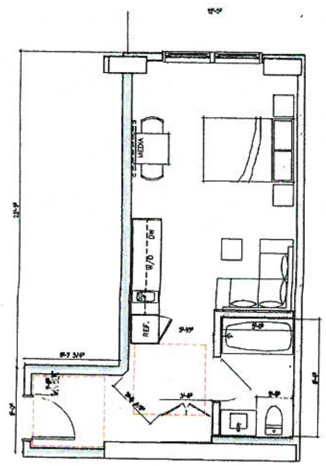
PLAN TYPE A
UNIT AREA = 351 SF



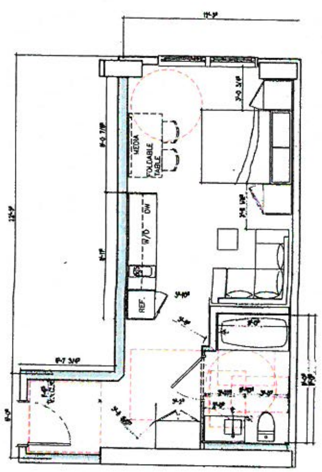
PLAN TYPE A1 - ACCESSIBLE
UNIT AREA = 351 SF



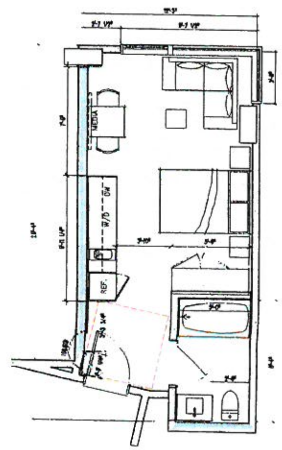
PLAN TYPE C
UNIT AREA = 285 SF



PLAN TYPE B
UNIT AREA = 344 SF



PLAN TYPE B1 - ACCESSIBLE
UNIT AREA = 344 SF



PLAN TYPE D
UNIT AREA = 355 SF

UNIT TYPE PLAN

SCALE: 1/4" = 1'-0"

0 4' 8' 16'

EXHIBIT "A"
Page No. 18 of 21
Case No. DIR-2020-3656-SPR

ARCHITECT:
BUCILLA GROUP ARCHITECTURE

STAMP

Project :
HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave.
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	041620	SPR Submittal
	080420	SPR Resubmittal
	090320	DPR Resubmittal
	100920	SPR Resubmittal
	051321	SPR Resubmittal

CASE NO.:
3D BUBBL DATE: 05/13/21
PLOT DATE: 05/13/21

Project Number:
BGA No. 19036

Sheet Title :
UNIT TYPE PLAN
- TYPE A
- TYPE A1
- TYPE A2
- TYPE B
- TYPE B1
- TYPE B2

Sheet No. :
9.1

GENERAL NOTES:

1. ALL LANDSCAPE AREAS WILL BE IRRIGATED W/ A HIGH EFFICIENCY IRRIGATION W/ SMART IRRIGATION CONTROLS.
2. ALL PLANTING & IRRIGATION SHALL COMPLY WITH CITY OF LOS ANGELES REQUIREMENTS.
3. IRRIGATION DESIGN WILL INCORPORATE EPA WATERSENSE SPECIFICATIONS
4. STREET TREES SHALL BE SELECTED AND INSTALLED PER CITY OF LOS ANGELES DEPARTMENT OF URBAN FORESTRY.
5. ALL NEW PLANTED AREAS TO BE HEAVILY MULCHED FOR WATER CONSERVATION.
6. THERE ARE NO SIGNIFICANT TREES TO BE REMOVED ON THE SITE.
7. THERE ARE NO PROTECTED TREES ON THE SITE.

WATER CONSERVATION STATEMENT:

ALL LANDSCAPE WILL BE SPECIFIED, PLANTED & IRRIGATED ACCORDING TO XERISCAPE DESIGN PRINIPLES WHICH INCLUDE: THE PREDOMINANT USE OF DROUGHT TOLERANT PLANT MATERIALS; THE PRACTICE OF HYDROZONING OR GROUPING PLANTS WITH SIMILAR WATER REQUIREMENTS TOGETHER; MINIMIZING TURF AREAS AND THE EFFICIENT APPLICATION OF WATER BY USING MATCH PRECIPITATION HEADS, DRIP LINE, SEPARATE VALVES FOR TURF AND GROUND COVER AREAS AND RAIN SHUT OFF DEVICES. THIS PROJECT WILL COMPLY WITH THE STATE WATER CONSERVATION ORDINANCE EFFECTIVE JANUARY 1, 2010.

SCALE: 1/8" = 1'-0"
0 4' 8' 16' 32'

SPR SUBMITTAL 05/05/2021

EXHIBIT "A"
Page No. 19 of 21
Case No. DIR-2020-3656-SPR

24 x 36

ARCHITECT:
BUCILLA GROUP ARCHITECTURE
STAMP
ATTEST TO ARCHITECTURAL ONLY
Project:
HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave,
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	041520	SPR Submittal
	060420	SPR Resubmittal
	090920	SPR Resubmittal
	100820	SPR Resubmittal

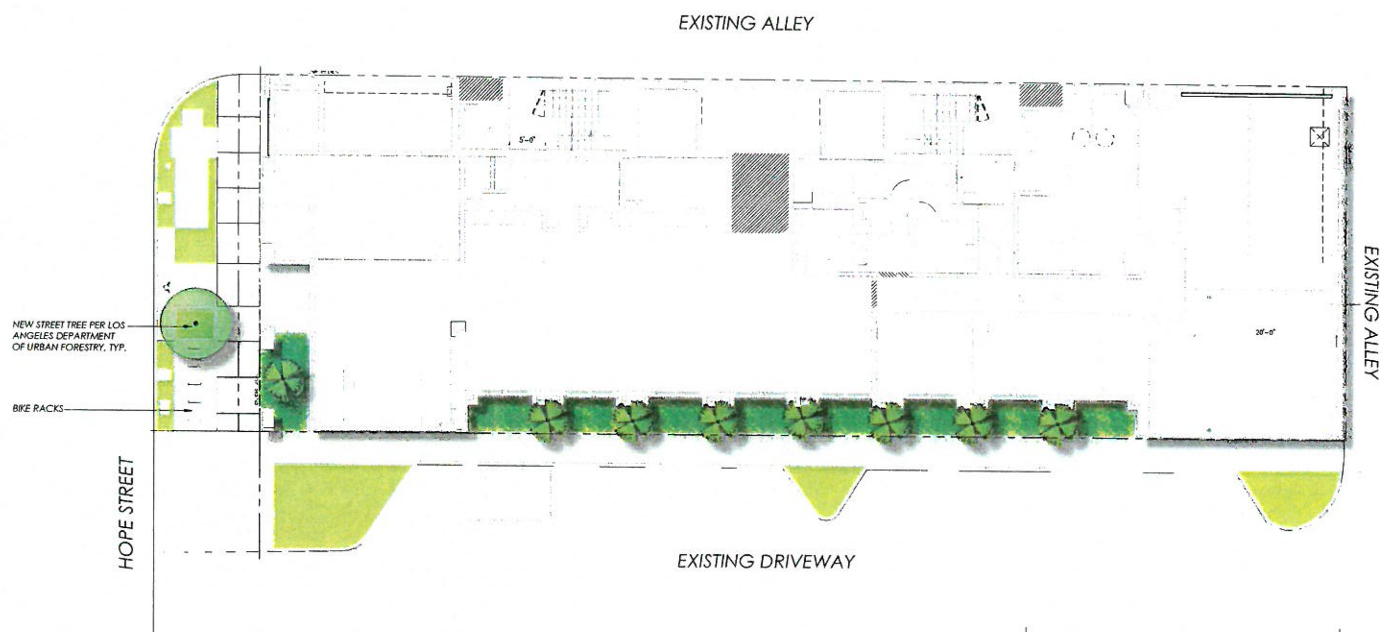
CASE NO:
DD SUBM. DATE: 02/16/21
PLOT DATE: 02/03/21

Project Number:
BGA No. 19036

Sheet Title:
L1 - COMPOSITE LANDSCAPE PLAN

Sheet No.:
L-1

24 x 36



NOTE: PLANTS SHALL BE CHOSEN FROM THE FOLLOWING LIST ALL PLANT TYPES MAY NOT BE SPECIFIED.

PLANT LEGEND - GROUND FLOOR

SYMBOL	BOTANICAL NAME "COMMON NAME"
TREE - 24" BOX MIN.	
	PHOENIX ROEBELENII "PYGMY DATE PALM"
SHRUBS BELOW PALMS	
	CARISSA MACROCARPA "NATAL PLUM"
	PHILODENDRON 'XANADU' "XANADU PHILODENDRON"

NO. OF TREES PROPOSED ON GROUND LEVEL (INCLUDING STREET TREES)	= 9

EXHIBIT "A"

Page No. 20 of 21

Case No. DIR-2020-3656-SPR

SCALE: 1/8" = 1'-0"

0 4' 8' 16' 32'

SPR SUBMITTAL 05/05/2021

ARCHITECT:

BUCILLA GROUP ARCHITECTURE

ARCHITECTURE PLANNING INTERIOR DESIGN HISTORIC PRESERVATION LEED VALUE ENGINEERING

19762 Mac Arthur Blvd., Suite 270, Irvine, Ca 92612
TEL 949. 851. 9080 www.bg-architecture.com

STAMP

ATTEST TO ARCHITECTURAL ONLY

Project :

HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave,
El Segundo, CA 90045

NO.	DATE	DESCRIPTION
	041520	SPR Submittal
	060420	SPR Resubmittal
	090920	SPR Resubmittal
	100820	SPR Resubmittal

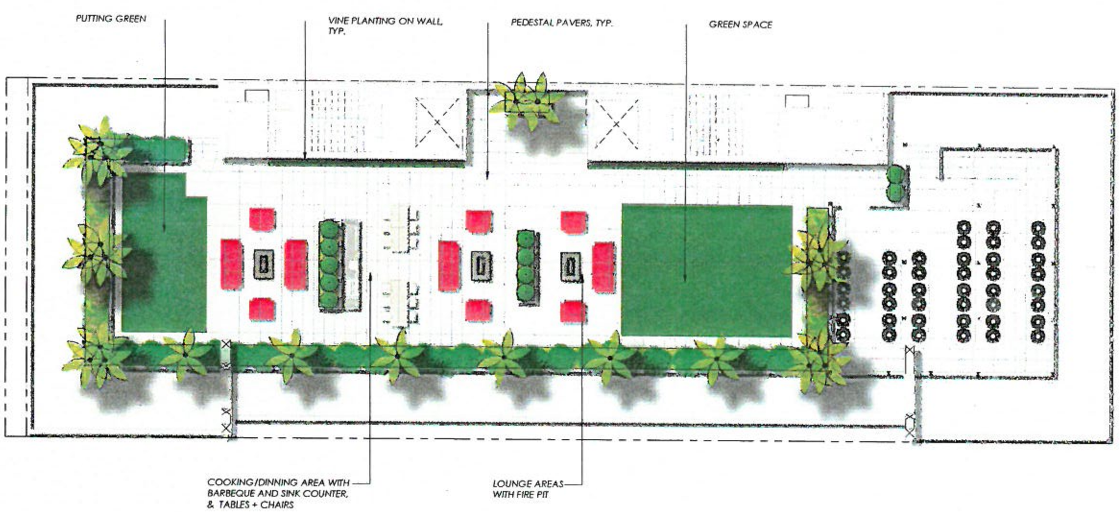
CASE NO: ZA-2020-3656-TOR-ZAA-ROPA-ROP-SPR
DD SUBM. DATE: 02/15/21
PLOT DATE: 02/03/21

Project Number :
BGA No. 19036

Sheet Title :
L1 - GROUND FLOOR LANDSCAPE PLAN

Sheet No. :
L-2

24 x 36



NOTE: PLANTS SHALL BE CHOSEN FROM THE FOLLOWING LIST. ALL PLANT TYPES MAY NOT BE SPECIFIED.

PLANT LEGEND - ROOF DECK

SYMBOL	BOTANICAL NAME "COMMON NAME"
PALMS	
	ARCHONTOPHOENIX CUNNINGHAMIANA "KING PALM"
TRIPLE TRUNK PALMS	
	ARCHONTOPHOENIX CUNNINGHAMIANA "KING PALM"
SHRUBS BELOW PALMS	
	ALOE STRIATA "CORAL ALOE"
	ALOE SPINOSISSIMA "SPIDER ALOE"
	CARISSA MACROCARPA "NATAL PLUM"
	PHILODENDRON 'XANADU' "XANADU PHILODENDRON"
	PELARGONIUM SPECIES "GERANIUM"
	ROSA SPECIES "ROSES"
	STRELITZIA REGINAE "BIRD OF PARADISE"
	CISTUS SPECIES "ROCK ROSE"
	DIETES SPECIES "FORTNIGHT LILY"
	KNIPHOFIA SPECIES "RED HOT POKER"
	SALVIA SPECIES "SAGE"
	NANDINA SPECIES "HEAVENLY BAMBOO"
SCREEN PLANTINGS	
	PODOCARPUS HENKELII
	PRUNUS CAROLINIANA
VINES	
	FICUS PUMILA "CLIMBING FIG"
	PARTHENOCISSUS TRICUSPIDATA "BOSTON IVY"
	HEDERA HELIX "ENGLISH IVY"

NO. OF TREES PROPOSED ON ROOF DECK	= 23

ARCHITECT:

BUCILLA GROUP ARCHITECTURE

ARCHITECTURE PLANNING INTERIOR DESIGN HISTORIC PRESERVATION LEED VALUE ENGINEERING

19782 Mac Arthur Blvd., Suite 270, Irvine, Ca 92612
TEL 949.851.9000 www.bg-architecture.com

STAMP

ATTEST TO ARCHITECTURAL ONLY

Project:

HOTEL
1130 South Hope Street
Los Angeles, California 90015

OWNER
HOPE STREET 1, LLC
1434 East Oak Ave,
El Segundo, CA 90045

NO	DATE	DESCRIPTION
	041520	SPR Submittal
	060420	SPR Resubmittal
	090920	SPR Resubmittal
	100820	SPR Resubmittal

CASE NO: ZA-2020-3656-TDR-ZAA-RDP-SPR
DD SUBM. DATE: 02/15/21
PLOT DATE: 02/03/21

Project Number:
BGA No. 19036

Sheet Title:
L9 - ROOF DECK LEVEL LANDSCAPE PLAN

Sheet No.:
L-3

SCALE: 1/8" = 1'-0"
0 4' 8' 16' 32'

EXHIBIT "A"
Page No. 21 of 21
Case No. DIR-2020-3656-SPR

SPR SUBMITTAL 05/05/2021

COVID-19 UPDATE

Interim Appeal Filing Procedures

Fall 2020

LOS ANGELES CITY PLANNING

Consistent with Mayor Eric Garcetti's "Safer At Home" directives to help slow the spread of COVID-19, City Planning has implemented new procedures for the filing of appeals for non-applicants that eliminate or minimize in-person interaction.

OPTION 1: Online Appeal Portal

(planning.lacity.org/development-services/appeal-application-online)

Entitlement and CEQA appeals can be submitted online and payment can be made by credit card or e-check. The online appeal portal allows appellants to fill out and submit the appeal application directly to the Development Services Center (DSC). Once the appeal is accepted, the portal allows for appellants to submit a credit card payment, enabling the appeal and payment to be submitted entirely electronically. A 2.7% credit card processing service fee will be charged - there is no charge for paying online by e-check. **Appeals should be filed early to ensure DSC staff has adequate time to review and accept the documents, and to allow Appellants time to submit payment**. On the final day to file an appeal, the application must be submitted and paid for by 4:30PM (PT). Should the final day fall on a weekend or legal holiday, the time for filing an appeal shall be extended to 4:30PM (PT) on the next succeeding working day. Building and Safety appeals (LAMC Section 12.26K) can only be filed using Option 2 below.

OPTION 2: Drop off at DSC

An appellant may continue to submit an appeal application and payment at any of the three Development Services Center (DSC) locations. City Planning established drop off areas at the DSCs with physical boxes where appellants can drop.

Metro DSC
(213) 482-7077
201 N. Figueroa Street
Los Angeles, CA 90012

Van Nuys DSC
(818) 374-5050
6262 Van Nuys Boulevard
Van Nuys, CA 91401

West Los Angeles DSC
(310) 231-2901
1828 Sawtelle Boulevard
West Los Angeles, CA 90025

City Planning staff will follow up with the Appellant via email and/and or phone to:

- Confirm that the appeal package is complete and meets the applicable LAMC provisions
- Provide a receipt for payment

Notice of Exemption Form

COUNTY CLERK'S USE

CITY OF LOS ANGELES
OFFICE OF THE CITY CLERK
200 NORTH SPRING STREET, ROOM 395
LOS ANGELES, CALIFORNIA 90012
CALIFORNIA ENVIRONMENTAL QUALITY ACT

NOTICE OF EXEMPTION

(PRC Section 21152; CEQA Guidelines Section 15062)

Filing of this form is optional. If filed, the form shall be filed with the County Clerk, 12400 E. Imperial Highway, Norwalk, CA 90650, pursuant to Public Resources Code Section 21152(b) and CEQA Guidelines Section 15062. Pursuant to Public Resources Code Section 21167 (d), the posting of this notice starts a 35-day statute of limitations on court challenges to reliance on an exemption for the project. Failure to file this notice as provided above, results in the statute of limitations being extended to 180 days.

PARENT CASE NUMBER(S) / REQUESTED ENTITLEMENTS
DIR-2020-3656-SPR / Site Plan Review

LEAD CITY AGENCY	CASE NUMBER
City of Los Angeles (Department of City Planning)	**ENV-2020-3657-CE**
PROJECT TITLE Hope Street Hotel	COUNCIL DISTRICT 14

PROJECT LOCATION (Street Address and Cross Streets and/or Attached Map) ☐ Map attached.
1130 South Hope Street

PROJECT DESCRIPTION: ☒ Additional page(s) attached.
The project proposes a Site Plan Review for the construction, use, and maintenance of a new 112 guest room hotel with 528 square-feet of ground floor area for retail space.

NAME OF APPLICANT / OWNER:
Hope Street 1, LLC

CONTACT PERSON (If different from Applicant/Owner above)	(AREA CODE) TELEPHONE NUMBER	EXT.
Dana A. Sayles	310-204-3500 x301	

EXEMPT STATUS: (Check all boxes, and include all exemptions, that apply and provide relevant citations.)

STATE CEQA STATUTE & GUIDELINES

☐ STATUTORY EXEMPTION(S)

Public Resources Code Section(s) ______________________

☒ CATEGORICAL EXEMPTION(S) (State CEQA Guidelines Sec. 15301-15333 / Class 1-Class 33)

CEQA Guideline Section(s) / Class(es) **32**

☐ OTHER BASIS FOR EXEMPTION (E.g., CEQA Guidelines Section 15061(b)(3) or (b)(4) or Section 15378(b))

____

JUSTIFICATION FOR PROJECT EXEMPTION: ☒ Additional page(s) attached

In-fill development meeting the conditions described in this section. (a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with the applicable zoning designation and regulations. (b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses. (c) The project site has no value as habitat for endangered, rare or threatened species. (d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality. (e) The site can be adequately served by all required utilities and public services.

☒ None of the exceptions in CEQA Guidelines Section 15300.2 to the categorical exemption(s) apply to the Project.
☐ The project is identified in one or more of the list of activities in the City of Los Angeles CEQA Guidelines as cited in the justification.

IF FILED BY APPLICANT, ATTACH CERTIFIED DOCUMENT ISSUED BY THE CITY PLANNING DEPARTMENT STATING THAT THE DEPARTMENT HAS FOUND THE PROJECT TO BE EXEMPT.
If different from the applicant, the identity of the person undertaking the project.

CITY STAFF USE ONLY:

CITY STAFF NAME AND SIGNATURE		STAFF TITLE
Jessica Jimenez	Jessica C. Jimenez	Planning Assistant

ENTITLEMENTS APPROVED
Site Plan Review

FEE:	RECEIPT NO.	REC'D. BY (DCP DSC STAFF NAME)

DISTRIBUTION: County Clerk, Agency Record
Rev. 3-27-2019

INITIAL SUBMISSIONS

The following submissions by the public are in compliance with the Commission Rules and Operating Procedures (ROPs), Rule 4.3a. Please note that "compliance" means that the submission complies with deadline, delivery method (hard copy and/or electronic) AND the number of copies. The Commission's ROPs can be accessed at **http://planning.lacity.org**, by selecting "Commissions & Hearings" and selecting the specific Commission.

The following submissions are not integrated or addressed in the Staff Report but have been distributed to the Commission.

Material which does not comply with the submission rules is not distributed to the Commission.

ENABLE BOOKMARKS ONLINE:

**If you are using Explorer, you will need to enable the Acrobat toolbar to see the bookmarks on the left side of the screen.

If you are using Chrome, the bookmarks are on the upper right-side of the screen. If you do not want to use the bookmarks, simply scroll through the file.

If you have any questions, please contact the Commission Office at (213) 978-1300.

1130 South Hope Street

1 message

steve saffold <stevesaffold@gmail.com> Mon, Feb 28, 2022 at 10:08 PM
To: apccentral@lacity.org

Hello,

My name is Steve Saffold. I'm a real estate broker and my practice is focused on working on high-density housing and commercial projects.

I'm writing to share with you my opinion about the proposed hotel project at 1130 South Hope Street. When I found out that this project was being fought and appealed by the HOA of the adjacent condo building, right away it seemed dubious. A reading of the rationale for the appeal confirmed my suspicion. In my view, none of the points in the appeal reveal that the developer has done anything wrong or violated the general plan or zoning in any way. In fact, from what I have seen the developer has handled this game with admirable patience and openness. Even though it was not necessary, they have scaled down the height of the project, as well as the on-site parking. Again, nothing in the original development proposal, nor the current one, ever was in violation of the site's general plan or zoning.

Separately, the development would be an attractive addition to the block and neighborhood, and would enhance the commerce and safety of the area. This is the type of project the general plan and zoning envisions.

To uphold this opportunistic appeal and to kill this project would be untenable, and a stunning and unjust outcome.

Thank you for reading my note.

Respectfully yours,

Steve Saffold

--
Steve Saffold
510-282-9169

Ph: (626) 381-9248
Fx: (626) 389-5414
Em: info@mitchtsailaw.com

Mitchell M. Tsai
Attorney At Law

134 South Hudson Avenue
Suite 200
Pasadena, California 91101

<u>VIA ELECTRONIC MAIL</u>

March 8, 2022

Etta Armstrong, Commission Executive Assistant
Em: apccentral@lacity.org

Jessica Jimenez, Planning Assistant
Department of City Planning
City of Los Angeles
221 North Figueroa Street, Room 1450
Los Angeles, CA 90012
Em: jessica.jimenez@lacity.org

RE: Planning Commission Meeting Agenda Item 6 for the 1130 South Hope Street South Park Hotel (DIR-2020-3656-SPR-1A, ENV-2020-3657-CE)

Dear President Gold, Honorable Area Planning Commissioners, Etta Armstrong, and Jessica Jimenez,

On behalf of the Southwest Regional Council of Carpenters ("**SWRCC**" or "**Southwest Carpenters**"), my Office is submitting these comments on the City of Los Angeles' ("**City**" or "**Lead Agency**") South Park Hotel Project (DIR-2020-3656-SPR-1A) ("**Project**") located at 1130 Hope Street.

The Southwest Carpenters is a labor union representing more than 50,000 union carpenters in six states, including California, and has a strong interest in well-ordered land use planning, addressing the environmental impacts of development projects and equitable economic development.

Individual members of the Southwest live, work and recreate in the City and surrounding communities and would be directly affected by the Project's environmental impacts.

The Southwest Carpenters expressly reserves the right to supplement these comments at or prior to hearings on the Project, and at any later hearings and proceedings related to this Project. Cal. Gov. Code § 65009(b); Cal. Pub. Res. Code § 21177(a); *Bakersfield*

Citizens for Local Control v. Bakersfield (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.

SWRCC incorporates by reference all comments raising issues regarding the environmental impact report ("**EIR**") submitted prior to certification of the EIR for the Project. *Citizens for Clean Energy v City of Woodland* (2014) 225 Cal. App. 4th 173, 191 (finding that any party who has objected to the Project's environmental documentation may assert any issue timely raised by other parties).

Moreover, SWRCC requests that the Lead Agency provide notice for any and all notices referring or related to the Project issued under the California Environmental Quality Act ("**CEQA**"), Cal Public Resources Code ("**PRC**") § 21000 *et seq*, and the California Planning and Zoning Law ("**Planning and Zoning Law**"), Cal. Gov't Code §§ 65000–65010. California Public Resources Code Sections 21092.2, and 21167(f) and Government Code Section 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

The City should require the Applicant to provide additional community benefits such as requiring local hire and use of a skilled and trained workforce to build the Project. The City should require the use of workers who have graduated from a Joint Labor Management apprenticeship training program approved by the State of California, or have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state approved apprenticeship training program or who are registered apprentices in an apprenticeship training program approved by the State of California.

Community benefits such as local hire and skilled and trained workforce requirements can also be helpful to reduce environmental impacts and improve the positive economic impact of the Project. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project Site can reduce the length of vendor trips, reduce greenhouse gas emissions and providing localized economic benefits. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note:

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the

> reduction would vary based on the location and urbanization level of the project site.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

Skilled and trained workforce requirements promote the development of skilled trades that yield sustainable economic development. As the California Workforce Development Board and the UC Berkeley Center for Labor Research and Education concluded:

> . . . labor should be considered an investment rather than a cost – and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[1]

Recently, on May 7, 2021, the South Coast Air Quality Management District found that the "[u]se of a local state-certified apprenticeship program or a skilled and trained workforce with a local hire component" can result in air pollutant reductions.[2]

Cities are increasingly adopting local skilled and trained workforce policies and requirements into general plans and municipal codes. For example, the City of Hayward 2040 General Plan requires the City to "promote local hiring . . . to help achieve a more positive jobs-housing balance, and reduce regional commuting, gas consumption, and greenhouse gas emissions."[3]

In fact, the City of Hayward has gone as far as to adopt a Skilled Labor Force policy into its Downtown Specific Plan and municipal code, requiring developments in its Downtown area to requiring that the City "[c]ontribute to the stabilization of regional

---

[1] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf

[2] South Coast Air Quality Management District (May 7, 2021) Certify Final Environmental Assessment and Adopt Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions Program, and Proposed Rule 316 – Fees for Rule 2305, Submit Rule 2305 for Inclusion Into the SIP, and Approve Supporting Budget Actions, *available at* http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10

[3] City of Hayward (2014) Hayward 2040 General Plan Policy Document at p. 3-99, *available at* https://www.hayward-ca.gov/sites/default/files/documents/General_Plan_FINAL.pdf.

construction markets by spurring applicants of housing and nonresidential developments to require contractors to utilize apprentices from state-approved, joint labor-management training programs, . . ."[4] In addition, the City of Hayward requires all projects 30,000 square feet or larger to "utilize apprentices from state-approved, joint labor-management training programs."[5]

Locating jobs closer to residential areas can have significant environmental benefits. As the California Planning Roundtable noted in 2008:

> People who live and work in the same jurisdiction would be more likely to take transit, walk, or bicycle to work than residents of less balanced communities and their vehicle trips would be shorter. Benefits would include potential reductions in both vehicle miles traveled and vehicle hours traveled.[6]

In addition, local hire mandates as well as skill training are critical facets of a strategy to reduce vehicle miles traveled. As planning experts Robert Cervero and Michael Duncan noted, simply placing jobs near housing stock is insufficient to achieve VMT reductions since the skill requirements of available local jobs must be matched to those held by local residents.[7] Some municipalities have tied local hire and skilled and trained workforce policies to local development permits to address transportation issues. As Cervero and Duncan note:

> In nearly built-out Berkeley, CA, the approach to balancing jobs and housing is to create local jobs rather than to develop new housing." The city's First Source program encourages businesses to hire local residents, especially for entry- and intermediate-level jobs, and sponsors vocational training to ensure residents are employment-ready. While the program is

---

[4] City of Hayward (2019) Hayward Downtown Specific Plan at p. 5-24, *available at* https://www.hayward-ca.gov/sites/default/files/Hayward%20Downtown%20Specific%20Plan.pdf.

[5] City of Hayward Municipal Code, Chapter 10, § 28.5.3.020(C).

[6] California Planning Roundtable (2008) Deconstructing Jobs-Housing Balance at p. 6, *available at* https://cproundtable.org/static/media/uploads/publications/cpr-jobs-housing.pdf

[7] Cervero, Robert and Duncan, Michael (2006) Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing? Journal of the American Planning Association 72 (4), 475-490, 482, *available at* http://reconnectingamerica.org/assets/Uploads/UTCT-825.pdf.

> voluntary, some 300 businesses have used it to date, placing more than 3,000 city residents in local jobs since it was launched in 1986. When needed, these carrots are matched by sticks, since the city is not shy about negotiating corporate participation in First Source as a condition of approval for development permits.

The City should consider utilizing skilled and trained workforce policies and requirements to benefit the local area economically and mitigate greenhouse gas, air quality and transportation impacts.

Also, the City should require the Project to be built to standards exceeding the current 2019 California Green Building Code and 2020 County of Los Angeles Green Building Standards Code to mitigate the Project's environmental impacts and to advance progress towards the State of California's environmental goals.

I. THE PROJECT WOULD BE APPROVED IN VIOLATION OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

A. Background Concerning the California Environmental Quality Act

CEQA has two basic purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 California Code of Regulations ("**CCR**" or "**CEQA Guidelines**") § 15002(a)(1).[8] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made. Thus, the EIR 'protects not only the environment but also informed self-government.' [Citation.]" *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564. The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets"*); *County of Inyo v. Yorty* (1973) 32 Cal. App. 3d 795, 810.

[8] The CEQA Guidelines, codified in Title 14 of the California Code of Regulations, section 150000 et seq, are regulatory guidelines promulgated by the state Natural Resources Agency for the implementation of CEQA. (Cal. Pub. Res. Code § 21083.) The CEQA Guidelines are given "great weight in interpreting CEQA except when . . . clearly unauthorized or erroneous." *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal. 4th 204, 217.

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures. CEQA Guidelines § 15002(a)(2) and (3). *See also, Berkeley Jets,* 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553; *Laurel Heights Improvement Ass'n v. Regents of the University of California* (1988) 47 Cal. 3d 376, 400. The EIR serves to provide public agencies and the public in general with information about the effect that a proposed project is likely to have on the environment and to "identify ways that environmental damage can be avoided or significantly reduced." CEQA Guidelines § 15002(a)(2). If the project has a significant effect on the environment, the agency may approve the project only upon finding that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns" specified in CEQA section 21081. CEQA Guidelines § 15092(b)(2)(A–B).

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position.' A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" *Berkeley Jets*, 91 Cal. App. 4th 1344, 1355 (emphasis added) (quoting *Laurel Heights,* 47 Cal. 3d at 391, 409 fn. 12). Drawing this line and determining whether the EIR complies with CEQA's information disclosure requirements presents a question of law subject to independent review by the courts. (*Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 515; *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102, 131.) As the court stated in *Berkeley Jets*, 91 Cal. App. 4th at 1355:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.

The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been considered. For the EIR to serve these goals it must present information so that the foreseeable impacts of pursuing the project can be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made. *Communities for a Better Environment v. Richmond* (2010) 184 Cal. App. 4th 70, 80 (quoting *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal. 4th 412, 449–450).

B. Due to the COVID-19 Crisis, the City Should Implement Additional Measures to Mitigate Covid-19 Risks from the Project's Construction Activities

Construction work has been defined as a Lower to High-risk activity for COVID-19 spread by the Occupations Safety and Health Administration. Recently, several construction sites have been identified as sources of community spread of COVID-19.[9]

SWRCC recommends that the Lead Agency adopt additional measures to mitigate public health risks from the Project's construction activities. SWRCC requests that the Lead Agency require safe on-site construction work practices as well as training and certification for any construction workers on the Project Site.

In particular, based upon SWRCC's experience with safe construction site work practices, SWRCC recommends that the Lead Agency require that while construction activities are being conducted at the Project Site:

Construction Site Design:

- The Project Site will be limited to two controlled entry points.
- Entry points will have temperature screening technicians taking temperature readings when the entry point is open.
- The Temperature Screening Site Plan shows details regarding access to the Project Site and Project Site logistics for conducting temperature screening.
- A 48-hour advance notice will be provided to all trades prior to the first day of temperature screening.
- The perimeter fence directly adjacent to the entry points will be clearly marked indicating the appropriate 6-foot social

[9] Santa Clara County Public Health (June 12, 2020) COVID-19 CASES AT CONSTRUCTION SITES HIGHLIGHT NEED FOR CONTINUED VIGILANCE IN SECTORS THAT HAVE REOPENED, *available at* https://www.sccgov.org/sites/covid19/Pages/press-release-06-12-2020-cases-at-construction-sites.aspx.

distancing position for when you approach the screening area. Please reference the Apex temperature screening site map for additional details.

- There will be clear signage posted at the project site directing you through temperature screening.
- Provide hand washing stations throughout the construction site.

Testing Procedures:

- The temperature screening being used are non-contact devices.
- Temperature readings will not be recorded.
- Personnel will be screened upon entering the testing center and should only take 1-2 seconds per individual.
- Hard hats, head coverings, sweat, dirt, sunscreen or any other cosmetics must be removed on the forehead before temperature screening.
- Anyone who refuses to submit to a temperature screening or does not answer the health screening questions will be refused access to the Project Site.
- Screening will be performed at both entrances from 5:30 am to 7:30 am.; main gate [ZONE 1] and personnel gate [ZONE 2]
- After 7:30 am only the main gate entrance [ZONE 1] will continue to be used for temperature testing for anybody gaining entry to the project site such as returning personnel, deliveries, and visitors.
- If the digital thermometer displays a temperature reading above 100.0 degrees Fahrenheit, a second reading will be taken to verify an accurate reading.
- If the second reading confirms an elevated temperature, DHS will instruct the individual that he/she will not be

allowed to enter the Project Site. DHS will also instruct the individual to promptly notify his/her supervisor and his/her human resources (HR) representative and provide them with a copy of Annex A.

Planning

- Require the development of an Infectious Disease Preparedness and Response Plan that will include basic infection prevention measures (requiring the use of personal protection equipment), policies and procedures for prompt identification and isolation of sick individuals, social distancing (prohibiting gatherings of no more than 10 people including all-hands meetings and all-hands lunches) communication and training and workplace controls that meet standards that may be promulgated by the Center for Disease Control, Occupational Safety and Health Administration, Cal/OSHA, California Department of Public Health or applicable local public health agencies.[10]

The United Brotherhood of Carpenters and Carpenters International Training Fund has developed COVID-19 Training and Certification to ensure that Carpenter union members and apprentices conduct safe work practices. The Agency should require that all construction workers undergo COVID-19 Training and Certification before being allowed to conduct construction activities at the Project Site.

SWRCC has also developed a rigorous Infection Control Risk Assessment ("**ICRA**") training program to ensure it delivers a workforce that understands how to identify and control infection risks by implementing protocols to protect themselves and all others during renovation and construction projects in healthcare environments.[11]

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[10] *See also* The Center for Construction Research and Training, North America's Building Trades Unions (April 27 2020) NABTU and CPWR COVIC-19 Standards for U.S Constructions Sites, *available at* https://www.cpwr.com/sites/default/files/NABTU_CPWR_Standards_COVID-19.pdf; Los Angeles County Department of Public Works (2020) Guidelines for Construction Sites During COVID-19 Pandemic, *available at* https://dpw.lacounty.gov/building-and-safety/docs/pw_guidelines-construction-sites.pdf.

[11] For details concerning SWRCC's ICRA training program, *see* https://icrahealthcare.com/.

ICRA protocols are intended to contain pathogens, control airflow, and protect patients during the construction, maintenance and renovation of healthcare facilities. ICRA protocols prevent cross contamination, minimizing the risk of secondary infections in patients at hospital facilities.

The City should require the Project to be built using a workforce trained in ICRA protocols.

C. The Project's Does Not Meet the Class 32, Urban Infill Exemption from Environmental Review Under CEQA

The Class 32 urban infill exemption applies only if "[a]pproval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality." CEQA Guidelines § 15332. To rely on the exemption the City must make findings as to significant effects. *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (2006) 139 Cal.App.4th 249, 268.

The City has a burden to provide substantial evidence, which must be based upon facts, reasonable assumptions based on facts and expert opinion, rather than the City's mere speculation, to support its findings. CEQA Guidelines § 15384(a); *Save Our Big Trees v. City of Santa Cruz* (2015) 241 Cal. App. 4th 694, 711 (a lead agency "bears the burden to demonstrate with substantial evidence that the Project constitutes an action to assure the maintenance, restoration, or enhancement of the environment.") (citing *Muzzy Ranch Co. v. Solano County Airport Land Use Com.* (2007) 41 Cal. 4th 372, 386).

The Project seeks "[a]n Exemption from CEQA pursuant to CEQA Guidelines Section 15332 and that there is no substantial evidence demonstrating that an exception to a categorical exemption pursuant to CEQA Guidelines, Section 15300.2 applies"[12] However, the City failed to demonstrate with substantial evidence that the Project would not result in significant environmental impacts pursuant to CEQA Guidelines § 15332.

D. The Project Fails to Support It's Noise Findings with Substantial Evidence

The Staff Report concludes that the Project would have no significant noise impacts based upon presumed compliance with City noise regulations. The Staff Report concedes that significant construction noise impacts are likely, noting that underlying reports only concluded that the Project would have no significant permanent operation or cumulative noise impacts and conceding that noise arising from construction is unavoidable" but that noise would be less than significant since "the noise would be temporary and limited." Staff Report at 5.

However, CEQA doesn't merely require the examination of permanent or cumulative noise levels, it also requires that the City analyze and mitigate "substantial temporary . . . increase[s] in ambient noise levels." CEQA Guidelines Appdx. G.

Moreover, while the Staff Report claims that it will follow the requirements imposed by the City's general plan and noise ordinance and that such compliance would be sufficient to support a finding that the Project's noise impacts less than significant, the City requires additional mitigation measures above the requirements of its noise ordinance whenever a Project may impact noise sensitive uses, such as the adjacent residential uses. City of Los Angeles (1999) Noise Element of the Los Angeles City General Plan at 4-2.[13]

The City's Staff Report already concedes that the Project would likely have significant noise impacts on sensitive uses near the Project Site and therefore the Project cannot be exempted under the Class 32 Exemption.

E. The Project Fails to Support its Traffic Impact Findings With Substantial Evidence

The Project states that the Project's VMT analysis concluded that the Project would have less than significant Household VMT impacts since the Project has no residential uses and a less than significant Work VMT impact.

However, the Staff Report fails to state what threshold of significance was utilized to determine whether the Project's Work VMT was significant. CEQA recommends that in determining the significance of an impact, that a lead agency identify a threshold of significant to utilize to determine whether a project may cause a significant impact. CEQA Guidelines § 15064. In determining the significance of VMT impacts, the Governor's Office of Planning and Research has recommended that agencies utilize a per capita or per employee VMT that is fifteen percent below that of existing

[13] https://planning.lacity.org/odocument/b49a8631-19b2-4477-8c7f-08b48093cddd/Noise_Element.pdf.

development. Governor's Office of Planning & Research (2018) Technical Advisory on Evaluation Transportation Impacts in CEQA at 10.[14]

In addition, the Project appears to have excluded entirely the VMT that would be generated by the Project's commercial uses, namely the hotel and retail uses.

If the City has any questions or concerns, feel free to contact my Office.

Sincerely,

Ronald Giang
Attorneys for Southwest Regional
Council of Carpenters

Attached:

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling (Exhibit A);

Air Quality and GHG Expert Paul Rosenfeld CV (Exhibit B);

Air Quality and GHG Expert Matt Hagemann CV (Exhibit C); and.

City of Los Angeles (1999) Noise Element of the Los Angeles City General Plan (Exhibit D).

Governor's Office of Planning & Research (2018) Technical Advisory on Evaluation Transportation Impacts in CEQA (Exhibit E).

[14] https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

EXHIBIT A

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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March 8, 2021

Mitchell M. Tsai
155 South El Molino, Suite 104
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Subject: Local Hire Requirements and Considerations for Greenhouse Gas Modeling

Dear Mr. Tsai,

Soil Water Air Protection Enterprise ("SWAPE") is pleased to provide the following draft technical report explaining the significance of worker trips required for construction of land use development projects with respect to the estimation of greenhouse gas ("GHG") emissions. The report will also discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts.

Worker Trips and Greenhouse Gas Calculations

The California Emissions Estimator Model ("CalEEMod") is a "statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects."[1] CalEEMod quantifies construction-related emissions associated with land use projects resulting from off-road construction equipment; on-road mobile equipment associated with workers, vendors, and hauling; fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads; and architectural coating activities; and paving.[2]

The number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[3]

[1] "California Emissions Estimator Model." CAPCOA, 2017*, available at:* http://www.aqmd.gov/caleemod/home.
[2] "California Emissions Estimator Model." CAPCOA, 2017*, available at:* http://www.aqmd.gov/caleemod/home.
[3] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.

Specifically, the number and length of vehicle trips is utilized to estimate the vehicle miles travelled ("VMT") associated with construction. Then, utilizing vehicle-class specific EMFAC 2014 emission factors, CalEEMod calculates the vehicle exhaust, evaporative, and dust emissions resulting from construction-related VMT, including personal vehicles for worker commuting.[4]

Specifically, in order to calculate VMT, CalEEMod multiplies the average daily trip rate by the average overall trip length (see excerpt below):

> "$VMT_d = \Sigma(\text{Average Daily Trip Rate}_i * \text{Average Overall Trip Length}_i)_n$
>
> Where:
>
> n = Number of land uses being modeled."[5]

Furthermore, to calculate the on-road emissions associated with worker trips, CalEEMod utilizes the following equation (see excerpt below):

> "$\text{Emissions}_{\text{pollutant}} = VMT * EF_{\text{running,pollutant}}$
>
> Where:
>
> $\text{Emissions}_{\text{pollutant}}$ = emissions from vehicle running for each pollutant
>
> VMT = vehicle miles traveled
>
> $EF_{\text{running,pollutant}}$ = emission factor for running emissions."[6]

Thus, there is a direct relationship between trip length and VMT, as well as a direct relationship between VMT and vehicle running emissions. In other words, when the trip length is increased, the VMT and vehicle running emissions increase as a result. Thus, vehicle running emissions can be reduced by decreasing the average overall trip length, by way of a local hire requirement or otherwise.

Default Worker Trip Parameters and Potential Local Hire Requirements

As previously discussed, the number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[7] In order to understand how local hire requirements and associated worker trip length reductions impact GHG emissions calculations, it is important to consider the CalEEMod default worker trip parameters. CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[8] The default number of construction-related worker trips is calculated by multiplying the

[4] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14-15.
[5] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 23.
[6] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 1, 9.

number of pieces of equipment for all phases by 1.25, with the exception of worker trips required for the building construction and architectural coating phases.[9] Furthermore, the worker trip vehicle class is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively."[10] Finally, the default worker trip length is consistent with the length of the operational home-to-work vehicle trips.[11] The operational home-to-work vehicle trip lengths are:

> "[B]ased on the *location* and *urbanization* selected on the project characteristic screen. These values were *supplied by the air districts or use a default average for the state*. Each district (or county) also assigns trip lengths for urban and rural settings" (emphasis added). [12]

Thus, the default worker trip length is based on the location and urbanization level selected by the User when modeling emissions. The below table shows the CalEEMod default rural and urban worker trip lengths by air basin (see excerpt below and Attachment A).[13]

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Minimum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[10] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[11] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14.
[12] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 21.
[13] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-84 – D-86.

As demonstrated above, default rural worker trip lengths for air basins in California vary from 10.8- to 19.8-miles, with an average of 16.47 miles. Furthermore, default urban worker trip lengths vary from 10.8- to 14.7-miles, with an average of 11.17 miles. Thus, while default worker trip lengths vary by location, default urban worker trip lengths tend to be shorter in length. Based on these trends evident in the CalEEMod default worker trip lengths, we can reasonably assume that the efficacy of a local hire requirement is especially dependent upon the urbanization of the project site, as well as the project location.

Practical Application of a Local Hire Requirement and Associated Impact

To provide an example of the potential impact of a local hire provision on construction-related GHG emissions, we estimated the significance of a local hire provision for the Village South Specific Plan ("Project") located in the City of Claremont ("City"). The Project proposed to construct 1,000 residential units, 100,000-SF of retail space, 45,000-SF of office space, as well as a 50-room hotel, on the 24-acre site. The Project location is classified as Urban and lies within the Los Angeles-South Coast County. As a result, the Project has a default worker trip length of 14.7 miles.[14] In an effort to evaluate the potential for a local hire provision to reduce the Project's construction-related GHG emissions, we prepared an updated model, reducing all worker trip lengths to 10 miles (see Attachment B). Our analysis estimates that if a local hire provision with a 10-mile radius were to be implemented, the GHG emissions associated with Project construction would decrease by approximately 17% (see table below and Attachment C).

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO_2e)	3,623
Amortized Construction GHG Emissions (MT CO_2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized Construction GHG Emissions (MT CO_2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

As demonstrated above, by implementing a local hire provision requiring 10 mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips. More broadly, any local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

This serves as an example of the potential impacts of local hire requirements on estimated project-level GHG emissions, though it does not indicate that local hire requirements would result in reduced construction-related GHG emission for all projects. As previously described, the significance of a local hire requirement depends on the worker trip length enforced and the default worker trip length for the project's urbanization level and location.

[14] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-85.

Disclaimer

SWAPE has received limited discovery. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachment A

Location Type	Location Name	Rural H-W (miles)	Urban H-W (miles)
Air Basin	Great Basin	16.8	10.8
Air Basin	Lake County	16.8	10.8
Air Basin	Lake Tahoe	16.8	10.8
Air Basin	Mojave Desert	16.8	10.8
Air Basin	Mountain	16.8	10.8
Air Basin	North Central	17.1	12.3
Air Basin	North Coast	16.8	10.8
Air Basin	Northeast	16.8	10.8
Air Basin	Sacramento	16.8	10.8
Air Basin	Salton Sea	14.6	11
Air Basin	San Diego	16.8	10.8
Air Basin	San Francisco	10.8	10.8
Air Basin	San Joaquin	16.8	10.8
Air Basin	South Central	16.8	10.8
Air Basin	South Coast	19.8	14.7
Air District	Amador County	16.8	10.8
Air District	Antelope Valley	16.8	10.8
Air District	Bay Area AQMD	10.8	10.8
Air District	Butte County	12.54	12.54
Air District	Calaveras	16.8	10.8
Air District	Colusa County	16.8	10.8
Air District	El Dorado	16.8	10.8
Air District	Feather River	16.8	10.8
Air District	Glenn County	16.8	10.8
Air District	Great Basin	16.8	10.8
Air District	Imperial County	10.2	7.3
Air District	Kern County	16.8	10.8
Air District	Lake County	16.8	10.8
Air District	Lassen County	16.8	10.8
Air District	Mariposa	16.8	10.8
Air District	Mendocino	16.8	10.8
Air District	Modoc County	16.8	10.8
Air District	Mojave Desert	16.8	10.8
Air District	Monterey Bay	16.8	10.8
Air District	North Coast	16.8	10.8
Air District	Northern Sierra	16.8	10.8
Air District	Northern	16.8	10.8
Air District	Placer County	16.8	10.8
Air District	Sacramento	15	10

Air District	San Diego	16.8	10.8
Air District	San Joaquin	16.8	10.8
Air District	San Luis Obispo	13	13
Air District	Santa Barbara	8.3	8.3
Air District	Shasta County	16.8	10.8
Air District	Siskiyou County	16.8	10.8
Air District	South Coast	19.8	14.7
Air District	Tehama County	16.8	10.8
Air District	Tuolumne	16.8	10.8
Air District	Ventura County	16.8	10.8
Air District	Yolo/Solano	15	10
County	Alameda	10.8	10.8
County	Alpine	16.8	10.8
County	Amador	16.8	10.8
County	Butte	12.54	12.54
County	Calaveras	16.8	10.8
County	Colusa	16.8	10.8
County	Contra Costa	10.8	10.8
County	Del Norte	16.8	10.8
County	El Dorado-Lake	16.8	10.8
County	El Dorado-	16.8	10.8
County	Fresno	16.8	10.8
County	Glenn	16.8	10.8
County	Humboldt	16.8	10.8
County	Imperial	10.2	7.3
County	Inyo	16.8	10.8
County	Kern-Mojave	16.8	10.8
County	Kern-San	16.8	10.8
County	Kings	16.8	10.8
County	Lake	16.8	10.8
County	Lassen	16.8	10.8
County	Los Angeles-	16.8	10.8
County	Los Angeles-	19.8	14.7
County	Madera	16.8	10.8
County	Marin	10.8	10.8
County	Mariposa	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Merced	16.8	10.8
County	Modoc	16.8	10.8
County	Mono	16.8	10.8
County	Monterey	16.8	10.8
County	Napa	10.8	10.8

County	Nevada	16.8	10.8
County	Orange	19.8	14.7
County	Placer-Lake	16.8	10.8
County	Placer-Mountain	16.8	10.8
County	Placer-	16.8	10.8
County	Plumas	16.8	10.8
County	Riverside-	16.8	10.8
County	Riverside-	19.8	14.7
County	Riverside-Salton	14.6	11
County	Riverside-South	19.8	14.7
County	Sacramento	15	10
County	San Benito	16.8	10.8
County	San Bernardino-	16.8	10.8
County	San Bernardino-	19.8	14.7
County	San Diego	16.8	10.8
County	San Francisco	10.8	10.8
County	San Joaquin	16.8	10.8
County	San Luis Obispo	13	13
County	San Mateo	10.8	10.8
County	Santa Barbara-	8.3	8.3
County	Santa Barbara-	8.3	8.3
County	Santa Clara	10.8	10.8
County	Santa Cruz	16.8	10.8
County	Shasta	16.8	10.8
County	Sierra	16.8	10.8
County	Siskiyou	16.8	10.8
County	Solano-	15	10
County	Solano-San	16.8	10.8
County	Sonoma-North	16.8	10.8
County	Sonoma-San	10.8	10.8
County	Stanislaus	16.8	10.8
County	Sutter	16.8	10.8
County	Tehama	16.8	10.8
County	Trinity	16.8	10.8
County	Tulare	16.8	10.8
County	Tuolumne	16.8	10.8
County	Ventura	16.8	10.8
County	Yolo	15	10
County	Yuba	16.8	10.8
Statewide	Statewide	16.8	10.8

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Mininum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
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 - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1969	213.1969	0.0601	0.0000	214.6993
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6826	1,721.6826	0.1294	0.0000	1,724.9187
2023	0.6148	3.3649	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5295	1,627.5295	0.1185	0.0000	1,630.4925
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9078	52.9078	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6826**	**1,721.6826**	**0.1294**	**0.0000**	**1,724.9187**

2.1 Overall Construction

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	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1967	213.1967	0.0601	0.0000	214.6991
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6823	1,721.6823	0.1294	0.0000	1,724.9183
2023	0.6148	3.3648	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5291	1,627.5291	0.1185	0.0000	1,630.4921
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9077	52.9077	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6823**	**1,721.6823**	**0.1294**	**0.0000**	**1,724.9183**

	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2021**	**11-30-2021**	1.4103	1.4103
2	**12-1-2021**	**2-28-2022**	1.3613	1.3613
3	**3-1-2022**	**5-31-2022**	1.1985	1.1985
4	**6-1-2022**	**8-31-2022**	1.1921	1.1921
5	**9-1-2022**	**11-30-2022**	1.1918	1.1918
6	**12-1-2022**	**2-28-2023**	1.0774	1.0774
7	**3-1-2023**	**5-31-2023**	1.0320	1.0320
8	**6-1-2023**	**8-31-2023**	1.0260	1.0260

9	**9-1-2023**	**11-30-2023**	1.0265	1.0265
10	**12-1-2023**	**2-29-2024**	2.8857	2.8857
11	**3-1-2024**	**5-31-2024**	1.6207	1.6207
		Highest	2.8857	2.8857

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	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

2.2 Overall Operational

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	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

	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	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

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	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	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	15.00	0.00	458.00	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	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

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	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
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	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

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					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

3.2 Demolition - 2021

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	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
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	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

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	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

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	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

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					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

3.4 Grading - 2021

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	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

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					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

3.4 Grading - 2021

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	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

3.4 Grading - 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					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

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	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

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					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

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	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

3.5 Building Construction - 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					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

3.5 Building Construction - 2022

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	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

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	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

3.5 Building Construction - 2022

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	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

3.5 Building Construction - 2023

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	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

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	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

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	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

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	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

3.6 Paving - 2023

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	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

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	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

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	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

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	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

3.6 Paving - 2024

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	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

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	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

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	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

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	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

3.7 Architectural Coating - 2024

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	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

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	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

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	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

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	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

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	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

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
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

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	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478

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					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.2 Energy by Land Use - NaturalGas

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					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

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	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

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	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

6.2 Area by SubCategory

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	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

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

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 33

Climate Zone 9 **Operational Year** 2028

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 - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1521
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

2.1 Overall Construction (Maximum Daily Emission)

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	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1520
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

	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**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

	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	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

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	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	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	15.00	0.00	458.00	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	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

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	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.241 3	1,292.241 3	0.0877		1,294.433 7
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	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.056 8**	**1,463.056 8**	**0.0927**		**1,465.375 0**

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

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	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
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	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.0568**	**1,463.0568**	**0.0927**		**1,465.3750**

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**

3.3 Site Preparation - 2021

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	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

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					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	0.0000	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**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

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	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

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	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

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	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

3.4 Grading - 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					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

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	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

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	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

3.5 Building Construction - 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**

3.5 Building Construction - 2022

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	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.685 7	8,800.685 7	0.2429		8,806.758 2
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.23 39**	**12,697.23 39**	**0.4665**		**12,708.89 66**

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	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

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	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.685 7	8,800.685 7	0.2429		8,806.758 2
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.23 39**	**12,697.23 39**	**0.4665**		**12,708.89 66**

3.5 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

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	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.876 2	3,773.876 2	0.1982		3,778.830 0
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.440 8	8,478.440 8	0.2190		8,483.916 0
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.31 70**	**12,252.31 70**	**0.4172**		**12,262.74 60**

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

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	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.876 2	3,773.876 2	0.1982		3,778.830 0
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.440 8	8,478.440 8	0.2190		8,483.916 0
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.31 70**	**12,252.31 70**	**0.4172**		**12,262.74 60**

3.6 Paving - 2023

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.584 1**	**2,207.584 1**	**0.7140**		**2,225.433 6**

3.6 Paving - 2023

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	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

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	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

3.6 Paving - 2024

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

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	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

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	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

3.7 Architectural Coating - 2024

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	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

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	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.0852	1,641.0852	0.0401		1,642.0886
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.0852**	**1,641.0852**	**0.0401**		**1,642.0886**

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	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

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	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.085 2	1,641.085 2	0.0401		1,642.088 6
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.085 2**	**1,641.085 2**	**0.0401**		**1,642.088 6**

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	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

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
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

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	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7

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					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

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					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.59 50	18,148.59 50	0.4874	0.3300	18,259.11 92
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.59 50	18,148.59 50	0.4874	0.3300	18,259.11 92

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	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.00 00	18,000.00 00	0.3450	0.3300	18,106.96 50
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.59 50**	**18,148.59 50**	**0.4874**	**0.3300**	**18,259.11 92**

6.2 Area by SubCategory

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	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
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 - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

2.1 Overall Construction (Maximum Daily Emission)

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	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

	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**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

	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	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

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	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	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	15.00	0.00	458.00	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	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

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	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
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	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.693 2**	**1,430.693 2**	**0.0955**		**1,433.081 2**

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

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	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
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	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.693 2**	**1,430.693 2**	**0.0955**		**1,433.081 2**

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		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

3.3 Site Preparation - 2021

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	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

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					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	0.0000	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**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

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	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

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	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

Category	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
	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	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

3.4 Grading - 2022

Unmitigated Construction On-Site

Category	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
	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

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	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

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	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

3.5 Building Construction - 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**

3.5 Building Construction - 2022

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	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.075 0	3,789.075 0	0.2381		3,795.028 3
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.901 3	8,286.901 3	0.2282		8,292.605 8
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.97 63**	**12,075.97 63**	**0.4663**		**12,087.63 41**

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	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

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	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.9013	8,286.9013	0.2282		8,292.6058
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.9763**	**12,075.9763**	**0.4663**		**12,087.6341**

3.5 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

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	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.400 7	3,671.400 7	0.2096		3,676.641 7
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.731 8	7,983.731 8	0.2055		7,988.868 3
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.13 25**	**11,655.13 25**	**0.4151**		**11,665.50 99**

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

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	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.400 7	3,671.400 7	0.2096		3,676.641 7
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.731 8	7,983.731 8	0.2055		7,988.868 3
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.13 25**	**11,655.13 25**	**0.4151**		**11,665.50 99**

3.6 Paving - 2023

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.584 1**	**2,207.584 1**	**0.7140**		**2,225.433 6**

3.6 Paving - 2023

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	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

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	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

3.6 Paving - 2024

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

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	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

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	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

3.7 Architectural Coating - 2024

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	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

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	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.2860	1,545.2860	0.0376		1,546.2262
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.2860**	**1,545.2860**	**0.0376**		**1,546.2262**

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	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

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	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.2860	1,545.2860	0.0376		1,546.2262
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.2860**	**1,545.2860**	**0.0376**		**1,546.2262**

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	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

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
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

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	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7

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					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

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					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

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	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

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	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
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 - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7654	210.7654	0.0600	0.0000	212.2661
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6554	1,418.6554	0.1215	0.0000	1,421.6925
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4412	1,342.4412	0.1115	0.0000	1,345.2291
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6355	44.6355	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6554**	**1,418.6554**	**0.1215**	**0.0000**	**1,421.6925**

2.1 Overall Construction

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	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7651	210.7651	0.0600	0.0000	212.2658
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6550	1,418.6550	0.1215	0.0000	1,421.6921
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4409	1,342.4409	0.1115	0.0000	1,345.2287
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6354	44.6354	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6550**	**1,418.6550**	**0.1215**	**0.0000**	**1,421.6921**

	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2021**	**11-30-2021**	1.4091	1.4091
2	**12-1-2021**	**2-28-2022**	1.3329	1.3329
3	**3-1-2022**	**5-31-2022**	1.1499	1.1499
4	**6-1-2022**	**8-31-2022**	1.1457	1.1457
5	**9-1-2022**	**11-30-2022**	1.1415	1.1415
6	**12-1-2022**	**2-28-2023**	1.0278	1.0278
7	**3-1-2023**	**5-31-2023**	0.9868	0.9868
8	**6-1-2023**	**8-31-2023**	0.9831	0.9831

9	**9-1-2023**	**11-30-2023**	0.9798	0.9798
10	**12-1-2023**	**2-29-2024**	2.8757	2.8757
11	**3-1-2024**	**5-31-2024**	1.6188	1.6188
		Highest	2.8757	2.8757

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	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

2.2 Overall Operational

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	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

	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	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

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	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	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	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

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	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
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	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

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					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

3.2 Demolition - 2021

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	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
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	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

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	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

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	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

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					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

3.4 Grading - 2021

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	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

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					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

3.4 Grading - 2021

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	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

3.4 Grading - 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					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

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	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

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					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

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	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

3.5 Building Construction - 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					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

3.5 Building Construction - 2022

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	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

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	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

3.5 Building Construction - 2022

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	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

3.5 Building Construction - 2023

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	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

Category	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
	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	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

Mitigated Construction On-Site

Category	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
	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

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	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

3.6 Paving - 2023

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	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

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	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

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	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

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	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

3.6 Paving - 2024

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	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

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	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

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	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

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	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

3.7 Architectural Coating - 2024

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	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

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	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

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	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

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	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

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	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

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
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

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	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478

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					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.2 Energy by Land Use - NaturalGas

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					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

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	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

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	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

6.2 Area by SubCategory

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	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

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

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
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 - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.4166	6,163.4166	1.9475	0.0000	6,212.1039
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.4403	12,493.4403	1.9485	0.0000	12,518.5707
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.4890	12,150.4890	0.9589	0.0000	12,174.4615
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.1808	2,313.1808	0.7166	0.0000	2,331.0956
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.4403**	**12,493.4403**	**1.9485**	**0.0000**	**12,518.5707**

2.1 Overall Construction (Maximum Daily Emission)

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	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.4166	6,163.4166	1.9475	0.0000	6,212.1039
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.4403	12,493.4403	1.9485	0.0000	12,518.5707
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.4890	12,150.4890	0.9589	0.0000	12,174.4615
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.1808	2,313.1808	0.7166	0.0000	2,331.0955
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.4403**	**12,493.4403**	**1.9485**	**0.0000**	**12,518.5707**

	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**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

	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	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

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	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	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	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

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	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.241 3	1,292.241 3	0.0877		1,294.433 7
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	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.521 2**	**1,409.521 2**	**0.0912**		**1,411.801 5**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

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	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
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	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.5212**	**1,409.5212**	**0.0912**		**1,411.8015**

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**

3.3 Site Preparation - 2021

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	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

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					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	0.0000	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**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

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	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

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	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

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	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

3.4 Grading - 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					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

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	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

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	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

3.5 Building Construction - 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**

3.5 Building Construction - 2022

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	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.558 5	6,042.558 5	0.1697		6,046.800 0
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.106 7**	**9,939.106 7**	**0.3933**		**9,948.938 4**

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	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

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	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.558 5	6,042.558 5	0.1697		6,046.800 0
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.106 7**	**9,939.106 7**	**0.3933**		**9,948.938 4**

3.5 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

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	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.876 2	3,773.876 2	0.1982		3,778.830 0
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.402 8	5,821.402 8	0.1529		5,825.225 4
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.279 0**	**9,595.279 0**	**0.3511**		**9,604.055 4**

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

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	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.876 2	3,773.876 2	0.1982		3,778.830 0
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.402 8	5,821.402 8	0.1529		5,825.225 4
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.279 0**	**9,595.279 0**	**0.3511**		**9,604.055 4**

3.6 Paving - 2023

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.584 1**	**2,207.584 1**	**0.7140**		**2,225.433 6**

3.6 Paving - 2023

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	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

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	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

3.6 Paving - 2024

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

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	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

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	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

3.7 Architectural Coating - 2024

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	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

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	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.7583	1,126.7583	0.0280		1,127.4583
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.7583**	**1,126.7583**	**0.0280**		**1,127.4583**

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	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

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	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.758 3	1,126.758 3	0.0280		1,127.458 3
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.758 3**	**1,126.758 3**	**0.0280**		**1,127.458 3**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	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
	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

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
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

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	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7

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					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

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					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

Category	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
	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

SubCategory	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
	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

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	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
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 - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

2.1 Overall Construction (Maximum Daily Emission)

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	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.337 7	6,154.337 7	1.9472	0.0000	6,203.018 6
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.34 40	12,035.34 40	1.9482	0.0000	12,060.60 13
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.40 80	11,710.40 80	0.9617	0.0000	11,734.44 97
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.051 7	2,307.051 7	0.7164	0.0000	2,324.962 7
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.34 40**	**12,035.34 40**	**1.9482**	**0.0000**	**12,060.60 13**

	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**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

	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	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

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	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	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	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			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**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

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	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
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	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.326 2**	**1,380.326 2**	**0.0941**		**1,382.679 1**

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

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	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
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	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.326 2**	**1,380.326 2**	**0.0941**		**1,382.679 1**

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		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

3.3 Site Preparation - 2021

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	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

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					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	0.0000	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**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

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	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

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	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

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	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

3.4 Grading - 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					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

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	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

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	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

3.5 Building Construction - 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**

3.5 Building Construction - 2022

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	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.075 0	3,789.075 0	0.2381		3,795.028 3
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.935 4	5,691.935 4	0.1602		5,695.940 8
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.010 4**	**9,481.010 4**	**0.3984**		**9,490.969 1**

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	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

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	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.075 0	3,789.075 0	0.2381		3,795.028 3
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.935 4	5,691.935 4	0.1602		5,695.940 8
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.010 4**	**9,481.010 4**	**0.3984**		**9,490.969 1**

3.5 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

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	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.400 7	3,671.400 7	0.2096		3,676.641 7
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.797 4	5,483.797 4	0.1442		5,487.402 0
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.198 1**	**9,155.198 1**	**0.3538**		**9,164.043 7**

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

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	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.7974	5,483.7974	0.1442		5,487.4020
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.1981**	**9,155.1981**	**0.3538**		**9,164.0437**

3.6 Paving - 2023

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

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	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

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	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

3.6 Paving - 2024

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

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	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

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	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

3.7 Architectural Coating - 2024

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	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

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	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.3818	1,061.3818	0.0264		1,062.0410
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.3818**	**1,061.3818**	**0.0264**		**1,062.0410**

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	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

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	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.3818	1,061.3818	0.0264		1,062.0410
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.3818**	**1,061.3818**	**0.0264**		**1,062.0410**

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	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

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
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	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
	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7

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					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

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					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

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	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

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	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Attachment C

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,623
Amortized (MT CO2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized (MT CO2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

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Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

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Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

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Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas

Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio

John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court of Southern District of Texas Galveston Division

Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland

Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

EXHIBIT C

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

1640 5th St.., Suite 204 Santa
Santa Monica, California 90401
Tel: (949) 887-9013
Email: mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

<u>Other Experience:</u>

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

EXHIBIT D

NOISE ELEMENT

DEPARTMENT OF CITY PLANNING LOS ANGELES, CALIFORNIA

Noise Element
of the Los Angeles City General Plan

City Plan Case No. 97-0085
Council File No. 96-1357

Adopted by the City Council February 3, 1999
Approved by the City Planning Commission November 12, 1998

City of Los Angeles

Richard Riordan, Mayor

City Council

1st District — Mike Hernandez
2nd District — Joel Wachs
3rd District — Laura N. Chick
4th District — John Ferraro
5th District — Michael Feuer
6th District — Ruth Galanter
7th District — Richard Alarcón
8th District — Mark Ridley-Thomas
9th District — Rita Walters
10th District — Nate Holden
11th District — Cindy Miscikowski
12th District — Hal Bernson
13th District — Jackie Goldberg
14th District — Richard Alatorre
15th District — Rudy Svorinich

City Planning Commission

Peter M. Weil, President
Robert L. Scott, Vice President
Marna Schnabel
Nicholas H. Stonnington
Jorge Jackson

Los Angeles City Planning Department

Con Howe, Director of Planning
Franklin P. Eberhard, Deputy Director
Gordon B. Hamilton, Deputy Director
Robert H. Sutton, Deputy Director

Citywide Planning Division

R. Ann Siracusa, ACIP, Principal City Planner

Noise Element Revision Staff

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Table of Contents

Exhibits

Exhibits (within text):

Appendix and Exhibits (at end of text):

Introduction

California State Government Code Section 65302g mandates that noise elements be included as a part of city general plans and that cities adopt comprehensive noise ordinances. The city's 1975 Noise Plan and ordinance achieved compliance with state law. This element revises and updates the 1975 plan and references the city's noise standards, which are contained in Los Angeles Municipal Code Section 111 et seq. In addition to addressing issues, such as airport related noise, which were addressed in the 1975 plan, the element addresses noise sources and noise mitigation strategies and regulations that came into existence after 1975, including new fixed rail systems.

The noise element applies to the city as a whole. It addresses noise mitigation regulations, strategies and programs and delineates federal, state and city jurisdiction relative to rail, automotive, aircraft and nuisance noise.

Regulation of noise relative to vehicles is largely outside the authority of municipal government. Primary municipal authority relates to regulation of land use, implementing federal and state regulations and enforcing nuisance noise. This element describes noise management programs of each jurisdictional entity, as they relate to the City of Los Angeles.

The exhibits contained herein include examples of noise commonly experienced by city dwellers, local airport noise contours, state environmental guidelines and a history of Los Angeles transportation and associated noise issues.

Chapters III and IV set forth noise management goals, objectives, policies and programs of the City of Los Angeles. Implementation programs include noise mitigation guidelines for community planners and permit processors, noise management activities in which the city is engaged and affirmation of the Alameda Corridor Project which will consolidate freight rail lines, thereby reducing noise impacts on local neighborhoods.

Chapter I — Background

Planning Area

The Noise Element relates to the entire City of Los Angeles. Within the city's boundaries are approximately 467 square miles of land area, including approximately 214 square miles of hills and mountains. The San Gabriel and Santa Susana Mountains bound the city on the north, the Santa Monica Mountains extend across the middle of the city and the Palos Verdes Hills and Pacific Ocean are on the south and west. Some noise impacts are generated by sources, such as rail, highway and freeway systems, which are within the purview of other governmental entities. Noise generated by aircraft associated with Los Angeles-based air facilities potentially impact people outside the city. Therefore, the element takes into account other jurisdictions and governmental entities.

Demographics

The 1990 federal census estimated that the city's population was 3,485,399 individuals. The 1996 Citywide General Plan Framework Element (aka Framework) of the city's general plan estimates that the population of the city would be increased by approximately 820,000 people to 4,306,564 by the year 2010 and that employment will be increased by an estimated 390,000 jobs. Circulation and transportation systems, a primary source of urban noise, continue to evolve in response to the city's changing needs and introduction of new technology.

California State Noise Element Requirements

Content

In 1971 the state of California required cities and counties to include noise elements in their general plans (Government Code Section 65302 et seq.). State law intended that noise elements guide policy makers in making land use determinations and in preparing noise ordinances that would limit exposure of their populations to excessive noise levels. The law required that local jurisdictions prepare noise ordinances that would help manage noise. In 1984, state noise element provisions were revised to shorten the list of noise element requirements, encourage local jurisdictions to design their own noise control approaches and to eliminate the requirement that general plan noise and circulation elements be consistent with each other.

Under the 1984 provisions, a noise element is required to "recognize" guidelines prepared by the Office of Noise Control of the California Department of Health Services and to analyze and quantify, "to the extent practicable, as determined by the legislative body," noise from the following sources: highways and freeways; primary arterials and major local streets; passenger and freight on-line railroad operations and ground rapid transit systems; commercial, general aviation, heliport, helistop and military airport operations, aircraft overflights, jet engine test stands, and other ground facilities and maintenance functions related to airport operation; local industrial plants, including, but not limited to, railroad classification yards; and other ground stationary noise sources identified by local agencies as contributing to the community noise environment.

The subject element complies with state law by describing airport related noise management programs and identifying and analyzing noise sources and noise management measures. It also provides guidelines for noise management within Los Angeles.

Noise Measurement and Standards

State law (Government Code Section 65302 et seq.) specifies that, as is practical, a community noise equivalent level (CNEL) or day/night average level (Ldn) be used to measure noise exposure for the identified noise sources. Modeling is permitted as a tool for measuring noise. However, as will be noted in Chapter II, state and federal law has preempted local authority with reference to many of the above listed noise sources.

In response to the 1971 state requirements, the city simultaneously prepared a noise plan and a comprehensive noise ordinance. It utilized noise contours and modeling in order to establish ambient noise standards that were linked to zoning classifications. Identical standards were incorporated into the ordinance and plan to facilitate implementation and enforcement. The ordinance was adopted in 1973 (Los Angeles Municipal Code Section 111 et seq.). It has been amended several times. The city's first noise plan was adopted in 1975. The intent of state law was to prompt local jurisdictions to establish noise standards vis-a-vis the state's noise insulation standards and to enact plan implementation measures to address local noise problems. The city met these objectives with the adoption of the ordinance and plan. The noise standards contained in the ordinance guide the city's noise management and are consistent with state and federal standards.

The California Environmental Quality Act (CEQA) permit processing procedures and the ambient noise standards contained in the city's noise ordinance guide noise impact assessment and mitigation relative to new development that is subject to CEQA environmental assessment review. This element, combined with the city's noise ordinance, complies with the noise measurement and standards requirements of state law, to the greatest extent practicable, by providing sample noise exposure contours for local airports and by outlining airport and other noise management programs.

Insulation Standards

The California Department of Health Services noise office, which is cited in the 1984 general plan law, no longer exists. The most current guidelines prepared by the state noise officer were issued in 1987 and are contained in the "General Plan Guidelines" issued by the Governor's Office of Planning and Research in 1990. The standards contained in the city noise ordinance are consistent with the noise officer's 1987 guidelines.

General Plan Consistency

State general plan law requires that all elements and all parts of a general plan be integrated, internally consistent and compatible (Government Code Section 65300.5). The Framework element of the city's general plan provides broad policies and guidelines for preparation of the other elements of the general plan. It identifies the noise element as one of twelve general plan elements but contains no other noise element policies or guidelines. The subject noise element references and is consistent with general plan community plans that contain noise management issues or programs. In addition, it references and is consistent with local airport plans, as required by California Government Code Section 65302.3.

Implementation

General plan law requires that a general plan be meaningfully implemented (Government Code Section 65400). The noise element is implemented by a variety of city regulations. In addition, the airport plans and individual community plans contain implementation features that address noise related land use issues.

Element Scope

The subject element updates and replaces the city's 1975 noise plan. It identifies new significant potential noise sources, addresses the issue of vibration relative to rail and identifies historic and current significant noise management approaches.

Issues Not Addressed

Occupational noise is not addressed. State and federal governments, not cities, have jurisdiction over standards and enforcement relative to occupational health, including noise.

The goals, standards, objectives, policies and programs presented herein are within the jurisdiction of the City of Los Angeles. Programs outside the authority of the city are not listed. For example, rail, state highway and freeway and aspects of airports that are unrelated to land use generally are under federal and/or state, not municipal authority. The roles and relationship of various authorities are discussed in Chapter II, providing a context within which the element and can be better understood.

Chapter II — Existing Conditions, Noise Impact Issues and Noise Management History

Introduction

Noise is unwanted sound and, therefore, is an important factor in the quality of urban life. There are two main types of sound: ambient and intrusive. Ambient sound is the background sound that aggregates all sound emissions, far and near, as received within a particular locale. It is the "given" level of sound to which we are accustomed in our residential, work or other particular environments; the generally not unpleasant "hum" of sound about us. Intrusive sound is greater than the ambient sound level; it is perceived as "noise." It may be intermittent (siren, barking dog) or continuous (air conditioner equipment). Abatement of intrusive noise generally involves one or more of the following: reducing the noise at the source (turning down the volume), isolating the noise source by establishing buffer land uses (industrial uses around airports), blocking noise (walls, berms), or protecting the receiver (industrial ear protectors, home insulation).

The decibel (dB) is the standard unit used for measuring noise. To more closely approximate noise as it is received by the human ear at different frequencies, the decibel scale is 'A-weighted' (dBA). 'A' measures the level of sound the way sound is received by the human ear. The range of human hearing is approximately 3 to 140 dBA, with 110 dBA considered intolerable or painful to the human ear. Continuous levels of 70 dBA or higher can cause loss of hearing. A comparison of types of commonly experienced environmental noise is provided in Exhibit H. The goal of all noise mitigation is to reduce or manage intrusive noise so as to achieve or maintain healthful ambient sound levels.

Since the adoption of the city's noise plan in 1975, significant noise management has taken place, largely due to public demand for noise abatement. Watershed legislation was the National Environmental Policy Act of 1969 (NEPA) which required all significant potential environmental impacts to be evaluated and mitigation measures determined prior to issuance of land development permits. NEPA led to the establishment of state and local environmental laws, including the 1971 California Environmental Quality Act (CEQA) and requirements that general plans contain noise elements and that cities adopt local noise ordinances. Public concerns about noise led to establishment of national transportation policies and programs, including noise standards for aircraft. NEPA and CEQA require environmental assessment and imposition of noise mitigation measures for new development projects, including transportation projects. Millions of dollars in public funds have been expended to reduce impacts of noise from existing airports and freeways, as well as for research and development of new design, noise suppression technology and regulations for mitigating noise from transportation and other sources.

Transportation systems are a primary source of urban noise. Management of noise from the most significant of these sources (aircraft, trains and freeways) generally has been preempted by federal and state authority. Primary municipal authority is regulation of land use. The City of Los Angeles has established standards for ambient noise levels that are correlated with land use zoning classifications. The standards are contained in the city's noise ordinance, Los Angeles Municipal Code (LAMC) Section 111 et seq. Compliance is achieved by a variety of means, including barriers, buffers, separation of incompatible uses and reduction of sound at its source.

The first section of this chapter discusses ordinances and other measures for regulating noise sources and mitigating noise impacts within the city. The other sections discuss the evolution of noise impacts and management measures associated with local transportation systems. The Appendix provides an historical perspective of the evolution of transportation systems and associated noise issues.

Building Sound Insulation and Nuisance Noise

Several city, state and federal regulations address sound insulation and nuisance noise. These range from use permit limitations and building construction provisions to nuisance abatement. This section summarizes the city's major noise management procedures and regulations.

California And Federal Legislation

CALIFORNIA NOISE INSULATION STANDARDS

The California Noise Insulation Standards of 1988 (California Building Code Title 24, Section 3501 et seq.) establishes inter-dwelling (between units in a building) and exterior sound transmission control measures. It requires that interior noise levels from the exterior source be reduced to 45 decibels (dB) or less in any habitable room of a multi-residential use facility, e.g., hotels, motels, dormitories, long-term care facilities, and apartment houses and other dwellings, except detached single-family dwellings. Measurements are based on a day/night average sound level (Ldn) or the community noise equivalent level (CNEL). Both Ldn and CNEL utilize averaging, not single event exposure. Therefore, the passing of a single train during a day would be averaged over the 24-hour period, resulting in negligible exposure.

The significant noise generation sources identified by the Noise Insulation Standards are: highways, country roads, city streets, railroads, rapid transit lines, airports and industrial areas. Noise-sensitive uses planned in proximity to such uses are required to be designed to prevent intrusion of significant exterior noise. The applicant must submit an acoustical analysis, prepared by or under the supervision of an acoustical engineer, indicating that a 45 dB or less interior noise level will be achieved within each proposed habitable room. Interior allowable noise levels can be achieved by reorienting the project on the site, providing setbacks, shielding (e.g., buffer walls or berms) the receptor from the noise source, incorporating sound insulation into the building construction, requiring that windows be unopenable or remain closed and air conditioning be provided, and any other methods.

To help permit processors assess whether special acoustical analysis and mitigation is needed, local jurisdictions are to identify areas of 60 dB or greater, averaged over a 24-hour period. The noise element of the general plan is to be used in helping to identify sites with noise levels of 60 dB or greater. In addition, the state general plan law (Government Code Section 65302 et seq.) calls for noise elements to "recognize" the state health department noise guidelines and to quantify, "to the extent practicable, as determined by the legislative body, current and projected noise levels" from transportation and other significant sources. This element identifies noise levels of 65 dB or greater with reference to airports.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The National Environmental Policy Act of 1969 (NEPA) requires that an environmental impact statement (EIS) be prepared for federal or federally funded (including loans) projects. The EIS identifies potential impacts of the project and evaluates feasible alternatives for mitigating the impacts. The impacts and mitigation alternatives are taken into account by decision makers. However, mitigation of impacts is not required by NEPA.

FEDERAL NOISE CONTROL ACT

The Noise Control Act of 1972 (42 United States Code 4901 et seq.) gives the Environmental Protection Agency (EPA) authority to publish regulations and standards relative to transportation, construction and electrical equipment, motors, engines, etc. It reaffirms the Federal Aviation Administration and EPA preemption of state and local control over aircraft noise. It requires that the FAA to consult with the EPA prior to promulgating or amending noise regulations.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The California Environmental Quality Act of 1970 (CEQA) was patterned in part after NEPA. It mandates that mitigation measures be part of a discretionary land use development permit approval, including building permits, unless a project is deemed exempt from environmental assessment procedures. CEQA is intended to protect the natural environment from avoidable damage, including from noise impacts, by requiring that proposed land development projects mitigate identified significant potential impacts. Where an environmental impact report is required, the decision maker may issue a permit even if the potential impact cannot be reduced to a level of insignificance, providing the decision maker finds that project benefits outweigh the unavoidable impacts. Impacts on the environment (or known future environment) also are considered, including noise from exterior sources on project users or residents. Where federal agencies or funding is involved, both NEPA and CEQA apply.

Conservation of nonrenewable energy resources is a consideration under NEPA and CEQA. Mitigation measures typically include building insulation to reduce heat gain and loss so as to reduce the amount of energy needed to heat or cool buildings. Even without CEQA mitigation requirements, most new construction includes energy insulation features, combined with air conditioning and heating systems, to make projects more energy efficient. Insulation reduces exterior-to-interior noise impacts.

City Noise Ordinances

The City of Los Angeles has numerous ordinances and enforcement practices that apply to intrusive noise and that guide new construction. These are summarized in the following sections.

The city's comprehensive noise ordinance (LAMC Section 111 et seq.) establishes sound measurement and criteria, minimum ambient noise levels for different land use zoning classifications, sound emission levels for specific uses (radios, television sets, vehicle repairs and amplified equipment, etc.), hours of operation for certain uses (construction activity, rubbish collection, etc.), standards for determining noise deemed a disturbance of the peace, and legal remedies for violations. Its ambient noise standards are consistent with current state and federal noise standards. They are correlated with land use zoning classifications in order to guide the measurement of intrusive noise that results in intermittent (periodic) or extended impacts on a geographically specific site. The intent is to maintain identified ambient noise levels and to limit, mitigate, or eliminate intrusive noise that exceeds the ambient noise levels within the zones specified. The standards guide building construction and equipment installation, equipment maintenance and nuisance noise enforcement. The city council initially adopted the ordinance in 1973 and periodically amends it to reflect current issues and noise management approaches.

As a general rule, the city's building and safety department enforces noise ordinance provisions relative to equipment (air conditioning units, swimming pool pumps, car wash facilities and other machinery) and the police department enforces provisions relative to noise generated by people (parties, amplified sound, etc.). The police department also is authorized to enforce the mechanical equipment and other provisions of the noise ordinance, relative to nuisance noise complaints.

Zoning And Land Use

The city's planning and zoning code (LAMC Section 11 et seq.) contains a variety of provisions that directly or indirectly mitigate noise impacts on, or impacts that are associated with, different types of land uses. Permit processing is guided by the general plan, especially the community plans which together are the city's land use element. The plans designate appropriate land use (zoning) classifications. Noise element programs (Chapters III and IV) outline considerations that may be taken into account during community plan preparation and planning permit processing. The noise ordinance guides land use considerations by setting maximum ambient noise levels for specific zones.

Los Angeles was the first jurisdiction in the nation to establish zoning by land use category (1904 and 1908). Under the guidance of the city's first planning director, Gordon Whitnall, the zoning was changed (1930) to create the standardized classifications that are used today. These include regulation of height, area (including yards), density and parking. The combination of the various regulations contributes significantly to reduction of potential noise impacts throughout the city.

The most basic noise management measure is traditional zoning that separates agricultural, residential, commercial and industrial uses. Another is the front yard set back that not only adds attractiveness to a neighborhood but serves to distance homes from adjacent street noise. Side and rear yards also serve as noise buffers. Through zone change and subdivision processes, site or use specific conditions can be imposed to assure compatibility of land use and to protect users of a site from impacts from adjacent uses.

The commercial (C zones) and manufacturing (M zones) provisions of the code contain use specific requirements intended to reduce noise, odor and other impacts on adjacent uses. These include prohibiting of certain commercial and industrial uses within so many feet of residential or less restrictive uses or zones, requiring increased setbacks from residential uses, limiting hours of operation, containing uses wholly within an enclosed buildings, requiring sound walls, prohibiting openings that face residential uses and prohibiting audibility of noise outside a facility.

Conditional use and use variance permits (LAMC Sections 12.24, 12.27, 12.28 and 12.29) allow the planning commission, zoning administrators and, on appeal, board of zoning appeals and city council to assess potential use impacts and impose conditions to mitigate noise impacts. Conditional use or use variance permits are required in certain zones for schools, churches, homeless shelters, municipal facilities, correctional institutions, alcohol sales, golf courses, parks, rubbish disposal projects, mixed use development, stadia, automobile service and repair facilities, certain types of parking, joint living and work quarters, mini-malls, hotels and motels, drive-thru food establishments, nightclubs, keeping of certain types of animals and other unique, potentially noise intrusive uses. In most cases the uses are allowed by right in less restrictive zones. Some are prohibited entirely in residential zones. The permitting procedures include site investigations, notice to neighbors and hearings to assist decision makers in determining if the use should be permitted and, if permitted, allow imposition of appropriate conditions of approval. Typical conditions include specific site design, setbacks, use limitations on all or parts of the site, walls and hours of operation so as to minimize noise and other impacts. Violation of conditions can result in permit revocation.

Supplemental use districts or "overlay zones" (LAMC Section 13) for such uses as oil drilling, animal slaughter, surface mining and equine keeping typically contain construction, installation and operational provisions that are intended to minimize or eliminate noise impacts on adjacent uses. For example, the surface mining provisions prohibit establishment of a surface mining district closer than 100 feet from a residential zone, unless a landscaped buffer berm is provided, and limit mining activity hours. Oil drilling district noise mitigation provisions include drilling operation term limits, drilling equipment noise guidelines and a requirement that oil production activities be inaudible outside the enclosed operations structure. In some cases, the commission and city council are authorized to impose additional conditions to further mitigate potential impacts associated with a particular supplemental use.

Other code provisions allow a zoning administrator to conditionally permit, without public hearing, particular uses allowed in a zone, provided that the uses meet certain criteria, such as provision of additional parking or walls. The additional parking requirements for such uses as health clubs, restaurants, trade schools and auditoriums in part are to minimize noise impacts, especially in the evening and at night on residential neighborhoods. Potential impacts include door slamming and people talking as they walk to their cars.

The authority to revoke, discontinue a use or to impose nuisance abatement conditions on established uses has become a major tool for reducing nuisance noise. Use permits may be revoked by the commission, zoning administrator, or, on appeal, by the board of zoning appeals or city council for nuisance (including disturbance of the peace) or noncompliance with conditions of a conditional permit. In addition, a zoning administrator may discontinue or, on appeal, the board or council, may impose operational conditions on existing commercial or industrial uses that are deemed a nuisance, including for excessive noise or disturbance of the peace (LAMC Section 12.21-A.15). These two procedures have been increasingly utilized in recent years to encourage owners to operate activities on their properties in a manner that is compatible with adjacent uses, particularly residential uses.

Building Sound Insulation Regulations

With the development of inexpensive insulation materials, air conditioning and improved noise reduction techniques it became economically feasible to design buildings that provide effective insulation from outside noise as well as from weather conditions. It has been estimated that standard insulation, efficiently sealing windows and other energy conservation measures reduce exterior-to-interior noise by approximately 15 decibels. Such a reduction generally is adequate to reduce interior noise from outside sources, including street noise, to an acceptable level. Building setbacks and orientation also reduce noise impacts.

Sound transmission control requirements were added to the national Uniform Building Code (UBC) in 1992. The UBC standards were incorporated into the city's building code (LAMC Section 91) in 1994. They are consistent with state noise insulation standards (California Building Code Title 24, Section 3501 et seq.), requiring that intrusive noise not exceed 45 dB in any habitable room. As with state standards, the provisions do not apply to detached single-family residential uses. The city's airport noise abatement programs apply the standard to detached single-family dwellings.

The city's building code guides building construction. The insulation provisions are intended to mitigate interior noise from outside sources, as well as sound between structural units. The provisions vary according to the intended use of the building, e.g., residential, commercial, industrial. The regulations are intended to achieve a maximum interior sound level equal to or less than the ambient noise level standard for a particular zone, as set forth in the city's noise ordinance.

Nuisance Noise

Nuisance noise is intermittent noise that exceeds the city's ambient noise levels or is otherwise deemed a nuisance. It is addressed primarily through enforcement of municipal code provisions described in this section.

BUILDING MECHANICAL EQUIPMENT

In addition to standards and regulations contained in the noise ordinance, mechanical equipment noise (e.g., roof top air conditioners) is regulated by the building code (LAMC Section 91). The city's building and safety department administers and enforces the code as it applies to noise relative to both installation and maintenance of equipment.

DISTURBING THE PEACE

In addition to the noise ordinance, Los Angeles Municipal Code Section 41 contains several disturbance of the peace provisions that are enforced by the police department. These include regulation of noise from theaters, construction activities, devices used to emit music, miniature golf courses (including unduly loud talking) and "loud and raucous" noise. The latter probably is the most commonly requested noise enforcement provision because it relates to general public nuisance, e.g., loud parties. California Penal Code Section 415 also authorizes local police departments to enforce noise relative to public nuisances, including intentional noise making.

The street sales (vendor) ordinance (LAMC Section 42.00) is enforced by the police department. It prohibits "loud, boisterous, raucous, offensive or insulting" activity associated with the sale of goods or services, including solicitation for sight-seeing tours.

CITY PARK FACILITIES

Los Angeles Municipal Code Section 63.44 regulates use of recreation and parks department facilities. Park rangers and other recreation and parks department staff enforce regulations that include restrictions on use of sound amplification systems within parks and regulation of concert uses of park facilities. In addition, the recreation and parks department designs its facilities, locates activities within park sites, enforces park use hours and has operational policies for individual sites that are intended to minimize potential noise and activity impacts on surrounding neighborhoods.

BARKING DOGS

The animal regulation department administers the barking dog noise ordinance (LAMC Section 53.63). It investigates written complaints and issues warning notices to owners of properties on which barking dogs are located. If the problem continues, a hearing is set before an animal regulation department hearing officer who considers testimony and attempts to resolve the problem. Dog licenses can be revoked and the owner required to remove the animal from the site if the problem continues.

COMMERCIAL VEHICLES

Engines of large commercial vehicles (six tires, gross weight of 10,000 pounds or more when empty) are not permitted to be operated at night in any manner deemed disturbing to residents of dwelling units, including residential hotels (LAMC Section 80.36.3). The prohibition is enforced by the police department and applies to parked as well as moving vehicles.

EMERGENCY VEHICLES

It is operational policy of the city's fire and police departments to limit use of sirens and horns, as practical, when emergency vehicles travel past noise sensitive uses or through noise sensitive areas.

Automotive Vehicles

The noise most commonly experienced throughout the city is produced by automotive vehicles (cars, trucks, buses, motorcycles). Traffic moving along streets and freeways produces a sound level that remains relatively constant and is part of the city's minimum ambient noise level. Vehicular noise varies with the volume, speed and type of traffic. Slower traffic produces less noise than fast moving traffic. Trucks typically generate more noise than cars. Infrequent or intermittent noise also is associated with vehicles, including sirens, vehicle alarms, slamming of doors, garbage and construction vehicle activity and honking of horns. These noises add to urban noise and are regulated by a variety of agencies.

Management of automotive vehicle and associated noise is within the jurisdiction of federal, state and/ or local authorities. This section reviews the jurisdictional authority of vehicle noise management relative to the City of Los Angeles.

Vehicle Emissions

Vehicle noise emission standards are promulgated by the federal Environmental Protection Agency (Title 49, Code of Federal Regulations Parts 190 et seq.). The Federal Highway Administration (FHA) of the Department of Transportation has authority to enforce noise standards pertaining to licensed interstate vehicles with a gross weight of over 10,000 pounds, providing the enforcement authority has been authorized "curbing" (i.e., police) authority. The FHA in the Los Angeles region (headquarters in Riverside County), does not have curbing authority. State and local jurisdictions may adopt the Environmental Protection Agency regulations without amendment in order to enforce the regulations. However many cities, including Los Angeles, have not done so because noise emissions, as described previously and below, can be enforced locally as nuisance noise under other authorities.

Street Noise

Occupants of buildings are protected from traffic noise and vehicle related noise by a number of local land use, building construction and noise mitigation measures. Separation of land uses through general plan and zoning classifications traditionally has provided one of the best means of reducing noise impacts. Early land use practices and zoning designated commercial and industrial uses along highway corridors. This provided buffer uses between highways and residential areas. Construction of freeways that cut through existing communities, introduced traffic noise impacts into previously protected neighborhoods.

Modern building construction noise insulation and air filtration (air conditioning) standards contained in the city's building code generally are sufficient to mitigate noise impacts associated with city streets and ambient noise. The code also requires that outside factors, such as nearness to freeways or highways, be assessed in establishing noise insulation requirements for a particular building. The city's noise ordinance (Municipal Code Section 111 et seq.) and noise element provide minimum ambient noise levels that are correlated with land use zoning classifications. The ordinance regulates excessive noise generated by individual vehicles and incidents including noise from radios, horns, alarms, sound amplification equipment and other vehicle equipment. It also regulates hours of construction equipment operation and rubbish truck collection. These sections of the ordinance are enforced by the police department. Other noise regulations and noise mitigation procedures are contained in the municipal code and environmental review guidelines. The slower a vehicle travels, the less noise it generates. Therefore, speed limits, especially on local streets, reduce traffic noise impacts on adjacent uses. Together, the zoning and other statutes and provisions establish the city's standards and guidelines for vehicle related noise management.

The California Department of Motor Vehicles has jurisdiction over vehicle noise emissions within California. California Motor Vehicle Code Section 23130 establishes vehicle noise limits for moving vehicles, including interstate trucks that operate on streets, highways and freeways within the state, and regulates noise impacts on adjacent land uses. The provisions are enforced by the California Highway Patrol and local law enforcement agencies, such as city police.

Trucks tend to generate greater noise than cars. Certain types of trucks are prohibited by the state from traveling on certain state highways due to safety considerations. Freeways serve as the primary truck freight haul routes. Within the city, trucks are allowed to travel on streets except where prohibited by state regulations or by weight or height limits, such as on bridges, in tunnels and on some mountain or substandard streets. Because trucks can travel on most streets and highways in Los Angeles, truck noise can impact all areas of the city. Areas especially impacted tend to be those that are located adjacent to industrial and warehouse sites. Truck traffic impacts, including noise, are such a problem in the port community of Wilmington that the Wilmington-Harbor City community plan (adopted 1989) recommends that certain major highways within the community be designated as truck routes and that trucks be discouraged from using other streets.

Freeway Noise

By the late 1960s, freeways were a major source of noise throughout the state. Entire communities were impacted, especially at night, by the steady hum or roar generated by fast moving traffic. In 1973-74 state and federal agencies, in response to the 1969 National Environmental Policy Act, adopted formal policies and criteria for construction of noise barriers to mitigate impacts. In California, the responsibility for freeway and highway noise management was assumed by the California Department of Transportation (Caltrans). As a part of the nationwide highway noise abatement effort, Caltrans instituted a noise management program to reduce impacts from existing and new freeways on residential, school and other noise sensitive uses.

The program utilized noise barriers (sound walls) and/or building modification methods. The noise barrier program was the most publicly visible of the methods used. By 1996 over 150 miles of the nearly 210 miles of walls nationwide had been constructed in California, including more than 115 miles of walls in Los Angeles County. Sound walls typically are eight to fourteen feet in height and are installed between the freeway and adjacent homes or other impacted uses.

Where sound walls alone cannot reduce interior sound to acceptable levels, buildings sometimes are modified by adding or improving air conditioning, acoustical glass and/or other noise insulation features. Such abatement measures primarily are applied to schools. By 1996, the retrofitting program had been almost entirely completed for impacted schools located within the city's boundaries.

In addition, new freeways, such as the Glenn Anderson Interstate 105 Freeway (formerly called the Century Freeway), which opened in 1993, are constructed with noise mitigation features. These include walls and earth berms, freeway design (e.g., locating freeways in trenches) and conversion of some adjacent, potentially impacted properties to freeway compatible uses. The noise mitigation measures for both existing and new freeways has contributed significantly to reduction of ambient urban noise and has reduced direct noise impacts on adjacent uses and neighborhoods.

Rail Systems

Noise from rail systems is localized, impacting immediately adjacent communities. This section reviews noise and vibration management relative to rail systems within the city.

Railroads

JURISDICTIONAL AUTHORITY

The city cannot regulate transcontinental or intrastate trains operating within its borders. It has the authority to regulate land use as long as its determinations do not conflict with or infringe upon state or federal authority. Management of rail system related noise is within the jurisdiction of federal and/or state authorities. For example, the Federal Transit Administration (FTA) requires that all rail systems that receive federal funding must be constructed and operated in accordance with its specifications; the Federal Rail Administration (FRA) sets and enforces safety standards, including regulation of noise emissions within locomotive cabs, and requiring that train horns be a minimum of 96 dBA at 100 feet in front of a moving train; the National Environmental Policy Act (NEPA) requires federal agencies to incorporate environmental protection and enhancement measures into projects that are financed in whole or in part by federal funds (including loans). The FTA has promulgated noise and vibration impact assessment and mitigation guidelines for use by rail authorities for preparation of environmental impact reports for federally funded rail projects. Rail operations in Los Angeles are centered around Union Station and the east Los Angeles rail yards.

NOISE ISSUES

Union Station is located in the Central City North community of Los Angeles, adjacent to El Pueblo de Los Angeles Historic Monument. The train yard adjacent to the station bounds New Chinatown and extends to Taylor Yard, which is adjacent to the communities of Glassell Park and Cypress Park (Northeast community plan area). The station and yards serve both passenger and freight trains. Noise from Union Station and the adjacent yards largely is buffered from residential uses by manufacturing, commercial, office and park (Elysian Park) uses. In the early 1990s use of the yards by Metrolink trains generated public concern. An advisory committee was formed. The committee prepared a community compatibility study that recommended noise management measures.

Noise from freight train activities associated with industrial and warehouse uses and around the Los Angeles-Long Beach harbors generally is buffered from adjacent uses by surrounding industrial, warehouse and commercial uses. Overall improvement in train equipment and servicing methods has contributed significantly to reduction in noise impacts. However, some residential neighborhoods near active rail lines are impacted by noise from intermittent passing trains and associated rail and truck activities.

ALAMEDA CORRIDOR PROJECT

Construction of the six-lane, 20-mile project began in 1997. The corridor extends from the ports of Los Angeles and Long Beach, though south and central Los Angeles to rail yards in the cities of Vernon and Commerce, interconnecting rail lines with regional truck systems. It is intended to increase the efficiency of movement of freight and expand rail capacity within the Southern California region. This is to accommodate the expected tripling of Pacific rim (Asia, North and South America and other Pacific nations) trade over the next quarter of a century. The project will consolidate some 90 miles of railroad tracks and eliminate approximately 200 at-grade street crossings. A 30-foot deep trench paralleling ten miles of Alameda Street is planned from the rail yards near downtown Los Angeles to the Artesia Freeway (Route 91) in the city of Compton. Consolidation of rail lines will reduce noise impacts by reducing the number of freight haul lines and by providing buffering of new lines, thereby eliminating or significantly reducing noise associated with freight trains.

New Rail Systems

TRAIN AND LIGHT RAIL NOISE

The Southern California Regional Rail Authority (SCRRA) is a quasi-state agency that operates the Metrolink commuter train system. Since it is regulated by federal interstate commerce laws, it is exempt from local regulations. If a train system utilizes existing rail rights-of-way, it is deemed categorically exempt under the California Environmental Quality Act (CEQA) environmental assessment and mitigation procedures. Metrolink trains utilize existing rail corridors, station areas and rail yards. Therefore its system generally have been deemed categorically exempt under CEQA. However, SCRRA voluntarily attempts to abide by local noise regulations and responds to noise complaints.

Other new rail systems are under the authority of the Los Angeles County Metropolitan Transportation Authority (MTA). The MTA serves commuter and short haul public transit passengers within the greater Los Angeles metropolitan area. As a quasi-state agency it is exempt from city noise laws. However, the MTA attempts to comply with the local noise regulations and to achieve the federal standard of 85 dBA within 50 feet of a habitable dwelling. The MTA uses comprehensive noise and vibration criteria that varies according to land use. This has enabled it, in some neighborhoods, to achieve even more restrictive sound emission levels than are set forth in the city ordinances and/or federal guidelines.

Before rail lines are constructed or new systems installed, significant potential noise and vibration must be identified and mitigation measures assured in accordance with federal and state environmental impact regulations (NEPA and CEQA). New rail systems and equipment are designed to comply with noise standards established by the FTA, the American Association of Railroads and the Public Utilities Commission relative to car, engine and track design, horns, auxiliary equipment, train operation, sound of wheels at curves, crossing signal bells and other system associated noise. Significant noise mitigation has been achieved by both MTA and SCRRA through replacement of existing rails and wood ties or construction of new tracks with continuous or seamless (not jointed) welded rails. Antilock braking systems prevent 'flat spots' on train wheels which, in the past, caused them to bump and clank whenever the flat spot and rail came into contact. New car and wheel system design and noise dampening devices also reduce external noise. These and other features have eliminated the vibration, noisy "click-clack" sound and other noises commonly associated with traditional railways.

The MTA Blue Line and Metrolink lines generally utilize existing rights-of-way that bound existing industrial, institutional, commercial, open space and other nonresidential areas, thus minimizing new noise impacts on residential uses. Securing of rail rights-of-way has enabled the MTA to, in some cases, create open space, park and recreational buffers along rail lines, further reducing noise impacts on adjacent residential areas. Noise impacts are virtually nonexistent for the MTA's Green Line light rail system because it is located almost entirely within the Glenn Anderson Freeway.

New development on properties adjacent to rail lines must comply with the city's building code insulation provisions. Along with zoning setbacks, building insulation generally assures adequate noise mitigation relative to adjacent rail lines.

The MTA and SCRRA have attempted to be responsive to neighbors. After the Blue Line began to operate between downtown Los Angeles and Long Beach, residents in the Long Beach area complained to the MTA of the sound of wheels on rails at one section of the line. People also complained about the loudness of the train horns. These complaints prompted the MTA to hire a noise consultant to investigate. Based on the consultant's recommendation, the MTA installed quieter horns, retrofitted cars with additional dampening fixtures and materials, modified the car design, ground the rails and constructed a sound barrier at the noise complaint site, thereby achieving lower noise levels. The redesign of the cars and other modifications benefitted properties along the entire Blue Line route and are being applied to other MTA light rail systems. Similar complaints about the loudness of Metrolink horns resulted relocation of the horns from the roofs to the undercarriages of the trains, significantly reducing noise impacts.

Partially in response to community concerns, the planned Metrolink maintenance facility at Taylor Yard (Glassell Park and Cypress Park in northeast Los Angeles) was designed to reduce noise impacts. New technology and facility design enabled entire trains to be serviced without having to separate cars or locomotives. This virtually eliminated noise from separation of air hoses and coupling and uncoupling of cars.

Nevertheless, the community experienced noise impacts due to increased activity in the yards. This resulted in neighborhood demands for mitigation of rail yard noise and for development of more compatible uses along the eastern portion of the property. A study group was formed in the early 1990s. It was comprised of the representatives of the American Institute of Architects, community groups, property owners and operators, public agencies, elected officials and other entities who evaluated the potential use of parcels adjacent to and within the eastern portion of Taylor Yard. The team recommended community oriented commercial and other neighborhood compatible development of some parcels along the north side of Taylor Yard. The recommendations were used in conjunction with the revision of the Northeast community plan, which was underway in 1998.

SUBWAY NOISE AND VIBRATION

MTA's Metro Rail Red Line subway is partially completed. A single subway line operates between Union Station and Western Avenue (in the Wilshire community). Other lines are under construction, including a branch to the San Fernando Valley via Vermont Avenue and Hollywood Boulevard (Hollywood community). Because it is an enclosed underground system, noise impact concerns have been minimal, except relative to construction activities. Subway construction was granted a variance from the city's noise ordinance construction hours to enable tunneling 24 hours a day, in accordance with conditions of the variance. Any construction activities must otherwise comply with the noise ordinance.

In the Hollywood area the broadcast industry raised concerns about vibration and noise, especially during construction, relative to the proposed tunnels below television, radio and recording studios. This resulted in the hiring by the MTA of a consultant to evaluate potential noise and vibration impacts and to propose mitigation measures as a supplement to the environmental impact report for that segment of the system. The measures issued in 1989 included some subway realignment. Depth of the subway tunnels, track engineering and vibration dampening measures are expected to reduce or eliminate impacts of vehicle generated vibration on uses located above the tunnels when the system becomes operational.

Tunneling under the community of North Hollywood began in 1996 and resulted unanticipated problems, including construction noise and vibration impacts on sensitive uses, e.g., recording studios. The MTA reanalyzed its planned train operations and environmental conditions. In response to its findings, the MTA adjusted its noise and vibration criteria, modified the track supports and offered to modify some buildings that contained sensitive uses. The measures are intended to eliminate any significant above ground noise and any vibration impacts, as measured relative to the high ambient noise levels associated with the area.

Aircraft and Airports

Airport and heliport noise is localized, affecting communities immediately adjacent to the facilities. However, the intensity and intrusiveness of jet aircraft noise has resulted in such noise becoming a major local concern. The primary issue raised during the hearings and public discussion relative to the city's first Noise Plan (1975) was the issue of aircraft noise, especially noise impacts on communities adjacent to the Los Angeles International Airport (LAX). Issues also were raised in 1975 about noise associated with heliports and the Hollywood-Burbank Airport (now called the Burbank-Glendale-Pasadena Airport). In the interim since the 1975 plan was adopted many changes have taken place that have enabled authorities to better address noise issues relating to airports. However airport noise remains the primary unresolved noise issue facing the city. This section reviews noise management of aircraft and airports (including heliports) within the city. It addresses this issue relative to the five airports that are located within or immediately adjacent to the City of Los Angeles: LAX, Van Nuys, Burbank, Santa Monica and Whiteman airports.

Jurisdictional Authority

Management of aircraft and airport related noise is within the jurisdiction of federal, state and/or local authorities.

FEDERAL

Under federal statutes, safety and national defense have primacy over noise abatement. The Federal Aviation Act of 1958 vested the Federal Aviation Administration (FAA) with exclusive authority over air safety, management and control of airspace and movement of aircraft through airspace. Local jurisdictions and local airport authorities have no direct control over airspace or air traffic control, which are safety issues under the authority of the FAA. The FAA determines landing and departure routes for public and private airports and heliports and sets construction and operational standards to assure safety. Federal authority preempts state and local authority over aircraft operations, including aircraft noise emissions, aircraft flight patterns and airport use.

STATE

Enforcement in California of federal airport regulations is delegated to the California Department of Transportation (Caltrans) and is administered by the Caltrans Aeronautics Program (CAP). CAP sets noise guidelines for local airports. In addition, the state is responsible for regulation of airport related land use and has established noise insulation standards. It has delegated authority over land use regulation largely to local governments.

LOCAL

Land use compatibility with airport uses is largely within the authority of local jurisdictions, as long as actions do not conflict with or infringe upon federal and state authority. Local governments cannot regulate flight hours, flight patterns or operational procedures. Where the local government is also the airport proprietor, it may adopt noise abatement measures affecting aircraft operations only with the express authorization of the FAA. The city has mapped airport hazard areas around the Van Nuys (VNY) and LAX airports and established procedures to regulate land development consistent with federal safety regulations (LAMC Section 12.50). Land use within flight path hazard areas, both within and outside of airport boundaries, must comply with height, glare and other safety considerations established by the FAA.

AIRPORT LAND USE COMMISSION

State law (Public Utilities Code Section 21670 et seq.) requires creation of county airport land use commissions (ALUCs). The ALUCs advise local jurisdictions concerning coordination of airport and land use planning for adjacent geographic areas in order to achieve orderly expansion of airports, reduction of community exposure to excessive noise and elimination of safety hazards associated with airport operations. The ALUCs prepare and adopt comprehensive airport land use plans (CLUPs) that "provide for the orderly growth of each public airport and the area surrounding the airport" within the ALUC's jurisdiction and protect the welfare of the surrounding residents and general public. The plans are based upon airport layout plans, as accepted by the CAP, or locally adopted airport master plans. The ALUC plans anticipate airport growth for a period of 20 years.

An ALUC reviews those sections of a city's general plan (e.g. community plans and airport plans), as well as proposed plan amendments, specific plan ordinances and development permit requests that pertain to airport hazard and noise impact areas in order to determine consistency with the CLUP. Local authorities may overrule an ALUC's determination.

State law provides for the Los Angeles County Regional Planning Commission to act as the ALUC for Los Angeles County. The county's 1991 CLUP contains a CNEL of 65 or 70 dB noise exposure contours for each airport in the county. The CLUP "Land Use Compatibility Table" provides guidelines for establishment of particular uses in areas exposed to a CNEL of 60 or more dB noise impacts. The City of Los Angeles noise ordinance emission standards are consistent with the 1991 CLUP guidelines. Revision of the county's CLUP was initiated in 1997.

CITY OF LOS ANGELES

Pursuant to the city's planning and zoning code, aircraft landing fields are allowed by right in the M2 (light industrial) and M3 (heavy industrial) zones. In all other zones they are authorized by conditional use permit issued by the city planning commission (LAMC Section 12.24.B.1) or, on appeal, by the city council. Most heliports are not located in M2 or M3 zones. The three airports within the city boundaries (LAX, VNY and Whiteman) generally are zoned in the M2, M3 or PF (public facilities) zones.

In 1998 Los Angeles World Airports, the city's airport authority, was preparing master plans for LAX and VNY. The plans are limited by the FAA to land use considerations, including intensity of development. However, changes in airport land use must be approved by the FAA. The city is prohibited from closing an airport or reducing the intensity or type of aircraft activity without FAA approval.

Because Whiteman Airport is a county facility, it is legally exempt from municipal zoning laws. However, as a matter of policy, the county attempts to comply with city zoning laws and land use procedures.

SUMMARY

In general: federal authority is over airspace and safety, including aircraft noise standards; state authority is over airports, including airport noise standards, and enforcement of airport safety (except where preempted by federal authority); and local authority is over operations and land use (except where preempted by federal and state authority).

Regulations And Programs

A variety of regulations and programs guide and assist local airport authorities in achieving federal and state noise standards.

ENVIRONMENTAL ASSESSMENT

The 1969 National Environmental Policy Act (NEPA) and 1970 California Environmental Quality Act (CEQA) require that environmental impacts, including noise impacts, be evaluated. NEPA requires that mitigation measures be considered in project implementation. CEQA requires that mitigation measures be incorporated into the project to avoid or minimize significant impacts to the maximum extent feasible. Proposed new airports, including heliports, are required to submit environmental statements as a part of their permit applications. Master plans, zone changes, reconfiguration of airport uses (including runways) or other significant projects are discretionary actions that trigger the environmental assessment and mitigation procedures. All official environmental review documents are subject to public review and comment.

FEDERAL AVIATION REGULATIONS PART 36 (FAR PART 36)

Congress in 1968 granted the FAA authority to implement and monitor airspace regulations, including regulation of aircraft noise. The FAA in 1969 promulgated "14 Code of Federal Aviation Regulations Part 36" (FAR Part 36) establishing maximum sound emission levels for new aircraft and phasing out of noisier aircraft. Subsequent amendments classified fixed-wing aircraft into three noise impact categories, with Stage 1 applying to the oldest and noisiest aircraft engines and Stage 3 to the newest and quietest engines. New fixed-wing aircraft built in the United States were required to comply with the Stage 3 standards. After January 1, 1986 commercial fixed-wing aircraft were to comply with the Stage 2 standards. Stage 1 aircraft were phased out of use at civilian airports by 1990.

To comply with FAR Part 36, all new commercial passenger airplanes are designed to reduce engine noise to a minimum feasible level. Lighter and stronger composite materials and more streamlined design have reduced needed engine power, thereby reducing engine noise emissions. New technological advances are anticipated to further reduce fixed-wing aircraft engine noise in the future.

CALIFORNIA AIRPORT NOISE STANDARDS

California Airport Noise Standards (California Code of Regulations Title 21, Section 5000 et seq.) were adopted in 1970. They are administered by the Caltrans Aeronautics Program (CAP). Under the standards, civilian airports, including heliports, that are deemed to be a "noise problem airports" are required to meet a community noise equivalent level (CNEL) of 65 dB at airport boundaries by January 1, 1986 (FAR Part 36) or to seek a variance from CAP. Noise problem airports that were unable to eliminate noise incompatibility within the established time frame were permitted to seek and renew variances. Variances provide extensions of time for development of plans for compliance within a reasonable period of time.

CNEL is a noise measurement scale applied over a 24-hour period to all noise events received at the measurement point. It is weighted more heavily for evening and night periods in order to account for the lower tolerance of individuals to noise during those periods. Noise is greater at the source (airport runway) and diminishes as the distance between source and the receptor widens. The CNEL measurement is expressed as a contour line around the noise source.

The California Noise Standards contain procedures for implementing noise and land use compatibility requirements. They establish systematic methods for measuring noise levels and addressing noise problems and define incompatible noise sensitive uses, e.g., residential dwellings (including mobile homes), schools, hospitals, convalescent homes and houses of worship. An interior noise level of a CNEL of 45 dB is the standard for all noise sensitive uses.

Counties are authorized under the noise standards to issue a resolution declaring that a civilian airport within its boundaries is a "noise problem" airport, based upon receipt of noise complaints and other noise impact data. Once so identified, the airport becomes subject to the California Airport Noise Standards, which are enforced by the county. The county is required to validate the noise contours. Airports identified by the county as noise problem airports are to reduce noise problems (i.e., incompatibility) through a variety of suggested strategies, including reconfiguration of airport land use, modification of airport flight paths, rezoning, land acquisition and other abatement measures. The airport's comprehensive land use plan is submitted to the county for review and adoption. The county submits the plan and quarterly reports (documenting the contours and incompatible land uses within the contour areas) to the CAP. The CAP reviews the reports and approves the plans.

Five airports are within or adjoin the city (Exhibit A). The Los Angeles County Board of Supervisors has deemed three of the five, LAX, VNY and Burbank, to be noise problem airports. All three airports submit quarterly reports with contour maps depicting CNEL of 65 dB contours (Exhibits B-D) to the county and prepare noise abatement programs. They currently operate under noise compatibility compliance time extension variances. Santa Monica and Whiteman airports are not considered noise problem airports because significant airport related noise is contained within the airport or surrounding airport-compatible land use (Exhibits E and F).

AIRPORT NOISE AND CAPACITY ACT OF 1990 (FAR PARTS 91 AND 161)

The Airport Noise and Capacity Act of 1990 (14 Code of Federal Regulations [subsequently recodified as 49 U.S.C. 47521 et seq.]) established FAA authority over most airport noise management, preempting state and local authority. The Act sets procedural requirements that must be met before noise regulations can be enacted for an airport. It is implemented by "14 Code of Federal Aviation Regulations Part 161" (FAR Part 161), which establishes a program for reviewing airport noise and access restrictions on the operations of Stage 2 and Stage 3 aircraft. In addition, FAR Part 91 establishes procedures for phasing out of large (over 75,000 pounds) Stage 2 aircraft and for reducing noise emitted by Stage 2 aircraft. The goal is to phase out most Stage 2 commercial fixed-wing aircraft from airports by December 31, 1999. Any proposed new Stage 3 noise mitigation measures must be authorized by the FAA. Prior to 1990, airports could impose more stringent standards than were contained in federal regulations. The Act allows noise ordinances already in effect, such as the Van Nuys Noise Abatement and Curfew Ordinance, to remain in effect, i.e., to be "grandfathered".

FEDERAL AVIATION REGULATIONS PART 150 PROGRAM (FAR PART 150)

In 1979, passage of the Aviation Safety and Noise Abatement Act made matching funds available for noise abatement. "14 Code of Federal Aviation Regulations Part 150" specifies how abatement and prevention measures may become eligible for the funds. The program is popularly known as "FAR 150 program." The Burbank Airport Authority and LAWA are participating in the FAR Part 150 program relative to the LAX, VNY and Burbank airports.

To qualify impacted areas for noise abatement or prevention funds, an airport authority must submit noise exposure contour maps and prepare a noise compatibility program (NCP), as defined by FAR Part 150. The maps are to identify CNEL of 65 dB or greater noise exposure contours for current and projected exposures. The NCP is to include a description of how citizens, local jurisdictions and affected agencies will participate; an airport land use compatibility plan; measures to prevent introduction of additional incompatible uses within the noise exposure areas; and detailed proposals for achieving and maintaining compatibility, e.g., reduction of incompatible land uses, airport reconfiguration, modification of flight procedures, sound proofing or other noise management measures designed to reduce impacts on existing surrounding noise sensitive uses. To guide noise impact assessment and prioritization, FAR Part 150 provides a land use compatibility table. It is comparable to the state guidelines and the guidelines contained in this noise element (Exhibit I). The FAA may deny an NCP or approve eligibility for funding for all or part of a proposed NCP.

The FAR Part 150 program in 1998 began requiring evidence that local authorities are preventing the introduction of new noise sensitive uses within noise impact areas and stopped providing funds for noise abatement for incompatible uses introduced after January 1, 1998. The changes are intended to encourage promulgation and enforcement of local land use compatibility measures.

CALIFORNIA NOISE INSULATION STANDARDS

The interior noise standard to be achieved by abatement programs is specified by the California Noise Insulation Standards (Building Code Title 24, Section 3501 et seq.). It sets interior noise levels of 45 dB in any habitable room, averaged over a 24-hour period. The standard is applied, per the California Airport Noise Standards, to all "sensitive uses" pursuant to the airport noise compatibility program.

LOCAL NOISE COMPATIBILITY PROGRAMS

In addition to federal noise abatement and prevention funding, local airport authorities may establish their own programs. LAWA has established an abatement program relative to LAX. It is independent of the Part 150 program. In addition, local airports and jurisdictions have sought to reduce through land use changes and other noise management approaches.

Helicopters

PLANNING COMMISSION AND FIRE DEPARTMENT PERMITS

Aircraft, helicopters and heliport noise and safety considerations are within the regulatory authority of the state and federal governments, as described previously. However, cities have authority over certain land use and specific safety considerations.

In the 1960s the Los Angeles City Planning Commission (CPC) was given the responsibility (LAMC Section 12.24) for authorizing heliports, including heliports[1] used only in emergency situations. The permits are conditioned, based on potential impacts identified during the permit review process, including environmental review and public hearings. The conditions define and regulate the use of a specific heliport. If noise or other potential land use related problems appear unsolvable, the CPC can deny the permit. Permits can be revoked if noise impacts prove greater than anticipated or conditions of approval are not observed. The county's airport land use commission is required by state law to confirm the local heliport permit before final authorization can be considered by the Caltrans Aeronautics Program. The FAA determination of conformity of a heliport and its flight paths to FAA guidelines occurs prior to CPC consideration. Therefore, the determination is part of the documentation provided by the applicant to the CPC. If the state, FAA or the city fire department determine that a proposed or existing heliport is unsafe, the CPC's permit becomes moot.

The fire department has the authority to deny or revoke use of a private or public heliport if it determines that a facility does not meet city safety requirements (e.g., failure to maintain a heliport in a safe condition, existence of trees or other obstructions in the landing or departure paths or improper maintenance of wind socks and lighting).

In 1974 all new buildings over 75 feet in height were required by the city to provide emergency helicopter landing facilities (LAMC Section 57.18.11). The authority to approve such uses was assigned to the fire department. The new law resulted in a substantial reduction in the number and type of permits considered by the CPC. Permits for banks and hospitals became the most common requests because banks needed to transfer paper records on a daily basis and hospitals needed heliports for transfer of patients and materials. Requests for commuter and passenger service operations generally were denied by the commission. However, such requests were rare because of the availability of helicopter operations at local airports.

In 1978 the fire department was authorized to approve "infrequent" helicopter landings in any zone (LAMC Section 12.22-A.6). Such landings may occur only twice a year at sites within specified single-family (RA, R1) and commercial (C1, CR) zones. Infrequent landing permits are to accommodate occasional events such as educational programs and movie filming.

Commission hearings for heliports typically generate community concern regarding noise impacts. To minimize noise impacts, the CPC generally limits the use (e.g., bank records transfer only), hours

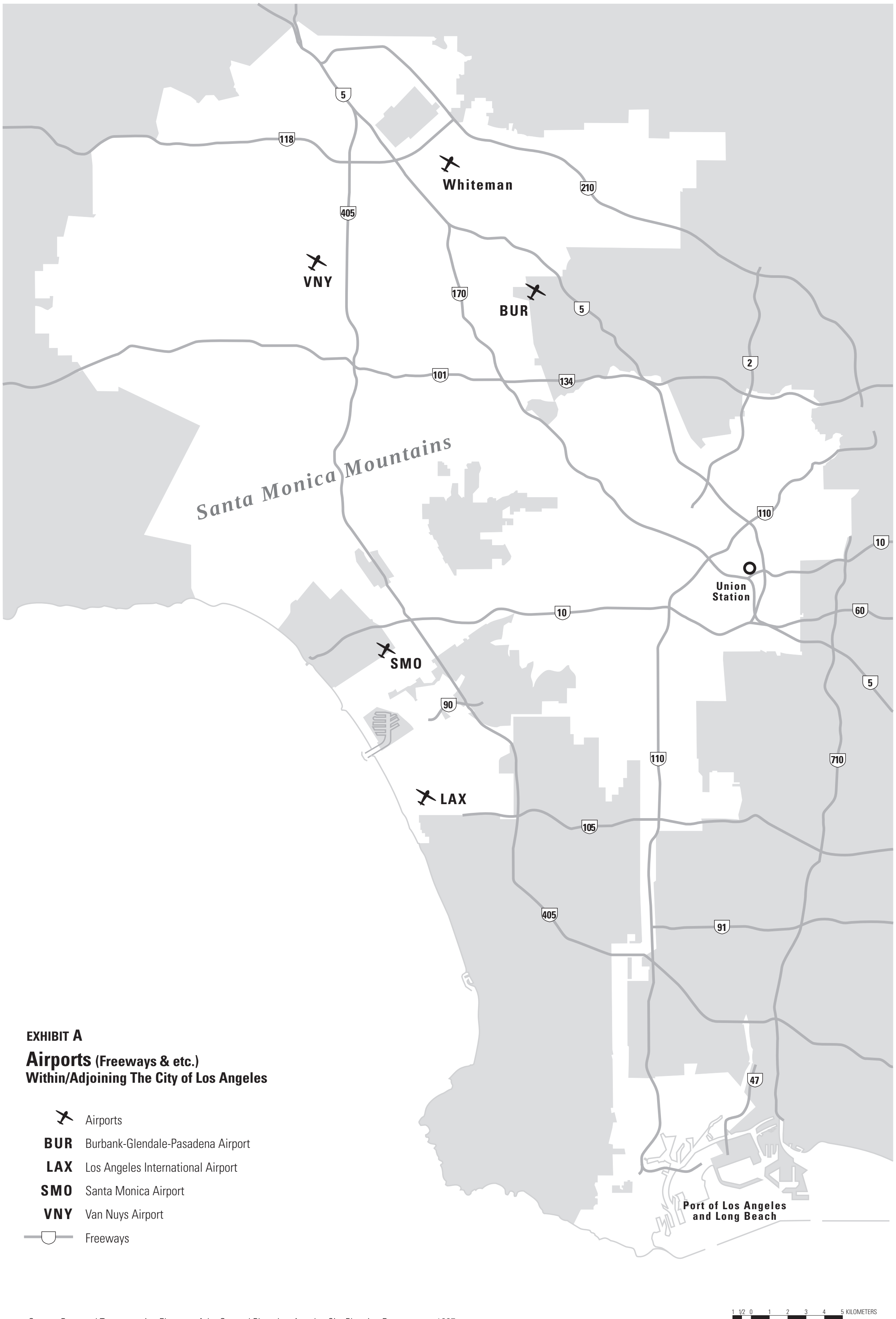

EXHIBIT A

Airports (Freeways & etc.)
Within/Adjoining The City of Los Angeles

- Airports
- **BUR** Burbank-Glendale-Pasadena Airport
- **LAX** Los Angeles International Airport
- **SMO** Santa Monica Airport
- **VNY** Van Nuys Airport
- Freeways

Source: Proposed Transportation Element of the General Plan, Los Angeles City Planning Department, 1997.

Prepared by the Transportation Unit • City of Los Angeles Planning Department • Citywide Graphics • January, 1998

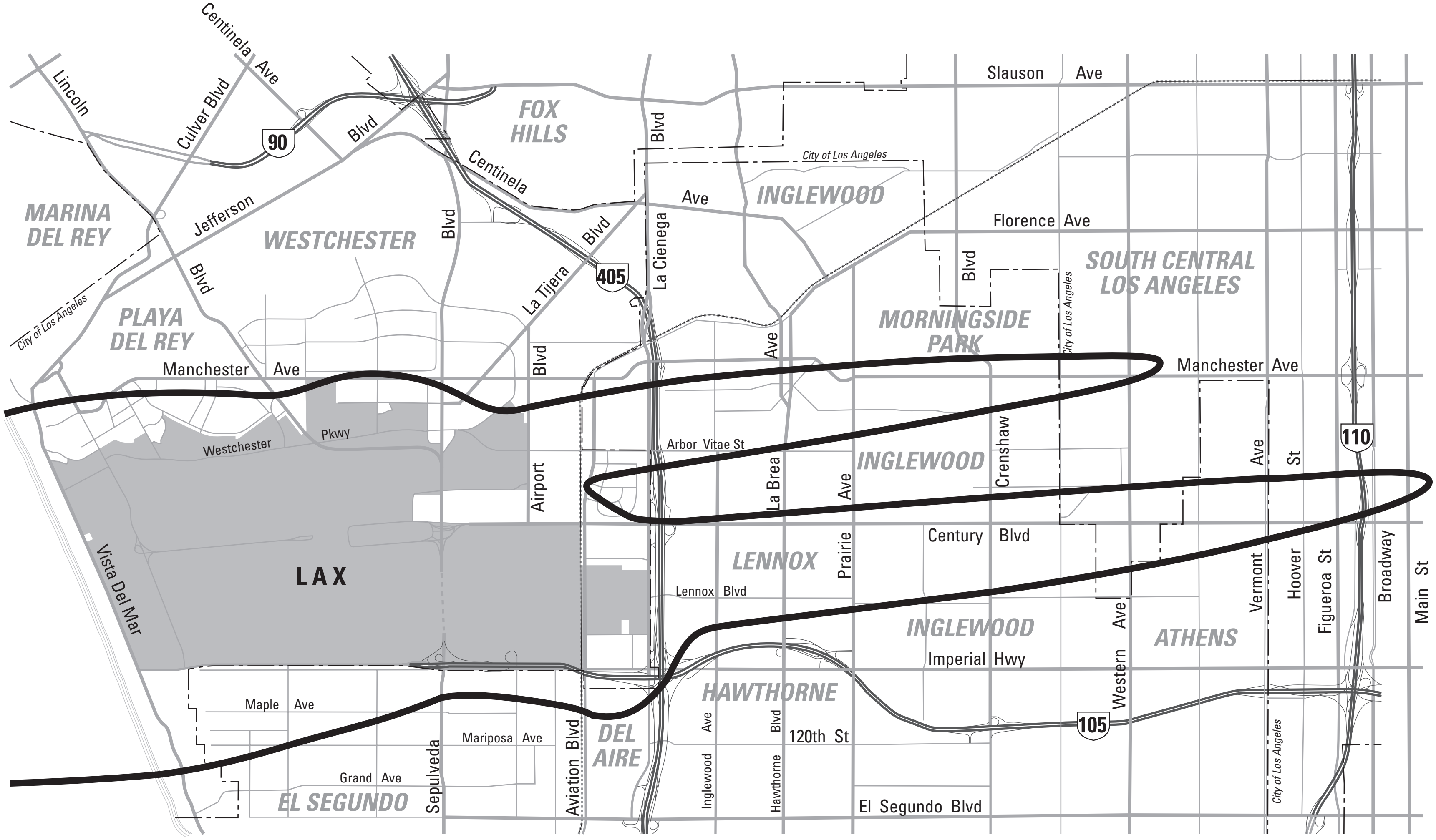

EXHIBIT B

Los Angeles International Airport
Noise Exposure Contour*

Noise Contour (a CNEL of 65 dB)

Airport Boundary

Note: Exhibit is illustrative and is not to scale.
For further information contact Los Angeles World Airports.

*Based on: (1) Fourth Quarter Monitoring Report, Los Angeles World Airports, August 13, 1997
Los Angeles World Airports, April 07, 1997
(2) City Planning Department community plan maps.

Prepared by the Graphics Section • City of Los Angeles Planning Department • Citywide Planning Division • January, 1998

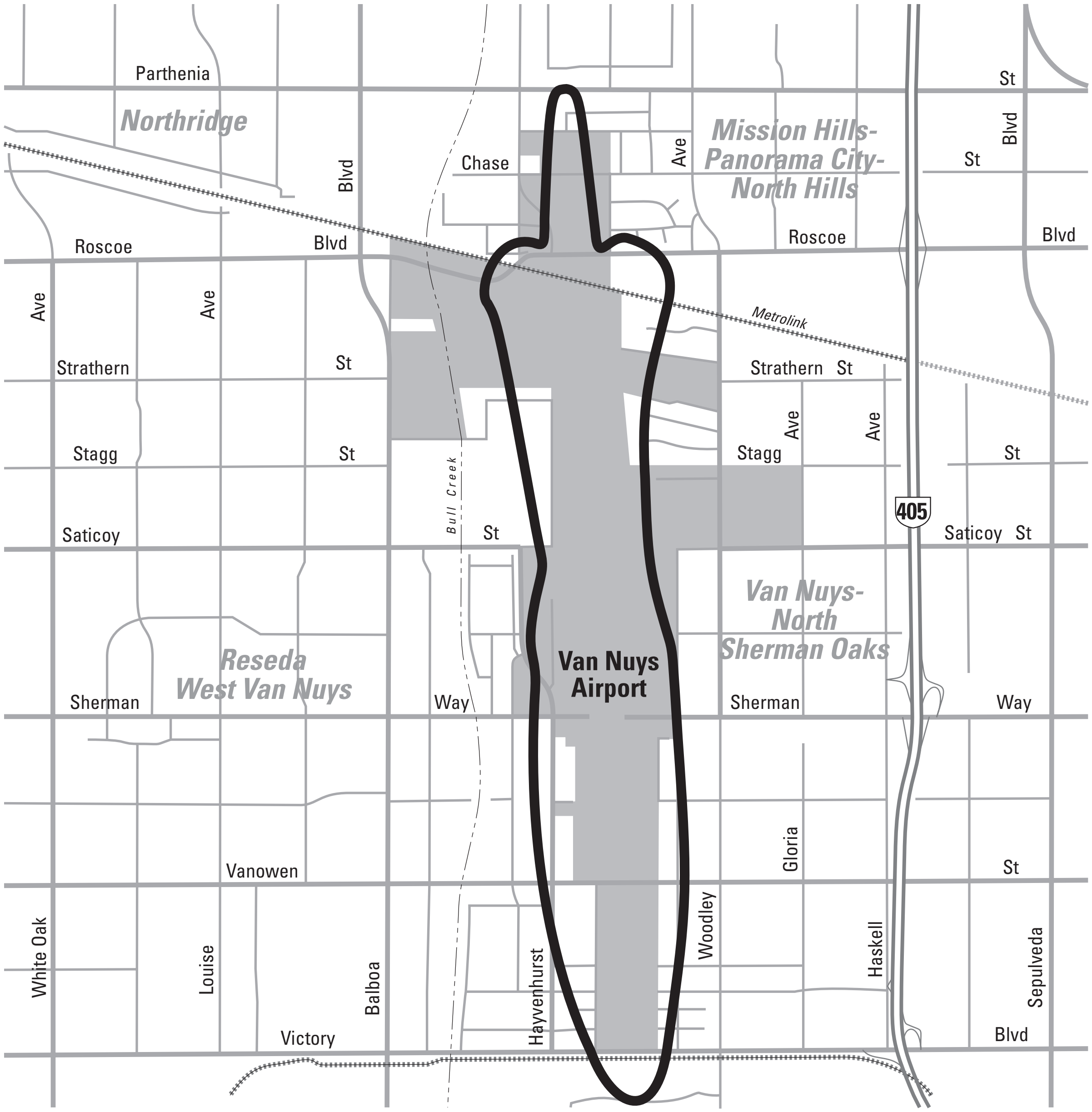

EXHIBIT C

Van Nuys Airport
Noise Exposure Contour*

Noise Contour (a CNEL of 65 dB)

Airport Boundary

Note: Exhibit is illustrative and is not to scale.
For current information contact Los Angeles World Airports.

*Based on : (1) Fourth Quarter Monitoring Report, Los Angeles World Airports, September 8, 1997
(2) City Planning Department community plan maps.

Prepared by the Graphics Section • City of Los Angeles Planning Department • Citywide Planning Division • January, 1998

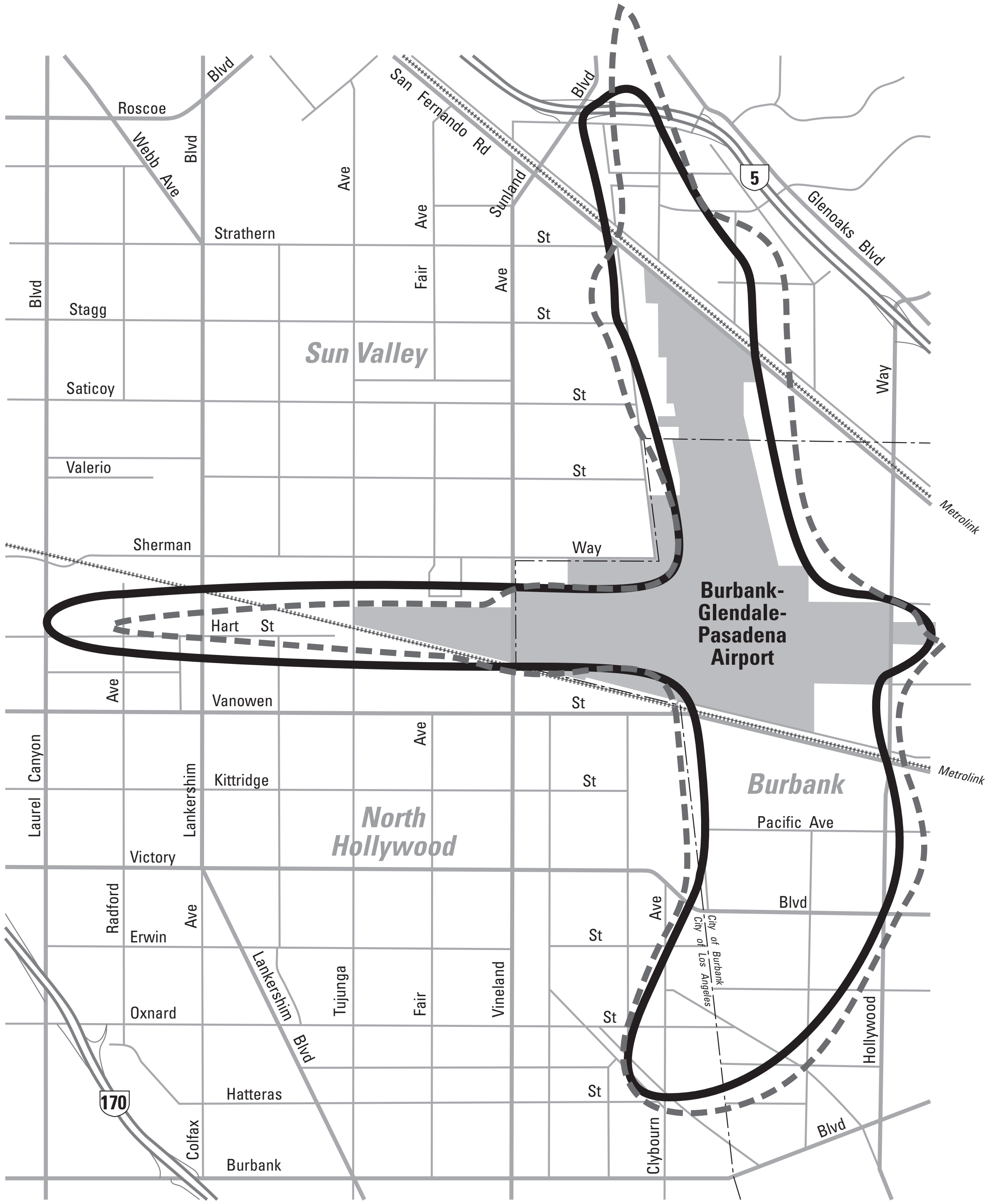

EXHIBIT D

Burbank-Glendale-Pasadena Airport
Noise Exposure Contours

1996 Noise Contour (a CNEL of 65 dB)*

2010 Projected Contour (a CNEL of 65 dB)**

Airport Boundary

*Based on : (1) "Quarterly Noise Monitoring Report, at Burbank Airport, Fourth Quarter 1996", Burbank-Glendale-Pasadena Airport Authority, July 1996.
(2) City Planning Department community plan maps.

**Based on : "Environmental Impact Statement for Land Acquisition and Replacement Terminal Project," Burbank-Glendale-Pasadena Airport Authority, August-1995.

Note: Exhibit is illustrative and is not to scale. For further information contact the Airport Authority

Prepared by the Graphics Section • City of Los Angeles Planning Department • Citywide Planning Division • January, 1998

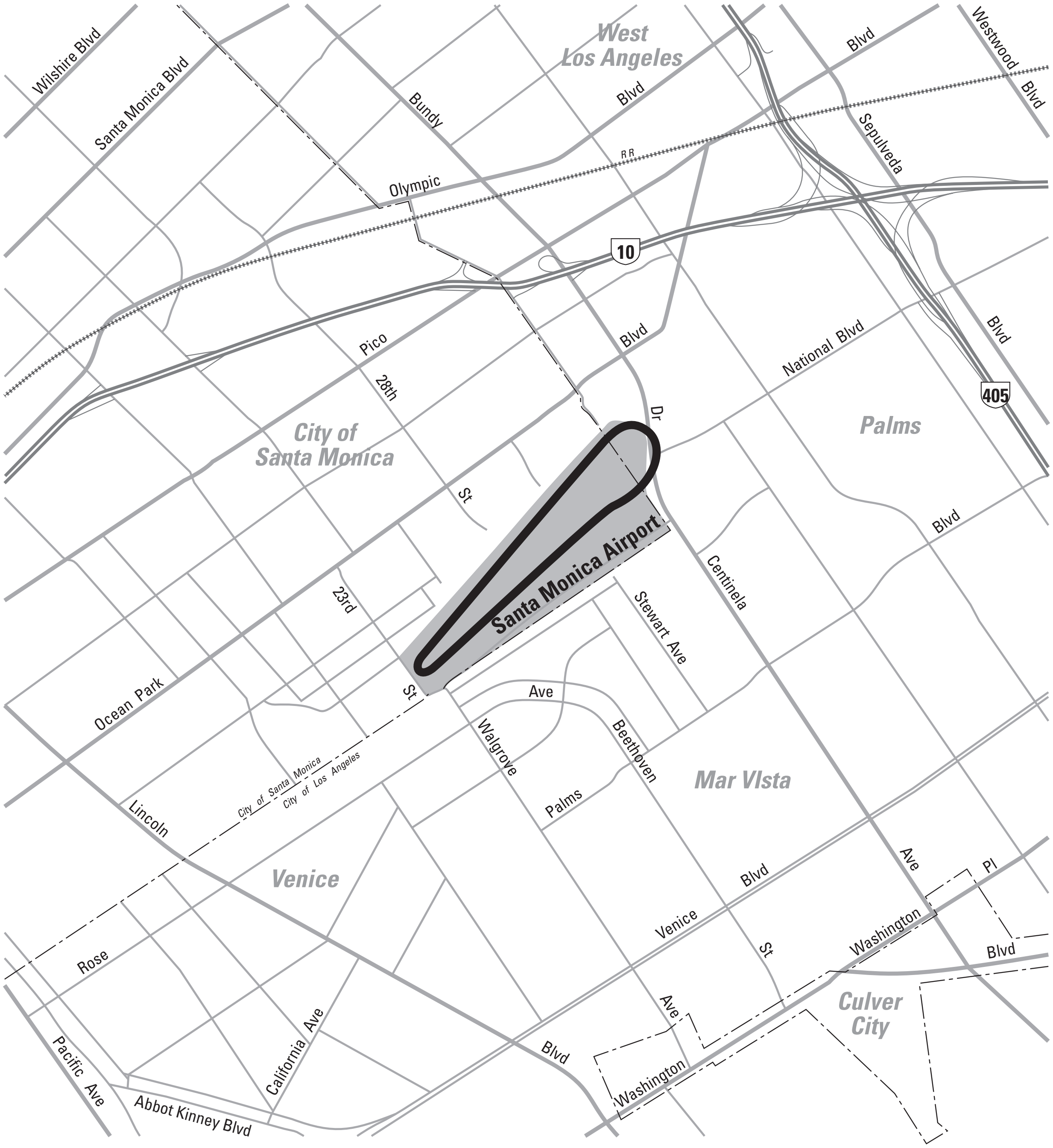

EXHIBIT E

Santa Monica Airport
Noise Exposure Contour*

Noise Contour (a CNEL of 65 dB)

Airport Boundary

Note: Exhibit is Illustrative and is not to scale.
For current information contact the Santa Monica Airport

*Based on : (1) Santa Monica Airport Noise Management Office, 1996.
(2) City Planning Department community plan maps.

Prepared by the Graphics Section • City of Los Angeles Planning Department • Citywide Planning Division • January, 1998

EXHIBIT F

Whiteman Airport
Noise Exposure Contour*

Noise Contour (a CNEL of 65 dB)

Airport Boundary

Note: Exhibit is illustrative and is not to scale.
For current information contact the County Regional Planning Department

*Based on: (1) "Los Angeles County Airport Land Use Plan", adopted 1991, Los Angeles County Airport Land Use Commission.
(2) City Planning Department community plan map.

Prepared by the Graphics Section • City of Los Angeles Planning Department • Citywide Planning Division • January, 1998

of operation and number of flights. It sometimes requires noise barrier walls and imposes landing or departure routes. However, because state and federal authority preempts that of municipalities regarding safety, flight path and noise barrier requirements sometimes have been deemed inoperative by the FAA or CAP if they interfered with flight safety. For many years the CPC imposed helicopter weight limitations because it was assumed that weight could be correlated with the amount of noise generated. It ceased imposing the condition in the early 1980s when it was advised that helicopter weight no longer had any bearing on noise emissions.

Helicopter noise, unlike that of fixed-wing aircraft, is associated with the sound generated by rotor blades slapping against wind currents, not by the aircraft engine. Improvements in rotor systems is the primary means of reducing noise generated by helicopters. By the mid-1980s requests for conditional permits for heliports dwindled to zero, largely due to the building construction recession, electronic transfer of documents, increased popularity of limousine service and increased helicopter use of airports. By then approximately 50 private heliports had been permitted within the city, apart from emergency heliports and at local airports (primarily at Van Nuys and Burbank airports).

In the 1980s noise reduction and concern about crime resulted in the support by many local communities for police surveillance helicopters, causing such use to increase substantially. In Los Angeles, police and fire department helicopters operate from existing heliports that often contain fueling, parking and helicopter maintenance facilities.

HELICOPTER NOISE

Even with noise suppression improvements, helicopter flight at 500 feet creates an audible sound that is especially noticeable at night. National "Fly Neighborly" guidelines are implemented voluntarily by most pilots, thereby reducing noise impacts, especially in the vicinity of residential neighborhoods and noise sensitive uses. For example, voluntary alternate flight routes have been requested by the FAA relative to the Hollywood Bowl and other open air theaters during summer concert seasons. In the 1980s, to reduce noise impacts on adjacent communities, local airport authorities established helicopter operational flight procedures, specific landing and departure routes, use restrictions (e.g., no flight training exercises) and restricted hours of operation. These measures, along with rotor system redesign, significantly reduced noise impacts on neighborhoods. The operational procedures were "grandfathered" as existing procedures when the Aircraft Noise and Capacity Act of 1990 was effectuated (October 1990).

Airports In The Los Angeles Area

Los Angeles International Airport is known by its FAA identifier "LAX." It is one of four airport facilities operated by the Los Angeles Department of Airports. The department adopted the business name of "Los Angeles World Airports" (LAWA) in 1997.[2] LAWA is an independent, fee supported, self-managing city agency governed by a board of airport commissioners who are appointed by the mayor and confirmed by the city council. LAWA establishes rules and regulations governing the operation its four airports.

In 1930 LAX became the city's first airport. LAWA subsequently acquired the Van Nuys (VNY), Ontario and Palmdale airport properties. LAX and VNY are located within the city's borders. Ontario Airport is located 30 miles east of Los Angeles, within the city of Ontario. The Palmdale Regional Airport is located 35 miles northeast of Los Angeles in the Antelope Valley within the Mojave Desert, near the city of Palmdale. A temporary airport terminal is located on U.S. Air Force property adjacent to the city's 17,750 acre future regional airport site. Pending development of that airport, portions of the site are used for agricultural purposes (pistachio nut and fruit orchards, grazing sheep). The Ontario and Palmdale airports are not discussed in this element.

Los Angeles International Airport (LAX)

LAX is located entirely within the City of Los Angeles. It is situated south of the Santa Monica Mountain range, within the Westchester-Playa del Rey community planning area. It bounds the cities of El Segundo and Inglewood, the county community of Lennox and the Pacific Ocean.

The airport was located in the middle of a bean field. It rapidly expanded until today it occupies an approximately 3,500 acre site. It has four lighted runways ranging from 8,925 feet to 12,090 feet in length, each of which can accommodate wide bodied passenger jet aircraft. A major contributor to the local economy, LAX is the fourth busiest airport in the United States and the world. In 1996 it served 763,866 flights and 58 million passengers and its 98 acre "cargo city" handled over 1.89 million tons of goods, 40 percent of which was international freight. Among the facilities located on LAX property are commercial and light manufacturing uses, the Centinela Hospital Airport Medical Clinic, a U.S. Coast Guard Air Station and a 200 acre El Segundo Blue Butterfly habitat preservation area.

LAX ZONING

The majority of the LAX site is classified in the M2 and M3 (manufacturing) zones, which allow airport uses by right. Commercial, light manufacturing and open space zoning around the perimeter of the site has encouraged development and retention of airport compatible uses, which serve as noise buffers between the airport and adjacent noise sensitive uses. A portion of the zoning within the airport is conditioned to limit types of use and intensity of development in order to reduce street traffic impacts and encourage compatibility with surrounding communities. Parcels along the north (Westchester) perimeter generally are required to secure planning commission or planning department site plan approval prior to issuance of building permits. This allows additional public review and ensures compliance with planning commission policy.

LAX NOISE MANAGEMENT

Following the opening of the airfield in 1928, agricultural lands surrounding the airport gradually were converted to urban uses. When jet aircraft were introduced in 1959, residents, merchants and school authorities began complaining about noise, especially noise associated with landings and takeoffs. A Sound Abatement Coordinating Committee comprised of representatives of the air transport industry, LAWA, FAA, the Airline Pilots Association and commercial carriers was formed in July 1959 to address the noise problem. Subsequently LAWA implemented the committee's recommendation that aircraft be required to maintain a straight departure course, not turning until they were over the Pacific Ocean. But noise complaints continued.

As a result of a legal action by Westchester property owners, LAWA, with the assistance of FAA funds, in 1965 began to acquire and remove more than 2,800 homes that were severely impacted by aircraft noise and to relocate approximately 7,000 residents of the homes. The program was completed in the 1980s with many of the homes relocated as a part of an affordable housing program. Twenty of the vacated homes were used for a sound insulation testing program. The program concluded that homes severely impacted by airport noise could not be adequately insulated at a reasonable cost using materials and techniques then available. The study is one of the most systematic investigations of different methods and materials applied to dwellings. It has been used by federal and other agencies for formulating insulation standards and programs.

To achieve compliance with FAA and state noise regulations, LAWA adopted (1972) a five-point program to reduce aircraft noise and diminish greater than CNEL of 65 dB aircraft noise impacts on surrounding communities. The measures included termination of airport use permits for operators who repeatedly violated LAWA's noise regulations. Nighttime noise impacts on residential areas was reduced in 1973 when LAWA instituted a preferential nighttime runway system and rerouted night landing and departures over the ocean. Following a test flight of the Concorde supersonic airplane to LAX in 1974 all supersonic aircraft were prohibited from using LAX until such time as they could meet LAWA noise standards. A 1,500 foot long concrete and landscaped earthen sound barrier was constructed in 1979 along the north side of LAX between Emerson Avenue and the Westchester Golf Course to mitigate noise impacts on the Westchester community. During the 1970s a lawsuit brought against LAWA by local school districts was settled when LAWA agreed to provide funds for insulation of schools impacted by LAX and the school districts agreed to aviation (overflight) easements.

LAX - FAR PART 150 AND LAWA NOISE COMPATIBILITY PROGRAMS[3]

The major program in the 1980s and 1990s to accomplish greater compatibility between airports and their neighbors was the FAR Part 150 noise compatibility program. In 1981, to qualify for FAR Part 150 funds, LAWA instituted a four-part study, "The LAX-Airport Noise Control Land Use Compatibility Study." The study reevaluated the feasibility of achieving acceptable indoor noise levels, the methods and materials to meet the levels and the costs involved. It established new noise identification and mitigation procedures that could be applied to homes within a CNEL of 65 dB contour. The new procedures included an aircraft noise monitoring system, which was installed to detect nighttime engine testing in maintenance areas, and a 24-hour complaint and information phone line to facilitate processing of and response to community complaints.

The study provided documentation that enables thousands of properties in the LAX noise impact area to quality for noise abatement funds. Representatives of the aviation industry, regulatory agencies and communities impacted by noise participated in the study. They assessed noise management techniques in relation to land use and recommended methods for achieving greater compatibility between LAX and its neighbors. Public hearings and workshops were conducted to help identify the scope of the study and to secure information and ideas. Committees explored different issues including helicopter noise, maintenance operations, nighttime impacts, operations of aircraft in flight and on the ground and community specific issues. Using advanced modeling techniques, airfield and aircraft operational strategies were evaluated for both noise reduction and safety. In addition, homeowners in noise impacted communities were invited to participate in a "validation" project to test noise insulation materials and methods. Of the 243 dwellings offer by owners for sound insulation testing, seven apartment buildings and 15 single-family dwellings were selected. Residents were interviewed to determine the effectiveness of insulation techniques and materials.

Data from the study resulted in establishment of geographic boundaries within which impacted jurisdictions and properties could qualify to participate in the FAR Part 150 program. The study provided the information needed to qualify and establish prioritization of properties and jurisdictions for FAR Part 150 funding and led LAWA, in 1987, to establish its own sound insulation funding program to supplement federal funding. Other noise monitoring and reduction benefits resulting from the study include: an ongoing dialogue between the community and airport authority; revision of flight and on-ground aircraft and maintenance operational procedures; acceleration of planning and redevelopment programs to reduce incompatible land uses in surrounding jurisdictions; enactment by LAWA of a requirement that aircraft using the Imperial Boulevard terminal (near the city of El Segundo) be towed between the airfield and the terminal; installation of auxiliary power units at all aircraft parking locations so that aircraft would not have to run their engines in order to maintain air conditioning levels within the aircraft between flights; proposals for redesign of runways, including a plan for maximizing use of interior runways so as to focus noise away from adjacent communities; reaffirmation of LAWA's prohibition of supersonic aircraft from use of LAX; establishment of procedures for improved pilot education concerning flight noise management procedures and new helicopter noise abatement (including requiring a 2,000 foot flight altitude); construction of additional sound barriers in Westchester and El Segundo; and a determination that recent advances in acoustical and thermal insulation materials and techniques had made retrofitting a viable alternative for some noise impacted areas and uses.

LAWA sound insulation funds were made available in 1987 to impacted jurisdictions (Los Angeles city and county, Inglewood and El Segundo). To qualify for LAWA funds a local jurisdiction must be a participant in the FAR Part 150 program. Funding for both the FAR Part 150 and LAWA programs has been expanded to accelerate noise management efforts. An estimated 29,041 uninsulated dwelling units lie within the LAX CNEL of 65 dB noise exposure area (approximately 20,051 multifamily and 8,990 single-family residential units). It is estimated that, by the year 2010, LAWA will spend approximately $245 million to soundproof more than 21,000 dwelling units and $220 million for purchase (for conversion) of incompatible uses. As of 1996, the city of Inglewood had been allocated $8 million to convert noise impacted residential properties to airport compatible uses and school districts had been allocated $21 million for sound insulation.

Between 1981 and 1996 the LAX CNEL of 70 dB noise exposure contour area had shrunk from 2.6-square miles to one-square mile, while the CNEL of 65 dB contour remained at around three-square miles. Noise impacts on surrounding communities were significantly reduced by 1986, primarily due to the phasing out of all Stage 1 aircraft, the noisiest aircraft. Virtually all Stage 2 aircraft were phased out by 1996 and all will be phased out by the year 2000.

LAWA is preparing an exterior sound transmission control ordinance to codify noise exposure contours and establish uniform procedures and requirements for sound insulation of new and existing noise sensitive uses, as defined by the California Airport Noise Standards, based on the contours. LAWA also is continuing its efforts to work with the FAA and pilots to further reduce noise impacts through flight techniques and practices. For example, a LAWA-FAA instrument based procedure recently was developed that enables pilots to readily identify the Pacific shoreline. This enables them to maintain flight paths and turning patterns that are less likely to impact the El Segundo and Playa del Rey communities.

LAX - COMMUNITY PLAN NOISE ISSUES

In spite of all these efforts, airport related noise continues to impact surrounding communities, including the Los Angeles city communities of Westchester-Playa del Rey and South Central, the cities of Inglewood and El Segundo and unincorporated areas of Los Angeles County, especially the community of Lennox. Each jurisdiction is addressing the issue of airport noise compatibility through its general planning and noise management programs.

LAX is located within the community of Westchester. To facilitate preparation of plans for LAX, the airport property was removed from the Westchester-Playa del Rey community plan. In acknowledgment of this action, Objective 7 of the 1974 Westchester-Playa del Rey District Plan calls for coordination of airport and airport related land uses to “provide adequate buffers and transitional uses” between LAX and the community.

LAX PLAN

LAWA is preparing a airport master plan that addresses the first major expansion of LAX since 1984. It will become a part of the city’s general plan and, therefore, will be considered for approval and/or adoption by the planning commission, mayor and city council, following public hearings. The primary goal of the plan is to reduce noise impacts on adjacent communities, especially residential neighborhoods, while enabling significant expansion of airport activity. The project also will address ground traffic impacts (both noise and circulation) on surrounding communities. Noise has been a major issue in the project discussions.

Van Nuys Airport (VNY)

Van Nuys Airport is owned and operated by LAWA. It is located wholly within the City of Los Angeles. It is known by its FAA identifier "VNY." VNY is situated in the center of the San Fernando Valley, north of the Santa Monica Mountain range, within the community of West Van Nuys and at the edges of the community plan areas of Mission Hills-Panorama City and Van Nuys-North Sherman Oaks. VNY is a 730-acre general aviation airport (no scheduled air carrier services). It has two lighted runways. The 8,000 foot long runway crosses Sherman Way boulevard via an overpass and can accommodate jet aircraft of up to 210,000 pounds. The 4,000 foot runway can accommodate aircraft of up to 14,000 pounds. In 1996 VNY was the busiest general aviation airport in the world and the seventh busiest civilian airport in the nation, handling over 526,433 annual flights and serving 750 based aircraft (those that lease space at the airport). In addition to airport related uses, VNY property contains a hotel, nine-hole golf course, restaurants, agricultural uses and an office supplies store.

VNY ZONING

The majority of the airport property is classified in the [Q]M2-1VL Zone. The [Q] 'Permanent Qualified' condition limits land use on specified sites to airport and airport related uses. The 1VL Height District designation limits structures to 45-feet in height. Less than 16 acres of the property is classified in the M1 and M2 (light manufacturing) zones. The remaining 59 acres lie within the airport overfly (hazard) area and are classified in the OS-1XL (open space) and A1-1XL (agricultural) zones with structures limited to 30 feet in height by the 1XL Height District classification.

Pending completion of the VNY master plan, the city council in 1993 imposed a two-year interim control ordinance to regulate airport land use changes. Subsequently the time period was extended. The ordinance requires planning department authorization for virtually all changes in use. This is to ensure that new uses will not significantly intensify airport activity, that they will be compatible with the surrounding neighborhood and that they will not preclude airport master plan actions.

VNY NOISE MANAGEMENT[4]

From 1949, when LAWA acquired the airport, to 1971, additional acquisitions led to airport expansion and enabled establishment of peripheral airport related uses to buffer airport noise from adjacent residential neighborhoods. However, continuing complaints from neighboring communities regarding noise, especially during the nighttime hours, prompted the city council in 1981 to adopt a noise abatement and curfew law (Ordinance 155,727). The ordinance prohibited airplanes that exceeded 74 dB from taking off from VNY between the hours of 11 p.m. and 7 a.m. (except as provided by the ordinance, e.g., military aircraft and in the event of an emergency); prohibited repetitive jet pattern flying and training operations; limited propeller driven aircraft activities, engine testing and use of certain runways during nighttime hours; and established penalties for ordinance violations. Fixed-wing aircraft operators subsequently were required to sign a "Quiet Jet Departure Program" agreement. The agreement required pilots to observe flight techniques and procedures designed to reduce noise impacts on surrounding communities, e.g., modification of hours and patterns for landings and departures. With the passage of the federal Airport Noise and Capacity Act of 1990, local governments and airports were prohibited from adopting new noise restrictions without obtaining authorization from the FAA. However the Act grandfathered existing local noise ordinances, including the VNY noise abatement ordinance.

In October 1982, LAWA prohibited scheduled commercial air carrier flights from using VNY. In 1985, in response to community concerns regarding potential airport acquisitions, expansion, safety and noise, LAWA established the VNY citizens advisory council to help assess community concerns and develop noise management strategies. In 1992 it prepared the VNY Part 150 program with the assistance of a steering committee, which included community representatives. It was not accepted by the FAA because the FAA deemed that the airport noise exposure maps, upon which the program was based, were unacceptable.

Voluntary modified takeoff procedures were requested of jet aircraft by LAWA in 1993 to reduce noise and enable an assessment of the effects of such measures on noise impacts. In 1994 noise monitoring was improved to provide more accurate noise contours on which to base the FAR Part 150 noise compatibility program. By 1996, VNY and FAA noise management strategies, including acquisition of land for airport related uses and phasing out of Stage 1 (the noisiest aircraft), had reduced the CNEL of 65 dB contour to an area almost entirely within the airport boundaries and surrounding industrial properties (Exhibit C). A new FAR Part 150 Steering Committee was established in 1996 to advise LAWA concerning noise issues and to recommend abatement measures.

From 1995 to 1998, in response to continuing complaints from neighbors about noise, LAWA enacted a series of noise management policies, all of which required approval of the FAA before they could be incorporated into the VNY noise abatement ordinance. These included prohibiting issuance of additional leases for Stage 2 based aircraft (July 1995), extending the curfew from 11 p.m. to 10 p.m. (May 1996) and requesting permission to apply the curfew to helicopters (March 1997). The curfew limitations and the nonaddition rule for aircraft with a noise emission level of over 77 dBA (calculated using FAA Advisory Circular No. 36-3) were authorized by the FAA in August 1997. FAA ruled that any proposed new helicopter restrictions must comply with FAR Part 161, following environmental review processes and public hearings, consistent with federal procedures. The new curfew was incorporated into the VNY noise abatement ordinance and became effective in February 1998. The nonaddition rule was under consideration by city decision makers in 1998.

VNY - COMMUNITY PLAN NOISE ISSUES

Some noise from VNY impacts adjacent communities located within the general plan community planning areas of Reseda-West Van Nuys, Mission Hills-Panorama City-Sepulveda and Van Nuys-North Sherman Oaks. The majority of the VNY is located within the Reseda-West Van Nuys community plan area. The plan was adopted in 1986. Its policies call for all new development within VNY to be accomplished under conditional use permit. This enables the planning commission and city council, on appeal, to review use change requests and, if approved, to impose conditions, including noise impact mitigation measures. The community plan designates 650 acres of the plan area for industrial use, most of which is located within or around VNY. The industrial uses provide buffers between the airport and adjacent residential neighborhoods. Some residential uses still exist within the noise contour area. The community plan was being updated in 1998.

The Mission Hills-Panorama City-Sepulveda and Van Nuys-North Sherman Oaks community plans for several decades have designated land immediately adjacent to VNY for industrial uses. By the late 1980s incompatible uses generally had been phased out and an industrial buffer had been created adjacent to the southern and northwestern portions of VNY. Both community plans were being revised in 1998.

VNY PLAN

A master plan for VNY was being prepared by LAWA, in coordination with the VNY citizens' advisory council and other affected and interested parties, in 1998. The master plan will become a part of the city's general plan and, therefore, will be considered for approval and/or adoption by the planning commission, mayor and city council following public hearings. The FAA also must approve the plan. The primary goals of the planning effort are to reconfigure on-site airport land use and modify airport use to make VNY more economically viable while at the same time reducing impacts on adjacent communities. Noise from current as well as potential future airport activities was a major issue in the master plan discussions which were taking place in 1997-98.

Burbank-Glendale-Pasadena Airport (BUR)

The Burbank-Glendale-Pasadena Airport, commonly known as the Burbank Airport and by its FAA identifier "BUR," is not within the jurisdiction of the City of Los Angeles, although a small portion of the airport is located within the city. It is owned and operated by the Burbank-Glendale-Pasadena Airport Authority, which is independent of the three cities for which it is named. Each of the cities appoints representatives to the Authority's board of directors.

BUR is located primarily within the City of Burbank, north of the Santa Monica Mountains. Small portions of BUR are located within the Los Angeles communities of Sun Valley and North Hollywood. The most westerly portion of BUR bounds the Los Angeles planning area of North Hollywood. In 1996, BUR occupied a 480-acre site and had two lighted runways in excess of 6,000 feet in length and capable of supporting 240,000 pound jets. It served over 59,000 passenger air carrier flights with nearly 5 million annual passengers, as well as over 125,000 flights by other types of aircraft (air taxi, cargo, business, private flights and a small number of military flights).

BUR NOISE MANAGEMENT[5]

When the Authority purchased BUR in 1978, incompatible uses within a CNEL of 70 dB noise impact contour totaled 385 acres. At that time, BUR was not a designated "noise problem" airport. However, the FAA and state encouraged civilian airports to reduce airport related noise impacts within their CNEL of 70 dB noise contour areas through such means as changes in land use, installation of sound insulation and changes in airport operations. To achieve this goal, the Authority in 1981 required commercial airlines to phase out their Stage 1 and Stage 2 aircraft and to operate only Stage 3 aircraft, the quietest jet air passenger carriers, by 1989. It also prohibited departures and landings of all general aviation Stage 1 and Stage 2 jet aircraft between the hours of 10 p.m. and 7 a.m. Scheduled air carriers were asked to comply voluntarily with the curfew. Most of the carriers voluntarily complied. Stage 3, freight and other private aircraft did not come under the mandatory or voluntary restrictions. The goal of only-Stage 3 passenger carriers operating at BUR was achieved ahead of schedule, in 1987.

Due to these measures, by 1986 only 83 acres of impacted land (residential and other noise sensitive uses) remained within a CNEL of 70 dB noise contour area. In 1986 the Division of Aeronautics (later called Caltrans Aeronautics Program) changed its noise impact measurement standard from a CNEL of 70 dB to a CNEL of 65 dB. This resulted in an increase in the impact area to 446 acres. By 1994, noise management measures had reduced the number of scheduled commercial airline flights to approximately a dozen during nighttime hours, with only three occurring after 6:30 p.m. In addition to the noise reduction measures, between 1985 and 1996 the total flights associated with BUR declined from 246,000 to 184,000, further reducing noise impacts. By 1996, the impacted area within a CNEL of 65 dB contour had been reduced to 373 acres.

In 1985 the Authority began preparation of its FAR Part 150 noise compatibility program. The FAA approved the program in 1989 and allocated funds that enabled soundproofing of four schools of which two were located within the City of Los Angeles. Within the CNEL of 65 dB noise contour area (Exhibit D) approximately 2,300 dwellings within Los Angeles and Burbank could be eligible for grant assistance, depending upon the availability of money from the Federal Aviation Trust Fund. In 1997 funding became available and was offered for soundproofing of 50 homes.

BUR - COMMUNITY PLAN NOISE ISSUES

In spite of all these efforts, noise from aircraft activity continued to impact Burbank and the Los Angeles community planning areas of Sun Valley, North Hollywood and the Van Nuys-North Sherman Oaks. Plans for the three planning areas generally designate land immediately adjacent to BUR for industrial uses. By the mid-1980s most of those lands had been improved with industrial uses, thereby creating buffers adjacent to the airport. In addition, revisions to the community plans between 1979 and 1996 called for additional mitigation measures to reduce noise impacts.

BUR PLAN

A final environmental impact report (EIR) for land acquisition and a BUR replacement passenger terminal was approved by the Authority in 1993. The proposed project included acquisition by the Authority of 130 acres of land for construction of a new passenger terminal and conversion of the existing terminal site to airfield related uses. The new terminal site was selected in order to meet FAA terminal and runway separation requirements. The FAA, for safety reasons, requires that a terminal not be closer than 750 feet from the center line of an active air carrier runway. The current terminal is within the runway hazard zone.

In 1993 the City of Los Angeles challenged the adequacy of the EIR. The superior court found in favor of Los Angeles and requested that the Authority prepare a supplemental environmental impact report addressing noise impacts associated with BUR's projected increased aircraft activity. The report was prepared and, in 1995, the court found that the EIR met California Environmental Quality Act (CEQA) requirements. Los Angeles appealed the finding. In 1996 the FAA completed its review of the federally required environmental impact statement (EIS) for the project and deemed that it met the National Environmental Policy Act (NEPA) requirements. In 1996 Los Angeles challenged the adequacy of the EIS. It contended that the project was for the entire airport and would result in increased airport activity and increased impacts on noise sensitive uses within the City of Los Angeles, as indicated on the project's EIS 2010 projected noise contour map (Exhibit D). The Authority contended that the project was for the terminal only and that the increase in flight activity would occur whether or not a new terminal was constructed. Lawsuits also were filed between the Authority and City of Burbank over jurisdictional, noise and other matters. In March 1998 a federal court of appeals upheld the EIS. Other litigation was pending in 1998.

Santa Monica Airport (SMO)

Santa Monica Airport, known by its FAA identifier "SMO," was established in 1919. It is the oldest continuously operated airfield in Los Angeles County. SMO is a general aviation airport (no scheduled air carriers) that is owned and operated by the City of Santa Monica and is located entirely within that city. The site is south of the Santa Monica Mountains, east of the Pacific Ocean and a few miles north of LAX. It adjoins the Los Angeles community planning areas of Venice and Palms-Mar Vista-Del Rey. The 225 acre site has a single 5,000 foot lighted runway that is capable of handling aircraft of up to 105,000 pounds. In 1994 SMO served approximately 550 based aircraft and handled over 208,000 flights annually. It has a capacity for 750 based aircraft. In addition to airport related activities, the site contains conference and meeting facilities and a large aircraft museum that displays vintage, corporate and recreational aircraft.

SMO - COMMUNITY PLAN NOISE ISSUES

In the 1990s, noise from SMO activities was not identified as a significant planning issue by either the Venice or Palms-Mar Vista-Del Rey community plans. The Penmar Golf Course in Venice adjoins SMO at the northeast boundary of the plan area, providing a partial buffer at the west end of the SMO runway. The golf course significantly mitigates noise impacts on Venice. The 1997 revised Palms-Mar Vista-Del Rey plan designates an area between SMO and Centinela Avenue for low density residential use. Footnote No. 4 indicates that the land should not be developed with residential uses as long as the airport is in operation. A portion of the area is developed with residential uses, the remainder with developed with airport related uses.

SMO NOISE MANAGEMENT

Until the 1960s SMO primarily served as a testing field for the Douglas Aircraft Company. When the company moved its operations to Long Beach, SMO expanded its operations. By 1966 it rivaled VNY as the busiest general aviation airport in the nation, reaching a peak of 374,000 flights.

With the expansion of SMO and introduction of jet aircraft in the 1960s neighbors began to complain about noise. During the 1970s the volume of flights continued to increase, as did complaints from Santa Monica and Los Angeles neighborhoods that were under or adjacent to the SMO flight paths.

Several lawsuits were filed. The courts determined that the City of Santa Monica had an obligation to take reasonable actions to abate noise impacts. In 1982 the U.S. Department of Justice advised Santa Monica that it intended to file suit, contending that Santa Monica was in violation of federal law and contracts relating to SMO operations. Santa Monica responded that it was obligated to continue airport operations in order to comply with legal commitments to the United States. As part of a preagreement, Santa Monica in 1983 adopted a revised airport master plan and noise ordinance. The ordinance included limitation of flight departures and engine start-ups to weekdays between 7 a.m. and 11 p.m. and weekends between 8 a.m. and 11 p.m. (except for emergencies), limitation of touch-and-go pattern flying operations to daytime and nonholiday hours, prohibition of all aircraft deemed unable to meet a 95 dBA (single-event noise exposure level) standard and prohibition of use of SMO for helicopter flight training. The ordinance set criminal penalties for violations. A 1984 negotiated settlement between Santa Monica and the FAA provided for SMO to operate through July 1, 2015, under certain conditions.

Provisions of the settlement included conditions that were incorporated into the Santa Monica noise ordinance (restrictions, standards and penalties), required SMO to establish aircraft noise abatement procedures and incorporated features of the new master plan (e.g., runway realignment, relocation of noise generating activities and designation of a heliport site). A main feature of the master plan was relocation of airport uses from the south (adjacent to Los Angeles) to the north side of SMO, creation of buffer zones by converting the southeast (adjacent to Los Angeles) portion of SMO to airport oriented uses (a business park) and converting other land to park and nonresidential uses. Flight patterns were established to contain noise within SMO and the Penmar Golf Course (Exhibit E). In 1990 the final phase of the master plan was implemented by the completion of the business park. Although the federal Airport Noise Capacity Act of 1990 prohibited local authorities from adopting new noise restrictions without obtaining permission from the FAA, it grandfathered existing ordinances, including the 1983 SMO noise ordinance.

In the early 1990s over $6 million in local and federal funds was expended on noise reduction measures, including construction of noise walls. Noise abatement procedures incorporating provisions of the noise ordinance and settlement were provided to aircraft operators and were revised periodically to improve noise abatement and reflect new technology and safety considerations. Procedures included restricted flight operation hours, a minimum altitude of 900 feet over the SMO vicinity for helicopters, compliance with other SMO-FAA established helicopter noise abatement procedures and specific landing and departure routes over the golf course and adjacent freeways. Operators were urged to observe additional voluntary procedures, including increased altitude for landing and departure patterns.

Noise impacts on properties within the Los Angeles and Santa Monica generally were mitigated by the various measures that were implemented following the 1984 settlement. A greater than CNEL of 65 dB noise contour generally is retained within SMO boundaries and adjacent public, industrial and commercial areas.

Whiteman Airport

Whiteman Airport has been owned and operated by the County of Los Angeles since 1970. It is located entirely within the City of Los Angeles community of Pacoima, in the north San Fernando Valley. The 184.4-acre, general aviation airport has one lighted 4,100 foot long runway that is capable of handling aircraft of up to 12,000 pounds. Whiteman primarily serves single engine, fixed-wing, propeller driven aircraft. In 1995 it served 551 based aircraft and handled over 88,000 flights.

WHITEMAN NOISE MANAGEMENT

Noise has not been a major issue relative to Whiteman. This is largely due to the fact that the majority of aircraft operations occur during daytime hours and only propeller (not jet) aircraft use the site. Noise impacts generally are contained within the airport boundaries or adjacent industrial, open space or public lands (Exhibit F).

Much of the airport is separated from residential uses by industrial, open space or public uses. The open space and public uses include county flood control and associated recreational facilities, a county communications center and a county regional fire department headquarters (including a heliport). Hilly terrain to the north of the runway provides a natural buffer.

From the 1970s to the 1990s the economic recession contributed to a reduction in airport activity and concomitant reduction in airport related noise. Flights decreased from 140,900 flights in 1989 to 88,000 in 1995. Based aircraft decreased from 655 in the 1970s to 551 in 1995. The 1991 airport master plan indicates a projected increase to 285,000 annual flights and 930 based aircraft by the year 2010. The increase was taken into account during the updating of the Arleta-Pacoima community plan and airport rezoning (1996).

WHITEMAN - ZONING AND COMMUNITY PLAN LAND CLASSIFICATION

Even though a county can preempt municipal land use law, the county worked closely with the city planning department and neighbors during the Arelta-Pacoima community plan updating project. The county supported rezoning of airport parcels so as to emphasize its desire to maintain the airport in a low intensity use and to provide land use buffers between the community and airport uses. Concurrent with the adoption of the community plan changes in 1996, the airport site was rezoned. The current zoning is mostly in the PF (public facilities) Zone, which permits continuance of the M2 Zone uses, i.e., airport related uses by right. Portions of the property along the northeast boundary are zoned as OS (open space) and [Q]MR2 (restricted light industrial). The [Q] 'Permanent Qualified' conditions limit uses generally to the MR1 (restricted industrial) Zone and require shielding of lights and other measures to protect adjacent residential uses.

Endnotes

No.	Description
1	The term "heliport" applies to all formal heliport or helistop sites. The FAA requires that all airports provide access for helicopters. Since helicopters may land on airport runways, no formal heliport facilities or locations at airports are required.
2	The official (charter) name of the airport is "Department of Airports." However, throughout this element the agency will be referred by its business name, Los Angeles World Airports (LAWA).
3-5	Detailed descriptions of legislation and programs are contained in the Regulations and Programs section of this chapter.

Chapter III — Goals, Objectives and Policies

The following goals, objectives and policies relate to noise management within the city. The "General Plan Guidelines" issued by the Governor's Office of Planning and Research (1990) advises that a general plan should contain goals, objectives, policies, programs and implementation monitoring. Goals are described as a general setting of direction, objectives as intermediate steps in attaining the goal, policies as specific guides to decision making and programs as specific means of achieving the policies. Each policy is to have at least one corresponding implementation measure.

The programs for the noise element are contained in the Chapter IV program implementation listing. Program numbers are referenced in this chapter after each policy with the notation 'P' followed by the program number.

DEFINITION OF NOISE-SENSITIVE USES: For the purposes of implementation of policies and programs contained herein, the following land uses are deemed "noise sensitive" uses: single-family and multi-unit dwellings, long-term care facilities (including convalescent and retirement facilities), dormitories, motels, hotels, transient lodgings and other residential uses; houses of worship; hospitals; libraries; schools; auditoriums; concert halls; outdoor theaters; nature and wildlife preserves, and parks.

Goal

A city where noise does not reduce the quality of urban life.

Objective 1 (Airports and Harbor)

Reduce airport and harbor related noise impacts.

Policy

1.1 Incompatibility of airports declared by Los Angeles County to be "noise problem airports" (LAX, Van Nuys and Burbank) and land uses shall be reduced to achieve zero incompatible uses within a CNEL of 65 dB airport noise exposure area, as required by the California Department of Transportation pursuant to the California Code of Regulations Title 21, Section 5000, et seq., or any amendment thereto. (**P1** through **P4**)

Objective 2 (Nonairport)

Reduce or eliminate nonairport related intrusive noise, especially relative to noise sensitive uses.

Policy

2.2 Enforce and/or implement applicable city, state and federal regulations intended to mitigate proposed noise producing activities, reduce intrusive noise and alleviate noise that is deemed a public nuisance. (**P5** through **P10**)

Objective 3 (Land Use Development)

Reduce or eliminate noise impacts associated with proposed development of land and changes in land use.

Policy

3.1 Develop land use policies and programs that will reduce or eliminate potential and existing noise impacts. (**P11** through **P18**)

Endnotes

No. **Description**

6 These standards are consistent with the standards proposed promulgated by the California Department of Health Services and recommended by the Governor's Office and Planning and Research "1990 General Plan Guidelines."

Chapter IV — Implementation

The following programs are intended to implement the policies set forth in Chapter III. All of the programs are ongoing city programs that are funded out of city funds or, as available, from federal, state or other sources.

An asterisk (*) indicates the program lead agency, if any.

DEFINITION OF NOISE-SENSITIVE USES: For the purposes of implementation of policies and programs contained herein, the following land uses are deemed "noise sensitive" uses: single-family and multi-unit dwellings, long-term care facilities (including convalescent and retirement facilities), dormitories, motels, hotels, transient lodgings and other residential uses; houses of worship; hospitals; libraries; schools; auditoriums; concert halls; outdoor theaters; nature and wildlife preserves, and parks.

Airports and Harbor:

P1 Continue to develop and implement noise compatibility ordinances and programs that are designed to abate airport related noise impacts on existing uses, to phase out incompatible uses and to guide the establishment of new uses within a CNEL of 65 dB noise exposure area of the Los Angeles International and Van Nuys airports and within those portions of the city that lie within a CNEL of 65 noise exposure area of the Burbank-Glendale-Pasadena Airport.

Responsible agencies: *Airport, Building and Safety and Planning departments.

P2 Noise abatement, mitigation and compatibility measures shall be incorporated into the city's general plan airport and harbor elements, including, where feasible, sound proofing of impacted sensitive uses, buffering, land use reconfiguration, modification of associated circulation and transportation systems, modification of operational procedures, conversion or phasing out of uses that are incompatible with airport or harbor uses, and/or other measures designed to reduce airport and harbor related noise impacts on adjacent communities.

Responsible agencies: *Airports, *Harbor and *Planning departments.

P3 Continue to incorporate airport and harbor noise compatibility measures into the city's general plan community plan elements for communities that are significantly impacted by airport and harbor related noise, including, where feasible, conversion or phasing out of land uses that are incompatible with airport and harbor uses, reclassification of zones, modification of associated circulation systems and/or other measures designed to reduce airport and harbor related noise impacts on adjacent communities.

Responsible agencies: *Planning, Airports and Harbor departments.

P4 Continue to encourage operators of the Burbank-Glendale-Pasadena, Santa Monica and Whiteman airports to continue implementing and improving noise management measures so as to maintain a CNEL of 65 dB contour within the airport and surrounding compatible use boundaries and so as to maintain or reduce any impacts on noise-sensitive uses located within the City of Los Angeles to a CNEL of 65 dB or lower noise level.

Responsible agencies: City Council and Mayor.

Nonairport:

P5 Continue to enforce, as applicable, city, state and federal regulations intended to abate or eliminate disturbances of the peace and other intrusive noise.

Responsible agencies: Animal Regulation, Building and Safety, Police, and Recreation and Parks departments.

P6 When processing building permits, continue to require appropriate project design and/or insulation measures, in accordance with the California Noise Insulation Standards (Building Code Title 24, Section 3501 et seq.), or any amendments thereto or subsequent related regulations, so as to assure that interior noise levels will not exceed the minimum ambient noise levels, as set forth in the city's noise ordinance (LAMC Section 111 et seq., and any other insulation related code standards or requirements) for a particular zone or noise sensitive use, as defined by the California Noise Insulation Standards.

Responsible agency: Building and Safety Department.

P7 Continue to periodically update city codes and plans that contain noise management provisions so as to address new issues and noise management changes.

Responsible agencies: Animal Regulation, Building and Safety, City Council, Planning, Police, and Recreation and Parks departments.

P8 Continue to periodically update guidelines for California Environmental Quality Act-required land development project review by city agencies.

Responsible agencies: Airports, Community Development, *Environmental Affairs, Harbor, Housing, Planning, Public Works, Recreation and Parks, Transportation, and Water and Power departments and Community Redevelopment Agency.

P9 Continue to operate city equipment, vehicles and facilities in accordance with any applicable city, state or federal regulations.

Responsible agencies: all.

P10 Continue to encourage public transit and rail systems operating within the city's borders, but which are not within the jurisdiction of the city, to be constructed and operated in a manner that will assure compliance with the city's noise ordinance standards.

Responsible agencies: City Council and Mayor.

Land Use Development:

P11 For a proposed development project that is deemed to have a potentially significant noise impact on noise sensitive uses, as defined by this chapter, require mitigation measures, as appropriate, in accordance with California Environmental Quality Act and city procedures.

Examples of mitigation measures to consider:

(a) increase the distance from the noise source and the receptor by providing land use buffers, e.g., parking lots, landscaped setbacks or open areas, utility yards, maintenance facilities, etc.;

(b) orient structures, use berms or sound walls, utilize terrain or use other means to block or deflect noise, provided it is not deflected to other noise-sensitive uses and that the barrier does not create a hiding place for potential criminal activity;

(c) require projects with noise generating components (e.g., auto repair and maintenance facilities) to have no openings in building walls that face sensitive uses;

(d) limit the hours of operation of a noise generating use;

(e) limit the use of the site to prohibit potential noise generating uses that otherwise are allowed by right within the zone classification of the project site;

(f) require that potential noise impacts associated with project construction be minimized by such measures as designating haul routes, requiring less noisy equipment, enclosing or orienting noisy equipment (e.g., electrical generators) away from noise sensitive uses, imposing construction hours that are more restrictive than those set forth in the Los Angeles Municipal Code, requiring vehicle parking and deployment activities to be separated and buffered from sensitive uses; or

(g) determine impacts on noise sensitive uses, such as public school classrooms, which are active primarily during the daytime and evening hours, by weighting the impact measurement to the potential interior noise level (or for exterior uses, e.g., outdoor theaters, to the exterior noise level) over the typical hours of use, instead of using a 24-hour measurement.

(h) other appropriate measures.

Responsible agencies: Airports, Community Development, Environmental Affairs, Harbor, Housing, Planning, Public Works, Recreation and Parks, Transportation, and Water and Power departments and Community Redevelopment Agency.

P12 When issuing discretionary permits for a proposed noise- sensitive use (as defined by this chapter) or a subdivision of four or more detached single-family units and which use is determined to be potentially significantly impacted by existing or proposed noise sources, require mitigation measures, as appropriate, in accordance with procedures set forth in the California Environmental Quality Act so as to achieve an interior noise level of a CNEL of 45 dB, or less, in any habitable room, as required by Los Angeles Municipal Code Section 91.

Examples of mitigation measures to consider:

(a) Impose project orientation and buffering measures similar to those cited in the prior program;

(b) orient the project so as to use structures, terrain or building design features (e.g., windowless walls or nonopening windows facing the noise source) so as to block or reduce noise impacts;

(c) orient interior features of the project to reduce or eliminate noise impacts on particularly noise sensitive portions of the project (e.g., locate bedrooms and balconies away from the noise source);

(d) require insulation and/or design measures, attested to by an acoustical expert, to the satisfaction of the city's Department of Building and Safety, to identify and mitigate potential noise impacts;

(e) determine impacts on noise sensitive uses, such as public school classrooms, which are active primarily during the daytime and evening hours, by weighting the impact measurement to the potential interior noise level (or for exterior uses, e.g., outdoor theaters, to the exterior noise level) over the typical hours of use, instead of using a 24-hour measurement.

(f) other appropriate measures.

Responsible agencies: Planning, Community Development and Housing departments and Community Redevelopment Agency.

P13 Continue to plan, design and construct or oversee construction of public projects, and projects on city owned properties, so as to minimize potential noise impacts on noise sensitive uses and to maintain or reduce existing ambient noise levels.

Examples of noise management strategies to consider:

(a) site or alignment selection to minimize potential noise incompatibility;

(b) orientation of noise sources away from noise sensitive uses;

(c) placement of structures between noise generators and noise sensitive receptors;

(d) enclosure of noise sources;

(e) erection of sound walls, berms or other noise buffers or deflectors, providing that they do not deflect sound to other noise sensitive uses and that the barrier does not create a hiding place for potential criminal activity;

(f) restricted hours of operation;

(g) modification of noise sources (e.g., utilizing less noisy equipment); or

(h) determine impacts on noise sensitive uses, such as public school classrooms, which are active primarily during the daytime and evening hours, by weighting the impact measurement to the potential interior noise level (or for exterior uses, e.g., outdoor theaters, to the exterior noise level) over the typical hours of use, instead of using a 24-hour measurement.

(i) other appropriate measures.

Responsible agencies: Airport, Community Redevelopment Agency, Harbor, Public Works, Recreation and Parks, Transportation, and Water and Power departments.

P14 Continue to periodically update general plan public facilities and utilities elements, taking into account existing and potential noise impacts.

Responsible agencies: Airport, Harbor, *Planning, Public Works, Recreation and Parks, and Water and Power departments.

P15 Continue to take into consideration, during updating/revision of the city's general plan community plans, noise impacts from freeways, highways, outdoor theaters and other significant noise sources and to incorporate appropriate policies and programs into the plans that will enhance land use compatibility.

Approaches to consider: rezoning, street realignment, site design, recommendations that the mayor and city council request that the California Department of Transportation, or other responsible agencies take reasonable measures to mitigate noise impacts associated with their facilities, etc.

Responsible agency: Planning Department

P16 Use, as appropriate, the "Guidelines for Noise Compatible Land Use" (Exhibit I),[1] or other measures that are acceptable to the city, to guide land use and zoning reclassification, subdivision, conditional use and use variance determinations and environmental assessment considerations, especially relative to sensitive uses, as defined by this chapter, within a CNEL of 65 dB airport noise exposure areas and within a line-of-sight of freeways, major highways, railroads or truck haul routes.

Responsible agencies: City Council, Mayor and *Planning Department.

P17 Continue to encourage the California Department of Transportation, the Los Angeles County Metropolitan Transportation Authority, or their successors, and other responsible agencies, to plan and construct transportation systems so as to reduce potential noise impacts on adjacent land uses, consistent with the standards and guidelines contained in the noise element.

Responsible agencies: City Council and Mayor.

P18 Continue to support the Alameda corridor project as a means of consolidating rail lines and improving buffering in order to reduce noise impacts on adjacent communities from railroad related uses.

Responsible agencies: City Council, Harbor, Mayor, Planning, Public Works, and Transportation departments.

Endnotes

No.	Description
6	These standards are consistent with the standards proposed promulgated by the California Department of Health Services and recommended by the Governor's Office and Planning and Research "1990 General Plan Guidelines."

Appendix A *(Not Adopted — Information Only)*

Evolution of Transportation Systems in Los Angeles:

A Context for Los Angeles Noise Issues

Automotive Vehicles

Automobile History

The first gasoline powered automobile was produced by Benz in 1885. It was a three-wheeled carriage that used Gottlieb Daimler's 1885 motorbike engine for power. The next year Daimler designed the first four-wheeled carriage. By the start of World War I a variety of gasoline powered vehicles were being produced, including Henry Ford's Model T. The new "horseless carriages" or "tin Lizzies," as they were popularly called, were scoffed at and criticized for being dangerous to horses and people and noisy nuisances. Mass production of automobiles followed Ford's introduction of assembly lines and moving conveyor belts in 1913. During the First World War inexpensive cars became readily available, rapidly displacing the horse and buggy. By 1920 Los Angeles County had become the most motorized metropolitan area in the nation with over 481,500 registered automobiles.

Los Angeles Street System

On September 4, 1781, under the authority of the King of Spain, Governor Felipe de Neve and eleven families founded el Pueblo de la Reina de los Angeles (the Village of the Queen of the Angels). The pueblo was to provide food for Spanish troops traveling between the missions of San Diego and Santa Barbara. Prior to departure de Neve drew up a plan situating the pueblo along Rio El Porciùncula (later renamed the Los Angeles River) and identifying the locations for a plaza, church, homes, farms, an irrigation system and a road connecting the pueblo with the nearby San Gabriel Mission. The pueblo's first named streets were Primavera (later named Spring) and Aliso streets.

The first Los Angeles city land use survey was prepared by U.S. army lieutenant Edward O.C. Ord in 1849, in anticipation of Los Angeles city becoming a city of the new state of California. It was prepared under contract to the city. The plan established boundaries for city-owned lands, dividing the vacant lands west and north of the central plaza into blocks and lots and with a grid street system. That was the city's first formal street map.

In 1870 the city's first engineer, Frank Lecouvreur prepared the first master plan for development of a Los Angeles infrastructure. His plan separated sewers from flood control systems and reoriented new streets in an east-west direction to facilitate the flow of rain water, thereby reducing flooding.

Introduction of motorized vehicles changed the mode of local transportation and street systems. Private cars began displacing the horse drawn vehicles during World War I, resulting in traffic hazards and vehicle conflicts. To address worsening congestion, increasing conflicts between trolleys and automobiles and a rising number of traffic accidents, especially at intersections, the private Los Angeles Traffic Commission prepared the "Major Traffic Street Plan." The plan was drafted by renowned city planners Frederick Law Olmsted, Jr. (Boston), Charles H. Cheney (Redondo Beach) and Harland Bartholomew (St. Louis), with the assistance of planning commissioner/commission secretary, Gordon Whitnall. Whitnall subsequently was appointed the city's first planning director. The plan was approved by city voters in 1924, along with bond issues to pay for a portion of the first 37.5 mile phase. Railroads and the county provided the balance of the funds. The project included the city's first bridges to separate train and automobile traffic. This increased safety and the speed of trains by reducing traffic conflicts. The city's first traffic ordinance also was drafted by the commission. It was adopted in 1925, requiring the city's first standard signs and signals.

Until recent times, establishment and construction of integrated and efficient municipal street systems was sporadic. Local governments had difficulty purchasing or exacting land for street rights-of-way. The state Subdivision Map Act of 1907 provided for dedication of land for public purposes but efforts to secure dedications met with opposition. In 1911 the state Improvement Act empowered local governments to use easements, eminent domain, assessment districts and subdivision procedures to secure streets and other infrastructure systems. To give local jurisdictions more leverage, the Map Act was amended in 1921, enabling cities to require easements for public improvements. However, efforts to exact land were challenged. Dedications continued to be voluntary or were secured through purchase following costly, often lengthy condemnation proceedings. Systematic development of the city's street system was slow until the economic depression of the 1930s.

Following the stock market crash of 1929, private financing for public infrastructure systems dwindled. Los Angeles joined other cities in successfully campaigning for a share of the state gas tax to help complete its 1924 street plan. In 1934 the state allocated a share of the gas tax funds to cities for road projects and authorized the state Division of Highways to build and maintain city roads to link rural state highways and to create a state highway system. Cities were responsible for construction and maintenance of urban streets and highways. Federal and state public works programs provided millions of dollars for construction of streets and bridges during the period of the economic depression.

But, not until 1966 did the city gain significant leverage to exact public improvements in conjunction with land development projects. In a landmark decision, *Southern Pacific Railroad versus the City of Los Angeles*, the California Supreme Court upheld the right of Los Angeles to withhold building permits for noncompliance with public dedication requirements. The decision strengthened the ability of all municipalities to secure public facilities in conjunction with new development. Local authority was further strengthened by the 1971 California Environmental Quality Act that required development projects to mitigate potential environmental impacts associated with a project, including anticipated traffic congestion and noise. The combination of regulations (Map Act, environmental and city) enabled Los Angeles to require developers to dedicate land, construct public improvements or set aside funds for improvements. This resulted in more systematic development of the street systems. By 1996, according to the city's department of transportation, there were 6,440.1 miles of streets within the boundaries of the city, including 59.4 miles of unimproved streets, 1,028.4 miles of primary arterials (major and secondary highways), 584 bridges and 652 at-grade railroad crossings.

State Highways And Freeways

The first public road in California, El Camino Real (The Royal Road), was established in 1769 by Spanish priest-explorer Father Junipero Serra and Spain's governor of California Don Gaspar de Portolá to link the California missions. The missions were constructed approximately one day apart by horseback between San Francisco and San Diego. Following California statehood in 1850, General S.H. Marlette was commissioned to "make plans and suggestions or improvements of navigation, construction of roads, railroads and canals, preservation of forests… and surveys of boundaries of the State and counties." Although the legislature failed to allocate funds, Marlette raised money and began the first survey and construction project in 1855. It established the state's first official road, the Emigrant Wagon Toll Road from Placerville, across the Sierra Nevada Mountains to Nevada. Immigrants had come streaming into California following the announcement of the discovery of gold in 1849. By 1864 almost all mountain passes were accessible by toll roads that linked mining camps and immigrant routes to towns and cities. The first traffic count in 1864 was along the Lake Tahoe Wagon Road. It recorded 6,667 footmen, 833 horsemen, 3,164 stage passengers, 5,000 pack animals, 2,564 teams and 4,694 cattle.

In the 1870s the state and federal governments began planning a highway system. It was to link federal and state roads and serve the expanding freight traffic created by the land boom following the gold rush and extension of railroads to and within California. Construction was delegated to counties, which levied tolls to pay for the roads. This resulted in a variety of tolls and a disparate road system. Anticipating the popularity of automotive vehicles, the state created the bureau of highways in 1895. The bureau's 1896 highway plan laid the foundation for the California highway system as it exists today, with many of the routes following early mission and immigrant routes. Construction of the first state highway, Route 1, partially along a Pacific coast mission route from San Juan Capistrano, via Los Angeles and Santa Barbara, to San Francisco, began in 1912. Funding for maintenance and construction of state and county roads was provided by the state's first gas tax, a three-cent tax that was approved in 1923. A 1927 one-cent gas tax assured steady revenue for construction of the state road system. In that year the state Division of Highways (DOH) was created to plan, construct and maintain the highway system.

The first California nontoll highway, or "freeway," was the six-mile Arroyo Seco Parkway (later renamed the Pasadena Freeway). It was completed in 1940, connecting downtown Los Angeles with the adjacent city of Pasadena. After World War II, an infusion of state and federal funds enabled the acceleration of highway construction. By the mid-1960s California had an efficient, integrated highway system. But growing opposition to freeway construction, demands for community participation and environmental protection and a period of economic inflation slowed system expansion. People protested that planned freeways would slice through their communities, creating physical divisions, destroying neighborhoods, contributing to unplanned growth, local traffic congestion and noise. In the 1970s public opposition halted the proposed Century Freeway in south Los Angeles, a proposed Beverly Hills Freeway and other freeways and highways in the Los Angeles area. In 1972, to address shifting priorities, the state legislature established the California Department of Transportation (aka Caltrans) to replace the DOH. Caltrans was charged with the responsibility of planning and implementing a multi-modal transportation system, including over 15,000 miles of state highways and freeways. In 1974 a voter approved tax measure for the first time allowed gas tax funds to be used for non-highway system projects and enabled implementation of an integrated transportation program comprised of a variety of transportation systems (multi-modal system), e.g., roads, highways, bus, light rail, aircraft and other transportation modes.

Until the 1970s noise was not a major consideration in transportation system planning. Although manufacturers long had designed vehicles for reduced interior noise for drivers and passengers. Early in the century municipalities began regulating use of horns on city streets and eventually regulations and standards were developed for regulating engine and tailpipe noise levels. In the 1970s, in response to growing opposition of communities to new freeways and to mitigate potential noise impacts freeway and highway system design incorporated noise reduction features. Concurrently the noise abatement programs were instituted to address noise impacts of existing systems on noise sensitive uses.

Fixed Rail Systems

Railroads

Invention of the high pressure steam engine by Richard Trevithick in 1802 revolutionized land transportation and led to the steam driven turbine engines that were used to power ships. George Stephenson built the first public steam railroad in England in 1825. This ushered in the era of railroad building around the world. Construction of the first transcontinental railroad in North America was completed on May 10, 1869 when the Central Pacific Railroad tracks were connected to the Union Pacific tracks at Promontory Point, Utah. The route linked Chicago and San Francisco by rail, enabling rapid settlement of the western frontier and stimulating a real estate boom in California that triggered construction of additional railroad lines within the state and to points east. In 1872 Los Angeles voters approved funds to help subsidize construction of a railroad between Los Angeles and San Francisco via the San Joaquin Valley. In 1876 a route from Los Angeles to Texas was completed. Southern Pacific decided to bypass Los Angeles by establishing a freight route from its yards in Colton, fifty miles east of Los Angeles, through the Cajon Pass and Palmdale, along a desert route to New Orleans. As late as 1887 railroad companies considered San Francisco a more viable city than Los Angeles as a destination and connection point for both passenger and freight lines. In that year Santa Fe established a passenger line from Chicago, via Santa Fe, New Mexico, to Los Angeles. In spite of the arduous five day trip, Santa Fe's faster trains, with their elegant Fred Harvey dining cars and Harvey Girls hostesses, helped make the Santa Fe Los Angeles line one of the most popular in the nation and to make Southern California a popular destination point for immigrants and tourists from the eastern and Midwestern United States.

By the end of World War II less polluting electric and diesel engines had replaced steam engines on major lines. But the popularity of automobiles and expansion of the trucking industry, along with rising operational costs and higher fares and freight fees, contributed to a sharp decline in the demand for rail services. Railroad companies shifted their priorities to freight services, cut passenger services and eliminated many passenger routes and operations. By the late 1960s the extinction of passenger and freight trains was predicted.

To save passenger service systems, the federal government began subsidizing designated lines. In the 1970s it established the National Rail Passenger Corporation (aka AMTRAK) as a quasi-public agency to take over operation of national passenger services. Public demand for less environmentally damaging transport and for an alternative to automobile and air transport, combined with AMTRAK's passenger train improvement program and its interfacing of passenger rail connections with bus and air transport, revived the passenger train. Concurrently, many freight rail companies formed, merged with or entered into cooperative relationships with trucking and shipping companies. By the late 1970s freight rail service had been revived by improved, more efficient equipment, especially uniform transferable cargo containers. Containers, designed to be carried by ships, trucks or trains, revolutionized the entire shipping industry.

Freight haul and AMTRAK passenger trains continue to use rail lines that cross the city. The hub for rail operations in Los Angeles is centered around Union Station (adjacent to the city's historic plaza) and the east Los Angeles rail yards. Many of the lines in the area have been in existence since the 1870s, including lines connecting the downtown with the harbor and transcontinental lines. In 1996 Union Station served five weekly or daily transcontinental passenger trains and other trains connecting Los Angeles to San Diego, San Francisco and other cities within California.

First Los Angeles Street Cars

In 1874 Judge Robert M. Widney opened the first Los Angeles street car line. It consisted of a two single open cars drawn by horses along a 2.5 mile single track beginning at the Temple Street and zigzagging down Spring to 6th Street (later extended to the Plaza and San Fernando Street). Other enterprising businessmen quickly developed competing short haul lines. One line, the Main Street and Agricultural Park Railroad, offered 308 lots in what is now Exposition Park to attract passengers. By

1885 few horse drawn cars remained. Most had been replaced by cable cars. Electric powered street-cars were introduced in 1887 by Los Angeles Electric Railway. The line went out of business in 1888 when the power plant boiler burst. In 1888 construction in Boston by Frank J. Sprague of first successful electric street car system revolutionized local transportation. Sprague's electrified trolley trains could climb steeper grades, travel faster and, because they could pull multi-cars guided by one motorman, could operate more cheaply and efficiently than conventional street cars.

Between 1890 and 1910 the city's population grew more than sixfold, from 50,395 to 319,198, fostering a period of intense competition between the street car companies. Lines were built, damaged by floods, rebuilt, bought by competitors and expanded. In 1893 General Moses H. Sherman bought out all the Los Angeles cable lines and began converting them to electrical power. Sherman was bought out by Los Angeles Consolidated Electric Railway (LACE) in 1895. In that year LACE inaugurated the first interurban trolley line. It ran between Los Angeles and Pasadena. LACE converted its remaining cable and horse car lines to electric trolley and installed handsome Pullman Company open sided cars. Although its California Car was popular, the company was unable to show a substantial profit.

Trolley competition was intense. By 1900 an estimated 72 separate trolley companies were operating in the city, carrying passengers and goods. In 1898 Henry E. Huntington, nephew of Southern Pacific railroad owner Hollis Huntington, purchased LACE and began buying up other lines throughout the region. He wanted to develop an interurban system that would compete with his uncle's company. He also was head of the Pacific Light and Power Company, which constructed the Big Creek hydroelectric plant in the Sierra Nevada Mountains in central California to power his Los Angeles Inter-Urban Railway system (L.A. Rail). As a direct challenge to Southern Pacific, he ran some of the L.A. Rail lines parallel to Southern Pacific lines, including the Los Angeles to Long Beach harbor line that opened in 1902. To encourage ridership, he hired engineers to design a new high quality, all-season wooden car with glass windows. The handsome yellow cars built by St. Louis Car Company were popular and set a national standard. Patrons dubbed them the "big yellow cars." In 1903, E. H. Harriman bought a 45% interest in L.A. Rail, eventually taking over management of the Pacific Electric Company (P&E), owner of L.A. Rail. Harriman oversaw the development of Huntington's extensive interurban P&E L.A. Rail system. The system soon was challenged by the versatile gas fueled automobiles. By 1913 the public was complaining that the P&E trolleys were crowded and noisy (compared to rubber tired vehicles), that fares were excessively high, stops inconvenient and that the trolleys were a hazard to automobiles and other vehicles.

Competition And Noise Issues

Jitneys posed the first formidable challenge to P&E's trolleys. Eager citizens purchased automobiles and entered the jitney business, providing flexible service and flexible routes with which the fixed rail system could not compete. By 1915 an estimated 1,000 jitneys plied the city's streets, drastically reducing trolley ridership. P&E reduced fares and lobbied successfully for jitney licensing and regulation, temporarily slowing jitney competition, but not affecting the public's desire for more flexible service.

Future U.S. Senator and 1924 presidential candidate William McAdoo introduced the city's first gasoline fueled buses in 1923, the People's Motor Bus Company. But Harold Huntington, who had taken over the rail company from his father, took Motor Bus to court, driving them out of business with his claim that buses were hazardous. But other bus companies were formed, again causing trolley ridership to drop. The public outcry against the noisy trolleys and their hazardous conflicts with automobiles on narrow streets and at unregulated intersections led to the adoption of the city's first street (1924) and traffic signal plans (1925) and to construction of grade separated bridge overpasses. P&E continued to add lines. Its big yellow cars experienced a resurgence in the popularity during the economic depression of the 1930s, reaching a peak of 721 operating cars in 1932. But, with an upsurge in the economy and expansion of automobile use, ridership began to decline. To stimulate ridership, P&E in 1937 ordered new, more comfortable, streamlined, stainless steel and chrome cars and painted them red. Only two were delivered before war industry needs intervened, postponing completion of the order until 1943. The shiny new cars were dubbed the "big red cars."

At 1,164 miles of track, serving 125 cities, the P&E system was the largest electric rail system in the world. Its lines emanated from Los Angeles, reaching to Santa Monica and Ventura County (west), Redlands in San Bernardino County (east) and Riverside, Corona and Newport Beach in Riverside and Orange counties (south). The busiest year for the big red cars was in 1945 when thousands of servicemen returned from the war seeking employment opportunity in Southern California. But the era of the trolleys soon was over. Rapid population and economic expansion in all of Southern California, along with construction of the first freeways and increased automobile use created too much competition for P&E. To cut its losses the company in 1946 began eliminating short shuttle lines. Diesel powered, rubber tired buses that could operate on any street further eroded the appeal of the trolleys. The Los Angeles to Long Beach line was converted from yellow cars to red cars in 1960. By then the trolley era was over. P&E continued to close lines until only the Long Beach line remained. It was closed on March 30, 1963, temporarily ending the Los Angeles commuter rail era.

First Los Angeles Subway

A 100 mile per hour elevated, electric powered monorail was proposed by the American Rapid Transit Company in 1907. The company envisioned that the line would run from Pasadena to Santa Monica. The idea did not get beyond the planning stage.

Henry Huntington envisioned a subway system and made it a reality. He purchased the rights-of-way from 4th and Hill Streets to what is now Pico Boulevard and Rimpau Avenue. In 1907 the city council approved Huntington's subway project. By 1909 the Bunker Hill tunnel for the system had been completed. Further work was halted by an economic recession.

To address increasing conflicts between the growing automobile population and the trolley system, a 1915 study for the city proposed construction of either a subway or an elevated system. It strongly recommended a subway, so as to avoid the noise and unsightliness of elevated systems like those that had been or were under construction in New York, Chicago, Philadelphia and Boston.

In 1923, the California Railroad Commission voted to allow Huntington to increase trolley fares if he would construct an underground railroad as a means of reducing trolley and auto conflicts and potential noise. Within two years Huntington inaugurated the first Los Angeles subway, the Hollywood Subway. It had two tracks, each less than a mile in length. It ran from the new subway terminal building at Hill Street (between 4th and 5th Streets), through Crown Hill to Glendale and Beverly Boulevard near First Street. There it emerged as street trolley lines, one serving West Los Angeles and the other serving Echo Park and the cities of Glendale and, eventually, Burbank. The Beverly tunnel was used by P&E until 1955 when the Glendale-Burbank line was discontinued. The Terminal Building and the tunnel still exist as reminders of Huntington's visionary effort.

Construction of an elevated ('El') line from 6th and Main Streets to the Los Angeles River near the city's birthplace, the historic plaza, was begun in 1923. It was halted when the powerful Los Angeles Times newspaper opposed the project. The Times portrayed the El as a "dirty, deafening and hideous" contraption that would destroy the visual appearance of the historic plaza and surrounding environs. To settle the issue, the city council placed two referenda on the May 1926 ballot. Proposition 8, which would have provided funding for the El, was defeated. Proposition 9, backed by the Times, was approved. It endorsed construction of a train station east of the plaza, on the site of Old Chinatown. Union Station opened in 1939.

New Fixed Rail Systems

Various measures were proposed over the next several decades for new commuter train systems but all were defeated, partially due to claims that surface and overhead systems would be noisy and unsightly. In 1959 the Metropolitan Transit Authority (MTA), a regional agency created by the state to evaluate metropolitan transit needs, proposed a new subway system from downtown Los Angeles, running east to the city of El Monte. The idea was rejected by the voters. MTA was reconstituted by the state legislature in 1964 as the Southern California Rapid Transit District (RTD). RTD was charged with the responsibility of planning, constructing and operating a regional public transit system. The system selected was a regional bus system which became one of the largest all-bus systems in the world.

Increasing congestion on highways and a heightening of interest in environmental quality, especially air quality, prompted the state legislature, in 1972, to reconstitute its transportation and highway functions into a new agency, the California Department of Transportation (Caltrans). Caltrans was directed to reduce public dependence on the air polluting, gas guzzling automobile by developing an integrated multi-modal transportation system including buses, fixed rail and aeronautics. Voters in 1974 approved a ballot measure authorizing use of gas tax monies for transportation projects other than highways and freeways. In that same year the federal Urban Mass Transit Administration allocated funds for multi-modal regional transit systems. Funds allocated to the RTD enabled preparation of alternative plans for potential rapid transit fixed rail routes.

New Subway And Light Rail Systems

In 1980 Los Angeles County voters approved Proposition A, establishing the county's first tax specifically intended to fund public transportation. The half-cent sales tax was allocated for planning and implementation of a multi-modal county transportation system, including a 150-mile rail system. Additional funds from federal, state, local and private sources, including voter supported bond measures and, in 1990, a second county sales tax, enabled system implementation.

Three new mass transit systems evolved from the initial funding: (1) an urban subway system within the boundaries of the City of Los Angeles, (2) a light rail system within the county and (3) a regional commuter train system. They were designed to interconnect with each other, with bus and shuttle lines and with airport and long distance Amtrak passenger train facilities.

To better integrate planning and management of the vast system, the state in 1992 established the Los Angeles County Metropolitan Transportation Authority (MTA), consolidating the RTD and Los Angeles County Transportation Commission (LACTC). The RTD had been responsible for operating the bus and rail systems, constructing the subway system and operating the new light rail and subway systems. The LACTC had been responsible for constructing new light rail systems. The new MTA began operating on April 1, 1993.

The MTA opened its first Metro Rail Red Line subway in 1993. It was a four-mile line between Union Station (downtown) and Alvarado Street at Wilshire Boulevard (Westlake community). It was extended to Western Avenue at Wilshire (mid-city Wilshire community) in 1996. Another segment is under construction to the Los Angeles community of North Hollywood and others are being planned to serve east and west Los Angeles.

The MTA's Metro Rail Blue Line light rail system between the Los Angeles downtown and the city of Long Beach opened in 1990. In 1991 it was extended to MTA's subterranean rail station at Flower and Seventh Streets in the city's downtown financial district. The station serves as a transfer point for the subway and Blue Line. The 20-mile east-west Metro Rail Green Line light rail system opened in 1995. Partially to reduce noise impacts, it is constructed largely within the median of the I-105 Glenn Anderson Freeway (formerly the Century Freeway). It runs from the city of Norwalk (east) to Aviation Boulevard, near the Los Angeles International Airport (west), where it becomes a grade-separated system, continuing along a 3.5 mile route to the city of Redondo Beach. Another light rail line is under construction from Union Station to the city of Pasadena.

New Interurban Trains

Concurrently with the development of the subway and light rail systems, the Southern California Regional Rail Authority established the Metrolink regional commuter train system. Metrolink quickly became operational because it used existing rail rights-of-way, thereby eliminating the need to acquire land and construct extensive rail systems. The first Los Angeles line opened in 1990, following purchase of Southern Pacific Railroad rights-of-way along a route roughly paralleling the Pacific Coast, from Union Station to San Juan Capistrano in Orange County. Metrolink lines between Los Angeles and Moorpark (Ventura County), Santa Clarita (Los Angeles County) and Pomona (San Bernardino County) opened in 1992.

Metrolink trains primarily serve commuters, thereby avoiding competition with Amtrak. They operate during weekday peak hours, with some trains operating on Saturday and midday. All Metrolink lines for southern California emanate from Union Station. Today Metrolink serves six southern California counties: Los Angeles, Ventura, San Bernardino, Orange, Riverside and San Diego. It is interconnected with other transit systems throughout the region. During the January 17, 1994 Northridge earthquake, when several freeways collapsed or were structurally damaged. Emergency expansions of Metrolink provided commuter access from Palmdale-Lancaster and other communities north of Los Angeles to areas south of the damaged freeways.

In 1997, in response to a federal mandate that Amtrak recover costs from the fare box or other means to pay for passenger lines, intrastate Amtrak lines were threatened with future closure. In response, regional coalitions were formed to devise means of assuming responsibility for lines serving their regions, including adding lines to the Metrolink system.

Train And Trolley Noise Issues

In the 1800s and the early part of the 20th century, railroad lines were built through expanses of virgin, agricultural and ranch lands. As the population and economy grew, manufacturing uses were established along the majority of rail routes within Los Angeles. Street cars serviced residential and commercial areas, much as buses do today. Noise impacts on passengers, rather than noise impacts on adjacent properties was an issue relative to the trolley system. Noise related to rail systems was a "given" of the urban environment and generally was not the subject of antinoise demands. Operation of trolleys and interurban trains primarily during daytime hours and infrequent passage of freight and passenger trains also contributed to the lack of public complaint about noise associated with railways.

Passengers complained about noise within L.A. Rail's yellow trolley cars, especially after the introduction of quieter rubber tired automobiles and buses. Rubber was installed in the new red cars to reduce noise and vibration experienced by passengers, thereby making them more appealing to riders. In the 1970s, greater public concern about the environment and health prompted promulgation of federal noise mitigation guidelines and standards. This resulted in quieter equipment and sound reducing track design.

Aircraft

Helicopters

Greek mathematician Archimedes developed a heliko or 'screw' machine around 200 B.C. to perform specific tasks. In the 16th Century Leonardo da Vinci applied the concept, using the heliko in his design of a vertical lift flying vehicle. The machine proved infeasible due to inadequate power to lift the craft. In 1907, Frenchmen Paul Cornu and Louis Breguet constructed and flew two vertical lift machines called "helicopters." The 1915 Peteroczy-Karman helicopters, which had to be tethered to the ground and could not maneuver horizontally, were used during World War I to monitor enemy military activities. In 1939 Igor Sikorsky produced the first practical helicopter that could be flown and maneuvered by pilot operated controls. By 1941 he had developed a mechanism that enabled pilots to control a helicopter's pitch and roll, thereby increasing its practical use. The Sikorsky became the first mass produced helicopter, proving its versatility during World War II. Bell Aircraft introduced the first commercial helicopter in 1947. It was powered by piston engines and was slow, noisy and vibrated so badly that it was unpopular for use in passenger travel. The introduction in the 1960s of gas turbine engines suitable for helicopters, enabled construction of lighter machines and a quieter and smoother flight. Until the 1970s the turbine engines proved impractical because they experienced frequent, recurring and expensive maintenance problems. A variety of technological advances in the late 1960s and early 1970s revolutionized helicopter technology, including stability augmentation, which improved the pilot's ability to control and maneuver the craft; solid state avionics, which reduced the size and weight of components (replacing the bulky tube radios with lighter equipment); and more reliable twin turbine engines, which provided power redundance for added safety. The improvements decreased vibration and noise levels, increased passenger comfort, decreased maintenance and reduced noise impacts on the surrounding environment.

With the improvements, use of helicopters for transportation, commercial and other civilian uses increased dramatically. Early application included use of helicopters for rescues, fire fighting and surveillance. In 1962 the Los Angeles City Fire Department acquired its first helicopter. It was used for dropping water and chemicals on targeted brush fire areas. Following the 1963 collapse of the Baldwin Hills Dam, the helicopter was used in dramatic rescues of stranded and endangered victims. The success of the operation convinced the city to purchase of a fleet of helicopters for emergency services. During the 1960s and 1970s emergency and private heliports were established throughout the city. Noise impacts were reduced by siting of facilities, flight path orientation and change in helicopter design.

Airplanes

The first successful flight of a powered, heavier-than-air craft was in 1896 by J.P. Langley whose unmanned Model No. 5 flew three quarters of a mile along the Potomac River. But it was Orville and Wilbur Wright's successful flight of the first piloted plane, a biplane, at Kitty Hawk, North Carolina in 1903 that launched the air age. Publicity flights and establishment of the first flying school by Glenn Curtis in 1907 and flight contests and air races in Europe and North America heightened public interest in flying machines. Aircraft production was accelerated during World War I when the small aircraft were used for surveillance and aerial fighting and began to be used for carrying mail and small amounts of freight, as well as for pleasure and daredevil exhibition flying. Following the war, more powerful gasoline fueled engines enabled construction of planes that could fly faster and greater distances. Soon planes were able to fly what was considered a phenomenal 200 miles per hour.

In 1927 Charles A. Lindbergh, in his Ryan NX-211 monoplane The Spirit of St. Louis, broke the U.S. transcontinental record by flying from San Diego to Long Island in 21 hours and 20 minutes with only one stop. He then flew on to Paris in 33 hours and 39 minutes, the first solo, nonstop flight across the Atlantic. His transatlantic flight caught the imagination of the public and generated increased interest in air travel. By the 1930s biplanes had been replaced for commercial and military uses by larger, faster, more versatile and more aerodynamic monoplanes.

The first jet plane, the Heinkel He-178, was produced in Germany in 1939. However, during World War II conventional propeller or "prop" planes like the DC-3 remained the primary transport and passenger aircraft. Technological advances were accelerated by wartime demands, resulting lighter planes that had greater range and speed and were more efficient and comfortable. By the 1950s jet airliners were being used for commercial flights. Not until the 1960s, with the advent of the jumbo jet with its expanded seating capacity, greater passenger comfort and reduced fares, did air passenger service become popular in the United States. In the interim the turbo props dominated the civilian market with their economical fuel consumption in carrying heavy loads over short hauls and their ability to land in difficult terrain and on short air fields. They were especially popular in rural and Third World areas.

Jet aircraft by the late 1960s had reduced the transatlantic flight time to six hours. The Anglo-French supersonic Concorde cut the time in half with its cruise speed of Mach 2, twice the speed of sound (approximately 1,350 miles per hour). The Concorde's maiden flight was in 1969. It entered commercial service in 1976. As of 1998 the single Concorde craft was the only supersonic plane in service but, due to its noise, it was barred from most airports in the United States. By the 1990s jet planes were the dominant commercial and military craft. Introduction of jet aircraft resulted in noise impacts on surrounding neighborhoods and communities. Smaller piston engine and propeller planes remained popular for private and business use and sports and generated little or no significant noise impacts on adjacent communities.

Most of the airports in the Los Angeles area initially were established within vast expanses of undeveloped or agricultural land. In some cases the airports began as test fields associated with aircraft manufacture. Communities grew up around the sites to provide homes and services for aircraft plant employees who did not complain about airport noise. With the advent of jet aircraft and transformation of surrounding neighborhoods to nonairport related populations, noise began to be considered a nuisance.

Los Angeles International Airport (LAX)

The Los Angeles Chamber of Commerce in the early 1920s recognized that the fragile airplanes, then considered a novelty, were the beginning of a new transportation era. Because federal law at that time prohibited use of federal funds for development of airports, the chamber lobbied the city to establish a municipal airport, publishing a survey (1926) suggesting 13 possible airfield sites. After assessing terrain, wind conditions and other factors of 28 sites, the city selected Mines Field (formerly called the Inglewood Site), a 640-acre bean field that had an emergency dirt air strip. When voters turned down a bond issue for purchase of the land, the city negotiated a ten-year lease, with option to buy, and began preparing three runways for the September 1928 National Air Races. At the conclusion of the races, at which Lindbergh was the main attraction, Los Angeles took over Mines Field and created the Department of Airports (DOA) to manage it.

The airfield was established as a general aviation facility. Its few buildings and a control tower served small, single-engine planes. The first permanent runway was constructed in 1929. It was 2,000 feet long and served as the landing site in August 1929 for the Graf Zeppelin. In 1930 the field was officially dedicated as the Los Angeles Municipal Airport and the lease was extended for 50 years. Voters were reluctant to fund additional improvements since the Glendale Grand Central Airport and Burbank United Terminal (later Lockheed) appeared to provide adequate facilities for what was widely viewed as a passing fad. One disgruntled critic filed a lawsuit demanding that the lease be voided on the grounds that it was illegal to lease an airport without approval of the electorate. The state supreme court upheld the lease.

While the public may have been skeptical, the aircraft industry was not. It quickly established manufacturing facilities near the Municipal and Santa Monica airports. Douglas and Northrop opened plants in 1932. North American and other manufacturers followed. By 1937, 2,300 skilled workers were employed in the aircraft industries in the area. In the meantime air passenger travel had become popular and larger aircraft, such as the Douglas DC-3s, had been developed as passenger planes. Determining that the Glendale and Burbank airfields were not adequate for the new planes, TWA, American, Western and Pan American airlines agreed to make the Los Angeles airport their base if the city would make necessary improvements. Some improvements, including construction of a new runway, were made possible by a federal Emergency Relief Administration grant through the federal Works Progress Administration (WPA). WPA subsequently declined to provide funds because the site was not owned by the city. That problem was resolved when title was acquired in 1937. Between 1937 and 1939, WPA and bond monies enabled construction of runways and other facilities and improvements. The board of airport commissioners was created in 1940 to manage the DOA and in 1941 the name of the field was changed to the Los Angeles Airport.

During World War II the airport was used for military purposes. In 1943 the five major passenger airlines signed leases transferring their operations to the site. In anticipation of passenger air expansion, an airport master plan was prepared in 1944. After the war, southern California emerged as the center of the national aircraft industry with major activity taking place around the Los Angeles and Santa Monica airports. Passage of the city's 1945 airport bond issue by an overwhelming 5-to-1 majority enabled acquisition of 2,000 acres of land and construction of massive terminal facilities and major runways. Airport activity was shifted west of the original site to its present location.

The five airlines began operating at the airport in 1946, making it a major passenger terminal for the region. The following year voters approved a charter amendment making the DOA a self-managing city agency, independent of the mayor and city council and with control over its own finances. The airport commission, appointed by the mayor, quickly acted to create a regional system and to expand the airport into a world class facility. In 1950 the commission renamed the facility the Los Angeles International Airport, better known by its Federal Aviation Administration identifier LAX. The first runway overpass of its kind, the Sepulveda Boulevard overpass, was completed in 1953, enabling the extension of the two main runways above the boulevard to accommodate jet traffic.

In January 1959 American Airlines began the first jet service between New York and Los Angeles. A new terminal and the first permanent passenger facilities for LAX were completed in 1961. With the advent of jet aircraft, significant noise problems began to be experienced by neighboring communities due to jet overflights and increased airport activity. The DOA was made self sufficient by a 1963 charter amendment that allowed it to issue its own revenue bonds without having to secure voter approval. It immediately embarked on a program of diversification and expansion and began to address noise impact issues. In 1965 and 1966 the first air freight terminals were opened to accommodate an increasing demand for freight services. In anticipation of the 1984 Los Angeles Summer Olympic Games, airport passenger facilities were upgraded, new international and domestic terminals were constructed, other terminals were renovated, automobile circulation was enhanced by a new second level roadway and other facilities were added or renovated. The airport department (now calling itself Los Angeles World Airports, or LAWA) in 1998 was preparing a master plan for LAX, of which noise management is an important consideration.

Van Nuys Airport (VNY)

Metropolitan Airport was established as a private general aviation field on October 1, 1928. Three factories, six hangers and a control tower were added in 1929. In 1942 it was purchased by the federal government for use as a military base. Los Angeles acquired the airport in 1949 for one dollar with the proviso that the California Air National Guard could remain on the site. With the completion of the Sherman Way overpass in 1957 the city renamed the airport the Van Nuys Airport. The Sherman Way extension provided VNY with a runway that could accommodate jet aircraft. Introduction of jet planes resulted in increased noise impacts on adjacent communities. Acquisitions enabled expansion of airport operations and provision of noise buffers between aircraft activities and adjacent communities. By 1971 VNY had become the busiest general aviation airport in the nation. In 1997 LAWA was preparing a master plan for VNY, in part to address noise issues.

Burbank-Glendale-Pasadena Airport (BUR)

When United Airport opened in 1930 it was the nation's first "multimillion dollar airport," boasting five 3,600-foot runways and related facilities. By 1934 the airport served more than 98,000 passengers a year and was the main terminal for the Los Angeles area. In that year its name was changed to Union Air Terminal. The Lockheed aircraft company, which owned an adjacent manufacturing facility and airfield, purchased the site in 1940, combining the two sites and using them for the production of B-17 bombers, P-8 fighters and Hudson bombers during World War II. The original site had been used by pilots, including North Hollywood resident Amelia Earhart, to test planes purchased from Lockheed. In the 1950s air cargo and commuter flights began using BUR. Subsequently commuter and distance operations were expanded, providing a convenient alternative to LAX. With increased aircraft activity came increased noise impacts on adjacent communities.

When Lockheed announced its intention to sell the airport for conversion to other uses, the state Division of Aeronautics and FAA evaluated the facility and determined that it was important to maintain the site in airport use. To do so, the state legislature in 1976 authorized formation of an airport authority to purchase and operate BUR. The cities of Burbank, Glendale and Pasadena entered into a joint powers agreement to form the authority, which was independent of the three founding cities. Los Angeles and the City of San Fernando declined to join. Each of the three members appointed three representatives to serve on the authority's board of commissioners. The board convened in 1977, formally inaugurating the Airport Authority. In 1978 the Authority purchased the airport from Lockheed with funding from the FAA and from revenue bonds issued by the Authority. The airport was renamed the Burbank-Glendale-Pasadena Airport, retaining its FAA identification call letters of BUR. The Authority's recently approved development plans are under challenge from surrounding jurisdictions, including the City of Los Angeles, in part due to noise impact issues.

Santa Monica Airport (SMO)

In 1919 the City of Santa Monica established Clover Field on a leased a portion of a barley field. Many of the private pilots who used the field were associated with the new Hollywood motion picture industry. The Douglas Aircraft Company moved to Santa Monica in 1922 and began building military aircraft, using the airstrip for test flights. With the increasing demand for airfields and expanding needs of Douglas, Santa Monica purchased 158 acres of land in 1924 for airport expansion. It was at the Santa Monica plant that Douglas began manufacturing its popular DC series of planes. In 1934 the DC-3 became the first successful mass produced plane for commercial passenger service. Growth of jobs at the plant generated a housing boom, resulting in residential development around SMO.

On the eve of World War II, the army leased the airport for army air corps and military purposes, returning it to Santa Monica in 1948. In the late 1950s Douglas shifted its primary manufacturing operations to Long Beach because SMO could not provide a long enough runway to accommodate large jet aircraft. By the 1960s, SMO rivaled VNY as the busiest general aviation airport in the nation, reaching a peak of 374,000 flights in 1966. With increased aircraft activity and surrounding land uses, noise became an increasing issue. Mitigation of impacts has been accomplished by a variety of measures, including changes in flight paths, airport use and configuration and surrounding land uses.

Whiteman Airport

Whiteman Air Park was established in 1946 as a private airfield. It was used primarily for training, business and recreational purposes. The County purchased the site in 1970 and renamed it Whiteman Airport. Noise issues have not been a major issue relative to the airport. Recent land use and zoning changes were made to assure minimal airport impacts on adjacent residential uses.

Note: additional information about history, noise issues and noise management programs is contained in the noise element text.

Exhibit G: Glossary of Terms and Acronyms

ALUC: county airport land use commission.

Ambient noise: background or existing noise level. The composite of noise from all sources near and far in a given environment, exclusive of occasional and transient intrusive noise.

Based aircraft: aircraft having legal contracts with the airport authority for use of airport property for a specific number of days. Typically the contracts are in the form of leases.

BUR: Burbank-Glendale-Pasadena Airport.

Caltrans: California Department of Transportation.

CAP: Caltrans Aeronautics Program, formerly called the Division of Aeronautics. A division of Caltrans.

CEQA: California Environmental Quality Act of 1970.

CLUP: Comprehensive (airport) Land Use Plan of the county Airport Land Use Commission.

CNEL (Community Noise Equivalent Level): a noise measurement scale applied over a 24-hour period to all noise events received at the measurement point. It is weighted more heavily for evening and night periods in order to account for the lower tolerance of individuals to noise during those periods.

CPC: Los Angeles City Planning Commission.

dB: decibel. A decibel is a unit for measuring the relative loudness of sound.

dBA: 'A' measures the level of sound the way sound is received by the human ear. Combined with dB (decibels) it is used to measure decibel level related to human hearing. CNEL is weighted, therefore the 'A' does not appear when CNEL and dB are referenced together.

DOA: Los Angeles Department of Airports. In 1997 the Board of Airports Commissioners, approved the name "Los Angeles World Airports" as the business title of the department. The official (charter) name, DOA, was not changed.

EIR: environmental impact report, a requirement of CEQA.

EIS: environmental impact statement, a requirement of NEPA.

EPA: federal Environmental Protection Agency.

FAA: Federal Aviation Administration.

FAR: Federal Aviation Regulation.

FHA: Federal Highway Administration of the U.S. Department of Transportation.

FTA: Federal Transit Administration of the U.S. Department of Transportation.

Flight: a landing or departure of an aircraft.

General aviation airport: an airport that does not serve scheduled air carriers.

Intermittent noise: periodic noise, as opposed to ambient noise.

Intrusive noise: isolated noise incidents in which the particular noise is greater than the ambient noise level.

LAMC: Los Angeles Municipal Code.

LAWA: Los Angeles World Airports, the business name for the Los Angeles Department of Airports.

LAX: Los Angeles International Airport.

Ldn: average day-night sound level weighted to account for the lower tolerance of people to noise during the night period. Approximately a half a decibel lower than CNEL.

MTA: Los Angeles County Metropolitan Transportation Authority.

NEPA: National Environmental Policy Act of 1969.

Noise contours: mapped lines around a noise source to indicate specific levels of intensity of community exposure to the noise, e.g., an airport.

Noise source: generator of the sound being measured.

SCRRA: Southern California Regional Rail Authority (Metrolink).

SMO: Santa Monica Airport.

VNY: Van Nuys Airport.

Exhibit H: Common Noise Levels

(Caltrans Noise Manual, California Department of Transportation, March 1980)

Noise Level (dBA)	Common Indoor Noise Levels	Common Outdoor Noise Levels
110	Rock Band	
100	Inside Subway Train	Jet Flyover @ 1,000 feet Gas Lawn Mower @ 3 feet
90	Food Blender @ 3 feet	Diesel Truck @ 50 feet Noisy Urban Daytime
80	Garbage Disposal @ 3 feet Shouting @ 3 feet	
70	Vacuum Cleaner @ 10 feet	Gas Lawn Mower @ 100 feet Commercial Area
60	Normal Speech @ 3 feet Large Business Office	Heavy Traffic @ 300 feet
50	Dishwasher next room	Quiet Urban Daytime
40	Small Theater/Conference Room (background)	Quiet Urban Nightime Quiet Suburban Nightime
30	Library Bedroom at Night	
20	Concert Hall (background) Broadcast & Recording Studio	Quiet Rural Nightime
10		
0	Threshold of Hearing	

Exhibit I: Guidelines for Noise Compatible Land Use

(Based on the Governor's Office of Planning and Research, "General Plan Guidelines", 1990. To help guide determination of appropriate land use and mitigation measures vis-a-vis existing or anticipated ambient noise levels)

Land Use Category	Day-Night Average Exterior Sound Level (CNEL dB) 50	55	60	65	70	75	80
Residential Single Family, Duplex, Mobile Home	A	C	C	C	N	U	U
Residential Multi-Family	A	A	C	C	N	U	U
Transient Lodging, Motel, Hotel	A	A	C	C	N	U	U
School, Library, Church, Hospital, Nursing Home	A	A	C	C	N	N	U
Auditorium, Concert Hall, Ampitheater	C	C	C	C/N	U	U	U
Sports Arena, Outdoor Spectator Sports	C	C	C	C	C/U	U	U
Playground, Neighborhood Park	A	A	A	A/N	N	N/U	U
Golf Course, Riding Stable, Water Recreation, Cemetery	A	A	A	A	N	A/N	U
Office Building, Business, Commercial, Professional	A	A	A	A/C	C	C/N	N
Agriculture, Industrial, Manufacturing, Utilities	A	A	A	A	A/C	C/N	N

A = Normally acceptable. Specified land use is satisfactory, based upon assumption buildings involved are conventional construction, without any special noise insulation.

C = Conditionally acceptable. New construction or development only after a detailed analysis of noise mitigation is made and needed noise insulation features are included in project design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning normally will suffice.

N = Normally unacceptable. New construction or development generally should be discouraged. A detailed analysis of noise reduction requirements must be made and noise insulation features included in the design of a project.

U = Clearly unacceptable. New construction or development generally should not be undertaken.

EXHIBIT E

TECHNICAL ADVISORY

ON EVALUATING TRANSPORTATION IMPACTS IN CEQA

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
STATE OF CALIFORNIA

December 2018

Contents

A. Introduction

This technical advisory is one in a series of advisories provided by the Governor's Office of Planning and Research (OPR) as a service to professional planners, land use officials, and CEQA practitioners. OPR issues technical assistance on issues that broadly affect the practice of land use planning and the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). (Gov. Code, § 65040, subds. (g), (l), (m).) The purpose of this document is to provide advice and recommendations, which agencies and other entities may use at their discretion. This document does not alter lead agency discretion in preparing environmental documents subject to CEQA. This document should not be construed as legal advice.

Senate Bill 743 (Steinberg, 2013), which was codified in Public Resources Code section 21099, required changes to the guidelines implementing CEQA (CEQA Guidelines) (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) regarding the analysis of transportation impacts. As one appellate court recently explained: "During the last 10 years, the Legislature has charted a course of long-term sustainability based on denser infill development, reduced reliance on individual vehicles and improved mass transit, all with the goal of reducing greenhouse gas emissions. Section 21099 is part of that strategy . . . ." (*Covina Residents for Responsible Development v. City of Covina* (2018) 21 Cal.App.5th 712, 729.) Pursuant to Section 21099, the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." (*Id.*, subd. (b)(1); see generally, adopted CEQA Guidelines, § 15064.3, subd. (b) [Criteria for Analyzing Transportation Impacts].) To that end, in developing the criteria, OPR has proposed, and the California Natural Resources Agency (Agency) has certified and adopted, changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. With the California Natural Resources Agency's certification and adoption of the changes to the CEQA Guidelines, automobile delay, as measured by "level of service" and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA. (Pub. Resources Code, § 21099, subd. (b)(3).)

This advisory contains technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. Again, OPR provides this Technical Advisory as a resource for the public to use at their discretion. OPR is not enforcing or attempting to enforce any part of the recommendations contained herein. (Gov. Code, § 65035 ["It is not the intent of the Legislature to vest in the Office of Planning and Research any direct operating or regulatory powers over land use, public works, or other state, regional, or local projects or programs."].)

This December 2018 technical advisory is an update to the advisory it published in April 2018. OPR will continue to monitor implementation of these new provisions and may update or supplement this advisory in response to new information and advancements in modeling and methods.

B. Background

VMT and Greenhouse Gas Emissions Reduction. Senate Bill 32 (Pavley, 2016) requires California to reduce greenhouse gas (GHG) emissions 40 percent below 1990 levels by 2030, and Executive Order B-16-12 provides a target of 80 percent below 1990 emissions levels for the transportation sector by 2050. The transportation sector has three major means of reducing GHG emissions: increasing vehicle efficiency, reducing fuel carbon content, and reducing the amount of vehicle travel. The California Air Resources Board (CARB) has provided a path forward for achieving these emissions reductions from the transportation sector in its 2016 Mobile Source Strategy. CARB determined that it will not be possible to achieve the State's 2030 and post-2030 emissions goals without reducing VMT growth. Further, in its 2018 Progress Report on California's Sustainable Communities and Climate Protection Act, CARB found that despite the State meeting its 2020 climate goals, "emissions from statewide passenger vehicle travel per capita [have been] increasing and going in the wrong direction," and "California cannot meet its [long-term] climate goals without curbing growth in single-occupancy vehicle activity."[1] CARB also found that "[w]ith emissions from the transportation sector continuing to rise despite increases in fuel efficiency and decreases in the carbon content of fuel, California will not achieve the necessary greenhouse gas emissions reductions to meet mandates for 2030 and beyond without significant changes to how communities and transportation systems are planned, funded, and built."[2]

Thus, to achieve the State's long-term climate goals, California needs to reduce per capita VMT. This can occur under CEQA through VMT mitigation. Half of California's GHG emissions come from the transportation sector[3], therefore, reducing VMT is an effective climate strategy, which can also result in co-benefits.[4] Furthermore, without early VMT mitigation, the state may follow a path that meets GHG targets in the early years, but finds itself poorly positioned to meet more stringent targets later. For example, in absence of VMT analysis and mitigation in CEQA, lead agencies might rely upon verifiable offsets for GHG mitigation, ignoring the longer-term climate change impacts resulting from land use development and infrastructure investment decisions. As stated in CARB's 2017 Scoping Plan:

> "California's future climate strategy will require increased focus on integrated land use planning to support livable, transit-connected communities, and conservation of agricultural and other lands. Accommodating population and economic growth through travel- and energy-efficient land use provides GHG-efficient growth, reducing GHGs from both transportation and building energy use. GHGs can be further reduced at the project level through implementing energy-efficient construction and travel demand management approaches."[5] (*Id.* at p. 102.)

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[1] California Air Resources Board (Nov. 2018) *2018 Progress Report on California's Sustainable Communities and Climate Protection Act*, pp. 4, 5, available at https://ww2.arb.ca.gov/sites/default/files/2018-11/Final2018Report_SB150_112618_02_Report.pdf.
[2] *Id.*, p. 28.
[3] See https://ca50million.ca.gov/transportation/
[4] Fang et al. (2017) *Cutting Greenhouse Gas Emissions Is Only the Beginning: A Literature Review of the Co-Benefits of Reducing Vehicle Miles Traveled*.
[5] California Air Resources Board (Nov. 2017) *California's 2017 Climate Change Scoping Plan*, p. 102, available at https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

In light of this, the 2017 Scoping Plan describes and quantifies VMT reductions needed to achieve our long-term GHG emissions reduction goals, and specifically points to the need for statewide deployment of the VMT metric in CEQA:

> "Employing VMT as the metric of transportation impact statewide will help to ensure GHG reductions planned under SB 375 will be achieved through on-the-ground development, and will also play an important role in creating the additional GHG reductions needed beyond SB 375 across the State. Implementation of this change will rely, in part, on local land use decisions to reduce GHG emissions associated with the transportation sector, both at the project level, and in long-term plans (including general plans, climate action plans, specific plans, and transportation plans) and supporting sustainable community strategies developed under SB 375."[6]

VMT and Other Impacts to Health and Environment. VMT mitigation also creates substantial benefits (sometimes characterized as "co-benefits" to GHG reduction) in both in the near-term and the long-term. Beyond GHG emissions, increases in VMT also impact human health and the natural environment. Human health is impacted as increases in vehicle travel lead to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health. Increases in vehicle travel also negatively affect other road users, including pedestrians, cyclists, other motorists, and many transit users. The natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. Additionally, development that leads to more vehicle travel also tends to consume more energy, water, and open space (including farmland and sensitive habitat). This increase in impermeable surfaces raises the flood risk and pollutant transport into waterways.[7]

VMT and Economic Growth. While it was previously believed that VMT growth was a necessary component of economic growth, data from the past two decades shows that economic growth is possible without a concomitant increase in VMT. (Figure 1.) Recent research shows that requiring development projects to mitigate LOS may actually reduce accessibility to destinations and impede economic growth.[8,9]

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[6] *Id.* at p. 76.

[7] Fang et al. (2017) *Cutting Greenhouse Gas Emissions Is Only the Beginning: A Literature Review of the Co-Benefits of Reducing Vehicle Miles Traveled*, available at https://ncst.ucdavis.edu/wp-content/uploads/2017/03/NCST-VMT-Co-Benefits-White-Paper_Fang_March-2017.pdf.

[8] Haynes et al. (Sept. 2015) *Congested Development: A Study of Traffic Delays, Access, and Economic Activity in Metropolitan Los Angeles*, available at http://www.its.ucla.edu/wp-content/uploads/sites/6/2015/11/Haynes_Congested-Development_1-Oct-2015_final.pdf.

[9] Osman et al. (Mar. 2016) *Not So Fast: A Study of Traffic Delays, Access, and Economic Activity in the San Francisco Bay Area*, available at http://www.its.ucla.edu/wp-content/uploads/sites/6/2016/08/Taylor-Not-so-Fast-04-01-2016_final.pdf.

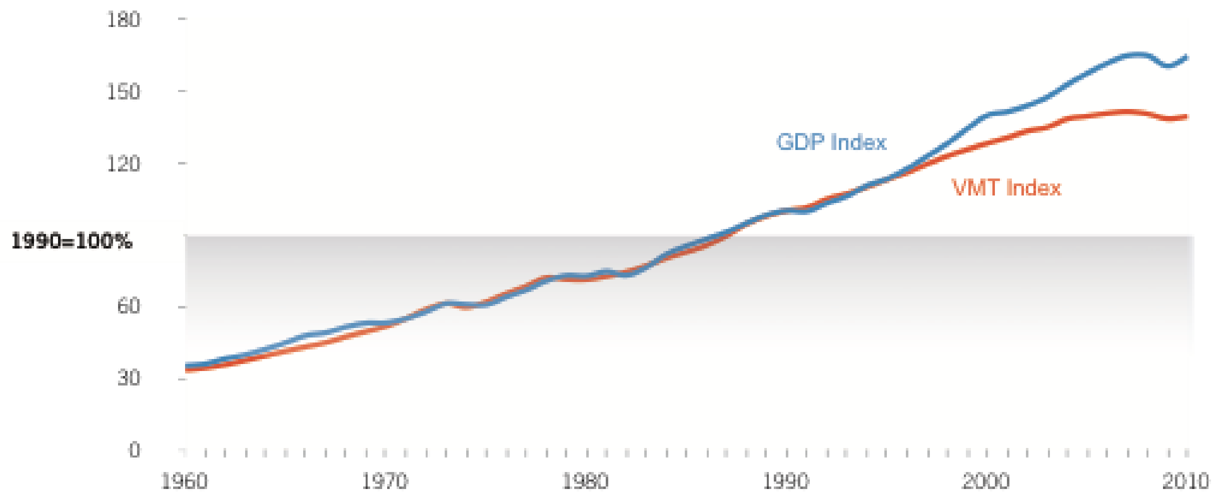

Figure 1. Kooshian and Winkelman (2011) *VMT and Gross Domestic Product (GDP), 1960-2010*.

C. Technical Considerations in Assessing Vehicle Miles Traveled

Many practitioners are familiar with accounting for VMT in connection with long-range planning, or as part of the CEQA analysis of a project's greenhouse gas emissions or energy impacts. This document provides technical information on how to assess VMT as part of a transportation impacts analysis under CEQA. Appendix 1 provides a description of which VMT to count and options on how to count it. Appendix 2 provides information on induced travel resulting from roadway capacity projects, including the mechanisms giving rise to induced travel, the research quantifying it, and information on additional approaches for assessing it.

1. Recommendations Regarding Methodology

Proposed Section 15064.3 explains that a "lead agency may use models to estimate a project's vehicle miles traveled . . . ." CEQA generally defers to lead agencies on the choice of methodology to analyze impacts. (*Santa Monica Baykeeper v. City of Malibu* (2011) 193 Cal.App.4th 1538, 1546; see *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 409 ["the issue is not whether the studies are irrefutable or whether they could have been better" … rather, the "relevant issue is only whether the studies are sufficiently credible to be considered" as part of the lead agency's overall evaluation].) This section provides suggestions to lead agencies regarding methodologies to analyze VMT associated with a project.

Vehicle Types. Proposed Section 15064.3, subdivision (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT). For an apples-to-apples comparison, vehicle types considered should be consistent across project assessment, significance thresholds, and mitigation.

Residential and Office Projects. Tour- and trip-based approaches[10] offer the best methods for assessing VMT from residential/office projects and for comparing those assessments to VMT thresholds. These approaches also offer the most straightforward methods for assessing VMT reductions from mitigation measures for residential/office projects. When available, tour-based assessment is ideal because it captures travel behavior more comprehensively. But where tour-based tools or data are not available for all components of an analysis, a trip-based assessment of VMT serves as a reasonable proxy.

Models and methodologies used to calculate thresholds, estimate project VMT, and estimate VMT reduction due to mitigation should be comparable. For example:

- A tour-based assessment of project VMT should be compared to a tour-based threshold, or a trip-based assessment to a trip-based VMT threshold.
- Where a travel demand model is used to determine thresholds, the same model should also be used to provide trip lengths as part of assessing project VMT.
- Where only trip-based estimates of VMT reduction from mitigation are available, a trip-based threshold should be used, and project VMT should be assessed in a trip-based manner.

When a trip-based method is used to analyze a residential project, the focus can be on home-based trips. Similarly, when a trip-based method is used to analyze an office project, the focus can be on home-based work trips.

When tour-based models are used to analyze an office project, either employee work tour VMT or VMT from all employee tours may be attributed to the project. This is because workplace location influences overall travel. For consistency, the significance threshold should be based on the same metric: either employee work tour VMT or VMT from all employee tours.

For office projects that feature a customer component, such as a government office that serves the public, a lead agency can analyze the customer VMT component of the project using the methodology for retail development (see below).

Retail Projects. Generally, lead agencies should analyze the effects of a retail project by assessing the change in total VMT[11] because retail projects typically re-route travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns.

[10] See Appendix 1, *Considerations About Which VMT to Count,* for a description of these approaches.
[11] See Appendix 1, *Considerations About Which VMT to Count, "*Assessing Change in Total VMT" section, for a description of this approach.

Considerations for All Projects. Lead agencies should not truncate any VMT analysis because of jurisdictional or other boundaries, for example, by failing to count the portion of a trip that falls outside the jurisdiction or by discounting the VMT from a trip that crosses a jurisdictional boundary. CEQA requires environmental analyses to reflect a "good faith effort at full disclosure." (CEQA Guidelines, § 15151.) Thus, where methodologies exist that can estimate the full extent of vehicle travel from a project, the lead agency should apply them to do so. Where those VMT effects will grow over time, analyses should consider both a project's short-term and long-term effects on VMT.

Combining land uses for VMT analysis is not recommended. Different land uses generate different amounts of VMT, so the outcome of such an analysis could depend more on the mix of uses than on their travel efficiency. As a result, it could be difficult or impossible for a lead agency to connect a significance threshold with an environmental policy objective (such as a target set by law), inhibiting the CEQA imperative of identifying a project's significant impacts and providing mitigation where feasible. Combining land uses for a VMT analysis could streamline certain mixes of uses in a manner disconnected from policy objectives or environmental outcomes. Instead, OPR recommends analyzing each use separately, or simply focusing analysis on the dominant use, and comparing each result to the appropriate threshold. Recommendations for methods of analysis and thresholds are provided below. In the analysis of each use, a mixed-use project should take credit for internal capture.

Any project that includes in its geographic bounds a portion of an existing or planned Transit Priority Area (i.e., the project is within a ½ mile of an existing or planned major transit stop or an existing stop along a high quality transit corridor) may employ VMT as its primary metric of transportation impact for the entire project. (See Pub. Resources Code, § 21099, subds. (a)(7), (b)(1).)

Cumulative Impacts. A project's cumulative impacts are based on an assessment of whether the "incremental effects of an individual 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." (Pub. Resources Code, § 21083, subd. (b)(2); see CEQA Guidelines, § 15064, subd. (h)(1).) When using an absolute VMT metric, i.e., total VMT (as recommended below for retail and transportation projects), analyzing the combined impacts for a cumulative impacts analysis may be appropriate. However, metrics such as VMT per capita or VMT per employee, i.e., metrics framed in terms of efficiency (as recommended below for use on residential and office projects), cannot be summed because they employ a denominator. A project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa. This is similar to the analysis typically conducted for greenhouse gas emissions, air quality impacts, and impacts that utilize plan compliance as a threshold of significance. (See *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 219, 223; CEQA Guidelines, § 15064, subd. (h)(3).)

D. General Principles to Guide Consideration of VMT

SB 743 directs OPR to establish specific "criteria for determining the significance of transportation impacts of projects[.]" (Pub. Resources Code, § 21099, subd. (b)(1).) In establishing this criterion, OPR was guided by the general principles contained within CEQA, the CEQA Guidelines, and applicable case law.

To assist in the determination of significance, many lead agencies rely on "thresholds of significance." The CEQA Guidelines define a "threshold of significance" to mean "an identifiable **quantitative, qualitative**[12] **or performance level** of a particular environmental effect, non-compliance with which means the effect will ***normally*** be determined to be significant by the agency and compliance with which means the effect ***normally*** will be determined to be less than significant." (CEQA Guidelines, § 15064.7, subd. (a) (emphasis added).) Lead agencies have discretion to develop and adopt their own, or rely on thresholds recommended by other agencies, "provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." (*Id*. at subd. (c); *Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1068.) Substantial evidence means "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached." (*Id*. at § 15384 (emphasis added); *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1108-1109.)

Additionally, the analysis leading to the determination of significance need not be perfect. The CEQA Guidelines describe the standard for adequacy of environmental analyses:

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

(CEQA Guidelines, § 15151 (emphasis added).)

These general principles guide OPR's recommendations regarding thresholds of significance for VMT set forth below.

[12] Generally, qualitative analyses should only be conducted when methods do not exist for undertaking a quantitative analysis.

E. Recommendations Regarding Significance Thresholds

As noted above, lead agencies have the discretion to set or apply their own thresholds of significance. (*Center for Biological Diversity v. California Dept. of Fish & Wildlife* (2015) 62 Cal.4th 204, 218-223 [lead agency had discretion to use compliance with AB 32's emissions goals as a significance threshold]; *Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th at p. 1068.) However, Section 21099 of the Public Resources Code states that the criteria for determining the significance of transportation impacts must promote: (1) reduction of greenhouse gas emissions; (2) development of multimodal transportation networks; and (3) a diversity of land uses. It further directed OPR to prepare and develop criteria for determining significance. (Pub. Resources Code, § 21099, subd. (b)(1).) This section provides OPR's suggested thresholds, as well as considerations for lead agencies that choose to adopt their own

The VMT metric can support the three statutory goals: "the reduction of greenhouse gas emissions, the development of multimodal transportation networks, *and* a diversity of land uses." (Pub. Resources Code, § 21099, subd. (b)(1), emphasis added.) However, in order for it to promote and support all three, lead agencies should select a significance threshold that aligns with state law on all three. State law concerning the development of multimodal transportation networks and diversity of land uses requires planning for and prioritizing increases in complete streets and infill development, but does not mandate a particular depth of implementation that could translate into a particular threshold of significance. Meanwhile, the State has clear quantitative targets for GHG emissions reduction set forth in law and based on scientific consensus, and the depth of VMT reduction needed to achieve those targets has been quantified. Tying VMT thresholds to GHG reduction also supports the two other statutory goals. Therefore, to ensure adequate analysis of transportation impacts, OPR recommends using quantitative VMT thresholds linked to GHG reduction targets when methods exist to do so.

Various legislative mandates and state policies establish quantitative greenhouse gas emissions reduction targets. For example:

- Assembly Bill 32 (2006) requires statewide GHG emissions reductions to 1990 levels by 2020 and continued reductions beyond 2020.

- Senate Bill 32 (2016) requires at least a 40 percent reduction in GHG emissions from 1990 levels by 2030.

- Pursuant to Senate Bill 375 (2008), the California Air Resources Board GHG emissions reduction targets for metropolitan planning organizations (MPOs) to achieve based on land use patterns and transportation systems specified in Regional Transportation Plans and Sustainable Community Strategies (RTP/SCS). Current targets for the State's largest MPOs call for a 19 percent reduction in GHG emissions from cars and light trucks from 2005 emissions levels by 2035.

- Executive Order B-30-15 (2015) sets a GHG emissions reduction target of 40 percent below 1990 levels by 2030.

- Executive Order S-3-05 (2005) sets a GHG emissions reduction target of 80 percent below 1990 levels by 2050.

- Executive Order B-16-12 (2012) specifies a GHG emissions reduction target of 80 percent below 1990 levels by 2050 specifically for transportation.

- Executive Order B-55-18 (2018) established an additional statewide goal of achieving carbon neutrality as soon as possible, but no later than 2045, and maintaining net negative emissions thereafter. It states, "The California Air Resources Board shall work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal."

- Senate Bill 391 requires the California Transportation Plan to support 80 percent reduction in GHGs below 1990 levels by 2050.

- The *California Air Resources Board Mobile Source Strategy* (2016) describes California's strategy for containing air pollutant emissions from vehicles, and quantifies VMT growth compatible with achieving state targets.

- The California Air Resources Board's *2017 Climate Change Scoping Plan Update: The Strategy for Achieving California's 2030 Greenhouse Gas Target* describes California's strategy for containing GHG emissions from vehicles, and quantifies VMT growth compatible with achieving state targets.

Considering these various targets, the California Supreme Court observed:

> Meeting our statewide reduction goals does not preclude all new development. Rather, the Scoping Plan … assumes continued growth and depends on increased efficiency and conservation in land use and transportation from all Californians.

(*Center for Biological Diversity v. California Dept. of Fish & Wildlife*, *supra*, 62 Cal.4th at p. 220.) Indeed, the Court noted that when a lead agency uses consistency with climate goals as a way to determine significance, particularly for long-term projects, the lead agency must consider the project's effect on meeting long-term reduction goals. (*Ibid*.) And more recently, the Supreme Court stated that "CEQA requires public agencies . . . to ensure that such analysis stay in step with evolving scientific knowledge and state regulatory schemes." (*Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497, 504.)

Meeting the targets described above will require substantial reductions in existing VMT per capita to curb GHG emissions and other pollutants. But targets for overall GHG emissions reduction do not translate directly into VMT thresholds for individual projects for many reasons, including:

- Some, but not all, of the emissions reductions needed to achieve those targets could be accomplished by other measures, including increased vehicle efficiency and decreased fuel carbon content. The CARB's *First Update to the Climate Change Scoping Plan* explains:

"Achieving California's long-term criteria pollutant and GHG emissions goals will require four strategies to be employed: (1) improve vehicle efficiency and develop zero emission technologies, (2) reduce the carbon content of fuels and provide market support to get these lower-carbon fuels into the marketplace, (3) **plan and build communities to reduce vehicular GHG emissions and provide more transportation options, and (4) improve the efficiency and throughput of existing transportation systems.**"[13] CARB's *2018 Progress Report on California's Sustainable Communities and Climate Protection Act* states on page 28 that "California cannot meet its climate goals without curbing growth in single-occupancy vehicle activity." In other words, vehicle efficiency and better fuels are necessary, but insufficient, to address the GHG emissions from the transportation system. Land use patterns and transportation options also will need to change to support reductions in vehicle travel/VMT.

- New land use projects alone will not sufficiently reduce per-capita VMT to achieve those targets, nor are they expected to be the sole source of VMT reduction.
- Interactions between land use projects, and also between land use and transportation projects, existing and future, together affect VMT.
- Because location within the region is the most important determinant of VMT, in some cases, streamlining CEQA review of projects in travel efficient locations may be the most effective means of reducing VMT.
- When assessing climate impacts of some types of land use projects, use of an efficiency metric (e.g., per capita, per employee) may provide a better measure of impact than an absolute numeric threshold. (*Center for Biological Diversity*, *supra*.)

Public Resources Code section 21099 directs OPR to propose criteria for determining the significance of transportation impacts. In this Technical Advisory, OPR provides its recommendations to assist lead agencies in selecting a significance threshold that may be appropriate for their particular projects. While OPR's Technical Advisory is not binding on public agencies, CEQA allows lead agencies to "consider thresholds of significance . . . recommended by other public agencies, provided the decision to adopt those thresholds is supported by substantial evidence." (CEQA Guidelines, § 15064.7, subd. (c).) Based on OPR's extensive review of the applicable research, and in light of an assessment by the California Air Resources Board quantifying the need for VMT reduction in order to meet the State's long-term climate goals, **OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold**.

Fifteen percent reductions in VMT are achievable at the project level in a variety of place types.[14]

Moreover, a fifteen percent reduction is consistent with SB 743's direction to OPR to select a threshold that will help the State achieve its climate goals. As described above, section 21099 states that the

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[13] California Air Resources Board (May 2014) *First Update to the Climate Change Scoping Plan*, p. 46 (emphasis added).
[14] CAPCOA (2010) *Quantifying Greenhouse Gas Mitigation Measures*, p. 55, available at http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.

criteria for determining significance must "promote the reduction in greenhouse gas emissions." In its document *California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals*[15], CARB assesses VMT reduction per capita consistent with its evidence-based modeling scenario that would achieve State climate goals of 40 percent GHG emissions reduction from 1990 levels by 2030 and 80 percent GHG emissions reduction levels from 1990 by 2050. Applying California Department of Finance population forecasts, CARB finds per-capita light-duty vehicle travel would need to be approximately 16.8 percent lower than existing, and overall per-capita vehicle travel would need to be approximately 14.3 percent lower than existing levels under that scenario. Below these levels, a project could be considered low VMT and would, on that metric, be consistent with 2017 Scoping Plan Update assumptions that achieve climate state climate goals.

CARB finds per capita vehicle travel would need to be kept below what today's policies and plans would achieve.

CARB's assessment is based on data in the 2017 Scoping Plan Update and 2016 Mobile Source Strategy. In those documents, CARB previously examined the relationship between VMT and the state's GHG emissions reduction targets. The Scoping Plan finds:

> "While the State can do more to accelerate and incentivize these local decisions, local actions that reduce VMT are also necessary to meet transportation sector-specific goals and achieve the 2030 target under SB 32. Through developing the Scoping Plan, CARB staff is more convinced than ever that, in addition to achieving GHG reductions from cleaner fuels and vehicles, California must also reduce VMT. Stronger SB 375 GHG reduction targets will enable the State to make significant progress toward needed reductions, but alone will not provide the VMT growth reductions needed; there is a gap between what SB 375 can provide and what is needed to meet the State's 2030 and 2050 goals."[16]

Note that, at present, consistency with RTP/SCSs does not necessarily lead to a less-than-significant VMT impact.[17] As the Final 2017 Scoping Plan Update states,

> VMT reductions are necessary to achieve the 2030 target and must be part of any strategy evaluated in this Plan. Stronger SB 375 GHG reduction targets will enable the State to make significant progress toward this goal, but alone will not provide all of the VMT growth reductions that will be needed. There is a gap between what SB 375 can provide and what is needed to meet the State's 2030 and 2050 goals."[18]

[15] California Air Resources Board (Jan. 2019) *California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals*, available at https://ww2.arb.ca.gov/resources/documents/carb-2017-scoping-plan-identified-vmt-reductions-and-relationship-state-climate.
[16] California Air Resources Board (Nov. 2017) *California's 2017 Climate Change Scoping Plan*, p. 101.
[17] California Air Resources Board (Feb. 2018) *Updated Final Staff Report: Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets*, Figure 3, p. 35, available at https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.
[18] California Air Resources Board (Nov. 2017) *California's 2017 Climate Change Scoping Plan*, p. 75.

Also, in order to capture the full effects of induced travel resulting from roadway capacity projects, an RTP/SCS would need to include an assessment of land use effects of those projects, and the effects of those land uses on VMT. (See section titled "*Estimating VMT Impacts from Transportation Projects"* below.) RTP/SCSs typically model VMT using a collaboratively-developed land use "vision" for the region's land use, rather than studying the effects on land use of the proposed transportation investments.

In summary, achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals.

1. Screening Thresholds for Land Use Projects

Many agencies use "screening thresholds" to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (See e.g., CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix G.) As explained below, this technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing.

Screening Threshold for Small Projects

Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day[19] generally may be assumed to cause a less-than-significant transportation impact.

Map-Based Screening for Residential and Office Projects

Residential and office projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. Maps created with VMT data, for example from a travel survey or a travel demand model, can illustrate areas that are

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[19] CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area. (CEQA Guidelines, § 15301, subd. (e)(2).) Typical project types for which trip generation increases relatively linearly with building footprint (i.e., general office building, single tenant office building, office park, and business park) generate or attract an additional 110-124 trips per 10,000 square feet. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact.

currently below threshold VMT (see recommendations below). Because new development in such locations would likely result in a similar level of VMT, such maps can be used to screen out residential and office projects from needing to prepare a detailed VMT analysis.

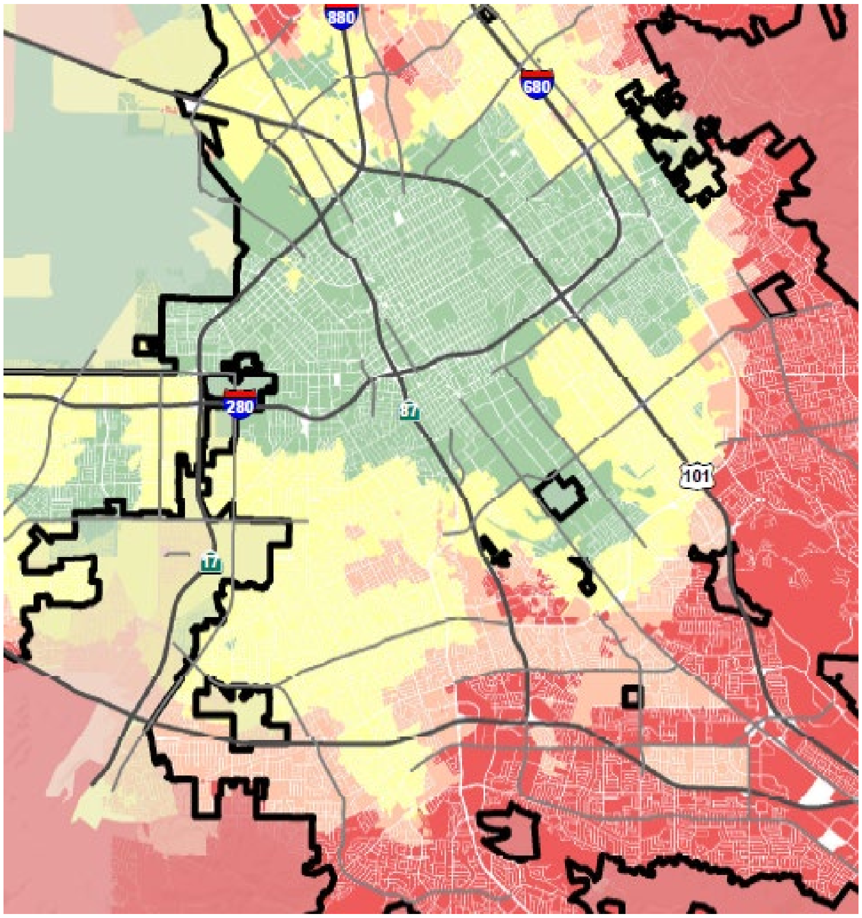

Figure 2. Example map of household VMT that could be used to delineate areas eligible to receive streamlining for VMT analysis. (Source: City of San José, Department of Transportation, draft output of City Transportation Model.)

Presumption of Less Than Significant Impact Near Transit Stations

Proposed CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop[20] or an existing stop

[20] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").

along a high quality transit corridor[21] will have a less-than-significant impact on VMT. This presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT. For example, the presumption might not be appropriate if the project:

- Has a Floor Area Ratio (FAR) of less than 0.75
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization)
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units

A project or plan near transit which replaces affordable residential units[22] with a smaller number of moderate- or high-income residential units may increase overall VMT because the increase in VMT of displaced residents could overwhelm the improvements in travel efficiency enjoyed by new residents.[23]

If any of these exceptions to the presumption might apply, the lead agency should conduct a detailed VMT analysis to determine whether the project would exceed VMT thresholds (see below).

Presumption of Less Than Significant Impact for Affordable Residential Development

Adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT.[24,25] Further, "… low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available."[26] In areas where existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market-

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[21] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").
[22] Including naturally-occurring affordable residential units.
[23] Chapple et al. (2017) *Developing a New Methodology for Analyzing Potential Displacement,* Chapter 4, pp. 159-160, available at https://www.arb.ca.gov/research/apr/past/13-310.pdf.
[24] Karner and Benner (2016) *The convergence of social equity and environmental sustainability: Jobs-housing fit and commute distance* ("[P]olicies that advance a more equitable distribution of jobs and housing by linking the affordability of locally available housing with local wage levels are likely to be associated with reduced commuting distances").
[25] Karner and Benner (2015) *Low-wage jobs-housing fit: identifying locations of affordable housing shortages.*
[26] Karner and Benner (2015) *Low-wage jobs-housing fit: identifying locations of affordable housing shortages.*

rate housing.[27,28] Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations. Lead agencies may develop their own presumption of less than significant impact for residential projects (or residential portions of mixed use projects) containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units may factor the effect of the affordability on VMT into the assessment of VMT generated by those units.

2. Recommended Numeric Thresholds for Residential, Office, and Retail Projects

Recommended threshold for residential projects: A proposed project exceeding a level of 15 percent below existing VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita. Proposed development referencing a threshold based on city VMT per capita (rather than regional VMT per capita) should not cumulatively exceed the number of units specified in the SCS for that city, and should be consistent with the SCS.

Residential development that would generate vehicle travel that is 15 or more percent below the existing residential VMT per capita, measured against the region or city, may indicate a less-than-significant transportation impact. In MPO areas, development measured against city VMT per capita (rather than regional VMT per capita) should not cumulatively exceed the population or number of units specified in the SCS for that city because greater-than-planned amounts of development in areas above the region-based threshold would undermine the VMT containment needed to achieve regional targets under SB 375.

For residential projects in unincorporated county areas, the local agency can compare a residential project's VMT to (1) the region's VMT per capita, or (2) the aggregate population-weighted VMT per capita of all cities in the region. In MPO areas, development in unincorporated areas measured against aggregate city VMT per capita (rather than regional VMT per capita) should not cumulatively exceed the population or number of units specified in the SCS for that city because greater-than-planned amounts of development in areas above the regional threshold would undermine achievement of regional targets under SB 375.

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[27] Chapple et al. (2017) *Developing a New Methodology for Analyzing Potential Displacement*, available at https://www.arb.ca.gov/research/apr/past/13-310.pdf.
[28] CAPCOA (2010) *Quantifying Greenhouse Gas Mitigation Measures*, pp. 176-178, available at http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.

These thresholds can be applied to either household (i.e., tour-based) VMT or home-based (i.e., trip-based) VMT assessments.[29] It is critical, however, that the agency be consistent in its VMT measurement approach throughout the analysis to maintain an "apples-to-apples" comparison. For example, if the agency uses a home-based VMT for the threshold, it should also be use home-based VMT for calculating project VMT and VMT reduction due to mitigation measures.

Recommended threshold for office projects: A proposed project exceeding a level of 15 percent below existing regional VMT per employee may indicate a significant transportation impact.

Office projects that would generate vehicle travel exceeding 15 percent below existing VMT per employee for the region may indicate a significant transportation impact. In cases where the region is substantially larger than the geography over which most workers would be expected to live, it might be appropriate to refer to a smaller geography, such as the county, that includes the area over which nearly all workers would be expected to live.

Office VMT screening maps can be developed using tour-based data, considering either total employee VMT or employee work tour VMT. Similarly, tour-based analysis of office project VMT could consider either total employee VMT or employee work tour VMT. Where tour-based information is unavailable for threshold determination, project assessment, or assessment of mitigation, home-based work trip VMT should be used throughout all steps of the analysis to maintain an "apples-to-apples" comparison.

Recommended threshold for retail projects: A net increase in total VMT may indicate a significant transportation impact.

Because new retail development typically redistributes shopping trips rather than creating new trips,[30] estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts.

By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant.

Many cities and counties define local-serving and regional-serving retail in their zoning codes. Lead agencies may refer to those local definitions when available, but should also consider any project-

[29] See Appendix 1 for a description of these approaches.
[30] Lovejoy, et al. (2013) *Measuring the impacts of local land-use policies on vehicle miles of travel: The case of the first big-box store in Davis, California, The Journal of Transport and Land Use*.

specific information, such as market studies or economic impacts analyses that might bear on customers' travel behavior. Because lead agencies will best understand their own communities and the likely travel behaviors of future project users, they are likely in the best position to decide when a project will likely be local-serving. Generally, however, retail development including stores larger than 50,000 square feet might be considered regional-serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT.

Mixed-Use Projects

Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture. Combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.

Other Project Types

Of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends the quantified thresholds described above for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types. In developing thresholds for other project types, or thresholds different from those recommended here, lead agencies should consider the purposes described in section 21099 of the Public Resources Code and regulations in the CEQA Guidelines on the development of thresholds of significance (e.g., CEQA Guidelines, § 15064.7).

Strategies and projects that decrease local VMT but increase total VMT should be avoided. Agencies should consider whether their actions encourage development in a less travel-efficient location by limiting development in travel-efficient locations.

Redevelopment Projects

Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.

As described above, a project or plan near transit which replaces affordable[31] residential units with a smaller number of moderate- or high-income residential units may increase overall VMT, because

[31] Including naturally-occurring affordable residential units.

displaced residents' VMT may increase.[32] A lead agency should analyze VMT for such a project even if it otherwise would have been presumed less than significant. The assessment should incorporate an estimate of the aggregate VMT increase experienced by displaced residents. That additional VMT should be included in the numerator of the VMT per capita assessed for the project.

If a residential or office project leads to a net increase in VMT, then the project's VMT per capita (residential) or per employee (office) should be compared to thresholds recommended above. Per capita and per employee VMT are efficiency metrics, and, as such, apply only to the existing project without regard to the VMT generated by the previously existing land use.

If the project leads to a net increase in provision of locally-serving retail, transportation impacts from the retail portion of the development should be presumed to be less than significant. If the project consists of regionally-serving retail, and increases overall VMT compared to with existing uses, then the project would lead to a significant transportation impact.

RTP/SCS Consistency (All Land Use Projects)

Section 15125, subdivision (d), of the CEQA Guidelines provides that lead agencies should analyze impacts resulting from inconsistencies with regional plans, including regional transportation plans. For this reason, if a project is inconsistent with the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), the lead agency should evaluate whether that inconsistency indicates a significant impact on transportation. For example, a development may be inconsistent with an RTP/SCS if the development is outside the footprint of development or within an area specified as open space as shown in the SCS.

3. Recommendations Regarding Land Use Plans

As with projects, agencies should analyze VMT outcomes of land use plans across the full area over which the plan may substantively affect travel patterns, including beyond the boundary of the plan or jurisdiction's geography. And as with projects, VMT should be counted in full rather than split between origin and destination. (Emissions inventories have sometimes spit cross-boundary trips in order to sum to a regional total, but CEQA requires accounting for the full impact without truncation or discounting). Analysis of specific plans may employ the same thresholds described above for projects. A general plan, area plan, or community plan may have a significant impact on transportation if proposed new residential, office, or retail land uses would in aggregate exceed the respective thresholds recommended above. Where the lead agency tiers from a general plan EIR pursuant to CEQA Guidelines sections 15152 and 15166, the lead agency generally focuses on the environmental impacts that are specific to the later project and were not analyzed as significant impacts in the prior EIR. (Pub. Resources Code, § 21068.5; Guidelines, § 15152, subd. (a).) Thus, in analyzing the later project, the lead agency

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[32] Chapple et al. (2017) *Developing a New Methodology for Analyzing Potential Displacement,* Chapter 4, pp. 159-160, available at https://www.arb.ca.gov/research/apr/past/13-310.pdf.

would focus on the VMT impacts that were not adequately addressed in the prior EIR. In the tiered document, the lead agency should continue to apply the thresholds recommended above.

Thresholds for plans in non-MPO areas may be determined on a case-by-case basis.

4. Other Considerations

Rural Projects Outside of MPOs

In rural areas of non-MPO counties (i.e., areas not near established or incorporated cities or towns), fewer options may be available for reducing VMT, and significance thresholds may be best determined on a case-by-case basis. Note, however, that clustered small towns and small town main streets may have substantial VMT benefits compared to isolated rural development, similar to the transit oriented development described above.

Impacts to Transit

Because criteria for determining the significance of transportation impacts must promote "the development of multimodal transportation networks" pursuant to Public Resources Code section 21099, subd. (b)(1), lead agencies should consider project impacts to transit systems and bicycle and pedestrian networks. For example, a project that blocks access to a transit stop or blocks a transit route itself may interfere with transit functions. Lead agencies should consult with transit agencies as early as possible in the development process, particularly for projects that are located within one half mile of transit stops.

When evaluating impacts to multimodal transportation networks, lead agencies generally should not treat the addition of new transit users as an adverse impact. An infill development may add riders to transit systems and the additional boarding and alighting may slow transit vehicles, but it also adds destinations, improving proximity and accessibility. Such development also improves regional vehicle flow by adding less vehicle travel onto the regional network.

Increased demand throughout a region may, however, cause a cumulative impact by requiring new or additional transit infrastructure. Such impacts may be adequately addressed through a fee program that fairly allocates the cost of improvements not just to projects that happen to locate near transit, but rather across a region to all projects that impose burdens on the entire transportation system, since transit can broadly improve the function of the transportation system.

F. Considering the Effects of Transportation Projects on Vehicle Travel

Many transportation projects change travel patterns. A transportation project which leads to additional vehicle travel on the roadway network, commonly referred to as "induced vehicle travel," would need to quantify the amount of additional vehicle travel in order to assess air quality impacts, greenhouse gas emissions impacts, energy impacts, and noise impacts. Transportation projects also are required to examine induced growth impacts under CEQA. (See generally, Pub. Resources Code, §§ 21065 [defining "project" under CEQA as an activity as causing either a direct or reasonably foreseeable indirect physical change], 21065.3 [defining "project-specific effect" to mean all direct or indirect environmental effects], 21100, subd. (b) [required contents of an EIR].) For any project that increases vehicle travel, explicit assessment and quantitative reporting of the amount of additional vehicle travel should not be omitted from the document; such information may be useful and necessary for a full understanding of a project's environmental impacts. (See Pub. Resources Code, §§ 21000, 21001, 21001.1, 21002, 21002.1 [discussing the policies of CEQA].) A lead agency that uses the VMT metric to assess the transportation impacts of a transportation project may simply report that change in VMT as the impact. When the lead agency uses another metric to analyze the transportation impacts of a roadway project, changes in amount of vehicle travel added to the roadway network should still be analyzed and reported.[33]

While CEQA does not require perfection, it is important to make a reasonably accurate estimate of transportation projects' effects on vehicle travel in order to make reasonably accurate estimates of GHG emissions, air quality emissions, energy impacts, and noise impacts. (See, e.g., *California Clean Energy Com. v. City of Woodland* (2014) 225 Cal.App.4th 173, 210 [EIR failed to consider project's transportation energy impacts]; *Ukiah Citizens for Safety First v. City of Ukiah* (2016) 248 Cal.App.4th 256, 266.) Appendix 2 describes in detail the causes of induced vehicle travel, the robust empirical evidence of induced vehicle travel, and how models and research can be used in conjunction to quantitatively assess induced vehicle travel with reasonable accuracy.

If a project would likely lead to a measurable and substantial increase in vehicle travel, the lead agency should conduct an analysis assessing the amount of vehicle travel the project will induce. Project types that would likely lead to a measurable and substantial increase in vehicle travel generally include:

- Addition of through lanes on existing or new highways, including general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges

Projects that would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis, include:

- Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets (e.g., highways; roadways; bridges; culverts; Transportation Management System field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity
- Roadside safety devices or hardware installation such as median barriers and guardrails

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[33] See, e.g., California Department of Transportation (2006) *Guidance for Preparers of Growth-related, Indirect Impact Analyses*, available at http://www.dot.ca.gov/ser/Growth-related_IndirectImpactAnalysis/GRI_guidance06May_files/gri_guidance.pdf.

- Roadway shoulder enhancements to provide "breakdown space," dedicated space for use only by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not be used as automobile vehicle travel lanes
- Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety
- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left turn lanes, or emergency breakdown lanes that are not utilized as through lanes
- Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit
- Conversion of existing general purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel
- Addition of a new lane that is permanently restricted to use only by transit vehicles
- Reduction in number of through lanes
- Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features
- Installation of traffic metering systems, detection systems, cameras, changeable message signs and other electronics designed to optimize vehicle, bicycle, or pedestrian flow
- Timing of signals to optimize vehicle, bicycle, or pedestrian flow
- Installation of roundabouts or traffic circles
- Installation or reconfiguration of traffic calming devices
- Adoption of or increase in tolls
- Addition of tolled lanes, where tolls are sufficient to mitigate VMT increase
- Initiation of new transit service
- Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
- Removal or relocation of off-street or on-street parking spaces
- Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)
- Addition of traffic wayfinding signage
- Rehabilitation and maintenance projects that do not add motor vehicle capacity
- Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way
- Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
- Installation of publicly available alternative fuel/charging infrastructure
- Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor

1. Recommended Significance Threshold for Transportation Projects

As noted in Section 15064.3 of the CEQA Guidelines, lead agencies for roadway capacity projects have discretion, consistent with CEQA and planning requirements, to choose which metric to use to evaluate transportation impacts. This section recommends considerations for evaluating impacts using vehicle miles traveled. Lead agencies have discretion to choose a threshold of significance for transportation projects as they do for other types of projects. As explained above, Public Resources Code section 21099, subdivision (b)(1), provides that criteria for determining the significance of transportation impacts must promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. (*Id.;* see generally, adopted CEQA Guidelines, § 15064.3, subd. (b) [Criteria for Analyzing Transportation Impacts].) With those goals in mind, OPR prepared and the Agency adopted an appropriate transportation metric.

Whether adopting a threshold of significance, or evaluating transportation impacts on a case-by-case basis, a lead agency should ensure that the analysis addresses:

- Direct, indirect and cumulative effects of the transportation project (CEQA Guidelines, § 15064, subds. (d), (h))
- Near-term and long-term effects of the transportation project (CEQA Guidelines, §§ 15063, subd. (a)(1), 15126.2, subd. (a))
- The transportation project's consistency with state greenhouse gas reduction goals (Pub. Resources Code, § 21099)[34]
- The impact of the transportation project on the development of multimodal transportation networks (Pub. Resources Code, § 21099)
- The impact of the transportation project on the development of a diversity of land uses (Pub. Resources Code, § 21099)

The CARB Scoping Plan and the CARB Mobile Source Strategy delineate VMT levels required to achieve legally mandated GHG emissions reduction targets. A lead agency should develop a project-level threshold based on those VMT levels, and may apply the following approach:

1. Propose a fair-share allocation of those budgets to their jurisdiction (e.g., by population);

[34] The California Air Resources Board has ascertained the limits of VMT growth compatible with California containing greenhouse gas emissions to levels research shows would allow for climate stabilization. (See *The 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target* (p. 78, p. 101); *Mobile Source Strategy* (p. 37).) CARB's *Updated Final Staff Report on Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets* illustrates that the current Regional Transportation Plans and Sustainable Communities Strategies will fall short of achieving the necessary on-road transportation-related GHG emissions reductions called for in the 2017 Scoping Plan (Figure 3, p. 35). Accordingly, OPR recommends not basing GHG emissions or transportation impact analysis for a transportation project solely on consistency with an RTP/SCS.

2. Determine the amount of VMT growth likely to result from background population growth, and subtract that from their "budget";
3. Allocate their jurisdiction's share between their various VMT-increasing transportation projects, using whatever criteria the lead agency prefers.

2. Estimating VMT Impacts from Transportation Projects

CEQA requires analysis of a project's potential growth-inducing impacts. (Pub. Resources Code, § 21100, subd. (b)(5); CEQA Guidelines, § 15126.2, subd. (d).) Many agencies are familiar with the analysis of growth inducing impacts associated with water, sewer, and other infrastructure. This technical advisory addresses growth that may be expected from roadway expansion projects.

Because a roadway expansion project can induce substantial VMT, incorporating quantitative estimates of induced VMT is critical to calculating both transportation and other impacts of these projects. Induced travel also has the potential to reduce or eliminate congestion relief benefits. An accurate estimate of induced travel is needed to accurately weigh costs and benefits of a highway capacity expansion project.

The effect of a transportation project on vehicle travel should be estimated using the "change in total VMT" method described in *Appendix 1*. This means that an assessment of total VMT without the project and an assessment with the project should be made; the difference between the two is the amount of VMT attributable to the project. The assessment should cover the full area in which driving patterns are expected to change. As with other types of projects, the VMT estimation should not be truncated at a modeling or jurisdictional boundary for convenience of analysis when travel behavior is substantially affected beyond that boundary.

Transit and Active Transportation Projects

Transit and active transportation projects generally reduce VMT and therefore are presumed to cause a less-than-significant impact on transportation. This presumption may apply to all passenger rail projects, bus and bus rapid transit projects, and bicycle and pedestrian infrastructure projects. Streamlining transit and active transportation projects aligns with each of the three statutory goals contained in SB 743 by reducing GHG emissions, increasing multimodal transportation networks, and facilitating mixed use development.

Roadway Projects

Reducing roadway capacity (for example, by removing or repurposing motor vehicle travel lanes) will generally reduce VMT and therefore is presumed to cause a less-than-significant impact on transportation. Generally, no transportation analysis is needed for such projects.

Building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel. For the types of projects previously indicated as likely to lead to additional vehicle travel, an estimate should be made of the change in vehicle travel resulting from the project.

For projects that increase roadway capacity, lead agencies can evaluate induced travel quantitatively by applying the results of existing studies that examine the magnitude of the increase of VMT resulting from a given increase in lane miles. These studies estimate the percent change in VMT for every percent change in miles to the roadway system (i.e., "elasticity").[35] Given that lead agencies have discretion in choosing their methodology, and the studies on induced travel reveal a range of elasticities, lead agencies may appropriately apply professional judgment in studying the transportation effects of a particular project. The most recent major study, estimates an elasticity of 1.0, meaning that every percent change in lane miles results in a one percent increase in VMT.[36]

To estimate VMT impacts from roadway expansion projects:

1. Determine the total lane-miles over an area that fully captures travel behavior changes resulting from the project (generally the region, but for projects affecting interregional travel look at all affected regions).
2. Determine the percent change in total lane miles that will result from the project.
3. Determine the total existing VMT over that same area.
4. Multiply the percent increase in lane miles by the existing VMT, and then multiply that by the elasticity from the induced travel literature:

[% increase in lane miles] x [existing VMT] x [elasticity] = [VMT resulting from the project]

A National Center for Sustainable Transportation tool can be used to apply this method: https://ncst.ucdavis.edu/research/tools

This method would not be suitable for rural (non-MPO) locations in the state which are neither congested nor projected to become congested. It also may not be suitable for a new road that provides new connectivity across a barrier (e.g., a bridge across a river) if it would be expected to substantially

[35] See U.C. Davis, Institute for Transportation Studies (Oct. 2015) *Increasing Highway Capacity Unlikely to Relieve Traffic Congestion*; Boarnet and Handy (Sept. 2014) *Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions*, California Air Resources Board Policy Brief, available at https://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief.pdf.
[36] See Duranton and Turner (2011) *The Fundamental Law of Road Congestion: Evidence from US cities*, available at http://www.nber.org/papers/w15376.

shorten existing trips. If it is likely to be substantial, the trips-shortening effect should be examined explicitly.

The effects of roadway capacity on vehicle travel can also be applied at a programmatic level. For example, in a regional planning process the lead agency can use that program-level analysis to streamline later project-level analysis. (See CEQA Guidelines, § 15168.) A program-level analysis of VMT should include effects of the program on land use patterns, and the VMT that results from those land use effects. In order for a program-level document to adequately analyze potential induced demand from a project or program of roadway capacity expansion, lead agencies cannot assume a fixed land use pattern (i.e., a land use pattern that does not vary in response to the provision of roadway capacity). A proper analysis should account for land use investment and development pattern changes that react in a reasonable manner to changes in accessibility created by transportation infrastructure investments (whether at the project or program level).

Mitigation and Alternatives

Induced VMT has the potential to reduce or eliminate congestion relief benefits, increase VMT, and increase other environmental impacts that result from vehicle travel.[37] If those effects are significant, the lead agency will need to consider mitigation or alternatives. In the context of increased travel that is induced by capacity increases, appropriate mitigation and alternatives that a lead agency might consider include the following:

- Tolling new lanes to encourage carpools and fund transit improvements
- Converting existing general purpose lanes to HOV or HOT lanes
- Implementing or funding off-site travel demand management
- Implementing Intelligent Transportation Systems (ITS) strategies to improve passenger throughput on existing lanes

Tolling and other management strategies can have the additional benefit of preventing congestion and maintaining free-flow conditions, conferring substantial benefits to road users as discussed above.

G. Analyzing Other Impacts Related to Transportation

While requiring a change in the methodology of assessing transportation impacts, Public Resources Code section 21099 notes that this change “does not relieve a public agency of the requirement to analyze a project’s potentially significant transportation impacts related to air quality, noise, safety, or any other impact associated with transportation.” OPR expects that lead agencies will continue to

[37] See National Center for Sustainable Transportation (Oct. 2015) *Increasing Highway Capacity Unlikely to Relieve Traffic Congestion*, available at http://www.dot.ca.gov/newtech/researchreports/reports/2015/10-12-2015-NCST_Brief_InducedTravel_CS6_v3.pdf; see Duranton and Turner (2011) *The Fundamental Law of Road Congestion: Evidence from US cities*, available at http://www.nber.org/papers/w15376.

address mobile source emissions in the air quality and noise sections of an environmental document and the corresponding studies that support the analysis in those sections. Lead agencies should continue to address environmental impacts of a proposed project pursuant to CEQA's requirements, using a format that is appropriate for their particular project.

Because safety concerns result from many different factors, they are best addressed at a programmatic level (i.e., in a general plan or regional transportation plan) in cooperation with local governments, metropolitan planning organizations, and, where the state highway system is involved, the California Department of Transportation. In most cases, such an analysis would not be appropriate on a project-by-project basis. Increases in traffic volumes at a particular location resulting from a project typically cannot be estimated with sufficient accuracy or precision to provide useful information for an analysis of safety concerns. Moreover, an array of factors affect travel demand (e.g., strength of the local economy, price of gasoline), causing substantial additional uncertainty. Appendix B of OPR's General Plan Guidelines summarizes research which could be used to guide a programmatic analysis under CEQA. Lead agencies should note that automobile congestion or delay does not constitute a significant environmental impact (Pub. Resources Code, §21099(b)(2)), and safety should not be used as a proxy for road capacity.

H. VMT Mitigation and Alternatives

When a lead agency identifies a significant impact, it must identify feasible mitigation measures that could avoid or substantially reduce that impact. (Pub. Resources Code, § 21002.1, subd. (a).) Additionally, CEQA requires that an environmental impact report identify feasible alternatives that could avoid or substantially reduce a project's significant environmental impacts.

Indeed, the California Court of Appeal recently held that a long-term regional transportation plan was deficient for failing to discuss an alternative which could significantly reduce total vehicle miles traveled. In *Cleveland National Forest Foundation v. San Diego Association of Governments, et al.* (2017) 17 Cal.App.5th 413, the court found that omission "inexplicable" given the lead agency's "acknowledgment in its Climate Action Strategy that the state's efforts to reduce greenhouse gas emissions from on-road transportation will not succeed if the amount of driving, or vehicle miles traveled, is not significantly reduced." (*Cleveland National Forest Foundation*, *supra*, 17 Cal.App.5th at p. 436.) Additionally, the court noted that the project alternatives focused primarily on congestion relief even though "the [regional] transportation plan is a long-term and congestion relief is not necessarily an effective long-term strategy." (*Id.* at p. 437.) The court concluded its discussion of the alternatives analysis by stating: "Given the acknowledged long-term drawbacks of congestion relief alternatives, there is not substantial evidence to support the EIR's exclusion of an alternative focused primarily on significantly reducing vehicle trips." (*Ibid*.)

Several examples of potential mitigation measures and alternatives to reduce VMT are described below. However, the selection of particular mitigation measures and alternatives are left to the discretion of the lead agency, and mitigation measures may vary, depending on the proposed project and significant impacts, if any. Further, OPR expects that agencies will continue to innovate and find new ways to reduce vehicular travel.

Potential measures to reduce vehicle miles traveled include, but are not limited to:

- Improve or increase access to transit.
- Increase access to common goods and services, such as groceries, schools, and daycare.
- Incorporate affordable housing into the project.
- Incorporate neighborhood electric vehicle network.
- Orient the project toward transit, bicycle and pedestrian facilities.
- Improve pedestrian or bicycle networks, or transit service.
- Provide traffic calming.
- Provide bicycle parking.
- Limit or eliminate parking supply.
- Unbundle parking costs.
- Provide parking cash-out programs.
- Implement roadway pricing.
- Implement or provide access to a commute reduction program.
- Provide car-sharing, bike sharing, and ride-sharing programs.
- Provide transit passes.
- Shifting single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services.
- Providing telework options.
- Providing incentives or subsidies that increase the use of modes other than single-occupancy vehicle.
- Providing on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms.
- Providing employee transportation coordinators at employment sites.
- Providing a guaranteed ride home service to users of non-auto modes.

Notably, because VMT is largely a regional impact, regional VMT-reduction programs may be an appropriate form of mitigation. In lieu fees have been found to be valid mitigation where there is both a commitment to pay fees and evidence that mitigation will actually occur. (*Save Our Peninsula Committee v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 140-141; *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727–728.) Fee programs are particularly useful to address cumulative impacts. (CEQA Guidelines, § 15130, subd. (a)(3) [a "project's incremental contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact"].) The mitigation program must undergo CEQA evaluation, either on the program as a whole, or the in-lieu fees or other mitigation must be evaluated on a project-specific basis. (*California Native Plant Society v. County of El Dorado* (2009) 170 Cal.App.4th 1026.) That CEQA evaluation could be part of a larger program, such as a regional transportation plan, analyzed in a Program EIR. (CEQA Guidelines, § 15168.)

Examples of project alternatives that may reduce vehicle miles traveled include, but are not limited to:

- Locate the project in an area of the region that already exhibits low VMT.
- Locate the project near transit.
- Increase project density.
- Increase the mix of uses within the project or within the project's surroundings.
- Increase connectivity and/or intersection density on the project site.
- Deploy management strategies (e.g., pricing, vehicle occupancy requirements) on roadways or roadway lanes.

Appendix 1. Considerations About Which VMT to Count

Consistent with the obligation to make a good faith effort to disclose the environmental consequences of a project, lead agencies have discretion to choose the most appropriate methodology to evaluate project impacts.[38] A lead agency can evaluate a project's effect on VMT in numerous ways. The purpose of this document is to provide technical considerations in determining which methodology may be most useful for various project types.

Background on Estimating Vehicle Miles Traveled

Before discussing specific methodological recommendations, this section provides a brief overview of modeling and counting VMT, including some key terminology.

Here is an illustrative example of some methods of estimating vehicle miles traveled. Consider the following hypothetical travel day (all by automobile):

1. Residence to Coffee Shop
2. Coffee Shop to Work
3. Work to Sandwich Shop
4. Sandwich Shop to Work
5. Work to Residence
6. Residence to Store
7. Store to Residence

Trip-based assessment of a project's effect on travel behavior counts VMT from individual trips to and from the project. It is the most basic, and traditionally the most common, method of counting VMT. A trip-based VMT assessment of the residence in the above example would consider segments 1, 5, 6 and 7. For residential projects, the sum of home-based trips is called *home-based* VMT.

A *tour-based* assessment counts the entire home-back-to-home tour that includes the project. A tour-based VMT assessment of the residence in the above example would consider segments 1, 2, 3, 4, and 5 in one tour, and 6 and 7 in a second tour. A tour-based assessment of the workplace would include segments 1, 2, 3, 4, and 5. Together, all tours comprise *household* VMT.

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[38] The California Supreme Court has explained that when an agency has prepared an environmental impact report:

> [T]he issue is not whether the [lead agency's] studies are irrefutable or whether they could have been better. The relevant issue is only whether the studies are sufficiently credible to be considered as part of the total evidence that supports the [lead agency's] finding[.]

(*Laurel Heights Improvement Assn. v. Regents of the University of California* (1988) 47 Cal.3d 376, 409; see also *Eureka Citizens for Responsible Gov't v. City of Eureka* (2007) 147 Cal.App.4th 357, 372.)

Both trip- and tour-based assessments can be used as measures of transportation efficiency, using denominators such as per capita, per employee, or per person-trip.

Trip- and Tour-based Assessment of VMT

As illustrated above, a tour-based assessment of VMT is a more complete characterization of a project's effect on VMT. In many cases, a project affects travel behavior beyond the first destination. The location and characteristics of the home and workplace will often be the main drivers of VMT. For example, a residential or office development located near high quality transit will likely lead to some commute trips utilizing transit, affecting mode choice on the rest of the tour.

Characteristics of an office project can also affect an employee's VMT beyond the work tour. For example, a workplace located at the urban periphery, far from transit, can require an employee to own a car, which in turn affects the entirety of an employee's travel behavior and VMT. For this reason, when estimating the effect of an office development on VMT, it may be appropriate to consider total employee VMT if data and tools, such as tour-based models, are available. This is consistent with CEQA's requirement to evaluate both direct and *indirect* effects of a project. (See CEQA Guidelines, § 15064, subd. (d)(2).)

Assessing Change in Total VMT

A third method, estimating the *change in total VMT* with and without the project, can evaluate whether a project is likely to divert existing trips, and what the effect of those diversions will be on total VMT. This method answers the question, "What is the net effect of the project on area VMT?" As an illustration, assessing the total change in VMT for a grocery store built in a food desert that diverts trips from more distant stores could reveal a net VMT reduction. The analysis should address the full area over which the project affects travel behavior, even if the effect on travel behavior crosses political boundaries.

Using Models to Estimate VMT

Travel demand models, sketch models, spreadsheet models, research, and data can all be used to calculate and estimate VMT (see Appendix F of the preliminary discussion draft). To the extent possible, lead agencies should choose models that have sensitivity to features of the project that affect VMT. Those tools and resources can also assist in establishing thresholds of significance and estimating VMT reduction attributable to mitigation measures and project alternatives. When using models and tools for those various purposes, agencies should use comparable data and methods, in order to set up an "apples-to-apples" comparison between thresholds, VMT estimates, and VMT mitigation estimates.

Models can work together. For example, agencies can use travel demand models or survey data to estimate existing trip lengths and input those into sketch models such as CalEEMod to achieve more accurate results. Whenever possible, agencies should input localized trip lengths into a sketch model to tailor the analysis to the project location. However, in doing so, agencies should be careful to avoid double counting if the sketch model includes other inputs or toggles that are proxies for trip length (e.g., distance to city center). Generally, if an agency changes any sketch model defaults, it should record and report those changes for transparency of analysis. Again, trip length data should come from the same source as data used to calculate thresholds to be sure of an "apples-to-apples" comparison.

Additional background information regarding travel demand models is available in the California Transportation Commission's "2010 Regional Transportation Plan Guidelines," beginning at page 35.

Appendix 2. Induced Travel: Mechanisms, Research, and Additional Assessment Approaches

Induced travel occurs where roadway capacity is expanded in an area of present or projected future congestion. The effect typically manifests over several years. Lower travel times make the modified facility more attractive to travelers, resulting in the following trip-making changes:

- **Longer trips.** The ability to travel a long distance in a shorter time increases the attractiveness of destinations that are farther away, increasing trip length and vehicle travel.
- **Changes in mode choice.** When transportation investments are devoted to reducing automobile travel time, travelers tend to shift toward automobile use from other modes, which increases vehicle travel.
- **Route changes.** Faster travel times on a route attract more drivers to that route from other routes, which can increase or decrease vehicle travel depending on whether it shortens or lengthens trips.
- **Newly generated trips.** Increasing travel speeds can induce additional trips, which increases vehicle travel. For example, an individual who previously telecommuted or purchased goods on the internet might choose to accomplish those tasks via automobile trips as a result of increased speeds.
- **Land Use Changes.** Faster travel times along a corridor lead to land development farther along that corridor; that new development generates and attracts longer trips, which increases vehicle travel. Over several years, this induced growth component of induced vehicle travel can be substantial, making it critical to include in analyses.

Each of these effects has implications for the total amount of vehicle travel. These effects operate over different time scales. For example, changes in mode choice might occur immediately, while land use changes typically take a few years or longer. CEQA requires lead agencies to analyze both short-term and long-term effects.

Evidence of Induced Vehicle Travel. A large number of peer reviewed studies[39] have demonstrated a causal link between highway capacity increases and VMT increases. Many provide quantitative estimates of the magnitude of the induced VMT phenomenon. Collectively, they provide high quality evidence of the existence and magnitude of the induced travel effect.

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[39] See, e.g., Boarnet and Handy (Sept. 2014) Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions, California Air Resources Board Policy Brief, available at https://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief.pdf; National Center for Sustainable Transportation (Oct. 2015) *Increasing Highway Capacity Unlikely to Relieve Traffic Congestion*, available at http://www.dot.ca.gov/research/researchreports/reports/2015/10-12-2015-NCST_Brief_InducedTravel_CS6_v3.pdf.

Most of these studies express the amount of induced vehicle travel as an "elasticity," which is a multiplier that describes the additional vehicle travel resulting from an additional lane mile of roadway capacity added. For example, an elasticity of 0.6 would signify an 0.6 percent increase in vehicle travel for every 1.0 percent increase in lane miles. Many of these studies distinguish "short run elasticity" (increase in vehicle travel in the first few years) from "long run elasticity" (increase in vehicle travel beyond the first few years). Long run elasticity is larger than short run elasticity, because as time passes, more of the components of induced vehicle travel materialize. Generally, short run elasticity can be thought of as excluding the effects of land use change, while long run elasticity includes them. Most studies find a long run elasticity between 0.6 and just over 1.0,[40] meaning that every increase in lanes miles of one percent leads to an increase in vehicle travel of 0.6 to 1.0 percent. The most recent major study finds the elasticity of vehicle travel by lanes miles added to be 1.03; in other words, each percent increase in lane miles results in a 1.03 percent increase in vehicle travel.[41] (An elasticity greater than 1.0 can occur because new lanes induce vehicle travel that spills beyond the project location.) In CEQA analysis, the long-run elasticity should be used, as it captures the full effect of the project rather than just the early-stage effect.

Quantifying Induced Vehicle Travel Using Models. Lead agencies can generally achieve the most accurate assessment of induced vehicle travel resulting from roadway capacity increasing projects by applying elasticities from the academic literature, because those estimates include vehicle travel resulting from induced land use. If a lead agency chooses to use a travel demand model, additional analysis would be needed to account for induced land use. This section describes some approaches to undertaking that additional analysis.

Proper use of a travel demand model can capture the following components of induced VMT:

- Trip length (generally increases VMT)
- Mode shift (generally shifts from other modes toward automobile use, increasing VMT)
- Route changes (can act to increase or decrease VMT)
- Newly generated trips (generally increases VMT)
    - Note that not all travel demand models have sensitivity to this factor, so an off-model estimate may be necessary if this effect could be substantial.

However, estimating long-run induced VMT also requires an estimate of the project's effects on land use. This component of the analysis is important because it has the potential to be a large component of

[40] See Boarnet and Handy (Sept. 2014) *Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions*, California Air Resources Board Policy Brief, p. 2, available at https://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief.pdf.

[41] Duranton and Turner (2011) *The Fundamental Law of Road Congestion: Evidence from US cities*, available at http://www.nber.org/papers/w15376.

the overall induced travel effect. Options for estimating and incorporating the VMT effects that are caused by the subsequent land use changes include:

1. *Employ an expert panel.* An expert panel could assess changes to land use development that would likely result from the project. This assessment could then be analyzed by the travel demand model to assess effects on vehicle travel. Induced vehicle travel assessed via this approach should be verified using elasticities found in the academic literature.
2. *Adjust model results to align with the empirical research.* If the travel demand model analysis is performed without incorporating projected land use changes resulting from the project, the assessed vehicle travel should be adjusted upward to account for those land use changes. The assessed VMT after adjustment should fall within the range found in the academic literature.
3. *Employ a land use model, running it iteratively with a travel demand model.* A land use model can be used to estimate the land use effects of a roadway capacity increase, and the traffic patterns that result from the land use change can then be fed back into the travel demand model. The land use model and travel demand model can be iterated to produce an accurate result.

A project which provides new connectivity across a barrier, such as a new bridge across a river, may provide a shortened path between existing origins and destinations, thereby shortening existing trips. In rare cases, this trip-shortening effect might be substantial enough to reduce the amount of vehicle travel resulting from the project below the range found in the elasticities in the academic literature, or even lead a net reduction in vehicle travel overall. In such cases, the trip-shortening effect could be examined explicitly.

Whenever employing a travel demand model to assess induced vehicle travel, any limitation or known lack of sensitivity in the analysis that might cause substantial errors in the VMT estimate (for example, model insensitivity to one of the components of induced VMT described above) should be disclosed and characterized, and a description should be provided on how it could influence the analysis results. A discussion of the potential error or bias should be carried into analyses that rely on the VMT analysis, such as greenhouse gas emissions, air quality, energy, and noise.

1130 S. Hope Street

AIR QUALITY IMPACT ANALYSIS

CITY OF LOS ANGELES

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OCTOBER 19, 2020

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TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

(1)	Reference
$\mu g/m^3$	Microgram per Cubic Meter
AADT	Annual Average Daily Trips
AQ	Air Quality
AQIA	Air Quality Impact Analysis
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BACM	Best Available Control Measures
BBAQMD	Bay Area Air Quality Management District
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
City	City of Los Angeles
CY	Cubic Yards
EIR	Environmental Impact Reports
EPA	Environmental Protection Agency
GHG	Greenhouse Gas
GHGA	Greenhouse Gas Analysis
I-10	Interstate 10
I-110	Interstate 110
LST	Localized Significance Threshold
LST Methodology	Final Localized Significance Threshold Methodology
MM	Mitigation Measures
AAQS	National Ambient Air Quality Standards
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides

O_3	Ozone
Pb	Lead
PM_{10}	Particulate Matter 10 microns in diameter or less
$PM_{2.5}$	Particulate Matter 2.5 microns in diameter or less
PPM	Parts Per Million
Project	1130 S. Hope Street
RECLAIM	Regional Clean Air Incentives Market
ROG	Reactive Organic Gases
RTP/SCS	Regional Transportation Plan/ Sustainable Communities Strategy
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF	Square Feet
SIPs	State Implementation Plans
SO_2	Sulfur Dioxide
SP	Specific Plan
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
TIS	*1130 South Hope Street Traffic Impact Study*
TOG	Total Organic Gases
UFP	Ultra Fine Particles
URBEMIS	Urban Emissions
UTRs	Utility Tractors
VOC	Volatile Organic Compounds
VPH	Vehicles Per Hour

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *1130 S. Hope Street Air Quality Impact Analysis* (AQIA) are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1). Table ES-1 shows the findings of significance for each potential air quality impact under CEQA for the Project.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Regional Construction Emissions	3.4	*Less Than Significant*	*n/a*
Localized Construction Emissions	3.7	*Less Than Significant*	*n/a*
Regional Operational Emissions	3.5	*Less Than Significant*	*n/a*
Localized Operational Emissions	3.8	*Less Than Significant*	*n/a*
CO “Hot Spot” Analysis	3.9	*Less Than Significant*	*n/a*
Air Quality Management Plan	3.10	*Less Than Significant*	*n/a*
Sensitive Receptors	3.11	*Less Than Significant*	*n/a*
Odors	3.12	*Less Than Significant*	*n/a*
Cumulative Impacts	3.13	*Less Than Significant*	*n/a*

ES.2 STANDARD REGULATORY REQUIREMENTS/BEST AVAILABLE CONTROL MEASURES (BACMS)

There are numerous requirements that development projects must comply with by law, and that were put in place by federal, State, and local regulatory agencies for the improvement of air quality. The most pertinent regulatory requirements that apply to the proposed Project and which are required by South Coast Air Quality Management District (SCAQMD) Rules that are currently applicable during construction activity for this Project include but are not limited to Rule 403 (Fugitive Dust) (2) and Rule 1113 (Architectural Coatings) (3). Project compliance with these and other mandatory regulatory requirements were assumed in the analysis presented here.

SCAQMD RULE 403

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities.

SCAQMD RULE 1113

This rule serves to limit the VOC content of architectural coatings used on projects in the SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the SCAQMD must comply with the current VOC standards set in this rule.

ES.3 CONSTRUCTION AND OPERATIONAL-SOURCE EMISSIONS MITIGATION

The Project would not result in an exceedance of any regional or localized construction or operational-source emissions thresholds. As such, the Project would not result in any significant impacts and no mitigation is required.

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1 INTRODUCTION

This report presents the results of the air quality impact analysis (AQIA) prepared by Urban Crossroads, Inc., for the proposed 1130 S. Hope Street project ("Project").

The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the proposed Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the SCAQMD.

1.1 SITE LOCATION

The proposed Project is located at 1130 S. Hope Street between 11th and 12th street, in the City of Los Angeles, as shown on Exhibit 1-A. The Project site is located 0.55 miles east of Interstate 110 (I-110), 0.54 miles north of Interstate 10 (I-10), and 2.44 miles west of Highway 101. Los Angeles International Airport is located 11.10 miles to the southwest.

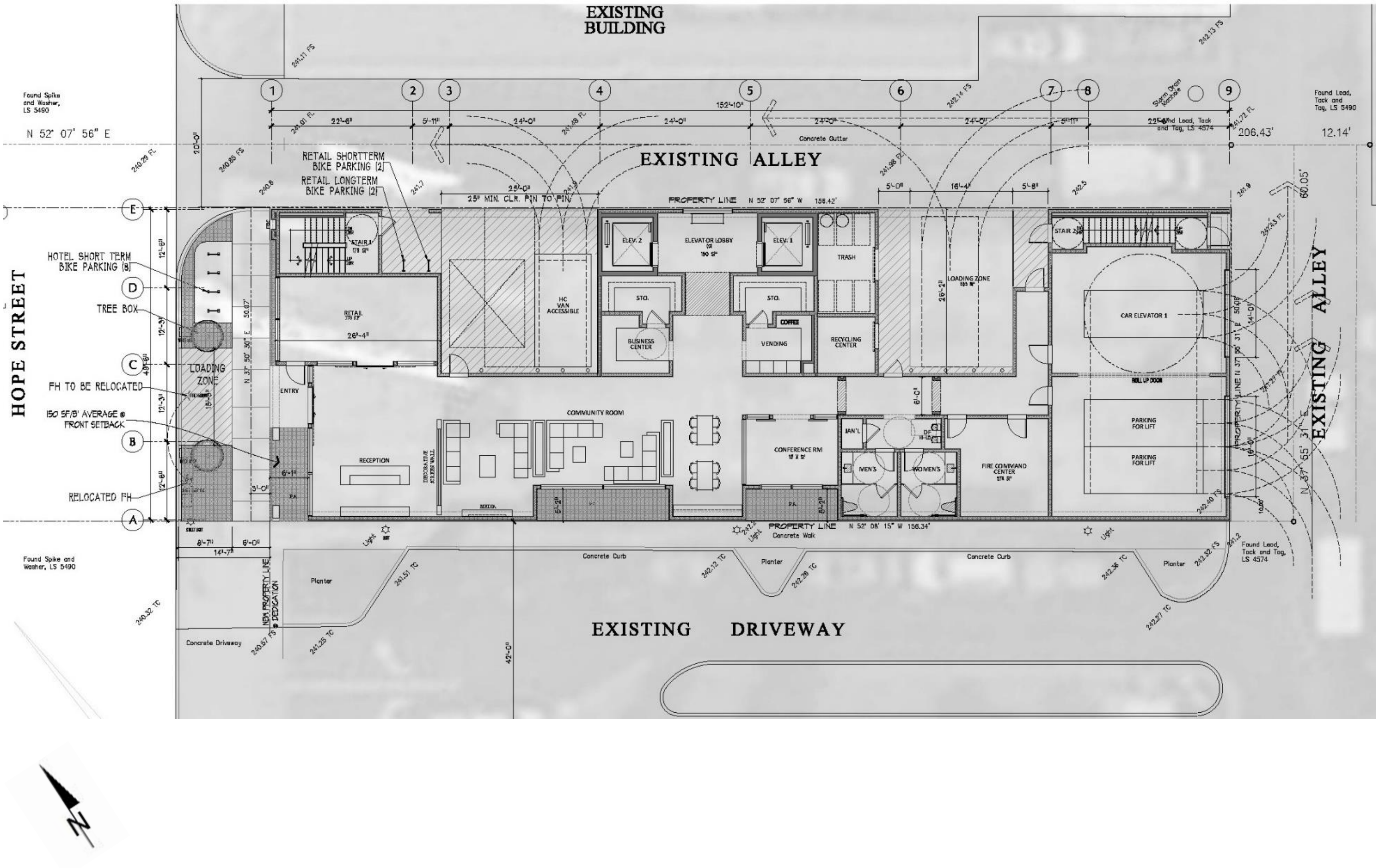
1.2 PROJECT DESCRIPTION

The Project proposes to consist of a mixed-use hotel development, with 144 hotel rooms, 378 square feet (sf) of retail and an indoor parking garage, as shown on Exhibit 1-B. The Project is expected to be fully operational by 2023.

At the time this analysis was prepared, the future tenants of the proposed Project were unknown. Therefore, this analysis includes a conservative assumption of on-site Project-related emission sources for potential future tenants, including architectural coatings, consumer products, landscape maintenance equipment, emissions associated with natural gas and electricity, and mobile source emissions. This analysis is intended to describe air impacts associated with the expected operational activities at the Project site. To present a conservative approach, this report assumes the Project will operate 24-hours daily for seven days per week. To present a conservative approach, this report assumes the Project will operate 24-hours daily for seven days per week. Per the *1130 Hope Street Traffic Impact Study* (TIS) prepared by KOA Consultants, the Project is expected to generate 1,035 daily two-way trips (4).

EXHIBIT 1-A: LOCATION MAP

EXHIBIT 1-B: SITE PLAN



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2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

2.1 SOUTH COAST AIR BASIN

The Project site is located in the South Coast Air Basin (SCAB) within the jurisdiction of SCAQMD (5). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As previously stated, the Project site is located within the SCAB, a 6,745-square mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bounded by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s degrees Fahrenheit (°F). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71% along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los

Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as Nitrogen Oxides (NO_X) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

2.4 CRITERIA POLLUTANTS

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified below (6):

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
CO	CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone (O_3), motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen (O_2) supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with O_2 transport and competing with O_2 to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for O_2 supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (O_2 deficiency) as seen at high altitudes.

Criteria Pollutant	Description	Sources	Health Effects
SO_2	SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms SO_4. Collectively, these pollutants are referred to as sulfur oxides (SO_X).	Coal or oil burning power plants and industries, refineries, diesel engines	A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.

Criteria Pollutant	Description	Sources	Health Effects
NO_X	NO_X consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with O_2. Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. NO_X is typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring station.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of O_3 exposure increases when animals are exposed to a combination of O_3 and NO_2.
O_3	O_3 is a highly reactive and unstable gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O_3 concentrations are generally highest during the summer	Formed when reactive organic gases (ROG) and NO_X react in the presence of sunlight. ROG sources include any source	Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for O_3 effects. Short-term exposure (lasting for a

Criteria Pollutant	Description	Sources	Health Effects
	months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.	that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and storage and pesticides.	few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated O_3 levels are associated with increased school absences. In recent years, a correlation between elevated ambient O_3 levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple outdoor sports and live in communities with high O_3 levels. O_3 exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes O_3 may be more toxic than exposure to O_3 alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.
Particulate Matter	PM_{10}: A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light	Sources of PM_{10} include road dust, windblown dust and construction. Also formed from other pollutants (acid rain, NO_X, SO_X,	A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of

Criteria Pollutant	Description	Sources	Health Effects
	and consequently the significant reduction air clarity. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. Additionally, it should be noted that PM_{10} is considered a criteria air pollutant. $PM_{2.5}$: A similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include SO_4 formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_X release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.	organics). Incomplete combustion of any fuel. $PM_{2.5}$ comes from fuel combustion in motor vehicles, equipment and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO_X, SO_X, organics).	asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.
VOC	VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not	Organic chemicals are widely used as ingredients in household products. Paints, varnishes and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products.	Breathing VOCs can irritate the eyes, nose and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health effects, though many have several.

Criteria Pollutant	Description	Sources	Health Effects
	form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably.	Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored.	
ROG	Similar to VOC, ROGs are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms ROG and VOC (see previous) interchangeably.	Sources similar to VOCs.	Health effects similar to VOCs.
Lead (Pb)	Pb is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of Pb in the air was emissions from vehicles burning leaded gasoline. The major sources of Pb emissions are ore and metals processing, particularly Pb smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the Project does not include	Metal smelters, resource recovery, leaded gasoline, deterioration of Pb paint.	Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure.

Criteria Pollutant	Description	Sources	Health Effects
	operational activities such as metal processing or Pb acid battery manufacturing. As such, the Project is not anticipated to generate a quantifiable amount of Pb emissions.		Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.
Odor	Odor means the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves (7).	Odors can come from many sources including animals, human activities, industry, natures, and vehicles.	Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

2.5 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 2-2 (8).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards. At the time of this AQIA, the most recent state and federal standards were updated by CARB on May 4, 2016 and are presented in Table 2-2. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, PM_{10}, and $PM_{2.5}$ do not exceed standards. All others are not to be equaled or exceeded. It should be noted that the three-year period is presented for informational purposes and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the SCAQMD meets the standards set by the Environmental Protection Agency (EPA) or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, CARB has implemented a State Implementation Plan (SIP). The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area (9).

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (1 OF 2)

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 μg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 μg/m^3)		0.070 ppm (137 μg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 μg/m^3	Gravimetric or Beta Attenuation	150 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 μg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 μg/m^3	Gravimetric or Beta Attenuation	12.0 μg/m^3	15 μg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 μg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 μg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)		0.053 ppm (100 μg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 μg/m^3)	Ultraviolet Fluorescence	75 ppb (196 μg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 μg/m^3)	
	24 Hour	0.04 ppm (105 μg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 μg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 μg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 μg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 μg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 μg/m^3)	Gas Chromatography			

See footnotes on next page …

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California Air Resources Board (5/4/16)

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (2 OF 2)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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2.6 REGIONAL AIR QUALITY

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: CO, Pb, O_3, particulate matter (PM_{10} and $PM_{2.5}$), NO_2, and SO_2 which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district (10). On February 21, 2019, CARB posted the 2018 amendments to the state and national area designations. See Table 2-3 for attainment designations for the SCAB (11). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Unclassifiable/Attainment	Unclassifiable/Attainment
Pb[1]	Attainment	Unclassifiable/Attainment

Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the SCAB
"-" = The national 1-hour O_3 standard was revoked effective June 15, 2005.

2.7 LOCAL AIR QUALITY

The SCAQMD has designated general forecast areas and air monitoring areas (referred to as Source Receptor Areas [SRA]) throughout the district in order to provide Southern California residents about the air quality conditions. The Project site is located within the SRA 1 (12). Within SRA 1, the SCAQMD Central Los Angeles monitoring station is located approximately 2.8 miles northeast of the Project site and is the nearest long-term air quality monitoring site for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$.

The most recent three (3) years of data available is shown on Table 2-4 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project site. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2017 through 2019 was obtained from the SCAQMD Air Quality Data Tables (13). Additionally, data for SO_2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations.

[1] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2017-2019

Pollutant	Standard	YEAR		
		2017	2018	2019
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.116	0.098	0.085
Maximum Federal 8-Hour Concentration (ppm)		0.086	0.073	0.080
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	6	2	0
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	14	4	2
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	1.9	2.0	2.0
Maximum Federal 8-Hour Concentration	> 20 ppm	1.6	1.7	1.6
NO_2				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.081	0.070	0.070
Annual Average		0.021	0.019	0.018
PM_{10}				
Maximum Federal 24-Hour Concentration (μg/m^3)	> 150 μg/m^3	96	81	62
Annual Federal Arithmetic Mean (μg/m^3)		34.4	34.1	25.5
Number of Days Exceeding Federal 24-Hour Standard	> 150 μg/m^3	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 μg/m^3	41	31	3
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration (μg/m^3)	> 35 μg/m^3	49.20	43.80	43.50
Annual Federal Arithmetic Mean (μg/m^3)	> 12 μg/m^3	11.94	12.58	10.85
Number of Days Exceeding Federal 24-Hour Standard	> 35 μg/m^3	5	3	1

ppm = Parts Per Million
μg/m^3 = Microgram per Cubic Meter
Source: Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ was obtained from SCAQMD Air Quality Data Tables.

2.8 REGULATORY BACKGROUND

2.8.1 FEDERAL REGULATIONS

The EPA is responsible for setting and enforcing the NAAQS for O_3, CO, NO_X, SO_2, PM_{10}, and Pb (14). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (15). The CAA also mandates that states submit and implement SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (16) (17). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. Table 2-3 (previously presented) provides the NAAQS within the SCAB.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_X. NO_X is a collective term that includes all forms of NO_X which are emitted as byproducts of the combustion process.

2.8.2 CALIFORNIA REGULATIONS

CARB

CARB, which became part of the CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO_4, visibility, hydrogen sulfide (H_2S), and vinyl chloride (C_2H_3Cl). However, at this time, H_2S and C_2H_3Cl are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (18) (14).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g. motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;

- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, NO_X, CO and PM_{10}. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

TITLE 24 ENERGY EFFICIENCY STANDARDS AND CALIFORNIA GREEN BUILDING STANDARDS

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that became effective January 1, 2020.

Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction waste and demolition ordinances and defers to them as the ruling guidance provided they establish a minimum 65% diversion requirement.

The code also provides exemptions for areas not served by construction waste and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2020.

The 2019 Title 24 standards will result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the SCAB and across the State of California. For example, the 2019 Title 24 standards require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting requirements for nonresidential buildings.

The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings (such as the Project) will use approximately 30% less energy due to lighting upgrade requirements (18).

Because the Project will be constructed after January 1, 2019, the 2019 CALGreen standards are applicable to the Project and require, among other items (19):

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- Electric vehicle (EV) charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3).
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8)
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section
- 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor- mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).

  - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor portable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (5.303.1.1 and 5.303.1.2).
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

2.8.3 AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMP to meet the state and federal ambient air quality standards (19). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 3.10.

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3 PROJECT AIR QUALITY IMPACT

3.1 INTRODUCTION

This study quantifies air quality emissions generated by construction and operation of the Project and addresses whether the Project conflicts with implementation of the SCAQMD's AQMP. The analysis of Project-generated air emissions determines whether the Project would result in a cumulatively considerable net increase of any criteria pollutant for which the SCAB is in non-attainment under an applicable NAAQS and CAAQS. Additionally, the Project has been evaluated to determine whether the Project would expose sensitive receptors to substantial pollutant concentrations and the impacts of odors. The significance of these potential impacts is described in the following section.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the *CEQA Guidelines* (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (20):

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The SCAQMD has also developed regional significance thresholds for other regulated pollutants, as summarized at Table 3-1 (21). The SCAQMD's *CEQA Air Quality Significance Thresholds* (April 2019) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

TABLE 3-1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Regional Construction Threshold	Regional Operational Thresholds
NO_X	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Pb	3 lbs/day	3 lbs/day

lbs/day = Pounds Per Day

3.3 MODELS EMPLOYED TO ANALYZE AIR QUALITY

3.3.1 CALIFORNIA EMISSIONS ESTIMATOR MODEL (CALEEMOD)

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

On October 17, 2017, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from MMs (22). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendix 3.1.

3.3.2 EMISSION FACTORS MODEL

On August 19, 2019, the EPA approved the 2017 version of the EMissions FACtor model (EMFAC) web database for use in SIP and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by CARB to project changes in future emissions from on-road mobile sources (23). This AQIA utilizes summer, winter, and annual EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season.

Because the EMFAC2017 emission rates are associated with vehicle fuel types while CalEEMod vehicle emission factors are aggregated to include all fuel types for each individual vehicle class, the EMFAC2017 emission rates for different fuel types of a vehicle class are averaged by activity or by population and activity to derive CalEEMod emission factors. The equations applied to obtain CalEEMod vehicle emission factors for each emission type are detailed in CalEEMod User's Guide *Appendix A: Calculation Details for CalEEMod* (24). EMFAC2017 emission rates utilized in this analysis can be found in Appendix 3.2 of this report.

3.4 CONSTRUCTION EMISSIONS

3.4.1 CONSTRUCTION ACTIVITIES

Construction activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

GRADING ACTIVITIES

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions". Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. Based on information provided by the Project Applicant, the Project is anticipated to require 6,233 cubic yards of export. For purposes of analysis, the CalEEMod default hauling trip length of 20 miles will be utilized.

CONSTRUCTION WORKER VEHICLE TRIPS

Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information from CalEEMod defaults.

3.4.2 CONSTRUCTION DURATION

For purposes of analysis, construction is expected to commence in May 2021 and last through October 2022. The construction schedule utilized in the analysis, shown in Table 3-3, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent[2]. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (20). The duration of construction activity was based on the information provided by the Project Applicant.

TABLE 3-2: CONSTRUCTION DURATION

Phase Name	Start Date	End Date	Days
Site Preparation	05/10/2021	05/21/2021	10
Grading	05/24/2021	08/06/2021	55
Building Construction	08/09/2021	08/09/2022	262
Architectural Coating	09/07/2022	09/15/2022	7
Paving	10/01/2022	10/06/2022	4

[2] As shown in the CalEEMod User's Guide Version 2016.3.2, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

3.4.3 CONSTRUCTION EQUIPMENT

The construction equipment fleet was based on information provided by the Project Applicant. A summary of construction equipment assumptions by phase is provided at Table 3-3. It should be noted that CalEEMod does not provide an extensive list of construction equipment, for purposes of analysis, CalEEMod equipment that most closely fit the equipment listed in Table 3-3 are reflected in these analyses.

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-3 will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

TABLE 3-3: CONSTRUCTION EQUIPMENT

Phase Name	Equipment	Number	Hours Per Day
Site Preparation	Crawler Tractors	1	8
	Graders	1	8
Grading	Crawler Tractors	1	8
	Rubber Tired Dozers	1	8
Building Construction	Cranes	1	8
	Forklifts	2	8
	Tractors/Loaders/Backhoes	1	8
Architectural Coating	Air Compressors	1	8
Paving	Cement and Mortar Mixers	2	8
	Pavers	1	8
	Rollers	1	8
	Tractors/Loaders/Backhoes	1	8

3.4.4 REGIONAL CONSTRUCTION EMISSIONS SUMMARY

IMPACTS WITHOUT MITIGATION

CalEEMod calculates maximum daily emissions for summer and winter periods. As such, the estimated maximum daily construction emissions without mitigation for both summer and winter periods are summarized on Table 3-4. Detailed construction model outputs are presented in Appendix 3.1. Under the assumed scenarios, emissions resulting from the Project construction would not exceed criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant.

TABLE 3-4: EMISSIONS SUMMARY OF OVERALL CONSTRUCTION – WITHOUT MITIGATION

Year	Emissions (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
2021	1.37	16.68	8.03	0.02	3.73	2.02
2022	73.03	9.06	10.72	0.02	0.80	0.46
Winter						
2021	1.38	16.73	7.96	0.02	3.73	2.02
2022	73.03	9.07	10.66	0.02	0.80	0.46
Maximum Daily Emissions	**73.03**	**16.73**	**10.72**	**0.02**	**3.73**	**2.02**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions

3.5.1 AREA SOURCE EMISSIONS

ARCHITECTURAL COATINGS

Over a period of time the buildings that are part of this Project will require maintenance and will therefore produce emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings. The emissions associated with architectural coatings were calculated using CalEEMod.

CONSUMER PRODUCTS

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

3.5.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas.

When combustion of natural gas occurs within a building, the building is considered a direct emission source and CalEEMod will calculate emissions of all criteria pollutants (24). For purposes of analysis, the emissions associated with natural gas use were calculated using CalEEMod.

CalEEMod also calculates criteria pollutants from generation of electricity associated with a building. It should be noted that when electricity is used in buildings, the electricity generation typically takes place offsite (i.e. power plants). Because power plants are existing stationary sources, criteria pollutant emissions are generally associated with the power plants and not the individual buildings or electricity users (24). Since electricity will be provided to the Project by Los Angeles Department of Water and Power, Project-related electricity generation is considered to take place offsite and therefore criteria pollutant emissions are not accounted for.

TITLE 24 ENERGY EFFICIENCY STANDARDS

California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The CEC anticipates that nonresidential buildings will use approximately 30% less energy compared to the prior code (25). The CalEEMod defaults for Title 24 – Electricity and Lighting Energy were reduced by 30% in order to reflect consistency with the 2019 Title 24 standard.

3.5.3 MOBILE SOURCE EMISSIONS

The Project related operational emissions derive primarily from vehicle trips generated by the Project. Trip characteristics available from the TIS report were utilized in this analysis. Per IS prepared by Urban Crossroads, Inc. the Project is expected to generate a total of approximately 1,035 two-way vehicular trips per day (4).

FUGITIVE DUST RELATED TO VEHICULAR TRAVEL

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of break and tire wear particulates. The emissions estimates for travel on paved roads were calculated using CalEEMod.

3.5.4 OPERATIONAL EMISSIONS SUMMARY

IMPACTS WITHOUT MITIGATION

As previously stated, CalEEMod utilizes summer and winter EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season. The estimated operational-source emissions are summarized on Tables 3-5. Detailed operation model outputs for the Project are presented in Appendix 3.1. As shown on Table 3-5, the Project's daily regional emissions from on-going operations will not exceed any of the thresholds of significance.

TABLE 3-5: SUMMARY OF OPERATIONAL EMISSIONS – WITHOUT MITIGATION

Source	Emissions (lbs/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Summer						
Area Source	1.38	1.90E-04	0.02	0.00	8.00E-05	8.00E-05
Energy Source	0.08	0.72	0.60	4.30E-03	0.05	0.05
Mobile Source	2.87	5.15	25.63	0.07	6.24	1.72
Total Maximum Daily Emissions	**4.33**	**5.87**	**26.25**	**0.07**	**6.29**	**1.77**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Winter						
Area Source	1.38	1.90E-04	0.02	0.00	8.00E-05	8.00E-05
Energy Source	0.08	0.72	0.60	4.30E-03	0.05	0.05
Mobile Source	2.97	5.43	24.89	0.07	6.24	1.71
Total Maximum Daily Emissions	**4.43**	**6.14**	**25.51**	**0.07**	**6.29**	**1.77**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

3.6 LOCALIZED SIGNIFICANCE

3.6.1 BACKGROUND ON LOCALIZED SIGNIFICANCE THRESHOLD (LST) DEVELOPMENT

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology) (26). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the NAAQS and CAAQS. Collectively, these are referred to as Localized Significance Thresholds (LSTs).

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[3]. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the *LST Methodology* (27).

3.6.2 APPLICABILITY OF LSTS FOR THE PROJECT

For this Project, the appropriate SRA for the LST analysis is Central Los Angeles (SRA 1). LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size.

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

- Identify the maximum daily on-site emissions that will occur during construction activity:
    - The maximum daily on-site emissions could be based on information provided by the Project Applicant; or
    - The SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* and CalEEMod User's Guide *Appendix A: Calculation Details for CalEEMod* can be used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod (28) (24).
- If the total acreage disturbed is less than or equal to 5 acres per day, then the SCAQMD's screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in lbs/day that can be compared to CalEEMod outputs.
- If the total acreage disturbed is greater than 5 acres per day, then LST impacts may still be conservatively evaluated using the LST look-up tables for a 5-acre disturbance area. Use of the 5-acre disturbance area thresholds can be used to show that even if the daily emissions from all construction activity were emitted within a 5-acre area, and therefore concentrated over a smaller area which would result in greater site adjacent concentrations, the impacts would still be less than significant if the applicable 5-acre thresholds are utilized.
- The LST methodology presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the

[3] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds.

EMISSIONS CONSIDERED

SCAQMD's *LST Methodology* clearly states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs (26)." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered.

MAXIMUM DAILY DISTURBED-ACREAGE

For analytical purposes, it is assumed that 1 acre will be disturbed per day. For purposes of analysis, LSTs for a 1-acre site are used as a screening tool to determine if further detailed analysis is required[4].

RECEPTORS

As previously stated, LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQS at the nearest residence or sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from Project activities.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly and individuals with pre-existing respiratory or cardiovascular illness. Structures that house these persons or places where they gather are defined as "sensitive receptors". These structures typically include uses such as residences, hotels, and hospitals where an individual can remain for 24 hours. Consistent with the *LST Methodology*, the nearest land use where an individual could remain for 24 hours to the Project site (in this case the nearest residential land use) has been used to determine construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$, since PM_{10} and $PM_{2.5}$ thresholds are based on a 24 hour averaging time.

LSTs apply, even for non-sensitive land uses, consistent with LST methodology and SCAQMD guidance. Per the *LST Methodology*, commercial and industrial facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for 8 hours or less. However, *LST Methodology* explicitly states that "*LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours* (26)." Therefore any adjacent land use where an individual could remain for 1 or 8-hours, that is located at a closer distance to the Project site than the nearest residential use, must be considered to determine construction and operational LST air impacts for emissions of NO_2 and CO since these pollutants have an averaging time of 1 and 8-hours.

[4] CalEEMod does not provide a "Total Acres Graded" field for Demolition, Building Construction, Paving, or Architectural Coating activities.

PROJECT-RELATED RECEPTORS

Receptors in the Project study area are described below and shown on Exhibit 3-A. Localized air quality impacts were evaluated at receptor land uses nearest the Project site. Consistent with the *Residences at Newport Noise Impact Analysis,* prepared by Urban Crossroads, Inc., all distances are measured from the Project site boundary to the outdoor living areas (e.g., backyards) or at the building façade, whichever is closer to the Project site. The selection of receptor locations is based on Federal Highway Administration (FHWA) guidelines and is consistent with additional guidance provided by Caltrans and the Federal Transit Administration (FTA) (29):

R1: Location R1 represents the existing residence at 1133 South Hope Street, approximately 83 feet northwest of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receptor R1 is placed at the residential building façade.

R2: Location R2 represents the existing residence at 1111 South Grand Avenue, approximately 71 feet east of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receptor R2 is placed at the residential building façade.

R3: Location R3 represents the existing residence at 1155 South Grand Avenue, approximately 68 feet south of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receptor R3 is placed at the residential building façade.

R4: Location R4 represents Hudson Loft at 1200 South Hope Street, approximately 305 feet southwest of the Project site. R4 is placed at the building façade.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual a cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the Project site has been used to determine localized construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$ (since PM_{10} and $PM_{2.5}$ thresholds are based on a 24 hour averaging time). The nearest receptor used for evaluation of localized impacts of PM_{10} and $PM_{2.5}$ is represented by location R3 which represents the existing residence at 1155 South Grand Avenue, 68 feet/21 meters from the Project site.

As previously stated, and consistent with *LST Methodology*, the nearest industrial/commercial use to the Project site is used to determine construction and operational LST air impacts for emissions of NO_X and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assumed that an individual could be present at these sites for periods of one to 8 hours. It should be noted that the existing residence (R3) is located at a closer distance than the nearest industrial/commercial use. As such, same receptor will be used for evaluation of localized NO_X and CO.

It should be noted that the *LST Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters* (26)." As such a 25-meter receptor distance will be used for evaluation of localized PM_{10}, $PM_{2.5}$, NO_2, and CO.

EXHIBIT 3-A: SENSITIVE RECEPTORS

3.7 CONSTRUCTION-SOURCE EMISSIONS LST ANALYSIS

3.7.1 LOCALIZED THRESHOLDS FOR CONSTRUCTION ACTIVITY

LSTs for a 1-acre was used as a screening tool to determine if further detailed analysis is required. As such, the construction threshold values presented in Table 3-6, are from the look-up tables at 1 acre and a 25-meter distance for localized PM_{10}, $PM_{2.5}$, NO_X, and CO evaluation.

TABLE 3-6: MAXIMUM DAILY LOCALIZED CONSTRUCTION EMISSIONS THRESHOLDS

Pollutant	Construction Localized Thresholds
NO_X	74 lbs/day
CO	680 lbs/day
PM_{10}	5 lbs/day
$PM_{2.5}$	3 lbs/day

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

3.7.2 CONSTRUCTION-SOURCE LOCALIZED EMISSIONS

IMPACTS WITHOUT MITIGATION

Table 3-5 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Without mitigation, localized construction emissions would not exceed the applicable SCAQMD LSTs for emissions of any criterial pollutant. Outputs from the model runs for unmitigated construction LSTs are provided in Appendix 3.1.

TABLE 3-5: LOCALIZED SIGNIFICANCE SUMMARY OF CONSTRUCTION – WITHOUT MITIGATION

On-Site Emissions	Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation				
Maximum Daily Emissions	**12.89**	**4.20**	**0.86**	**0.46**
SCAQMD Localized Threshold	74	680	5	3
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Grading				
Maximum Daily Emissions	**12.87**	**6.30**	**3.41**	**1.93**
SCAQMD Localized Threshold	74	680	5	3
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod localized construction-source emissions are presented in Appendix 3.1.

3.8 OPERATIONAL-SOURCE EMISSIONS LST ANALYSIS

The development of the proposed Project is located on 0.18 acres. As previously stated, the total development is proposed to consist of a mixed-use hotel development, with 144 hotel rooms, 378 sf of retail and an indoor parking garage. According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project, if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The proposed project does not include such uses, and thus, due to the lack of significant stationary source emissions, no long-term localized significance threshold analysis is needed.

3.9 CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the *1993 CEQA Handbook*, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO (30).

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment.

To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 3-6.

TABLE 3-6: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations
Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak CO concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 9.3 ppm 8-hour CO concentration measured at the Long Beach Boulevard and Imperial Highway intersection (highest CO generating intersection within the “hot spot” analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 8.6 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (31). In contrast, the ambient 8-hour CO concentration within the Project study area is estimated at 1.4 ppm—1.6 ppm. Therefore, even if the traffic volumes for the Project were double or even triple of the traffic volumes generated at the Long Beach Boulevard and Imperial Highway intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO “hot spot” at any study area intersections. Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph) —or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (32).

Traffic volumes generating the CO concentrations for the “hot spot” analysis is shown on Table 3-7. The busiest intersection evaluated for AM traffic volumes was at Wilshire Blvd. and Veteran Ave., which has an PM traffic volumes was at La Cienega Boulevard and Century Boulevard, which has a PM traffic volume of 8,674 vph (33). As shown on Table 3-8, the highest trips on a segment of road for the proposed Project is 1,583 vph on Hope Street and 11th Street. As such, Project-related traffic volumes are less than the traffic volumes identified in the 2003 AQMP. The Project considered herein would not produce the volume of traffic required to generate a CO “hot spot” either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, CO “hot spots” are not an environmental impact of concern for the Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

TABLE 3-7: TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Boulevard/Highland Avenue	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Boulevard/Century Boulevard	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Boulevard/Imperial Highway	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

Source: 2003 AQMP

TABLE 3-8: PROJECT PEAK HOUR TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Hope Street/11th Street	396/357	245/525	0/0	283/701	924/1,583
Hope Street/Project Driveway	486/345	303/491	0/0	0/0	789/836
Hope Street/12th Street	473/293	54/353	24/74	0/0	551/720

Source: *1130 S. Hope Street Traffic Impact Study* (KOA Consultants, September 2020)

3.10 AQMP

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the SCAQMD released the *Final 2016 AQMP* (*2016 AQMP*). The *2016 AQMP* continues to evaluate current integrated strategies and control measures to meet the NAAQS and explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (34). Similar to the 2012 AQMP, the *2016 AQMP* incorporates scientific and technological information and planning assumptions, including the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (*2016-2040 RTP/SCS*), a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements (19). The Project's consistency with the AQMP will be determined using the *2016 AQMP* as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the *1993 CEQA Handbook* (35). These indicators are discussed below:

3.10.1 CONSISTENCY CRITERION NO. 1

The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if LSTs or regional significance thresholds were exceeded. As evaluated, the Project's regional and localized construction-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant would result.

Operational Impacts – Consistency Criterion 1

As evaluated, and when taking into consideration existing emissions, the Project's operational emissions would not exceed the applicable regional significance thresholds and LST thresholds for operational activity. Therefore, the Project would not conflict with the AQMP according to this criterion.

On the basis of the preceding discussion, the Project is determined to be consistent with the first criterion.

3.10.2 CONSISTENCY CRITERION NO. 2

The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The *2016 AQMP* demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Los Angeles General Plan is considered to be consistent with the AQMP***.***

Construction Impacts – Consistency Criterion 2

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. As such, when considering that no emissions thresholds will be exceeded, a less than significant impact would result.

Operational Impacts – Consistency Criterion 2

The City of Los Angeles is currently in the processes of updating the General Plan. Based on the Draft Downtown Community Plan, the Project site is located within the South Park neighborhood of the Transit Core area. Transit Core areas provide a diverse mix of office, residential, retail, cultural, and entertainment uses. The South Park neighborhood is recognized to be a thriving residential mixed-use community, supported by commercial, office, and medical uses integrated into a walkable and transit accessible neighborhood. One of the goals of the South Park neighborhood is to ensure an adequate supply of hotel rooms to improve Los Angeles' competitiveness and ability to capture convention business (36).

The Project proposes the development of a mixed-use hotel development, with 144 hotel rooms, 378 sf of retail and an indoor parking garage which is consistent with the goals outlined for projects located within the Transit Core area.

On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion.

AQMP Consistency Conclusion

The Project would not have the potential to result in or cause NAAQS or CAAQS violations. Additionally, Project construction and operational-source emissions would not exceed the regional or localized significance thresholds. The Project is therefore considered to be consistent with the AQMP.

3.11 Potential Impacts to Sensitive Receptors

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Additionally, the Project will not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

3.11.1 Friant Ranch Case

In December 2018, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, the California Supreme Court held that an Environmental Impact Report's (EIR) air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided.

As discussed in briefs filed in the Friant Ranch case, correlating a project's criteria air pollutant emissions to specific health impacts is challenging. The SCAQMD, which has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, and thus it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with specific health outcomes (37) noted that it may be "difficult to quantify health impacts for criteria pollutants." SCAQMD used O_3 as an example of why it is impracticable to determine specific health outcomes from criteria pollutants for all but very large, regional-scale projects. First, forming O_3 "takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources." (SCAQMD, 2015a, p. 11) Second, "it takes a large amount of additional precursor emissions (NOx and VOCs) to cause a modeled increase in ambient ozone levels over an entire region," with a 2012 study showing that "reducing NO_X by 432 tons per day

(157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion." (SCAQMD, 2015a, pp. 12-14)

SCAQMD concluded that it "does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects." (SCAQMD, 2015a, pp. 12-14) The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) ties the difficulty of correlating the emission of criteria pollutants to health impacts to how ozone and particulate matter are formed, stating that "[b]ecause of the complexity of ozone formation, a specific tonnage amount of NO_X or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area." (SJVUAPCD, 2015, p. 4) Similarly, the tonnage of PM "emitted does not always equate to the local PM concentration because it can be transported long distances by wind," and "[s]econdary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SO_X) and NO_X," meaning that "the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area." (SJVUAPCD, 2015, p. 5) The disconnect between the amount of precursor pollutants and the concentration of ozone or PM formed makes it difficult to determine potential health impacts, which are related to the concentration of ozone and PM experienced by the receptor rather than levels of NO_X, SO_X, and VOCs produced by a source.

Most local agencies, including the City of Los Angeles, lack the data to do their own assessment of potential health impacts from criteria air pollutant emissions, as would be required to establish customized, locally-specific thresholds of significance based on potential health impacts from an individual development project. The use of national or "generic" data to fill the gap of missing local data would not yield accurate results because such data does not capture local air patterns, local background conditions, or local population characteristics, all of which play a role in how a population experiences air pollution. Because it is impracticable to accurately isolate the exact cause of a human disease (for example, the role a particular air pollutant plays compared to the role of other allergens and genetics in cause asthma), the City has determined that existing scientific tools cannot accurately estimate health impacts of the Project's air emissions without undue speculation. Instead, readers are directed to the Project's air quality impact analysis above, which provides extensive information concerning the quantifiable and non-quantifiable health risks related to the Project's construction and long-term operation.

The LST analysis above determined that the project would not result in emissions exceeding SCAQMD's LSTs. Therefore, the proposed Project would not be expected to exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NO_X, PM_{10}, and $PM_{2.5.}$

As the Project's emissions will comply with federal, state, and local air quality standards, the proposed Project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a basin-wide level, and would not provide a reliable indicator of health effects if modeled.

3.12 ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (38).

3.13 CUMULATIVE IMPACTS

As previously shown in Table 2-3, the CAAQS designate the Project site as nonattainment for O_3 PM_{10}, and $PM_{2.5}$ while the NAAQS designates the Project site as nonattainment for O_3 and $PM_{2.5}$.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (39). In this report the SCAQMD clearly states (Page D-3):

> *"…the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or Environmental Impact Report (EIR). The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific*

> *(project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*
>
> *Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

CONSTRUCTION IMPACTS

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

OPERATIONAL IMPACTS

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that Project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, Project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

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5 CERTIFICATIONS

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed 1130 S. Hope Street Project. The information contained in this air quality impact report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

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Master of Science in Environmental Studies
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AEP – Association of Environmental Planners
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PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June 2013
Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 2.1:

STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS

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APPENDIX C

MAPS AND TABLES OF AREA DESIGNATIONS FOR STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

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APPENDIX C

MAPS AND TABLES OF AREA DESIGNATIONS FOR STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

This attachment fulfills the requirement of Health and Safety Code section 40718 for CARB to publish maps that identify areas where one or more violations of any State ambient air quality standard (State standard) or national ambient air quality standard (national standard) have been measured. The national standards are those promulgated under section 109 of the federal Clean Air Act (42 U.S.C. 7409).

This attachment is divided into three parts. The first part comprises a table showing the levels, averaging times, and measurement methods for each of the State and national standards. This is followed by a section containing maps and tables showing the area designations for each pollutant for which there is a State standard in the California Code of Regulations, title 17, section 70200. The last section contains maps and tables showing the most current area designations for the national standards.

Ambient Air Quality Standards

(Updated 5/4/16)

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

See footnotes on next page …

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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Area Designations for the State Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a State standard set forth in the California Code of Regulations, title 17, section 60200. Each area is identified as attainment, nonattainment, nonattainment-transitional, or unclassified for each pollutant, as shown below:

Attainment	A
Nonattainment	N
Nonattainment-Transitional	NA-T
Unclassified	U

In general, CARB designates areas by air basin for pollutants with a regional impact and by county for pollutants with a more local impact. However, when there are areas within an air basin or county with distinctly different air quality deriving from sources and conditions not affecting the entire air basin or county, CARB may designate a smaller area. Generally, when boundaries of the designated area differ from the air basin or county boundaries, the description of the specific area is referenced at the bottom of the summary table.

FIGURE 1


2018
Area Designations for State
Ambient Air Quality Standards
OZONE
N
0
50
100
200
Miles
NORTHEAST PLATEAU
NORTH COAST
SACRAMENTO VALLEY
SUTTER BUTTES
MOUNTAIN COUNTIES
LAKE TAHOE
LAKE COUNTY
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
MOJAVE DESERT
SOUTH COAST
SAN DIEGO COUNTY
SALTON SEA
Del Norte
Siskiyou
Modoc
Shasta
Lassen
Trinity
Humboldt
Tehema
Plumas
Butte
Glenn
Mendocino
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
El Dorado
Yolo
Alpine
Sonoma
Napa
Sac
Amador
Solano
Calaveras
Marin
San Joaquin
Contra Costa
Tuolumne
Mono
San Francisco
Alameda
Mariposa
San Mateo
Stanislaus
Santa Clara
Merced
Santa Cruz
Madera
San Benito
Fresno
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
San Bernardino
Santa Barbara
Los Angeles
Ventura
Riverside
Orange
San Diego
Imperial
Unclassified
Attainment
Nonattainment-Transitional
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 1

California Ambient Air Quality Standards
Area Designations for Ozone (1)

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					NORTHEAST PLATEAU AIR BASIN				X
Alpine County			X		SACRAMENTO VALLEY AIR BASIN				
Inyo County	X				Colusa and Glenn Counties				X
Mono County	X				Sutter/Yuba Counties				
LAKE COUNTY AIR BASIN				X	Sutter Buttes	X			
LAKE TAHOE AIR BASIN				X	Remainder of Sutter County				X
MOJAVE DESERT AIR BASIN	X				Yuba County				X
MOUNTAIN COUNTIES AIR BASIN					Yolo/Solano Counties		X		
Amador County	X				Remainder of Air Basin	X			
Calaveras County	X				SALTON SEA AIR BASIN	X			
El Dorado County (portion)	X				SAN DIEGO AIR BASIN	X			
Mariposa County	X				SAN FRANCISCO BAY AREA AIR BASIN	X			
Nevada County	X				SAN JOAQUIN VALLEY AIR BASIN	X			
Placer County (portion)	X				SOUTH CENTRAL COAST AIR BASIN				
Plumas County			X		San Luis Obispo County	X			
Sierra County			X		Santa Barbara County		X		
Tuolumne County	X				Ventura County	X			
NORTH CENTRAL COAST AIR BASIN		X			SOUTH COAST AIR BASIN	X			
NORTH COAST AIR BASIN				X					

(1) AB 3048 (Olberg) and AB 2525 (Miller) signed into law in 1996, made changes to Health and Safety Code, section 40925.5. One of the changes allows nonattainment districts to become nonattainment-transitional for ozone by operation of law.

FIGURE 2

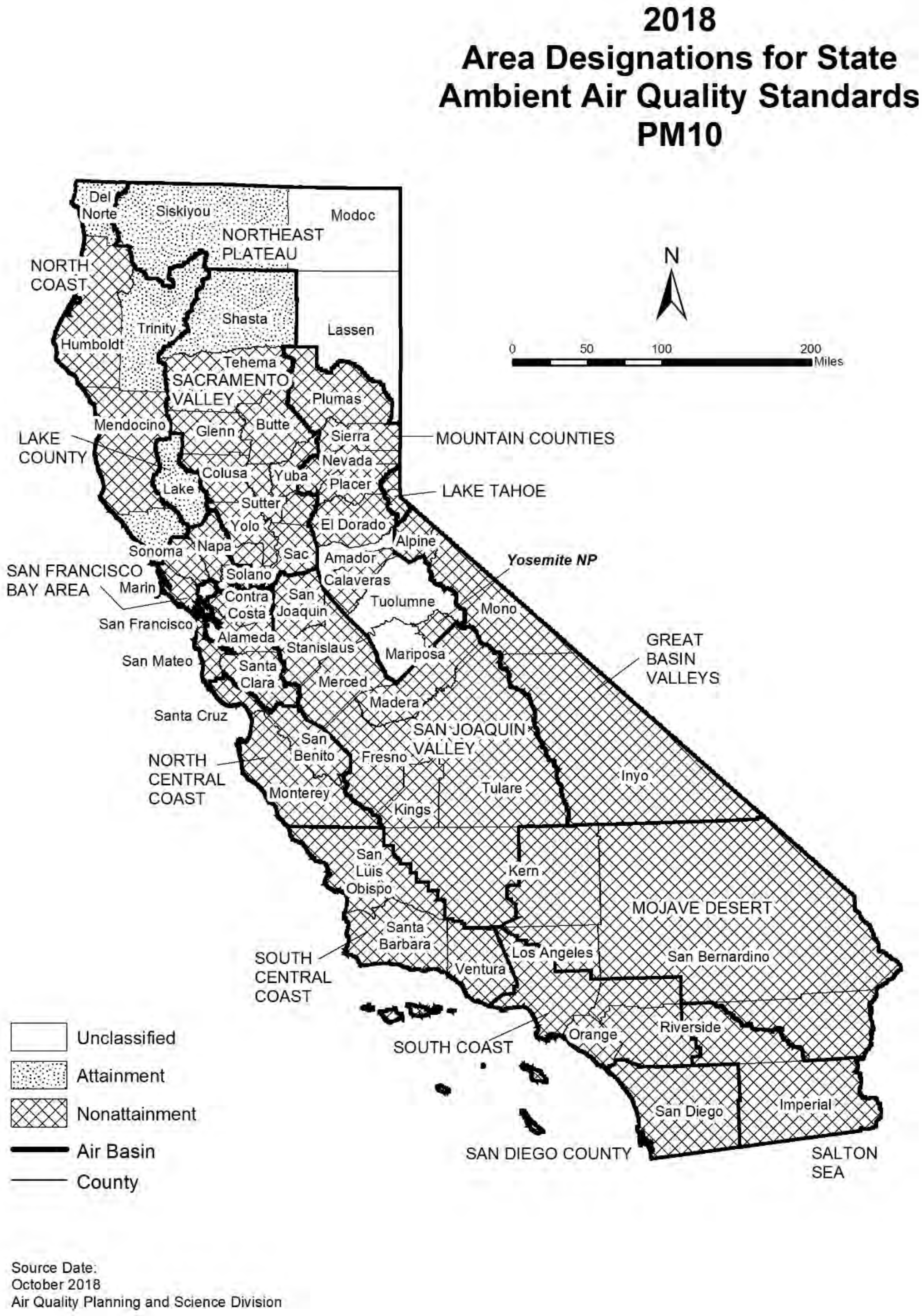

2018
Area Designations for State
Ambient Air Quality Standards
PM10
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Nevada
Colusa
Yuba
Placer
Lake
LAKE TAHOE
Sutter
Yolo
El Dorado
Alpine
Sonoma
Napa
Sac
Amador
Yosemite NP
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
GREAT BASIN VALLEYS
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
NORTH CENTRAL COAST
Fresno
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
MOJAVE DESERT
Santa Barbara
Los Angeles
San Bernardino
Ventura
SOUTH CENTRAL COAST
Orange
Riverside
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
N
0
50
100
200
Miles
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 2

California Ambient Air Quality Standards
Area Designation for Suspended Particulate Matter (PM10)

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN	X			NORTH CENTRAL COAST AIR BASIN	X		
LAKE COUNTY AIR BASIN			X	NORTH COAST AIR BASIN			
LAKE TAHOE AIR BASIN	X			Del Norte, Sonoma (portion) and Trinity Counties			X
MOJAVE DESERT AIR BASIN	X			Remainder of Air Basin	X		
MOUNTAIN COUNTIES AIR BASIN				NORTHEAST PLATEAU AIR BASIN			
Amador County		X		Siskiyou County			X
Calaveras County	X			Remainder of Air Basin		X	
El Dorado County (portion)	X			SACRAMENTO VALLEY AIR BASIN			
Mariposa County				Shasta County			X
- Yosemite National Park	X			Remainder of Air Basin	X		
- Remainder of County		X		SALTON SEA AIR BASIN	X		
Nevada County	X			SAN DIEGO AIR BASIN	X		
Placer County (portion)	X			SAN FRANCISCO BAY AREA AIR BASIN	X		
Plumas County	X			SAN JOAQUIN VALLEY AIR BASIN	X		
Sierra County	X			SOUTH CENTRAL COAST AIR BASIN	X		
Tuolumne County		X		SOUTH COAST AIR BASIN	X		

FIGURE 3

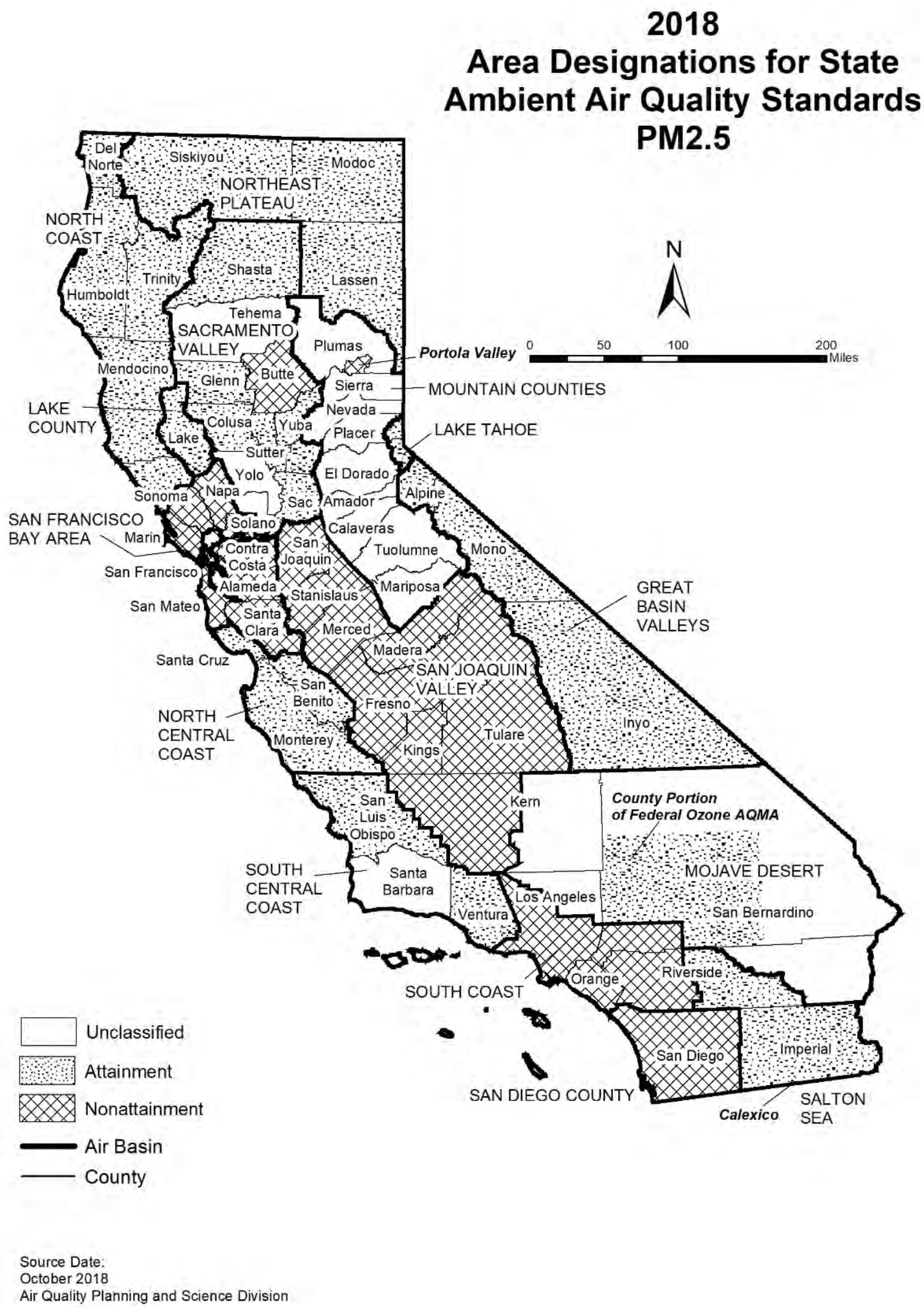

2018
Area Designations for State
Ambient Air Quality Standards
PM2.5
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Portola Valley
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Nevada
Colusa
Yuba
Placer
LAKE TAHOE
Lake
Sutter
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
GREAT BASIN VALLEYS
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Monterey
Kings
Tulare
Inyo
San Luis Obispo
Kern
County Portion of Federal Ozone AQMA
MOJAVE DESERT
SOUTH CENTRAL COAST
Santa Barbara
Ventura
Los Angeles
San Bernardino
Orange
Riverside
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Calexico
SALTON SEA
N
0
50
100
200
Miles
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 3

California Ambient Air Quality Standards
Area Designations for Fine Particulate Matter (PM2.5)

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SALTON SEA AIR BASIN			
LAKE COUNTY AIR BASIN			X	Imperial County			
LAKE TAHOE AIR BASIN			X	- City of Calexico (3)	X		
MOJAVE DESERT AIR BASIN				Remainder of Air Basin			X
San Bernardino County				SAN DIEGO AIR BASIN	X		
- County portion of federal Southeast Desert Modified AQMA for Ozone (1)			X	SAN FRANCISCO BAY AREA AIR BASIN	X		
				SAN JOAQUIN VALLEY AIR BASIN	X		
Remainder of Air Basin		X		SOUTH CENTRAL COAST AIR BASIN			
MOUNTAIN COUNTIES AIR BASIN				San Luis Obispo County			X
Plumas County				Santa Barbara County		X	
- Portola Valley (2)	X			Ventura County			X
Remainder of Air Basin		X		SOUTH COAST AIR BASIN	X		
NORTH CENTRAL COAST AIR BASIN			X				
NORTH COAST AIR BASIN			X				
NORTHEAST PLATEAU AIR BASIN			X				
SACRAMENTO VALLEY AIR BASIN							
Butte County	X						
Colusa County			X				
Glenn County			X				
Placer County (portion)			X				
Sacramento County			X				
Shasta County			X				
Sutter and Yuba Counties			X				
Remainder of Air Basin		X					

(1) California Code of Regulations, title 17, section 60200(b)

(2) California Code of Regulations, title 17, section 60200(c)

(3) California Code of Regulations, title 17, section 60200(a)

FIGURE 4

2018
Area Designations for State Ambient Air Quality Standards
CARBON MONOXIDE

Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 4

California Ambient Air Quality Standards
Area Designation for Carbon Monoxide*

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					SACRAMENTO VALLEY AIR BASIN				
Alpine County			X		Butte County				X
Inyo County				X	Colusa County			X	
Mono County				X	Glenn County			X	
LAKE COUNTY AIR BASIN				X	Placer County (portion)				X
LAKE TAHOE AIR BASIN				X	Sacramento County				X
MOJAVE DESERT AIR BASIN					Shasta County			X	
Kern County (portion)			X		Solano County (portion)				X
Los Angeles County (portion)				X	Sutter County				X
Riverside County (portion)			X		Tehama County			X	
San Bernardino County (portion)				X	Yolo County				X
MOUNTAIN COUNTIES AIR BASIN					Yuba County			X	
Amador County			X		SALTON SEA AIR BASIN				X
Calaveras County			X		SAN DIEGO AIR BASIN				X
El Dorado County (portion)			X		SAN FRANCISCO BAY AREA AIR BASIN				X
Mariposa County			X		SAN JOAQUIN VALLEY AIR BASIN				
Nevada County			X		Fresno County				X
Placer County (portion)			X		Kern County (portion)				X
Plumas County				X	Kings County			X	
Sierra County			X		Madera County			X	
Tuolumne County				X	Merced County			X	
NORTH CENTRAL COAST AIR BASIN					San Joaquin County				X
Monterey County				X	Stanislaus County				X
San Benito County			X		Tulare County				X
Santa Cruz County			X		SOUTH CENTRAL COAST AIR BASIN				X
NORTH COAST AIR BASIN					SOUTH COAST AIR BASIN				X
Del Norte County			X						
Humboldt County				X					
Mendocino County				X					
Sonoma County (portion)			X						
Trinity County			X						
NORTHEAST PLATEAU AIR BASIN			X						

* The area designated for carbon monoxide is a county or portion of a county

FIGURE 5

2018
Area Designations for State Ambient Air Quality Standards
NITROGEN DIOXIDE

Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 5

California Ambient Air Quality Standards
Area Designation for Nitrogen Dioxide

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SACRAMENTO VALLEY AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN DIEGO AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X	SOUTH COAST AIR BASIN			
NORTHEAST PLATEAU AIR BASIN			X	CA 60 Near-road Portion of San Bernardino, Riverside, and Los Angeles Counties	X		
				Remainder of Air Basin			X

FIGURE 6

Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 6

California Ambient Air Quality Standards
Area Designation for Sulfur Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SALTON SEA AIR BASIN		X
LAKE TAHOE AIR BASIN		X	SAN DIEGO AIR BASIN		X
MOJAVE DESERT AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X			

* The area designated for sulfur dioxide is a county or portion of a county

FIGURE 7


2018
Area Designations for State
Ambient Air Quality Standards
SULFATES
N
0 50 100 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Humboldt
Trinity
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Nevada
Colusa
Yuba
Placer
LAKE TAHOE
Lake
Sutter
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
Solano
Calaveras
SAN FRANCISCO BAY AREA
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
GREAT BASIN VALLEYS
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
NORTH CENTRAL COAST
Fresno
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
MOJAVE DESERT
Santa Barbara
SOUTH CENTRAL COAST
Ventura
Los Angeles
San Bernardino
Orange
Riverside
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 7

California Ambient Air Quality Standards
Area Designation for Sulfates

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SACRAMENTO VALLEY AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN DIEGO AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X	SOUTH COAST AIR BASIN			X
NORTHEAST PLATEAU AIR BASIN			X				

FIGURE 8


2018
Area Designations for State
Ambient Air Quality Standards
LEAD
N
0 50 100 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Humboldt
Trinity
Shasta
Lassen
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Nevada
Colusa
Yuba
Placer
LAKE TAHOE
Lake
El Dorado
Yolo
Sonoma
Alpine
Napa
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
GREAT BASIN VALLEYS
Santa Cruz
Fresno
SAN JOAQUIN VALLEY
San Benito
Inyo
NORTH CENTRAL COAST
Tulare
Monterey
Kings
San Luis Obispo
Kern
MOJAVE DESERT
Santa Barbara
San Bernardino
SOUTH CENTRAL COAST
Ventura
Los Angeles
SOUTH COAST
Orange
Riverside
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

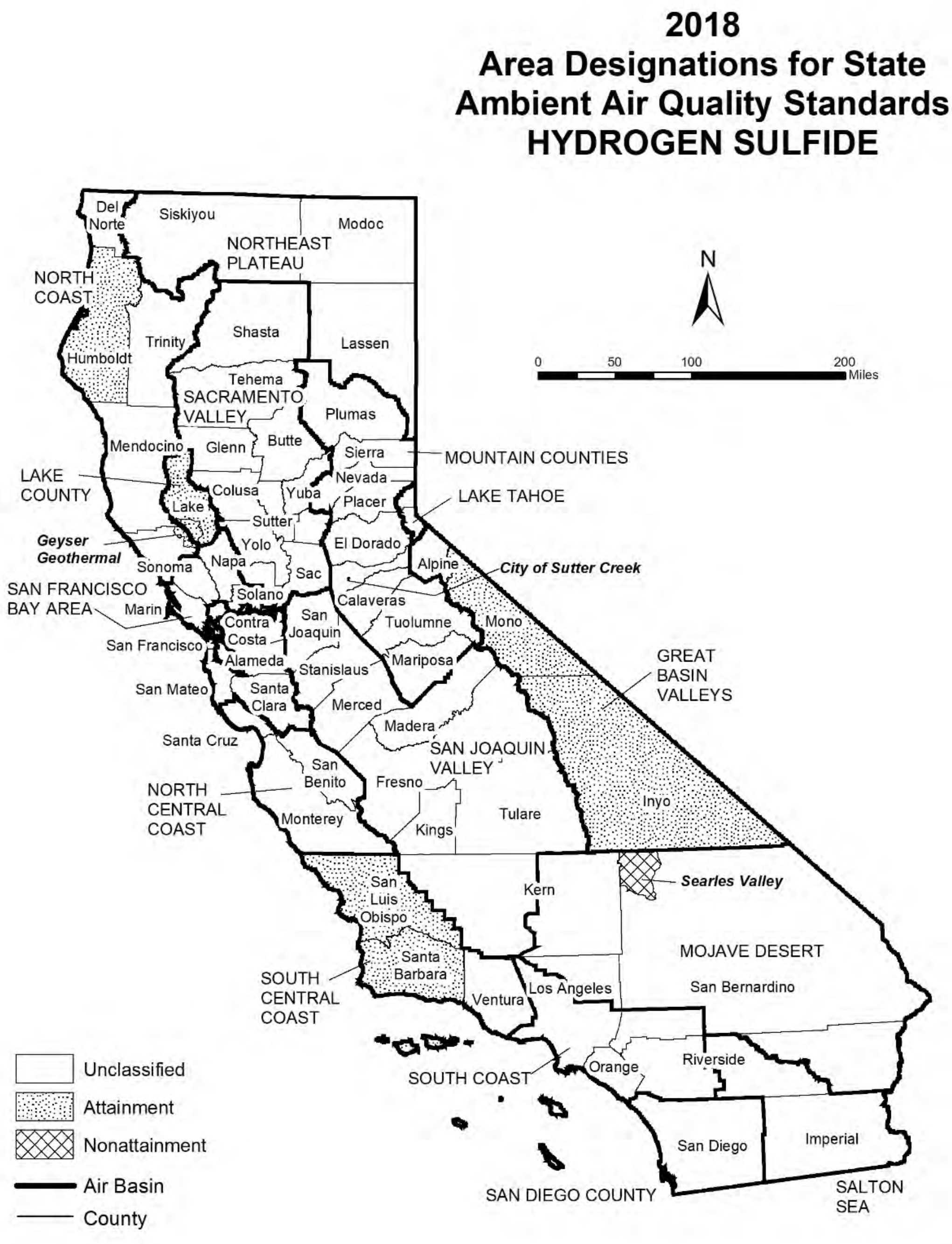
TABLE 8

California Ambient Air Quality Standards
Area Designations for Lead (particulate)*

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SAN DIEGO AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH COAST AIR BASIN			X
NORTH COAST AIR BASIN			X				
NORTHEAST PLATEAU AIR BASIN			X				
SACRAMENTO VALLEY AIR BASIN			X				

* The area designated for lead is a county or portion of a county. Since all areas in the State are in attainment for this standard, air basins are indicated here for simplicity.

FIGURE 9



Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 9

California Ambient Air Quality Standards
Area Designation for Hydrogen Sulfide*

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					NORTH CENTRAL COAST AIR BASIN			X	
Alpine County			X		NORTH COAST AIR BASIN				
Inyo County				X	Del Norte County			X	
Mono County				X	Humboldt County				X
LAKE COUNTY AIR BASIN				X	Mendocino County			X	
LAKE TAHOE AIR BASIN			X		Sonoma County (portion)				
MOJAVE DESERT AIR BASIN					- Geyser Geothermal Area (2)				X
Kern County (portion)			X		- Remainder of County			X	
Los Angeles County (portion)			X		Trinity County			X	
Riverside County (portion)			X		NORTHEAST PLATEAU AIR BASIN			X	
San Bernardino County (portion)					SACRAMENTO VALLEY AIR BASIN			X	
- Searles Valley Planning Area (1)	X				SALTON SEA AIR BASIN			X	
- Remainder of County			X		SAN DIEGO AIR BASIN			X	
MOUNTAIN COUNTIES AIR BASIN					SAN FRANCISCO BAY AREA AIR BASIN			X	
Amador County					SAN JOAQUIN VALLEY AIR BASIN			X	
- City of Sutter Creek	X				SOUTH CENTRAL COAST AIR BASIN				
- Remainder of County			X		San Luis Obispo County				X
Calaveras County			X		Santa Barbara County				X
El Dorado County (portion)			X		Ventura County			X	
Mariposa County			X		SOUTH COAST AIR BASIN			X	
Nevada County			X						
Placer County (portion)			X						
Plumas County			X						
Sierra County			X						
Tuolumne County			X						

* The area designated for hydrogen sulfide is a county or portion of a county

(1) 52 Federal Register 29384 (August 7, 1987)

(2) California Code of Regulations, title 17, section 60200(d)

FIGURE 10


2018
Area Designations for State
Ambient Air Quality Standards
VISIBILITY REDUCING PARTICLES
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Colusa
Yuba
Nevada
Lake
Placer
LAKE TAHOE
Sutter
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
GREAT BASIN VALLEYS
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
Inyo
NORTH CENTRAL COAST
Monterey
Kings
San Luis Obispo
Kern
MOJAVE DESERT
Santa Barbara
SOUTH CENTRAL COAST
Ventura
Los Angeles
San Bernardino
Orange
Riverside
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
N
0
50
100
200
Miles
Unclassified
Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 10

California Ambient Air Quality Standards
Area Designation for Visibility Reducing Particles

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN			X		SACRAMENTO VALLEY AIR BASIN			X	
LAKE COUNTY AIR BASIN				X	SALTON SEA AIR BASIN			X	
LAKE TAHOE AIR BASIN			X		SAN DIEGO AIR BASIN			X	
MOJAVE DESERT AIR BASIN			X		SAN FRANCISCO BAY AREA AIR BASIN			X	
MOUNTAIN COUNTIES AIR BASIN			X		SAN JOAQUIN VALLEY AIR BASIN			X	
NORTH CENTRAL COAST AIR BASIN			X		SOUTH CENTRAL COAST AIR BASIN			X	
NORTH COAST AIR BASIN			X		SOUTH COAST AIR BASIN			X	
NORTHEAST PLATEAU AIR BASIN			X						

Area Designations for the National Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a national ambient air quality standard. Additional information about the federal area designations is available on the U.S. EPA website:

https://www.epa.gov/green-book

Over the last several years, U.S. EPA has been reviewing the levels of the various national standards. The agency has already promulgated new standard levels for some pollutants and is considering revising the levels for others. Information about the status of these reviews is available on the U.S. EPA website:

https://www.epa.gov/criteria-air-pollutants

<u>Designation Categories</u>

Suspended Particulate Matter (PM_{10}). The U.S. EPA uses three categories to designate areas with respect to PM_{10}:

- Attainment
- Nonattainment
- Unclassifiable

Ozone, Fine Suspended Particulate Matter ($PM_{2.5}$), Carbon Monoxide (CO), and Nitrogen Dioxide (NO_2). The U.S. EPA uses two categories to designate areas with respect to these standards:

- Nonattainment
- Unclassifiable/Attainment

The national 1-hour ozone standard was revoked effective June 15, 2005, and the area designations map reflects the 2015 national 8-hour ozone standard of 0.070 ppm. Original designations were finalized on August 3, 2018.

On December 14, 2012, the U.S. EPA established a new national annual primary $PM_{2.5}$ standard of 12.0 $\mu g/m^3$. New area designations reflecting this revised standard became final in December 2014. The current designation map reflects the most recently revised (2012) annual average standard of 12.0 $\mu g/m^3$ as well as the 24-hour standard of 35 $\mu g/m^3$, revised in 2006.

On January 22, 2010, the U.S. EPA established a new national 1-hour NO_2 standard of 100 parts per billion (ppb) and retained the annual average standard of 53 ppb. Designations for the primary NO_2 standard became effective on February 29, 2012. All areas of California meet this standard.

Sulfur Dioxide (SO_2). The U.S. EPA uses three categories to designate areas with respect to the 24-hour and annual average sulfur dioxide standards. These designation categories are:

- Nonattainment,
- Unclassifiable, and
- Attainment/Unclassifiable.

On June 2, 2010, the U.S. EPA established a new primary 1-hour SO_2 standard of 75 parts per billion (ppb). At the same time, U.S. EPA revoked the 24-hour and annual average standards. Area designations for the 1-hour SO_2 standard were finalized on December 21, 2017 and are reflected in the area designations map.

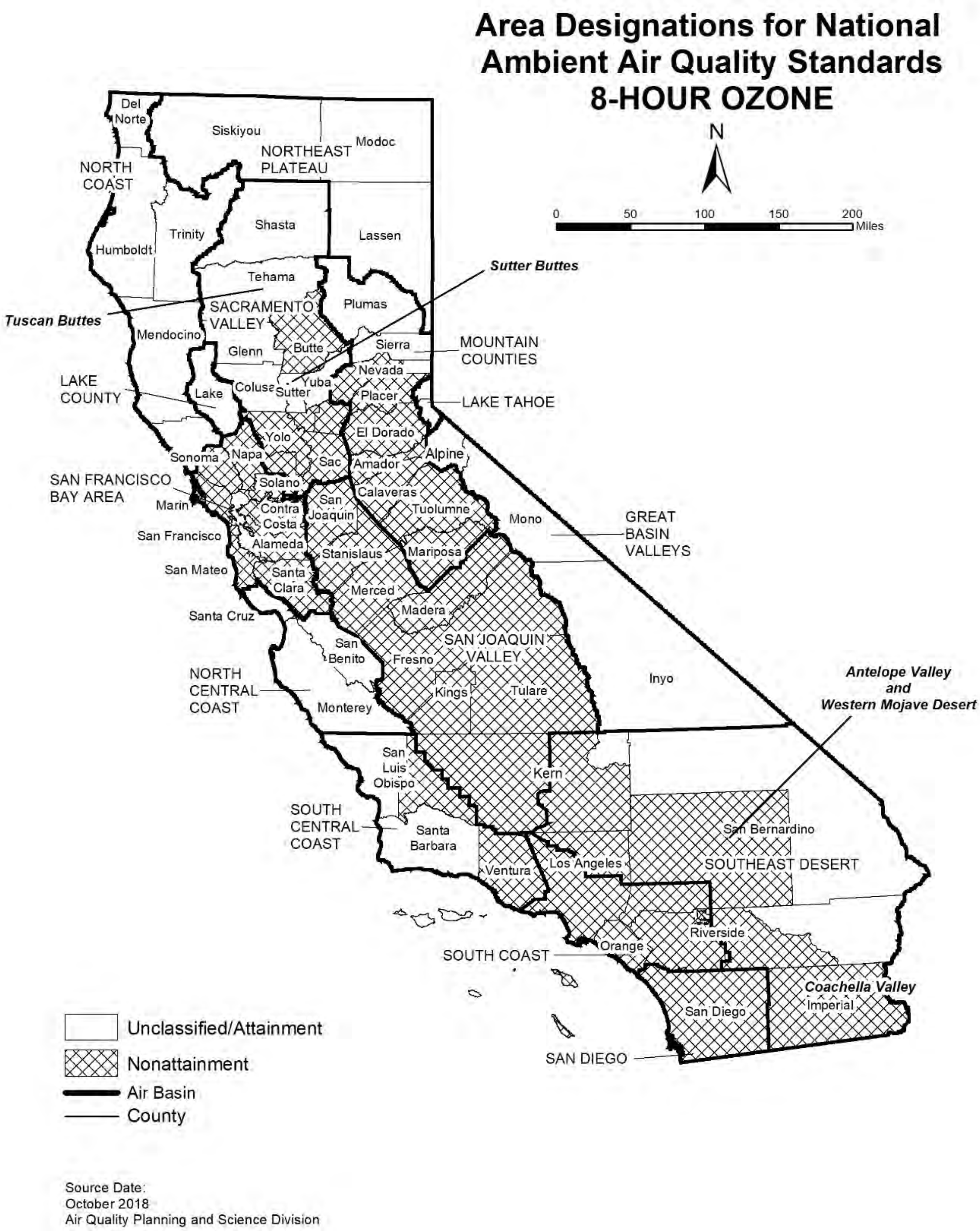
Lead (particulate). The U.S. EPA promulgated a new rolling 3-month average lead standard in October 2008 of 0.15 $\mu g/m^3$. Designations were made for this standard in November 2010.

Designation Areas

From time to time, the boundaries of the California air basins have been changed to facilitate the planning process. CARB generally initiates these changes, and they are not always reflected in the U.S. EPA's area designations. For purposes of consistency, the maps in this attachment reflect area designation boundaries and nomenclature as promulgated by the U.S. EPA. In some cases, these may not be the same as those adopted by CARB. For example, the national area designations reflect the former Southeast Desert Air Basin. In accordance with Health and Safety Code section 39606.1, CARB redefined this area in 1996 to be the Mojave Desert Air Basin and Salton Sea Air Basin. The definitions and boundaries for all areas designated for the national standards can be found in Title 40, Code of Federal Regulations (CFR), Chapter I, Subchapter C, Part 81.305. They are available on the web at:

https://ecfr.io/Title-40/se40.20.81_1305

FIGURE 11



Area Designations for National
Ambient Air Quality Standards
8-HOUR OZONE
N
0
50
100
150
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
Sutter Buttes
Tuscan Buttes
SACRAMENTO VALLEY
Plumas
Mendocino
Butte
Glenn
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Colusa
Yuba
Sutter
Lake
Placer
LAKE TAHOE
El Dorado
Yolo
Sonoma
Napa
Alpine
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Marin
Calaveras
San Joaquin
Contra Costa
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
San Benito
SAN JOAQUIN VALLEY
Fresno
Antelope Valley and Western Mojave Desert
Inyo
NORTH CENTRAL COAST
Kings
Tulare
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
SOUTHEAST DESERT
Riverside
SOUTH COAST
Orange
Coachella Valley
San Diego
Imperial
SAN DIEGO
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 11

National Ambient Air Quality Standards
Area Designations for 8-Hour Ozone*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN (cont.)		
LAKE COUNTY AIR BASIN		X	Yolo County (2)	X	
LAKE TAHOE AIR BASIN		X	Yuba County		X
MOUNTAIN COUNTIES AIR BASIN			SAN DIEGO COUNTY	X	
Amador County	X		SAN FRANCISCO BAY AREA AIR BASIN	X	
Calaveras County	X		SAN JOAQUIN VALLEY AIR BASIN	X	
El Dorado County (portion) (2)	X		SOUTH CENTRAL COAST AIR BASIN (1)		
Mariposa County	X		San Luis Obispo County		
Nevada County			- Eastern San Luis Obispo County	X	
- Western Nevada County	X		- Remainder of County		X
- Remainder of County		X	Santa Barbara County		X
Placer County (portion) (2)	X		Ventura County		
Plumas County		X	- Area excluding Anacapa and San Nicolas Islands	X	
Sierra County		X	- Channel Islands (1)		X
Tuolumne County	X		SOUTH COAST AIR BASIN (1)	X	
NORTH CENTRAL COAST AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		
NORTH COAST AIR BASIN		X	Kern County (portion)	X	
NORTHEAST PLATEAU AIR BASIN		X	- Indian Wells Valley		X
SACRAMENTO VALLEY AIR BASIN			Imperial County	X	
Butte County	X		Los Angeles County (portion)	X	
Colusa County		X	Riverside County (portion)		
Glenn County		X	- Coachella Valley	X	
Sacramento Metro Area (2)	X		- Non-AQMA portion		X
Shasta County		X	San Bernardino County		
Sutter County			- Western portion (AQMA)	X	
- Sutter Buttes	X		- Eastern portion (non-AQMA)		X
- Southern portion of Sutter County (2)	X				
- Remainder of Sutter County		X			
Tehama County					
- Tuscan Buttes	X				
- Remainder of Tehama County		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

NOTE: This map and table reflect the 2015 8-hour ozone standard of 0.070 ppm.

(1) South Central Coast Air Basin Channel Islands:
Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.
Ventura County includes Anacapa and San Nicolas Islands.
South Coast Air Basin:
Los Angeles County includes San Clemente and Santa Catalina Islands.

(2) For this purpose, the Sacramento Metro Area comprises all of Sacramento and Yolo Counties, the Sacramento Valley Air Basin portion of Solano County, the southern portion of Sutter County, and the Sacramento Valley and Mountain Counties Air Basins portions of Placer and El Dorado counties.

FIGURE 12

Area Designations for National Ambient Air Quality Standards PM10
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
MOUNTAIN COUNTIES
LAKE COUNTY
Colusa
Yuba
Lake
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Alpine
Sacramento County
Sonoma
Napa
Sac
Amador
Mono
Mono Basin
SAN FRANCISCO BAY AREA
Marin
Solano
Calaveras
San Joaquin
Contra Costa
Tuolumne
Mammoth Lake
San Francisco
GREAT BASIN VALLEYS
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Inyo
Santa Cruz
San Benito
Fresno
SAN JOAQUIN VALLEY
Owens Valley
Tulare
Coso Junction
NORTH CENTRAL COAST
Monterey
Kings
Trona
San Luis Obispo
Kern
Indian Wells Valley
San Bernardino
SOUTHEAST DESERT
SOUTH CENTRAL COAST
Santa Barbara
Ventura
Los Angeles
Riverside
Coachella Valley
SOUTH COAST
Orange
Imperial
San Diego
SAN DIEGO COUNTY
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 12

National Ambient Air Quality Standards
Area Designations for Suspended Particulate Matter (PM10)*

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN				SAN DIEGO COUNTY		X	
Alpine County		X		SAN FRANCISCO BAY AREA AIR BASIN		X	
Inyo County				SAN JOAQUIN VALLEY AIR BASIN			X
- Owens Valley Planning Area	X			SOUTH CENTRAL COAST AIR BASIN		X	
- Coso Junction			X	SOUTH COAST AIR BASIN			X
- Remainder of County		X		SOUTHEAST DESERT AIR BASIN			
Mono County				Eastern Kern County			
- Mammoth Lake Planning Area			X	- Indian Wells Valley			X
- Mono Lake Basin	X			- Portion within San Joaquin Valley Planning Area	X		
- Remainder of County		X		- Remainder of County		X	
LAKE COUNTY AIR BASIN		X		Imperial County			
LAKE TAHOE AIR BASIN		X		- Imperial Valley Planning Area	X		
MOUNTAIN COUNTIES AIR BASIN				- Remainder of County		X	
Placer County (portion) (2)		X		Los Angeles County (portion)		X	
Remainder of Air Basin		X		Riverside County (portion)			
NORTH CENTRAL COAST AIR BASIN		X		- Coachella Valley (3)	X		
NORTH COAST AIR BASIN		X		- Non-AQMA portion		X	
NORTHEAST PLATEAU AIR BASIN		X		San Bernardino County			
SACRAMENTO VALLEY AIR BASIN				- Trona	X		
Butte County		X		- Remainder of County	X		
Colusa County		X					
Glenn County		X					
Placer County (portion) (2)		X					
Sacramento County (1)			X				
Shasta County		X					
Solano County (portion)		X					
Sutter County		X					
Tehama County		X					
Yolo County		X					
Yuba County		X					

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.
(1) Air quality in Sacramento County meets the national PM10 standards. The request for redesignation to attainment was approved by U.S. EPA in September 2013.
(2) U.S. EPA designation puts the Sacramento Valley Air Basin portion of Placer County in the Mountain Counties Air Basin.
(3) Air quality in Coachella Valley meets the national PM10 standards. A request for redesignation to attainment has been submitted to U.S. EPA.

FIGURE 13


Area Designations for National Ambient Air Quality Standards PM2.5
N
0
50
100
150
200
Miles
NORTH COAST
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
Humboldt
Trinity
Shasta
Lassen
Tehama
SACRAMENTO VALLEY
Plumas
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Mendocino
Nevada
LAKE COUNTY
Colusa
Yuba
Placer
Lake
Sutter
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sacramento
Alpine
Amador
Solano
Calaveras
GREAT BASIN VALLEYS
SAN FRANCISCO BAY AREA
Marin
Tuolumne
Contra Costa
San Joaquin
Mono
Alameda
Stanislaus
Mariposa
San Mateo
Merced
Santa Clara
Madera
Santa Cruz
Fresno
NORTH CENTRAL COAST
San Benito
SAN JOAQUIN VALLEY
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
San Bernardino
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
Ventura
Los Angeles
Unclassified/Attainment
Nonattainment
Air Basin
County
SOUTH COAST
Orange
Riverside
San Diego
Imperial
SAN DIEGO COUNTY
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 13

National Ambient Air Quality Standards
Area Designations for Fine Particulate Matter (PM2.5)*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE COUNTY AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN (2)	X	
LAKE TAHOE AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN	X	
MOUNTAIN COUNTIES AIR BASIN			SOUTH CENTRAL COAST AIR BASIN		X
Plumas County			SOUTH COAST AIR BASIN (3)	X	
- Portola Valley Portion of Plumas	X		SOUTHEAST DESERT AIR BASIN		
- Remainder of Plumas County		X	Imperial County (portion) (4)	X	
Remainder of Air Basin		X	Remainder of Air Basin		X
NORTH CENTRAL COAST AIR BASIN		X			
NORTH COAST AIR BASIN		X			
NORTHEAST PLATEAU AIR BASIN		X			
SACRAMENTO VALLEY AIR BASIN					
Sacramento Metro Area (1)	X				
Sutter County		X			
Yuba County (portion)		X			
Remainder of Air Basin		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305. This map reflects the 2006 24-hour PM2.5 standard as well as the 1997 and 2012 PM2.5 annual standards.

(1) For this purpose, Sacramento Metro Area comprises all of Sacramento and portions of El Dorado, Placer, Solano, and Yolo Counties. Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

(2) Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

(3) Those lands of the Santa Rosa Band of Cahulla Mission Indians in Riverside County are designated Unclassifiable/Attainment.

(4) That portion of Imperial County encompassing the urban and surrounding areas of Brawley, Calexico, El Centro, Heber, Holtville, Imperial, Seeley, and Westmorland. Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

FIGURE 14

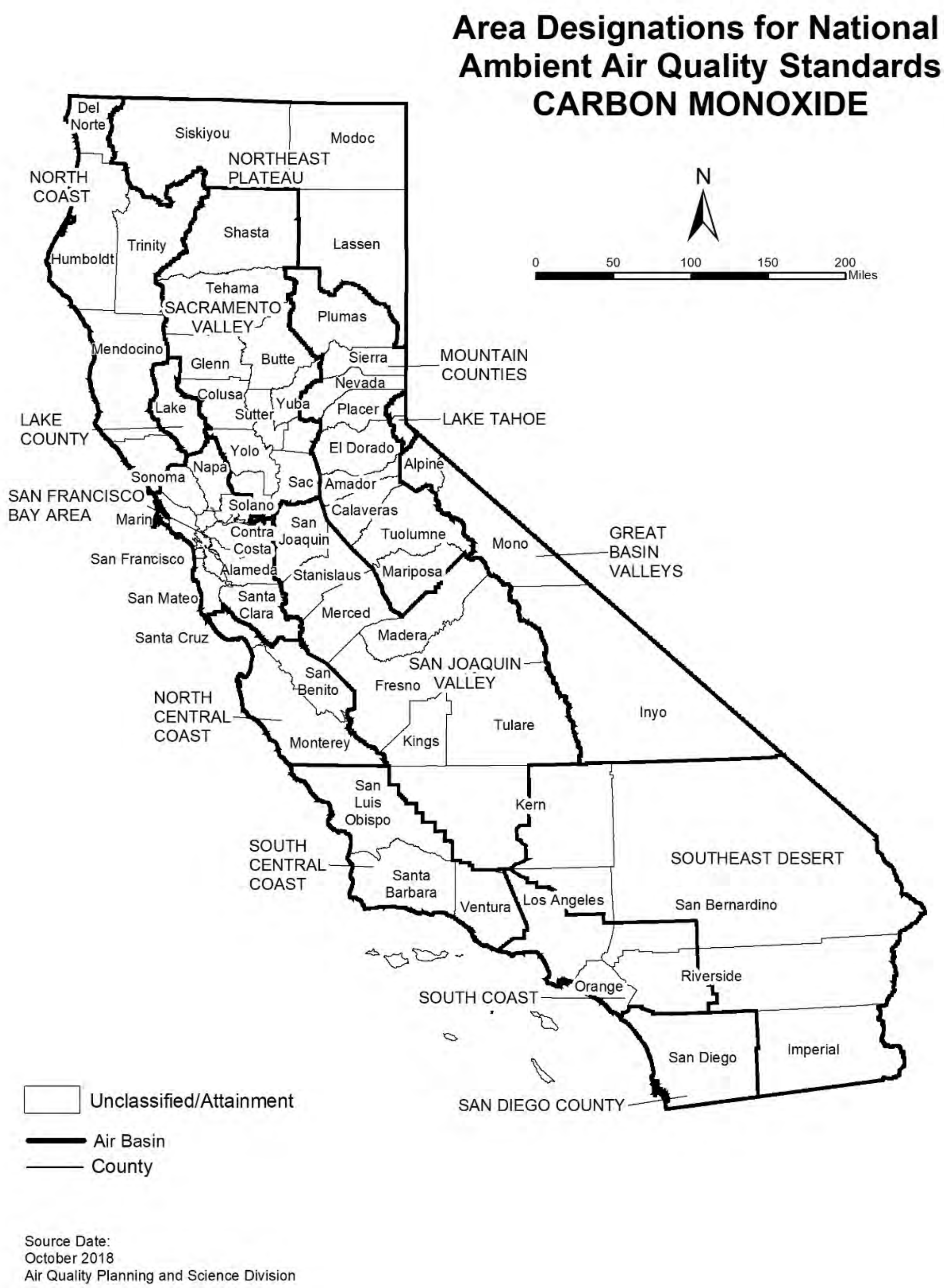

Area Designations for National Ambient Air Quality Standards CARBON MONOXIDE
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Yuba
Lake
Sutter
Placer
LAKE TAHOE
LAKE COUNTY
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 14

National Ambient Air Quality Standards
Area Designations for Carbon Monoxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE TAHOE AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

FIGURE 15


Area Designations for National Ambient Air Quality Standards NITROGEN DIOXIDE
N
0 50 100 150 200 Miles
NORTH COAST
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
Trinity
Humboldt
Shasta
Lassen
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
MOUNTAIN COUNTIES
Colusa
Yuba
LAKE COUNTY
Lake
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Napa
Sonoma
Alpine
Sac
Amador
SAN FRANCISCO BAY AREA
Marin
Solano
Calaveras
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
NORTH CENTRAL COAST
Fresno
Inyo
Monterey
Kings
Tulare
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

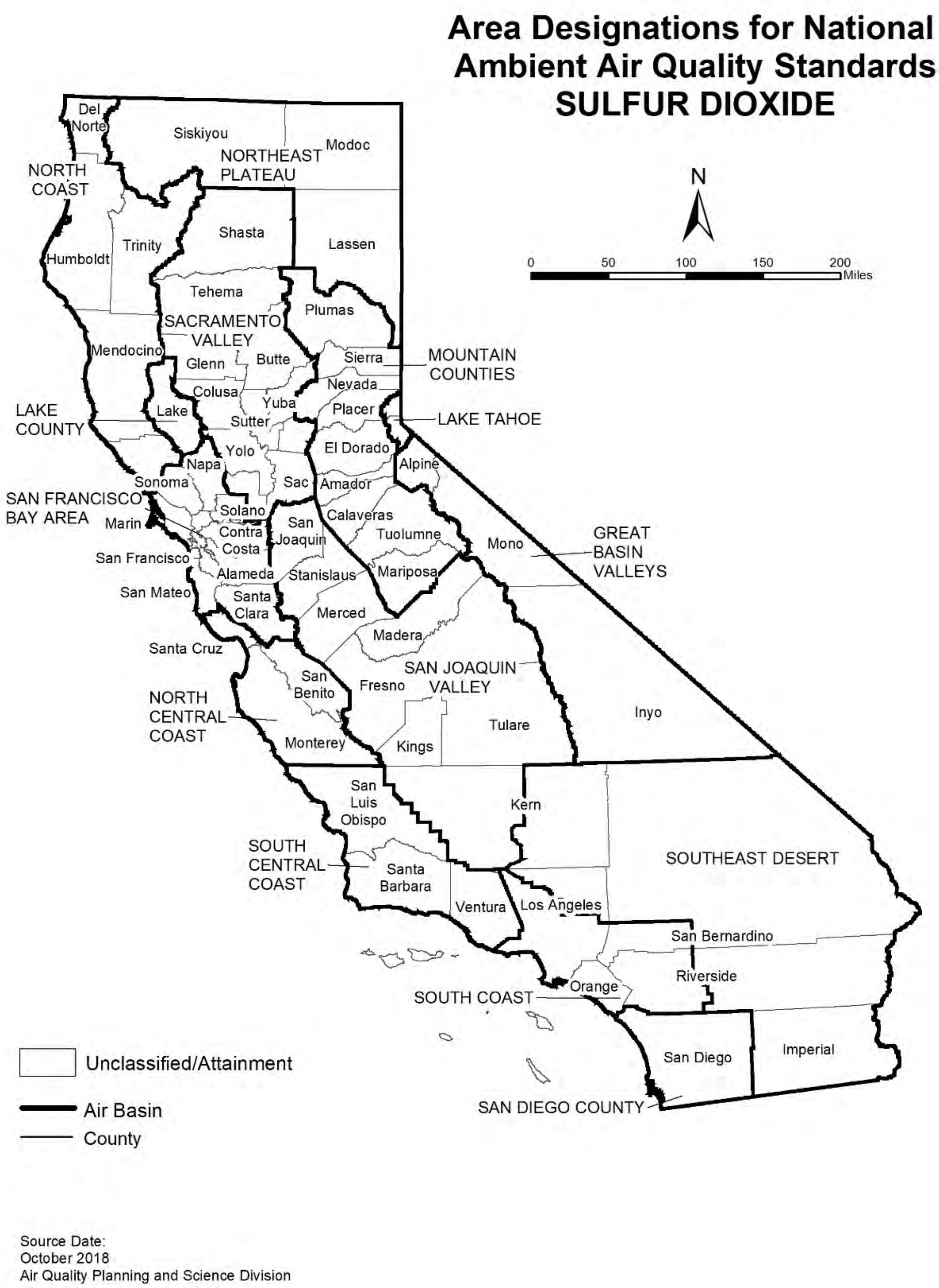
TABLE 15

National Ambient Air Quality Standards
Area Designations for Nitrogen Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE TAHOE AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

FIGURE 16



Area Designations for National
Ambient Air Quality Standards
SULFUR DIOXIDE
N
0
50
100
150
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehema
Plumas
SACRAMENTO VALLEY
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Yuba
Placer
LAKE COUNTY
Lake
Sutter
LAKE TAHOE
El Dorado
Yolo
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Marin
Calaveras
San Joaquin
Contra Costa
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 16

National Ambient Air Quality Standards
Area Designations for Sulfur Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		
LAKE COUNTY AIR BASIN		X	San Luis Obispo County		X
LAKE TAHOE AIR BASIN		X	Santa Barbara County		X
MOUNTAIN COUNTIES AIR BASIN		X	Ventura County		X
NORTH CENTRAL COAST AIR BASIN		X	Channel Islands (1)		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		
SACRAMENTO VALLEY AIR BASIN		X	Imperial County		X
SAN DIEGO COUNTY		X	Remainder of Air Basin		X
SAN FRANCISCO BAY AREA AIR BASIN		X			
SAN JOAQUIN VALLEY AIR BASIN					
Fresno County		X			
Kern County (portion)		X			
Kings County		X			
Madera County		X			
Merced County		X			
San Joaquin County		X			
Stanislaus County		X			
Tulare County		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

NOTE: This map and table reflect the 2010 1-hour SO_2 standard of 75 ppb.

(1) South Central Coast Air Basin Channel Islands:

Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.

Ventura County includes Anacapa and San Nicolas Islands.

Note that the San Clemente and Santa Catalina Islands are considered part of Los Angeles County, and therefore, are included as part of the South Coast Air Basin.

FIGURE 17


Area Designations for National Ambient Air Quality Standards
LEAD
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Yuba
Lake
Sutter
Placer
LAKE TAHOE
LAKE COUNTY
El Dorado
Yolo
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
San Joaquin
Contra Costa
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 17

National Ambient Air Quality Standards
Area Designations for Lead (particulate)

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE COUNTY AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
LAKE TAHOE AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH COAST AIR BASIN		
NORTH COAST AIR BASIN		X	Los Angeles County (portion) (1)	X	
NORTHEAST PLATEAU AIR BASIN		X	Remainder of Air Basin		X
SACRAMENTO VALLEY AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

(1) Portion of County in Air Basin, not including Channel Islands

APPENDIX 3.1:

CALEEMOD CONSTRUCTION (UNMITIGATED) EMISSIONS MODEL OUTPUTS

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1130 South Hope Street (Unmitigated)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	62.00	Space	0.00	5,479.00	0
Other Non-Asphalt Surfaces	2.35	1000sqft	0.05	2,350.00	0
Hotel	144.00	Room	0.13	61,304.00	0
Regional Shopping Center	0.38	1000sqft	0.00	378.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	10			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project site is 0.18 acres.

Construction Phase - Construction Schedule based on consultation with the Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Grading - For purposes of analysis, it is assumed that 1 acre will be disturbed per day

Architectural Coating - Rule 1113

Vehicle Trips - Trip characteristics based on information provided in the 1130 South Hope Street Traffic Impact Study prepared by KOA

Energy Use - The Project will design building shells and building components to meet 2019 Title 24 Standards which expects 30% less energy for nonresidential uses.

Construction Off-road Equipment Mitigation - Rule 403

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	2.00	55.00
tblConstructionPhase	NumDays	100.00	262.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	5.00	7.00
tblEnergyUse	LightingElect	1.75	1.23
tblEnergyUse	LightingElect	5.44	3.81

tblEnergyUse	LightingElect	5.61	3.93
tblEnergyUse	T24E	3.92	2.74
tblEnergyUse	T24E	6.47	4.53
tblEnergyUse	T24E	4.58	3.21
tblEnergyUse	T24NG	55.15	38.61
tblEnergyUse	T24NG	1.92	1.34
tblGrading	AcresOfGrading	0.00	55.00
tblGrading	MaterialExported	0.00	6,233.00
tblLandUse	LandUseSquareFeet	24,800.00	5,479.00
tblLandUse	LandUseSquareFeet	209,088.00	61,304.00
tblLandUse	LandUseSquareFeet	380.00	378.00
tblLandUse	LotAcreage	0.56	0.00
tblLandUse	LotAcreage	4.80	0.13
tblLandUse	LotAcreage	0.01	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	7.00	8.00
tblVehicleEF	HHD	0.62	0.03
tblVehicleEF	HHD	0.09	0.08
tblVehicleEF	HHD	0.08	1.0000e-006
tblVehicleEF	HHD	2.47	6.23
tblVehicleEF	HHD	1.15	0.58
tblVehicleEF	HHD	3.30	9.5390e-003
tblVehicleEF	HHD	4,690.45	1,172.50
tblVehicleEF	HHD	1,639.83	1,482.70
tblVehicleEF	HHD	10.54	0.09
tblVehicleEF	HHD	20.39	6.32
tblVehicleEF	HHD	3.81	3.60
tblVehicleEF	HHD	19.54	2.06
tblVehicleEF	HHD	0.01	3.9370e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	8.7000e-005	2.0000e-006
tblVehicleEF	HHD	0.01	3.7670e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8380e-003	8.8970e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	8.0000e-005	1.0000e-006
tblVehicleEF	HHD	1.0500e-004	7.0000e-006
tblVehicleEF	HHD	4.6110e-003	2.7700e-004
tblVehicleEF	HHD	0.62	0.45
tblVehicleEF	HHD	7.9000e-005	5.0000e-006

tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	3.9500e-004	1.5080e-003
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	HHD	0.04	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.6000e-004	1.0000e-006
tblVehicleEF	HHD	1.0500e-004	7.0000e-006
tblVehicleEF	HHD	4.6110e-003	2.7700e-004
tblVehicleEF	HHD	0.72	0.52
tblVehicleEF	HHD	7.9000e-005	5.0000e-006
tblVehicleEF	HHD	0.25	0.17
tblVehicleEF	HHD	3.9500e-004	1.5080e-003
tblVehicleEF	HHD	0.09	3.0000e-006
tblVehicleEF	HHD	0.58	0.03
tblVehicleEF	HHD	0.10	0.08
tblVehicleEF	HHD	0.07	1.0000e-006
tblVehicleEF	HHD	1.80	6.09
tblVehicleEF	HHD	1.16	0.59
tblVehicleEF	HHD	3.13	9.0610e-003
tblVehicleEF	HHD	4,968.94	1,168.97
tblVehicleEF	HHD	1,639.83	1,482.70
tblVehicleEF	HHD	10.54	0.09
tblVehicleEF	HHD	21.04	6.13
tblVehicleEF	HHD	3.60	3.41
tblVehicleEF	HHD	19.53	2.06
tblVehicleEF	HHD	0.01	3.4420e-003
tblVehicleEF	HHD	0.06	0.06

tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	8.7000e-005	2.0000e-006
tblVehicleEF	HHD	0.01	3.2930e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8380e-003	8.8970e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	8.0000e-005	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	1.1000e-005
tblVehicleEF	HHD	4.7280e-003	2.8200e-004
tblVehicleEF	HHD	0.58	0.47
tblVehicleEF	HHD	1.1400e-004	8.0000e-006
tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	3.8400e-004	1.4870e-003
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	HHD	0.05	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.5700e-004	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	1.1000e-005
tblVehicleEF	HHD	4.7280e-003	2.8200e-004
tblVehicleEF	HHD	0.68	0.55
tblVehicleEF	HHD	1.1400e-004	8.0000e-006
tblVehicleEF	HHD	0.25	0.17
tblVehicleEF	HHD	3.8400e-004	1.4870e-003
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	HHD	0.67	0.02
tblVehicleEF	HHD	0.09	3.6360e-003

tblVehicleEF	HHD	0.08	1.0000e-006
tblVehicleEF	HHD	3.41	6.32
tblVehicleEF	HHD	1.15	0.38
tblVehicleEF	HHD	3.33	9.6340e-003
tblVehicleEF	HHD	4,305.87	1,158.96
tblVehicleEF	HHD	1,639.83	1,430.09
tblVehicleEF	HHD	10.54	0.09
tblVehicleEF	HHD	19.48	6.47
tblVehicleEF	HHD	3.75	3.49
tblVehicleEF	HHD	19.55	2.06
tblVehicleEF	HHD	0.02	4.3710e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	8.7000e-005	2.0000e-006
tblVehicleEF	HHD	0.02	4.1820e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8380e-003	8.7580e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	8.0000e-005	1.0000e-006
tblVehicleEF	HHD	1.0300e-004	8.0000e-006
tblVehicleEF	HHD	4.9260e-003	3.1500e-004
tblVehicleEF	HHD	0.66	0.42
tblVehicleEF	HHD	7.7000e-005	5.0000e-006
tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	4.2900e-004	1.6010e-003
tblVehicleEF	HHD	0.08	3.0000e-006

tblVehicleEF	HHD	0.04	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.6000e-004	1.0000e-006
tblVehicleEF	HHD	1.0300e-004	8.0000e-006
tblVehicleEF	HHD	4.9260e-003	3.1500e-004
tblVehicleEF	HHD	0.78	0.48
tblVehicleEF	HHD	7.7000e-005	5.0000e-006
tblVehicleEF	HHD	0.25	0.09
tblVehicleEF	HHD	4.2900e-004	1.6010e-003
tblVehicleEF	HHD	0.09	3.0000e-006
tblVehicleEF	LDA	5.3420e-003	3.0240e-003
tblVehicleEF	LDA	5.4040e-003	0.05
tblVehicleEF	LDA	0.66	0.72
tblVehicleEF	LDA	1.15	2.10
tblVehicleEF	LDA	274.33	272.47
tblVehicleEF	LDA	57.08	53.62
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.18
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.21

tblVehicleEF	LDA	0.07	0.22
tblVehicleEF	LDA	2.7480e-003	2.6780e-003
tblVehicleEF	LDA	5.9000e-004	5.2700e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.21
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDA	5.6740e-003	3.2280e-003
tblVehicleEF	LDA	4.8010e-003	0.04
tblVehicleEF	LDA	0.72	0.79
tblVehicleEF	LDA	0.98	1.79
tblVehicleEF	LDA	287.10	284.40
tblVehicleEF	LDA	57.08	53.05
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.06	0.17
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.06	0.08
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.06	0.20

tblVehicleEF	LDA	2.8760e-003	2.7950e-003
tblVehicleEF	LDA	5.8700e-004	5.2200e-004
tblVehicleEF	LDA	0.06	0.08
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.22
tblVehicleEF	LDA	5.2330e-003	2.9600e-003
tblVehicleEF	LDA	5.5300e-003	0.05
tblVehicleEF	LDA	0.63	0.69
tblVehicleEF	LDA	1.19	2.17
tblVehicleEF	LDA	269.66	268.07
tblVehicleEF	LDA	57.08	53.75
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.19
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.05	0.24
tblVehicleEF	LDA	0.07	0.23
tblVehicleEF	LDA	2.7010e-003	2.6350e-003

1130 South Hope Street (Unmitigated) - Los Angeles-South Coast County, Summer

tblVehicleEF	LDA	5.9100e-004	5.2800e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.05	0.24
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDT1	0.02	7.7270e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.68	1.45
tblVehicleEF	LDT1	2.78	2.27
tblVehicleEF	LDT1	341.15	320.55
tblVehicleEF	LDT1	69.44	63.67
tblVehicleEF	LDT1	0.16	0.12
tblVehicleEF	LDT1	0.16	0.26
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.26	0.20
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.17	0.69
tblVehicleEF	LDT1	0.19	0.35
tblVehicleEF	LDT1	3.4330e-003	3.1520e-003
tblVehicleEF	LDT1	7.4300e-004	6.2600e-004

tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.26	0.20
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.17	0.69
tblVehicleEF	LDT1	0.21	0.39
tblVehicleEF	LDT1	0.02	8.1770e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.82	1.58
tblVehicleEF	LDT1	2.36	1.93
tblVehicleEF	LDT1	356.02	332.71
tblVehicleEF	LDT1	69.44	63.00
tblVehicleEF	LDT1	0.14	0.10
tblVehicleEF	LDT1	0.15	0.24
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.16	0.64
tblVehicleEF	LDT1	0.17	0.31
tblVehicleEF	LDT1	3.5840e-003	3.2710e-003
tblVehicleEF	LDT1	7.3600e-004	6.1900e-004
tblVehicleEF	LDT1	0.20	0.20

tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.16	0.64
tblVehicleEF	LDT1	0.18	0.34
tblVehicleEF	LDT1	0.02	7.5820e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.63	1.41
tblVehicleEF	LDT1	2.87	2.35
tblVehicleEF	LDT1	335.69	316.06
tblVehicleEF	LDT1	69.44	63.82
tblVehicleEF	LDT1	0.15	0.12
tblVehicleEF	LDT1	0.16	0.26
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.30	0.22
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.20	0.82
tblVehicleEF	LDT1	0.20	0.36
tblVehicleEF	LDT1	3.3780e-003	3.1070e-003
tblVehicleEF	LDT1	7.4500e-004	6.2800e-004
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.30	0.22

tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.20	0.82
tblVehicleEF	LDT1	0.21	0.40
tblVehicleEF	LDT2	7.2180e-003	4.9730e-003
tblVehicleEF	LDT2	6.3970e-003	0.07
tblVehicleEF	LDT2	0.84	1.02
tblVehicleEF	LDT2	1.35	2.65
tblVehicleEF	LDT2	381.91	343.42
tblVehicleEF	LDT2	78.07	68.73
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.41
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LDT2	3.8260e-003	3.3760e-003
tblVehicleEF	LDT2	8.0300e-004	6.7600e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07

tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.06	0.41
tblVehicleEF	LDT2	0.09	0.34
tblVehicleEF	LDT2	7.6530e-003	5.2910e-003
tblVehicleEF	LDT2	5.6920e-003	0.06
tblVehicleEF	LDT2	0.92	1.12
tblVehicleEF	LDT2	1.15	2.26
tblVehicleEF	LDT2	399.04	355.31
tblVehicleEF	LDT2	78.07	67.99
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.10	0.26
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.06	0.10
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.28
tblVehicleEF	LDT2	3.9980e-003	3.4930e-003
tblVehicleEF	LDT2	8.0000e-004	6.6800e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.06	0.10
tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.31
tblVehicleEF	LDT2	7.0750e-003	4.8730e-003
tblVehicleEF	LDT2	6.5470e-003	0.07
tblVehicleEF	LDT2	0.81	0.99
tblVehicleEF	LDT2	1.39	2.74
tblVehicleEF	LDT2	375.62	339.02
tblVehicleEF	LDT2	78.07	68.90
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.48
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	3.7630e-003	3.3320e-003
tblVehicleEF	LDT2	8.0400e-004	6.7700e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.07	0.48

tblVehicleEF	LDT2	0.10	0.35
tblVehicleEF	LHD1	5.5970e-003	5.6110e-003
tblVehicleEF	LHD1	0.01	5.6770e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.84	0.65
tblVehicleEF	LHD1	2.79	1.14
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.04
tblVehicleEF	LHD1	33.34	12.48
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.95	0.63
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.31	0.55

tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8500e-004	1.2400e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.31	0.55
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD1	5.5970e-003	5.6230e-003
tblVehicleEF	LHD1	0.01	5.7930e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.85	0.66
tblVehicleEF	LHD1	2.66	1.09
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.06
tblVehicleEF	LHD1	33.34	12.39
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.89	0.59
tblVehicleEF	LHD1	0.96	0.32
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004

tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9310e-003	6.5150e-003
tblVehicleEF	LHD1	3.8300e-004	1.2300e-004
tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD1	5.5970e-003	5.6090e-003
tblVehicleEF	LHD1	0.01	5.6460e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.83	0.64
tblVehicleEF	LHD1	2.81	1.15

tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.03
tblVehicleEF	LHD1	33.34	12.50
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.94	0.62
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8600e-004	1.2400e-004
tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.03

tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD2	4.0020e-003	3.9440e-003
tblVehicleEF	LHD2	4.2980e-003	3.9460e-003
tblVehicleEF	LHD2	8.5190e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.44
tblVehicleEF	LHD2	1.37	0.77
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.65
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.65	0.81
tblVehicleEF	LHD2	0.55	0.23
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02

tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.11	0.06
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.5000e-005
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9530e-003
tblVehicleEF	LHD2	4.3570e-003	3.9910e-003
tblVehicleEF	LHD2	8.2260e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.35	0.44
tblVehicleEF	LHD2	1.31	0.74
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.38
tblVehicleEF	LHD2	27.88	9.59
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.61	0.76
tblVehicleEF	LHD2	0.53	0.22
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0300e-004	9.5000e-005
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9420e-003
tblVehicleEF	LHD2	4.2820e-003	3.9330e-003
tblVehicleEF	LHD2	8.5780e-003	0.01

tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.43
tblVehicleEF	LHD2	1.38	0.78
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.66
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.64	0.80
tblVehicleEF	LHD2	0.56	0.24
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.6000e-005

tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.05	0.06
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tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.23
tblVehicleEF	MCY	18.94	19.11
tblVehicleEF	MCY	9.66	8.52
tblVehicleEF	MCY	188.92	223.68
tblVehicleEF	MCY	44.52	59.56
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	2.60	2.61
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.05	1.81
tblVehicleEF	MCY	2.2780e-003	2.2130e-003
tblVehicleEF	MCY	6.6300e-004	5.8900e-004

tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	3.23	3.25
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.23	1.97
tblVehicleEF	MCY	0.53	0.37
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	18.24	18.37
tblVehicleEF	MCY	8.82	7.76
tblVehicleEF	MCY	188.92	222.28
tblVehicleEF	MCY	44.52	57.67
tblVehicleEF	MCY	0.99	0.99
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.73	1.72
tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	2.54	2.55
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.83	1.61
tblVehicleEF	MCY	2.2650e-003	2.2000e-003
tblVehicleEF	MCY	6.4300e-004	5.7100e-004
tblVehicleEF	MCY	1.73	1.72

tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	3.16	3.17
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.99	1.75
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.04	19.25
tblVehicleEF	MCY	9.80	8.66
tblVehicleEF	MCY	188.92	223.96
tblVehicleEF	MCY	44.52	59.94
tblVehicleEF	MCY	1.11	1.11
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84
tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	2.61	2.63
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.09	1.86
tblVehicleEF	MCY	2.2800e-003	2.2160e-003
tblVehicleEF	MCY	6.6700e-004	5.9300e-004
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84

tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	3.25	3.26
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.28	2.02
tblVehicleEF	MDV	0.01	6.5350e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.33	1.22
tblVehicleEF	MDV	2.48	3.10
tblVehicleEF	MDV	512.22	421.49
tblVehicleEF	MDV	103.14	83.59
tblVehicleEF	MDV	0.15	0.11
tblVehicleEF	MDV	0.22	0.34
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.19	0.40
tblVehicleEF	MDV	5.1310e-003	4.1410e-003
tblVehicleEF	MDV	1.0750e-003	8.2200e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09

tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.21	0.44
tblVehicleEF	MDV	0.01	6.9310e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.45	1.32
tblVehicleEF	MDV	2.12	2.63
tblVehicleEF	MDV	534.67	433.96
tblVehicleEF	MDV	103.14	82.70
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.20	0.32
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.17	0.36
tblVehicleEF	MDV	5.3570e-003	4.2630e-003
tblVehicleEF	MDV	1.0680e-003	8.1300e-004
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.05	0.04

tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.18	0.39
tblVehicleEF	MDV	0.01	6.4070e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.29	1.18
tblVehicleEF	MDV	2.56	3.21
tblVehicleEF	MDV	503.99	416.89
tblVehicleEF	MDV	103.14	83.79
tblVehicleEF	MDV	0.14	0.11
tblVehicleEF	MDV	0.22	0.35
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.10	0.50
tblVehicleEF	MDV	0.19	0.41
tblVehicleEF	MDV	5.0480e-003	4.0950e-003
tblVehicleEF	MDV	1.0760e-003	8.2400e-004
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.10	0.50

tblVehicleEF	MDV	0.21	0.45
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.24	0.27
tblVehicleEF	MH	5.78	0.00
tblVehicleEF	MH	1,130.03	965.33
tblVehicleEF	MH	60.43	0.00
tblVehicleEF	MH	1.08	3.43
tblVehicleEF	MH	0.80	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.1280e-003	0.00
tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
tblVehicleEF	MH	0.95	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.41	0.00
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
tblVehicleEF	MH	0.01	9.1260e-003
tblVehicleEF	MH	7.0500e-004	0.00
tblVehicleEF	MH	0.95	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.41	0.00
tblVehicleEF	MH	0.12	0.08

tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.30	0.27
tblVehicleEF	MH	5.44	0.00
tblVehicleEF	MH	1,130.03	965.33
tblVehicleEF	MH	60.43	0.00
tblVehicleEF	MH	0.99	3.24
tblVehicleEF	MH	0.76	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.1280e-003	0.00
tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
tblVehicleEF	MH	1.41	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.58	0.00
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	0.01	9.1260e-003
tblVehicleEF	MH	6.9900e-004	0.00
tblVehicleEF	MH	1.41	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.58	0.00

tblVehicleEF	MH	0.12	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.34	0.00
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.22	0.27
tblVehicleEF	MH	5.83	0.00
tblVehicleEF	MH	1,130.03	965.33
tblVehicleEF	MH	60.43	0.00
tblVehicleEF	MH	1.06	3.37
tblVehicleEF	MH	0.80	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.1280e-003	0.00
tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
tblVehicleEF	MH	1.08	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
tblVehicleEF	MH	0.01	9.1260e-003
tblVehicleEF	MH	7.0600e-004	0.00
tblVehicleEF	MH	1.08	0.00
tblVehicleEF	MH	0.08	0.00

tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.12	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MHD	0.02	4.4240e-003
tblVehicleEF	MHD	4.8560e-003	4.6020e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.37	0.39
tblVehicleEF	MHD	0.37	0.47
tblVehicleEF	MHD	6.14	1.44
tblVehicleEF	MHD	132.92	67.32
tblVehicleEF	MHD	1,150.98	1,070.87
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tblVehicleEF	MHD	0.49	0.47
tblVehicleEF	MHD	1.14	1.63
tblVehicleEF	MHD	9.96	1.29
tblVehicleEF	MHD	2.4800e-004	1.0730e-003
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004
tblVehicleEF	MHD	2.3800e-004	1.0270e-003
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.4200e-004	4.3000e-004
tblVehicleEF	MHD	0.05	0.06

tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.37	0.07
tblVehicleEF	MHD	1.2810e-003	6.4000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.4300e-004	1.2000e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
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tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.4200e-004	4.3000e-004
tblVehicleEF	MHD	0.05	0.07
tblVehicleEF	MHD	0.02	0.14
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tblVehicleEF	MHD	0.27	0.32
tblVehicleEF	MHD	0.38	0.48
tblVehicleEF	MHD	5.83	1.36
tblVehicleEF	MHD	140.78	68.14
tblVehicleEF	MHD	1,150.98	1,070.88
tblVehicleEF	MHD	63.58	12.05
tblVehicleEF	MHD	0.51	0.48
tblVehicleEF	MHD	1.08	1.54
tblVehicleEF	MHD	9.92	1.28
tblVehicleEF	MHD	2.0900e-004	9.0700e-004
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004

tblVehicleEF	MHD	2.0000e-004	8.6800e-004
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
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tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.0480e-003	6.0400e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.36	0.06
tblVehicleEF	MHD	1.3550e-003	6.4800e-004
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tblVehicleEF	MHD	7.3800e-004	1.1900e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
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tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	1.0480e-003	6.0400e-004
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tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.39	0.07
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tblVehicleEF	MHD	4.8360e-003	4.5850e-003
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tblVehicleEF	MHD	0.52	0.49
tblVehicleEF	MHD	0.37	0.47
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tblVehicleEF	MHD	122.05	66.18

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tblVehicleEF	MHD	9.97	1.29
tblVehicleEF	MHD	3.0200e-004	1.3020e-003
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004
tblVehicleEF	MHD	2.8900e-004	1.2460e-003
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tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.1690e-003	6.9100e-004
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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.16
tblVehicleEF	MHD	0.38	0.07
tblVehicleEF	MHD	1.1790e-003	6.2900e-004
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tblVehicleEF	MHD	7.4400e-004	1.2100e-004
tblVehicleEF	MHD	1.1690e-003	6.9100e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
tblVehicleEF	MHD	0.05	0.07
tblVehicleEF	MHD	0.02	0.16

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tblVehicleEF	OBUS	2.60	0.75
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tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	1.0900e-004	7.5500e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004
tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	7.6800e-004	9.4100e-004
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tblVehicleEF	OBUS	0.34	0.11
tblVehicleEF	OBUS	1.0820e-003	8.9600e-004

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tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	7.6800e-004	9.4100e-004
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.37	0.13
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tblVehicleEF	OBUS	7.8490e-003	7.0850e-003
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tblVehicleEF	OBUS	2.57	0.74
tblVehicleEF	OBUS	9.6000e-005	6.7100e-004
tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	9.2000e-005	6.4200e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004

tblVehicleEF	OBUS	2.1010e-003	2.6500e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	1.0830e-003	1.3070e-003
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.32	0.11
tblVehicleEF	OBUS	1.1360e-003	8.9500e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.6900e-004	1.8800e-004
tblVehicleEF	OBUS	2.1010e-003	2.6500e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	1.0830e-003	1.3070e-003
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tblVehicleEF	OBUS	0.04	0.26
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tblVehicleEF	OBUS	7.6880e-003	6.9290e-003
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tblVehicleEF	OBUS	7.4300e-003	0.02
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tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
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tblVehicleEF	OBUS	0.06	0.07
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tblVehicleEF	SBUS	0.02	0.03
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tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
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tblVehicleEF	SBUS	1.7650e-003	5.2700e-004
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tblVehicleEF	SBUS	0.01	3.3860e-003
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	6.7700e-004	5.7000e-005
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tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
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tblVehicleEF	SBUS	0.01	3.4580e-003
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tblVehicleEF	SBUS	2.5080e-003	7.3100e-004
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tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
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tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
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tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
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tblVehicleEF	SBUS	6.8100e-004	5.7000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
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tblVehicleEF	UBUS	0.13	3.1840e-003
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tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
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tblVehicleEF	UBUS	0.85	0.09
tblVehicleEF	UBUS	0.02	0.05
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tblVehicleEF	UBUS	9.8600e-003	1.4410e-003
tblVehicleEF	UBUS	1.1250e-003	8.5000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003

tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
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tblVehicleEF	UBUS	1,968.89	1,991.58
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tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
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tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	3.57	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.21	45.42
tblVehicleEF	UBUS	9.08	0.73
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.64
tblVehicleEF	UBUS	9.79	0.47
tblVehicleEF	UBUS	15.38	0.09
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	0.85	0.09

tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.69	0.05
tblVehicleEF	UBUS	9.8590e-003	1.4410e-003
tblVehicleEF	UBUS	1.1290e-003	8.5000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	3.55	5.97
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.75	0.05
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	8.17	8.36
tblVehicleTrips	WD_TR	42.70	37.04

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	1.3732	16.6811	8.0260	0.0233	7.3990	0.6563	8.0553	3.5094	0.6043	4.1137	0.0000	2,384.0665	2,384.0665	0.4551	0.0000	2,395.2649
2022	73.0230	9.0625	10.7233	0.0179	0.3946	0.4285	0.8026	0.1063	0.4053	0.4817	0.0000	1,774.4920	1,774.4920	0.3999	0.0000	1,784.4898
Maximum	**73.0230**	**16.6811**	**10.7233**	**0.0233**	**7.3990**	**0.6563**	**8.0553**	**3.5094**	**0.6043**	**4.1137**	**0.0000**	**2,384.0665**	**2,384.0665**	**0.4551**	**0.0000**	**2,395.2649**

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	1.3732	16.6811	8.0260	0.0233	3.0708	0.6563	3.7271	1.4191	0.6043	2.0234	0.0000	2,384.0665	2,384.0665	0.4551	0.0000	2,395.2649
2022	73.0230	9.0625	10.7233	0.0179	0.3946	0.4285	0.8026	0.1063	0.4053	0.4817	0.0000	1,774.4920	1,774.4920	0.3999	0.0000	1,784.4898
Maximum	**73.0230**	**16.6811**	**10.7233**	**0.0233**	**3.0708**	**0.6563**	**3.7271**	**1.4191**	**0.6043**	**2.0234**	**0.0000**	**2,384.0665**	**2,384.0665**	**0.4551**	**0.0000**	**2,395.2649**

	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**	**55.54**	**0.00**	**48.86**	**57.81**	**0.00**	**45.49**	**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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Energy	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
Mobile	2.8715	5.1531	25.6302	0.0682	6.1697	0.0680	6.2377	1.6477	0.0638	1.7115		7,084.5364	7,084.5364	0.5187		7,097.5047
Total	**4.3336**	**5.8692**	**26.2529**	**0.0725**	**6.1697**	**0.1225**	**6.2922**	**1.6477**	**0.1183**	**1.7660**		**7,943.7295**	**7,943.7295**	**0.5353**	**0.0158**	**7,961.8063**

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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Energy	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
Mobile	2.8715	5.1531	25.6302	0.0682	6.1697	0.0680	6.2377	1.6477	0.0638	1.7115		7,084.5364	7,084.5364	0.5187		7,097.5047
Total	**4.3336**	**5.8692**	**26.2529**	**0.0725**	**6.1697**	**0.1225**	**6.2922**	**1.6477**	**0.1183**	**1.7660**		**7,943.7295**	**7,943.7295**	**0.5353**	**0.0158**	**7,961.8063**

	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	Site Preparation	Site Preparation	5/10/2021	5/21/2021	5	10	
2	Grading	Grading	5/22/2021	8/6/2021	5	55	
3	Building Construction	Building Construction	8/7/2021	8/9/2022	5	262	
4	Architectural Coating	Architectural Coating	8/19/2022	10/6/2022	5	4	
5	Paving	Paving	9/7/2022	9/15/2022	5	7	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 55

Acres of Paving: 0.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 92,523; Non-Residential Outdoor: 30,841; Striped Parking Area: 470 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	8.00	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
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	779.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	29.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 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					1.0605	0.0000	1.0605	0.1145	0.0000	0.1145			0.0000			0.0000
Off-Road	1.0039	12.8926	4.2023	0.0145		0.4499	0.4499		0.4139	0.4139		1,402.0462	1,402.0462	0.4535		1,413.3824
Total	**1.0039**	**12.8926**	**4.2023**	**0.0145**	**1.0605**	**0.4499**	**1.5104**	**0.1145**	**0.4139**	**0.5284**		**1,402.0462**	**1,402.0462**	**0.4535**		**1,413.3824**

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	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804
Total	**0.0214**	**0.0147**	**0.2014**	**5.7000e-004**	**0.0559**	**4.5000e-004**	**0.0563**	**0.0148**	**4.2000e-004**	**0.0152**		**56.9385**	**56.9385**	**1.6800e-003**		**56.9804**

3.2 Site Preparation - 2021

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					0.4136	0.0000	0.4136	0.0447	0.0000	0.0447			0.0000			0.0000
Off-Road	1.0039	12.8926	4.2023	0.0145		0.4499	0.4499		0.4139	0.4139	0.0000	1,402.0462	1,402.0462	0.4535		1,413.3824
Total	**1.0039**	**12.8926**	**4.2023**	**0.0145**	**0.4136**	**0.4499**	**0.8635**	**0.0447**	**0.4139**	**0.4585**	**0.0000**	**1,402.0462**	**1,402.0462**	**0.4535**		**1,413.3824**

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	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804
Total	**0.0214**	**0.0147**	**0.2014**	**5.7000e-004**	**0.0559**	**4.5000e-004**	**0.0563**	**0.0148**	**4.2000e-004**	**0.0152**		**56.9385**	**56.9385**	**1.6800e-003**		**56.9804**

3.3 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					7.0954	0.0000	7.0954	3.4267	0.0000	3.4267			0.0000			0.0000
Off-Road	1.2336	12.8671	6.2980	0.0116		0.6442	0.6442		0.5927	0.5927		1,128.252 3	1,128.252 3	0.3649		1,137.374 8
Total	**1.2336**	**12.8671**	**6.2980**	**0.0116**	**7.0954**	**0.6442**	**7.7396**	**3.4267**	**0.5927**	**4.0194**		**1,128.252 3**	**1,128.252 3**	**0.3649**		**1,137.374 8**

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	0.1181	3.7993	0.8908	0.0111	0.2477	0.0117	0.2593	0.0679	0.0112	0.0790		1,198.875 7	1,198.875 7	0.0814		1,200.909 7
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	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804
Total	**0.1395**	**3.8140**	**1.0922**	**0.0116**	**0.3036**	**0.0121**	**0.3157**	**0.0827**	**0.0116**	**0.0943**		**1,255.814 2**	**1,255.814 2**	**0.0830**		**1,257.890 2**

3.3 Grading - 2021

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					2.7672	0.0000	2.7672	1.3364	0.0000	1.3364			0.0000			0.0000
Off-Road	1.2336	12.8671	6.2980	0.0116		0.6442	0.6442		0.5927	0.5927	0.0000	1,128.2523	1,128.2523	0.3649		1,137.3748
Total	**1.2336**	**12.8671**	**6.2980**	**0.0116**	**2.7672**	**0.6442**	**3.4114**	**1.3364**	**0.5927**	**1.9291**	**0.0000**	**1,128.2523**	**1,128.2523**	**0.3649**		**1,137.3748**

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	0.1181	3.7993	0.8908	0.0111	0.2477	0.0117	0.2593	0.0679	0.0112	0.0790		1,198.8757	1,198.8757	0.0814		1,200.9097
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	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804
Total	**0.1395**	**3.8140**	**1.0922**	**0.0116**	**0.3036**	**0.0121**	**0.3157**	**0.0827**	**0.0116**	**0.0943**		**1,255.8142**	**1,255.8142**	**0.0830**		**1,257.8902**

3.4 Building Construction - 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	0.8588	9.1034	6.5788	0.0119		0.4761	0.4761		0.4380	0.4380		1,155.7005	1,155.7005	0.3738		1,165.0449
Total	**0.8588**	**9.1034**	**6.5788**	**0.0119**		**0.4761**	**0.4761**		**0.4380**	**0.4380**		**1,155.7005**	**1,155.7005**	**0.3738**		**1,165.0449**

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	0.0334	1.0680	0.2792	2.8300e-003	0.0704	2.1800e-003	0.0726	0.0203	2.0900e-003	0.0224		302.3687	302.3687	0.0178		302.8140
Worker	0.1243	0.0854	1.1680	3.3200e-003	0.3242	2.6200e-003	0.3268	0.0860	2.4100e-003	0.0884		330.2433	330.2433	9.7300e-003		330.4865
Total	**0.1578**	**1.1534**	**1.4472**	**6.1500e-003**	**0.3946**	**4.8000e-003**	**0.3994**	**0.1063**	**4.5000e-003**	**0.1107**		**632.6120**	**632.6120**	**0.0275**		**633.3006**

3.4 Building Construction - 2021

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	0.8588	9.1034	6.5788	0.0119		0.4761	0.4761		0.4380	0.4380	0.0000	1,155.7005	1,155.7005	0.3738		1,165.0449
Total	**0.8588**	**9.1034**	**6.5788**	**0.0119**		**0.4761**	**0.4761**		**0.4380**	**0.4380**	**0.0000**	**1,155.7005**	**1,155.7005**	**0.3738**		**1,165.0449**

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	0.0334	1.0680	0.2792	2.8300e-003	0.0704	2.1800e-003	0.0726	0.0203	2.0900e-003	0.0224		302.3687	302.3687	0.0178		302.8140
Worker	0.1243	0.0854	1.1680	3.3200e-003	0.3242	2.6200e-003	0.3268	0.0860	2.4100e-003	0.0884		330.2433	330.2433	9.7300e-003		330.4865
Total	**0.1578**	**1.1534**	**1.4472**	**6.1500e-003**	**0.3946**	**4.8000e-003**	**0.3994**	**0.1063**	**4.5000e-003**	**0.1107**		**632.6120**	**632.6120**	**0.0275**		**633.3006**

3.4 Building Construction - 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	0.7649	7.9697	6.4378	0.0119		0.4036	0.4036		0.3713	0.3713		1,156.1310	1,156.1310	0.3739		1,165.4789
Total	**0.7649**	**7.9697**	**6.4378**	**0.0119**		**0.4036**	**0.4036**		**0.3713**	**0.3713**		**1,156.1310**	**1,156.1310**	**0.3739**		**1,165.4789**

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	0.0314	1.0156	0.2642	2.8000e-003	0.0704	1.9100e-003	0.0723	0.0203	1.8300e-003	0.0221		299.7345	299.7345	0.0172		300.1645
Worker	0.1164	0.0772	1.0777	3.2000e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		318.6266	318.6266	8.7900e-003		318.8464
Total	**0.1478**	**1.0928**	**1.3418**	**6.0000e-003**	**0.3946**	**4.4500e-003**	**0.3990**	**0.1063**	**4.1700e-003**	**0.1104**		**618.3611**	**618.3611**	**0.0260**		**619.0109**

3.4 Building Construction - 2022

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	0.7649	7.9697	6.4378	0.0119		0.4036	0.4036		0.3713	0.3713	0.0000	1,156.1310	1,156.1310	0.3739		1,165.4789
Total	**0.7649**	**7.9697**	**6.4378**	**0.0119**		**0.4036**	**0.4036**		**0.3713**	**0.3713**	**0.0000**	**1,156.1310**	**1,156.1310**	**0.3739**		**1,165.4789**

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	0.0314	1.0156	0.2642	2.8000e-003	0.0704	1.9100e-003	0.0723	0.0203	1.8300e-003	0.0221		299.7345	299.7345	0.0172		300.1645
Worker	0.1164	0.0772	1.0777	3.2000e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		318.6266	318.6266	8.7900e-003		318.8464
Total	**0.1478**	**1.0928**	**1.3418**	**6.0000e-003**	**0.3946**	**4.4500e-003**	**0.3990**	**0.1063**	**4.1700e-003**	**0.1104**		**618.3611**	**618.3611**	**0.0260**		**619.0109**

3.5 Architectural Coating - 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	72.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2727	1.8780	2.4181	3.9600e-003		0.1090	0.1090		0.1090	0.1090		375.2641	375.2641	0.0244		375.8749
Total	**72.2914**	**1.8780**	**2.4181**	**3.9600e-003**		**0.1090**	**0.1090**		**0.1090**	**0.1090**		**375.2641**	**375.2641**	**0.0244**		**375.8749**

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	0.0241	0.0160	0.2230	6.6000e-004	0.0671	5.2000e-004	0.0676	0.0178	4.8000e-004	0.0183		65.9227	65.9227	1.8200e-003		65.9682
Total	**0.0241**	**0.0160**	**0.2230**	**6.6000e-004**	**0.0671**	**5.2000e-004**	**0.0676**	**0.0178**	**4.8000e-004**	**0.0183**		**65.9227**	**65.9227**	**1.8200e-003**		**65.9682**

3.5 Architectural Coating - 2022

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	72.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2727	1.8780	2.4181	3.9600e-003		0.1090	0.1090		0.1090	0.1090	0.0000	375.2641	375.2641	0.0244		375.8749
Total	**72.2914**	**1.8780**	**2.4181**	**3.9600e-003**		**0.1090**	**0.1090**		**0.1090**	**0.1090**	**0.0000**	**375.2641**	**375.2641**	**0.0244**		**375.8749**

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	0.0241	0.0160	0.2230	6.6000e-004	0.0671	5.2000e-004	0.0676	0.0178	4.8000e-004	0.0183		65.9227	65.9227	1.8200e-003		65.9682
Total	**0.0241**	**0.0160**	**0.2230**	**6.6000e-004**	**0.0671**	**5.2000e-004**	**0.0676**	**0.0178**	**4.8000e-004**	**0.0183**		**65.9227**	**65.9227**	**1.8200e-003**		**65.9682**

3.6 Paving - 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	0.6554	6.2368	7.5991	0.0119		0.3179	0.3179		0.2948	0.2948		1,111.6333	1,111.6333	0.3373		1,120.0668
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6554**	**6.2368**	**7.5991**	**0.0119**		**0.3179**	**0.3179**		**0.2948**	**0.2948**		**1,111.6333**	**1,111.6333**	**0.3373**		**1,120.0668**

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	0.0522	0.0346	0.4831	1.4300e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		142.8326	142.8326	3.9400e-003		142.9312
Total	**0.0522**	**0.0346**	**0.4831**	**1.4300e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**142.8326**	**142.8326**	**3.9400e-003**		**142.9312**

3.6 Paving - 2022

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	0.6554	6.2368	7.5991	0.0119		0.3179	0.3179		0.2948	0.2948	0.0000	1,111.6333	1,111.6333	0.3373		1,120.0668
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6554**	**6.2368**	**7.5991**	**0.0119**		**0.3179**	**0.3179**		**0.2948**	**0.2948**	**0.0000**	**1,111.6333**	**1,111.6333**	**0.3373**		**1,120.0668**

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	0.0522	0.0346	0.4831	1.4300e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		142.8326	142.8326	3.9400e-003		142.9312
Total	**0.0522**	**0.0346**	**0.4831**	**1.4300e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**142.8326**	**142.8326**	**3.9400e-003**		**142.9312**

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	2.8715	5.1531	25.6302	0.0682	6.1697	0.0680	6.2377	1.6477	0.0638	1.7115		7,084.5364	7,084.5364	0.5187		7,097.5047
Unmitigated	2.8715	5.1531	25.6302	0.0682	6.1697	0.0680	6.2377	1.6477	0.0638	1.7115		7,084.5364	7,084.5364	0.5187		7,097.5047

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,204.00	1,179.36	856.80	2,746,194	2,746,194
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	14.07	17.53	8.02	29,635	29,635
Total	1,218.07	1,196.89	864.82	2,775,829	2,775,829

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
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Hotel	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Regional Shopping Center	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

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	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
NaturalGas Unmitigated	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529

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					
Enclosed Parking with Elevator	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
Hotel	7301.05	0.0787	0.7158	0.6013	4.2900e-003		0.0544	0.0544		0.0544	0.0544		858.9476	858.9476	0.0165	0.0158	864.0519
Other Non-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
Regional Shopping Center	1.69841	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1998	0.1998	0.0000	0.0000	0.2010
Total		**0.0788**	**0.7160**	**0.6014**	**4.2900e-003**		**0.0544**	**0.0544**		**0.0544**	**0.0544**		**859.1474**	**859.1474**	**0.0165**	**0.0158**	**864.2529**

5.2 Energy by Land Use - NaturalGas

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					
Enclosed Parking with Elevator	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
Hotel	7.30105	0.0787	0.7158	0.6013	4.2900e-003		0.0544	0.0544		0.0544	0.0544		858.9476	858.9476	0.0165	0.0158	864.0519
Other Non-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
Regional Shopping Center	0.00169841	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1998	0.1998	0.0000	0.0000	0.2010
Total		**0.0788**	**0.7160**	**0.6014**	**4.2900e-003**		**0.0544**	**0.0544**		**0.0544**	**0.0544**		**859.1474**	**859.1474**	**0.0165**	**0.0158**	**864.2529**

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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Unmitigated	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487

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	0.1573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9900e-003	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Total	**1.3833**	**1.9000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0457**	**0.0457**	**1.2000e-004**		**0.0487**

6.2 Area by SubCategory

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	0.1573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9900e-003	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Total	**1.3833**	**1.9000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0457**	**0.0457**	**1.2000e-004**		**0.0487**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

1130 South Hope Street (Unmitigated)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	62.00	Space	0.00	5,479.00	0
Other Non-Asphalt Surfaces	2.35	1000sqft	0.05	2,350.00	0
Hotel	144.00	Room	0.13	61,304.00	0
Regional Shopping Center	0.38	1000sqft	0.00	378.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	10			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project site is 0.18 acres.

Construction Phase - Construction Schedule based on consultation with the Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Grading - For purposes of analysis, it is assumed that 1 acre will be disturbed per day

Architectural Coating - Rule 1113

Vehicle Trips - Trip characteristics based on information provided in the 1130 South Hope Street Traffic Impact Study prepared by KOA

Energy Use - The Project will design building shells and building components to meet 2019 Title 24 Standards which expects 30% less energy for nonresidential uses.

Construction Off-road Equipment Mitigation - Rule 403

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	2.00	55.00
tblConstructionPhase	NumDays	100.00	262.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	5.00	7.00
tblEnergyUse	LightingElect	1.75	1.23
tblEnergyUse	LightingElect	5.44	3.81

tblEnergyUse	LightingElect	5.61	3.93
tblEnergyUse	T24E	3.92	2.74
tblEnergyUse	T24E	6.47	4.53
tblEnergyUse	T24E	4.58	3.21
tblEnergyUse	T24NG	55.15	38.61
tblEnergyUse	T24NG	1.92	1.34
tblGrading	AcresOfGrading	0.00	55.00
tblGrading	MaterialExported	0.00	6,233.00
tblLandUse	LandUseSquareFeet	24,800.00	5,479.00
tblLandUse	LandUseSquareFeet	209,088.00	61,304.00
tblLandUse	LandUseSquareFeet	380.00	378.00
tblLandUse	LotAcreage	0.56	0.00
tblLandUse	LotAcreage	4.80	0.13
tblLandUse	LotAcreage	0.01	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	UsageHours	6.00	8.00
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tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
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tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	7.00	8.00
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tblVehicleEF	HHD	1,639.83	1,482.70
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tblVehicleEF	LDT1	0.28	0.21
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tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.16	0.64
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tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
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tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07

tblVehicleEF	LDT2	0.03	0.03
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tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.31
tblVehicleEF	LDT2	7.0750e-003	4.8730e-003
tblVehicleEF	LDT2	6.5470e-003	0.07
tblVehicleEF	LDT2	0.81	0.99
tblVehicleEF	LDT2	1.39	2.74
tblVehicleEF	LDT2	375.62	339.02
tblVehicleEF	LDT2	78.07	68.90
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.48
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	3.7630e-003	3.3320e-003
tblVehicleEF	LDT2	8.0400e-004	6.7700e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.07	0.48

tblVehicleEF	LDT2	0.10	0.35
tblVehicleEF	LHD1	5.5970e-003	5.6110e-003
tblVehicleEF	LHD1	0.01	5.6770e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.84	0.65
tblVehicleEF	LHD1	2.79	1.14
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.04
tblVehicleEF	LHD1	33.34	12.48
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.95	0.63
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.31	0.55

tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8500e-004	1.2400e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.31	0.55
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD1	5.5970e-003	5.6230e-003
tblVehicleEF	LHD1	0.01	5.7930e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.85	0.66
tblVehicleEF	LHD1	2.66	1.09
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.06
tblVehicleEF	LHD1	33.34	12.39
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.89	0.59
tblVehicleEF	LHD1	0.96	0.32
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004

tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9310e-003	6.5150e-003
tblVehicleEF	LHD1	3.8300e-004	1.2300e-004
tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD1	5.5970e-003	5.6090e-003
tblVehicleEF	LHD1	0.01	5.6460e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.83	0.64
tblVehicleEF	LHD1	2.81	1.15

1130 South Hope Street (Unmitigated) - Los Angeles-South Coast County, Winter

tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.03
tblVehicleEF	LHD1	33.34	12.50
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.94	0.62
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8600e-004	1.2400e-004
tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.03

tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD2	4.0020e-003	3.9440e-003
tblVehicleEF	LHD2	4.2980e-003	3.9460e-003
tblVehicleEF	LHD2	8.5190e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.44
tblVehicleEF	LHD2	1.37	0.77
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.65
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.65	0.81
tblVehicleEF	LHD2	0.55	0.23
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02

tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.11	0.06
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.5000e-005
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9530e-003
tblVehicleEF	LHD2	4.3570e-003	3.9910e-003
tblVehicleEF	LHD2	8.2260e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.35	0.44
tblVehicleEF	LHD2	1.31	0.74
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.38
tblVehicleEF	LHD2	27.88	9.59
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.61	0.76
tblVehicleEF	LHD2	0.53	0.22
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0300e-004	9.5000e-005
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9420e-003
tblVehicleEF	LHD2	4.2820e-003	3.9330e-003
tblVehicleEF	LHD2	8.5780e-003	0.01

tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.43
tblVehicleEF	LHD2	1.38	0.78
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.66
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.64	0.80
tblVehicleEF	LHD2	0.56	0.24
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.6000e-005

tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.23
tblVehicleEF	MCY	18.94	19.11
tblVehicleEF	MCY	9.66	8.52
tblVehicleEF	MCY	188.92	223.68
tblVehicleEF	MCY	44.52	59.56
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	2.60	2.61
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.05	1.81
tblVehicleEF	MCY	2.2780e-003	2.2130e-003
tblVehicleEF	MCY	6.6300e-004	5.8900e-004

tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	3.23	3.25
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.23	1.97
tblVehicleEF	MCY	0.53	0.37
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	18.24	18.37
tblVehicleEF	MCY	8.82	7.76
tblVehicleEF	MCY	188.92	222.28
tblVehicleEF	MCY	44.52	57.67
tblVehicleEF	MCY	0.99	0.99
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.73	1.72
tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	2.54	2.55
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.83	1.61
tblVehicleEF	MCY	2.2650e-003	2.2000e-003
tblVehicleEF	MCY	6.4300e-004	5.7100e-004
tblVehicleEF	MCY	1.73	1.72

tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	3.16	3.17
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.99	1.75
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.04	19.25
tblVehicleEF	MCY	9.80	8.66
tblVehicleEF	MCY	188.92	223.96
tblVehicleEF	MCY	44.52	59.94
tblVehicleEF	MCY	1.11	1.11
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84
tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	2.61	2.63
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.09	1.86
tblVehicleEF	MCY	2.2800e-003	2.2160e-003
tblVehicleEF	MCY	6.6700e-004	5.9300e-004
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84

tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	3.25	3.26
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.28	2.02
tblVehicleEF	MDV	0.01	6.5350e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.33	1.22
tblVehicleEF	MDV	2.48	3.10
tblVehicleEF	MDV	512.22	421.49
tblVehicleEF	MDV	103.14	83.59
tblVehicleEF	MDV	0.15	0.11
tblVehicleEF	MDV	0.22	0.34
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.19	0.40
tblVehicleEF	MDV	5.1310e-003	4.1410e-003
tblVehicleEF	MDV	1.0750e-003	8.2200e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09

tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.21	0.44
tblVehicleEF	MDV	0.01	6.9310e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.45	1.32
tblVehicleEF	MDV	2.12	2.63
tblVehicleEF	MDV	534.67	433.96
tblVehicleEF	MDV	103.14	82.70
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.20	0.32
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.17	0.36
tblVehicleEF	MDV	5.3570e-003	4.2630e-003
tblVehicleEF	MDV	1.0680e-003	8.1300e-004
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.05	0.04

tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.18	0.39
tblVehicleEF	MDV	0.01	6.4070e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.29	1.18
tblVehicleEF	MDV	2.56	3.21
tblVehicleEF	MDV	503.99	416.89
tblVehicleEF	MDV	103.14	83.79
tblVehicleEF	MDV	0.14	0.11
tblVehicleEF	MDV	0.22	0.35
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.10	0.50
tblVehicleEF	MDV	0.19	0.41
tblVehicleEF	MDV	5.0480e-003	4.0950e-003
tblVehicleEF	MDV	1.0760e-003	8.2400e-004
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.10	0.50

tblVehicleEF	MDV	0.21	0.45
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.24	0.27
tblVehicleEF	MH	5.78	0.00
tblVehicleEF	MH	1,130.03	965.33
tblVehicleEF	MH	60.43	0.00
tblVehicleEF	MH	1.08	3.43
tblVehicleEF	MH	0.80	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.1280e-003	0.00
tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
tblVehicleEF	MH	0.95	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.41	0.00
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
tblVehicleEF	MH	0.01	9.1260e-003
tblVehicleEF	MH	7.0500e-004	0.00
tblVehicleEF	MH	0.95	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.41	0.00
tblVehicleEF	MH	0.12	0.08

tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.30	0.27
tblVehicleEF	MH	5.44	0.00
tblVehicleEF	MH	1,130.03	965.33
tblVehicleEF	MH	60.43	0.00
tblVehicleEF	MH	0.99	3.24
tblVehicleEF	MH	0.76	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.1280e-003	0.00
tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
tblVehicleEF	MH	1.41	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.58	0.00
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	0.01	9.1260e-003
tblVehicleEF	MH	6.9900e-004	0.00
tblVehicleEF	MH	1.41	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.58	0.00

tblVehicleEF	MH	0.12	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.34	0.00
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.22	0.27
tblVehicleEF	MH	5.83	0.00
tblVehicleEF	MH	1,130.03	965.33
tblVehicleEF	MH	60.43	0.00
tblVehicleEF	MH	1.06	3.37
tblVehicleEF	MH	0.80	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.07
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tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
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tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
tblVehicleEF	MH	0.01	9.1260e-003
tblVehicleEF	MH	7.0600e-004	0.00
tblVehicleEF	MH	1.08	0.00
tblVehicleEF	MH	0.08	0.00

tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.12	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.36	0.00
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tblVehicleEF	MHD	4.8560e-003	4.6020e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.37	0.39
tblVehicleEF	MHD	0.37	0.47
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tblVehicleEF	MHD	1,150.98	1,070.87
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tblVehicleEF	MHD	1.14	1.63
tblVehicleEF	MHD	9.96	1.29
tblVehicleEF	MHD	2.4800e-004	1.0730e-003
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004
tblVehicleEF	MHD	2.3800e-004	1.0270e-003
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.4200e-004	4.3000e-004
tblVehicleEF	MHD	0.05	0.06

tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.37	0.07
tblVehicleEF	MHD	1.2810e-003	6.4000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.4300e-004	1.2000e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.4200e-004	4.3000e-004
tblVehicleEF	MHD	0.05	0.07
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.41	0.07
tblVehicleEF	MHD	0.02	4.1930e-003
tblVehicleEF	MHD	4.9280e-003	4.6540e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.27	0.32
tblVehicleEF	MHD	0.38	0.48
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tblVehicleEF	MHD	140.78	68.14
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tblVehicleEF	MHD	9.92	1.28
tblVehicleEF	MHD	2.0900e-004	9.0700e-004
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004

tblVehicleEF	MHD	2.0000e-004	8.6800e-004
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.0480e-003	6.0400e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.36	0.06
tblVehicleEF	MHD	1.3550e-003	6.4800e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.3800e-004	1.1900e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	1.0480e-003	6.0400e-004
tblVehicleEF	MHD	0.06	0.07
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.39	0.07
tblVehicleEF	MHD	0.02	4.7550e-003
tblVehicleEF	MHD	4.8360e-003	4.5850e-003
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tblVehicleEF	MHD	0.52	0.49
tblVehicleEF	MHD	0.37	0.47
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tblVehicleEF	MHD	122.05	66.18

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tblVehicleEF	MHD	1.12	1.60
tblVehicleEF	MHD	9.97	1.29
tblVehicleEF	MHD	3.0200e-004	1.3020e-003
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004
tblVehicleEF	MHD	2.8900e-004	1.2460e-003
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.1690e-003	6.9100e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.16
tblVehicleEF	MHD	0.38	0.07
tblVehicleEF	MHD	1.1790e-003	6.2900e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.4400e-004	1.2100e-004
tblVehicleEF	MHD	1.1690e-003	6.9100e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
tblVehicleEF	MHD	0.05	0.07
tblVehicleEF	MHD	0.02	0.16

tblVehicleEF	MHD	0.41	0.07
tblVehicleEF	OBUS	0.01	8.4750e-003
tblVehicleEF	OBUS	7.7220e-003	6.9630e-003
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tblVehicleEF	OBUS	2.60	0.75
tblVehicleEF	OBUS	1.1400e-004	7.8900e-004
tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	1.0900e-004	7.5500e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004
tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	7.6800e-004	9.4100e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.34	0.11
tblVehicleEF	OBUS	1.0820e-003	8.9600e-004

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tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
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tblVehicleEF	OBUS	0.37	0.13
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tblVehicleEF	OBUS	7.4200e-004	1.8100e-004

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tblVehicleEF	OBUS	0.01	0.01
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tblVehicleEF	OBUS	0.04	0.05
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tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
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tblVehicleEF	SBUS	0.02	0.03
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tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03

tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
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tblVehicleEF	SBUS	0.03	8.7250e-003
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tblVehicleEF	SBUS	2.5080e-003	7.3100e-004
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tblVehicleEF	SBUS	0.34	0.03
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tblVehicleEF	SBUS	6.5400e-004	5.4000e-005
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tblVehicleEF	SBUS	55.06	5.78

tblVehicleEF	SBUS	8.80	3.05
tblVehicleEF	SBUS	4.10	4.57
tblVehicleEF	SBUS	12.13	0.90
tblVehicleEF	SBUS	0.01	4.8000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	0.01	4.5930e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
tblVehicleEF	SBUS	0.98	0.34
tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.02	0.07
tblVehicleEF	SBUS	0.39	0.04
tblVehicleEF	SBUS	0.01	3.2860e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.8100e-004	5.7000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
tblVehicleEF	SBUS	1.41	0.49
tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	0.02	0.07

tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.22	45.42
tblVehicleEF	UBUS	8.87	0.71
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.61
tblVehicleEF	UBUS	9.98	0.47
tblVehicleEF	UBUS	15.36	0.08
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003
tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
tblVehicleEF	UBUS	0.85	0.09
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	9.8600e-003	1.4410e-003
tblVehicleEF	UBUS	1.1250e-003	8.5000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003

tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
tblVehicleEF	UBUS	3.56	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.74	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.27	45.42
tblVehicleEF	UBUS	7.69	0.63
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.46
tblVehicleEF	UBUS	9.41	0.47
tblVehicleEF	UBUS	15.31	0.08
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	0.86	0.09
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.62	0.04
tblVehicleEF	UBUS	9.8610e-003	1.4410e-003

tblVehicleEF	UBUS	1.1050e-003	8.4000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	3.57	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.21	45.42
tblVehicleEF	UBUS	9.08	0.73
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.64
tblVehicleEF	UBUS	9.79	0.47
tblVehicleEF	UBUS	15.38	0.09
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	0.85	0.09

tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.69	0.05
tblVehicleEF	UBUS	9.8590e-003	1.4410e-003
tblVehicleEF	UBUS	1.1290e-003	8.5000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	3.55	5.97
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.75	0.05
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	8.17	8.36
tblVehicleTrips	WD_TR	42.70	37.04

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	1.3784	16.7293	7.9556	0.0230	7.3990	0.6565	8.0555	3.5094	0.6044	4.1138	0.0000	2,359.9722	2,359.9722	0.4550	0.0000	2,371.2398
2022	73.0318	9.0680	10.6617	0.0178	0.3946	0.4285	0.8027	0.1063	0.4053	0.4818	0.0000	1,747.6234	1,747.6234	0.4005	0.0000	1,757.6358
Maximum	**73.0318**	**16.7293**	**10.6617**	**0.0230**	**7.3990**	**0.6565**	**8.0555**	**3.5094**	**0.6044**	**4.1138**	**0.0000**	**2,359.9722**	**2,359.9722**	**0.4550**	**0.0000**	**2,371.2398**

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	1.3784	16.7293	7.9556	0.0230	3.0708	0.6565	3.7273	1.4191	0.6044	2.0235	0.0000	2,359.9722	2,359.9722	0.4550	0.0000	2,371.2398
2022	73.0318	9.0680	10.6617	0.0178	0.3946	0.4285	0.8027	0.1063	0.4053	0.4818	0.0000	1,747.6234	1,747.6234	0.4005	0.0000	1,757.6358
Maximum	**73.0318**	**16.7293**	**10.6617**	**0.0230**	**3.0708**	**0.6565**	**3.7273**	**1.4191**	**0.6044**	**2.0235**	**0.0000**	**2,359.9722**	**2,359.9722**	**0.4550**	**0.0000**	**2,371.2398**

	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**	**55.54**	**0.00**	**48.86**	**57.81**	**0.00**	**45.48**	**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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Energy	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
Mobile	2.9681	5.4266	24.8898	0.0656	6.1689	0.0680	6.2369	1.6474	0.0638	1.7112		6,791.8615	6,791.8615	0.4888		6,804.0821
Total	**4.4302**	**6.1428**	**25.5126**	**0.0699**	**6.1689**	**0.1225**	**6.2914**	**1.6474**	**0.1183**	**1.7657**		**7,651.0545**	**7,651.0545**	**0.5054**	**0.0158**	**7,668.3837**

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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Energy	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
Mobile	2.9681	5.4266	24.8898	0.0656	6.1689	0.0680	6.2369	1.6474	0.0638	1.7112		6,791.8615	6,791.8615	0.4888		6,804.0821
Total	**4.4302**	**6.1428**	**25.5126**	**0.0699**	**6.1689**	**0.1225**	**6.2914**	**1.6474**	**0.1183**	**1.7657**		**7,651.0545**	**7,651.0545**	**0.5054**	**0.0158**	**7,668.3837**

	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	Site Preparation	Site Preparation	5/10/2021	5/21/2021	5	10	
2	Grading	Grading	5/22/2021	8/6/2021	5	55	
3	Building Construction	Building Construction	8/7/2021	8/9/2022	5	262	
4	Architectural Coating	Architectural Coating	8/19/2022	10/6/2022	5	4	
5	Paving	Paving	9/7/2022	9/15/2022	5	7	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 55

Acres of Paving: 0.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 92,523; Non-Residential Outdoor: 30,841; Striped Parking Area: 470 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	8.00	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
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	779.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	29.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 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					1.0605	0.0000	1.0605	0.1145	0.0000	0.1145			0.0000			0.0000
Off-Road	1.0039	12.8926	4.2023	0.0145		0.4499	0.4499		0.4139	0.4139		1,402.0462	1,402.0462	0.4535		1,413.3824
Total	**1.0039**	**12.8926**	**4.2023**	**0.0145**	**1.0605**	**0.4499**	**1.5104**	**0.1145**	**0.4139**	**0.5284**		**1,402.0462**	**1,402.0462**	**0.4535**		**1,413.3824**

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	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	**0.0238**	**0.0163**	**0.1841**	**5.4000e-004**	**0.0559**	**4.5000e-004**	**0.0563**	**0.0148**	**4.2000e-004**	**0.0152**		**53.6126**	**53.6126**	**1.5800e-003**		**53.6520**

3.2 Site Preparation - 2021

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					0.4136	0.0000	0.4136	0.0447	0.0000	0.0447			0.0000			0.0000
Off-Road	1.0039	12.8926	4.2023	0.0145		0.4499	0.4499		0.4139	0.4139	0.0000	1,402.046 2	1,402.046 2	0.4535		1,413.382 4
Total	**1.0039**	**12.8926**	**4.2023**	**0.0145**	**0.4136**	**0.4499**	**0.8635**	**0.0447**	**0.4139**	**0.4585**	**0.0000**	**1,402.046 2**	**1,402.046 2**	**0.4535**		**1,413.382 4**

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	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	**0.0238**	**0.0163**	**0.1841**	**5.4000e-004**	**0.0559**	**4.5000e-004**	**0.0563**	**0.0148**	**4.2000e-004**	**0.0152**		**53.6126**	**53.6126**	**1.5800e-003**		**53.6520**

3.3 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					7.0954	0.0000	7.0954	3.4267	0.0000	3.4267			0.0000			0.0000
Off-Road	1.2336	12.8671	6.2980	0.0116		0.6442	0.6442		0.5927	0.5927		1,128.252 3	1,128.252 3	0.3649		1,137.374 8
Total	**1.2336**	**12.8671**	**6.2980**	**0.0116**	**7.0954**	**0.6442**	**7.7396**	**3.4267**	**0.5927**	**4.0194**		**1,128.252 3**	**1,128.252 3**	**0.3649**		**1,137.374 8**

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	0.1209	3.8458	0.9446	0.0109	0.2477	0.0118	0.2595	0.0679	0.0113	0.0792		1,178.107 3	1,178.107 3	0.0842		1,180.213 0
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	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	**0.1448**	**3.8622**	**1.1288**	**0.0114**	**0.3036**	**0.0123**	**0.3158**	**0.0827**	**0.0118**	**0.0945**		**1,231.719 9**	**1,231.719 9**	**0.0858**		**1,233.865 0**

3.3 Grading - 2021

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					2.7672	0.0000	2.7672	1.3364	0.0000	1.3364			0.0000			0.0000
Off-Road	1.2336	12.8671	6.2980	0.0116		0.6442	0.6442		0.5927	0.5927	0.0000	1,128.252 3	1,128.252 3	0.3649		1,137.374 8
Total	**1.2336**	**12.8671**	**6.2980**	**0.0116**	**2.7672**	**0.6442**	**3.4114**	**1.3364**	**0.5927**	**1.9291**	**0.0000**	**1,128.252 3**	**1,128.252 3**	**0.3649**		**1,137.374 8**

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	0.1209	3.8458	0.9446	0.0109	0.2477	0.0118	0.2595	0.0679	0.0113	0.0792		1,178.107 3	1,178.107 3	0.0842		1,180.213 0
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	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	**0.1448**	**3.8622**	**1.1288**	**0.0114**	**0.3036**	**0.0123**	**0.3158**	**0.0827**	**0.0118**	**0.0945**		**1,231.719 9**	**1,231.719 9**	**0.0858**		**1,233.865 0**

3.4 Building Construction - 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	0.8588	9.1034	6.5788	0.0119		0.4761	0.4761		0.4380	0.4380		1,155.7005	1,155.7005	0.3738		1,165.0449
Total	**0.8588**	**9.1034**	**6.5788**	**0.0119**		**0.4761**	**0.4761**		**0.4380**	**0.4380**		**1,155.7005**	**1,155.7005**	**0.3738**		**1,165.0449**

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	0.0351	1.0658	0.3089	2.7500e-003	0.0704	2.2500e-003	0.0727	0.0203	2.1600e-003	0.0224		294.0801	294.0801	0.0190		294.5547
Worker	0.1383	0.0946	1.0679	3.1200e-003	0.3242	2.6200e-003	0.3268	0.0860	2.4100e-003	0.0884		310.9528	310.9528	9.1500e-003		311.1816
Total	**0.1734**	**1.1604**	**1.3768**	**5.8700e-003**	**0.3946**	**4.8700e-003**	**0.3995**	**0.1063**	**4.5700e-003**	**0.1108**		**605.0329**	**605.0329**	**0.0281**		**605.7363**

3.4 Building Construction - 2021

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	0.8588	9.1034	6.5788	0.0119		0.4761	0.4761		0.4380	0.4380	0.0000	1,155.7005	1,155.7005	0.3738		1,165.0449
Total	**0.8588**	**9.1034**	**6.5788**	**0.0119**		**0.4761**	**0.4761**		**0.4380**	**0.4380**	**0.0000**	**1,155.7005**	**1,155.7005**	**0.3738**		**1,165.0449**

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	0.0351	1.0658	0.3089	2.7500e-003	0.0704	2.2500e-003	0.0727	0.0203	2.1600e-003	0.0224		294.0801	294.0801	0.0190		294.5547
Worker	0.1383	0.0946	1.0679	3.1200e-003	0.3242	2.6200e-003	0.3268	0.0860	2.4100e-003	0.0884		310.9528	310.9528	9.1500e-003		311.1816
Total	**0.1734**	**1.1604**	**1.3768**	**5.8700e-003**	**0.3946**	**4.8700e-003**	**0.3995**	**0.1063**	**4.5700e-003**	**0.1108**		**605.0329**	**605.0329**	**0.0281**		**605.7363**

3.4 Building Construction - 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	0.7649	7.9697	6.4378	0.0119		0.4036	0.4036		0.3713	0.3713		1,156.1310	1,156.1310	0.3739		1,165.4789
Total	**0.7649**	**7.9697**	**6.4378**	**0.0119**		**0.4036**	**0.4036**		**0.3713**	**0.3713**		**1,156.1310**	**1,156.1310**	**0.3739**		**1,165.4789**

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	0.0330	1.0129	0.2924	2.7300e-003	0.0704	1.9700e-003	0.0724	0.0203	1.8900e-003	0.0222		291.4673	291.4673	0.0183		291.9253
Worker	0.1299	0.0854	0.9836	3.0100e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		300.0251	300.0251	8.2600e-003		300.2317
Total	**0.1628**	**1.0983**	**1.2760**	**5.7400e-003**	**0.3946**	**4.5100e-003**	**0.3991**	**0.1063**	**4.2300e-003**	**0.1105**		**591.4925**	**591.4925**	**0.0266**		**592.1569**

3.4 Building Construction - 2022

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	0.7649	7.9697	6.4378	0.0119		0.4036	0.4036		0.3713	0.3713	0.0000	1,156.1310	1,156.1310	0.3739		1,165.4789
Total	**0.7649**	**7.9697**	**6.4378**	**0.0119**		**0.4036**	**0.4036**		**0.3713**	**0.3713**	**0.0000**	**1,156.1310**	**1,156.1310**	**0.3739**		**1,165.4789**

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	0.0330	1.0129	0.2924	2.7300e-003	0.0704	1.9700e-003	0.0724	0.0203	1.8900e-003	0.0222		291.4673	291.4673	0.0183		291.9253
Worker	0.1299	0.0854	0.9836	3.0100e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		300.0251	300.0251	8.2600e-003		300.2317
Total	**0.1628**	**1.0983**	**1.2760**	**5.7400e-003**	**0.3946**	**4.5100e-003**	**0.3991**	**0.1063**	**4.2300e-003**	**0.1105**		**591.4925**	**591.4925**	**0.0266**		**592.1569**

3.5 Architectural Coating - 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	72.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2727	1.8780	2.4181	3.9600e-003		0.1090	0.1090		0.1090	0.1090		375.2641	375.2641	0.0244		375.8749
Total	**72.2914**	**1.8780**	**2.4181**	**3.9600e-003**		**0.1090**	**0.1090**		**0.1090**	**0.1090**		**375.2641**	**375.2641**	**0.0244**		**375.8749**

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	0.0269	0.0177	0.2035	6.2000e-004	0.0671	5.2000e-004	0.0676	0.0178	4.8000e-004	0.0183		62.0742	62.0742	1.7100e-003		62.1169
Total	**0.0269**	**0.0177**	**0.2035**	**6.2000e-004**	**0.0671**	**5.2000e-004**	**0.0676**	**0.0178**	**4.8000e-004**	**0.0183**		**62.0742**	**62.0742**	**1.7100e-003**		**62.1169**

3.5 Architectural Coating - 2022

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	72.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2727	1.8780	2.4181	3.9600e-003		0.1090	0.1090		0.1090	0.1090	0.0000	375.2641	375.2641	0.0244		375.8749
Total	**72.2914**	**1.8780**	**2.4181**	**3.9600e-003**		**0.1090**	**0.1090**		**0.1090**	**0.1090**	**0.0000**	**375.2641**	**375.2641**	**0.0244**		**375.8749**

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	0.0269	0.0177	0.2035	6.2000e-004	0.0671	5.2000e-004	0.0676	0.0178	4.8000e-004	0.0183		62.0742	62.0742	1.7100e-003		62.1169
Total	**0.0269**	**0.0177**	**0.2035**	**6.2000e-004**	**0.0671**	**5.2000e-004**	**0.0676**	**0.0178**	**4.8000e-004**	**0.0183**		**62.0742**	**62.0742**	**1.7100e-003**		**62.1169**

3.6 Paving - 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	0.6554	6.2368	7.5991	0.0119		0.3179	0.3179		0.2948	0.2948		1,111.6333	1,111.6333	0.3373		1,120.0668
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6554**	**6.2368**	**7.5991**	**0.0119**		**0.3179**	**0.3179**		**0.2948**	**0.2948**		**1,111.6333**	**1,111.6333**	**0.3373**		**1,120.0668**

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	0.0582	0.0383	0.4409	1.3500e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		134.4940	134.4940	3.7000e-003		134.5866
Total	**0.0582**	**0.0383**	**0.4409**	**1.3500e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**134.4940**	**134.4940**	**3.7000e-003**		**134.5866**

3.6 Paving - 2022

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	0.6554	6.2368	7.5991	0.0119		0.3179	0.3179		0.2948	0.2948	0.0000	1,111.6333	1,111.6333	0.3373		1,120.0668
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6554**	**6.2368**	**7.5991**	**0.0119**		**0.3179**	**0.3179**		**0.2948**	**0.2948**	**0.0000**	**1,111.6333**	**1,111.6333**	**0.3373**		**1,120.0668**

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	0.0582	0.0383	0.4409	1.3500e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		134.4940	134.4940	3.7000e-003		134.5866
Total	**0.0582**	**0.0383**	**0.4409**	**1.3500e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**134.4940**	**134.4940**	**3.7000e-003**		**134.5866**

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	2.9681	5.4266	24.8898	0.0656	6.1689	0.0680	6.2369	1.6474	0.0638	1.7112		6,791.861 5	6,791.861 5	0.4888		6,804.082 1
Unmitigated	2.9681	5.4266	24.8898	0.0656	6.1689	0.0680	6.2369	1.6474	0.0638	1.7112		6,791.861 5	6,791.861 5	0.4888		6,804.082 1

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,204.00	1,179.36	856.80	2,746,194	2,746,194
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	14.07	17.53	8.02	29,635	29,635
Total	1,218.07	1,196.89	864.82	2,775,829	2,775,829

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
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Hotel	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Regional Shopping Center	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

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	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
NaturalGas Unmitigated	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529

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					
Enclosed Parking with Elevator	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
Hotel	7301.05	0.0787	0.7158	0.6013	4.2900e-003		0.0544	0.0544		0.0544	0.0544		858.9476	858.9476	0.0165	0.0158	864.0519
Other Non-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
Regional Shopping Center	1.69841	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1998	0.1998	0.0000	0.0000	0.2010
Total		**0.0788**	**0.7160**	**0.6014**	**4.2900e-003**		**0.0544**	**0.0544**		**0.0544**	**0.0544**		**859.1474**	**859.1474**	**0.0165**	**0.0158**	**864.2529**

5.2 Energy by Land Use - NaturalGas

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					
Enclosed Parking with Elevator	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
Hotel	7.30105	0.0787	0.7158	0.6013	4.2900e-003		0.0544	0.0544		0.0544	0.0544		858.9476	858.9476	0.0165	0.0158	864.0519
Other Non-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
Regional Shopping Center	0.00169841	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1998	0.1998	0.0000	0.0000	0.2010
Total		**0.0788**	**0.7160**	**0.6014**	**4.2900e-003**		**0.0544**	**0.0544**		**0.0544**	**0.0544**		**859.1474**	**859.1474**	**0.0165**	**0.0158**	**864.2529**

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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Unmitigated	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487

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	0.1573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9900e-003	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Total	**1.3833**	**1.9000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0457**	**0.0457**	**1.2000e-004**		**0.0487**

6.2 Area by SubCategory

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	0.1573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9900e-003	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Total	**1.3833**	**1.9000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0457**	**0.0457**	**1.2000e-004**		**0.0487**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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 3.2:

CALEEMOD OPERATIONAL EMISSIONS MODEL OUTPUTS

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1130 South Hope Street (Unmitigated)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	62.00	Space	0.00	5,479.00	0
Other Non-Asphalt Surfaces	2.35	1000sqft	0.05	2,350.00	0
Hotel	144.00	Room	0.13	61,304.00	0
Regional Shopping Center	0.38	1000sqft	0.00	378.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	10			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project site is 0.18 acres.

Construction Phase - Construction Schedule based on consultation with the Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Grading - For purposes of analysis, it is assumed that 1 acre will be disturbed per day

Architectural Coating - Rule 1113

Vehicle Trips - Trip characteristics based on information provided in the 1130 South Hope Street Traffic Impact Study prepared by KOA

Energy Use - The Project will design building shells and building components to meet 2019 Title 24 Standards which expects 30% less energy for nonresidential uses.

Construction Off-road Equipment Mitigation - Rule 403

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Table Name	Column Name	Default Value	New Value
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tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
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tblConstructionPhase	NumDays	2.00	55.00
tblConstructionPhase	NumDays	100.00	262.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	5.00	7.00
tblEnergyUse	LightingElect	1.75	1.23
tblEnergyUse	LightingElect	5.44	3.81

tblEnergyUse	LightingElect	5.61	3.93
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tblEnergyUse	T24E	6.47	4.53
tblEnergyUse	T24E	4.58	3.21
tblEnergyUse	T24NG	55.15	38.61
tblEnergyUse	T24NG	1.92	1.34
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tblLandUse	LandUseSquareFeet	209,088.00	61,304.00
tblLandUse	LandUseSquareFeet	380.00	378.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	UsageHours	6.00	8.00
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tblOffRoadEquipment	UsageHours	6.00	8.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
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tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.16	0.64
tblVehicleEF	LDT1	0.17	0.31
tblVehicleEF	LDT1	3.5840e-003	3.2710e-003
tblVehicleEF	LDT1	7.3600e-004	6.1900e-004
tblVehicleEF	LDT1	0.20	0.20

tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.16	0.64
tblVehicleEF	LDT1	0.18	0.34
tblVehicleEF	LDT1	0.02	7.5820e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.63	1.41
tblVehicleEF	LDT1	2.87	2.35
tblVehicleEF	LDT1	335.69	316.06
tblVehicleEF	LDT1	69.44	63.82
tblVehicleEF	LDT1	0.15	0.12
tblVehicleEF	LDT1	0.16	0.26
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.30	0.22
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.20	0.82
tblVehicleEF	LDT1	0.20	0.36
tblVehicleEF	LDT1	3.3780e-003	3.1070e-003
tblVehicleEF	LDT1	7.4500e-004	6.2800e-004
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.30	0.22

tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.20	0.82
tblVehicleEF	LDT1	0.21	0.40
tblVehicleEF	LDT2	7.2180e-003	4.9730e-003
tblVehicleEF	LDT2	6.3970e-003	0.07
tblVehicleEF	LDT2	0.84	1.02
tblVehicleEF	LDT2	1.35	2.65
tblVehicleEF	LDT2	381.91	343.42
tblVehicleEF	LDT2	78.07	68.73
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.41
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LDT2	3.8260e-003	3.3760e-003
tblVehicleEF	LDT2	8.0300e-004	6.7600e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07

tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.06	0.41
tblVehicleEF	LDT2	0.09	0.34
tblVehicleEF	LDT2	7.6530e-003	5.2910e-003
tblVehicleEF	LDT2	5.6920e-003	0.06
tblVehicleEF	LDT2	0.92	1.12
tblVehicleEF	LDT2	1.15	2.26
tblVehicleEF	LDT2	399.04	355.31
tblVehicleEF	LDT2	78.07	67.99
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.10	0.26
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.06	0.10
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.28
tblVehicleEF	LDT2	3.9980e-003	3.4930e-003
tblVehicleEF	LDT2	8.0000e-004	6.6800e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.06	0.10
tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.31
tblVehicleEF	LDT2	7.0750e-003	4.8730e-003
tblVehicleEF	LDT2	6.5470e-003	0.07
tblVehicleEF	LDT2	0.81	0.99
tblVehicleEF	LDT2	1.39	2.74
tblVehicleEF	LDT2	375.62	339.02
tblVehicleEF	LDT2	78.07	68.90
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.48
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	3.7630e-003	3.3320e-003
tblVehicleEF	LDT2	8.0400e-004	6.7700e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.07	0.48

tblVehicleEF	LDT2	0.10	0.35
tblVehicleEF	LHD1	5.5970e-003	5.6110e-003
tblVehicleEF	LHD1	0.01	5.6770e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.84	0.65
tblVehicleEF	LHD1	2.79	1.14
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.04
tblVehicleEF	LHD1	33.34	12.48
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.95	0.63
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.31	0.55

tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8500e-004	1.2400e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.31	0.55
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD1	5.5970e-003	5.6230e-003
tblVehicleEF	LHD1	0.01	5.7930e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.85	0.66
tblVehicleEF	LHD1	2.66	1.09
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.06
tblVehicleEF	LHD1	33.34	12.39
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.89	0.59
tblVehicleEF	LHD1	0.96	0.32
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004

tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9310e-003	6.5150e-003
tblVehicleEF	LHD1	3.8300e-004	1.2300e-004
tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD1	5.5970e-003	5.6090e-003
tblVehicleEF	LHD1	0.01	5.6460e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.83	0.64
tblVehicleEF	LHD1	2.81	1.15

tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.03
tblVehicleEF	LHD1	33.34	12.50
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.94	0.62
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8600e-004	1.2400e-004
tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.03

tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD2	4.0020e-003	3.9440e-003
tblVehicleEF	LHD2	4.2980e-003	3.9460e-003
tblVehicleEF	LHD2	8.5190e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.44
tblVehicleEF	LHD2	1.37	0.77
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.65
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.65	0.81
tblVehicleEF	LHD2	0.55	0.23
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02

tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.11	0.06
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.5000e-005
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9530e-003
tblVehicleEF	LHD2	4.3570e-003	3.9910e-003
tblVehicleEF	LHD2	8.2260e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.35	0.44
tblVehicleEF	LHD2	1.31	0.74
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.38
tblVehicleEF	LHD2	27.88	9.59
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.61	0.76
tblVehicleEF	LHD2	0.53	0.22
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0300e-004	9.5000e-005
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9420e-003
tblVehicleEF	LHD2	4.2820e-003	3.9330e-003
tblVehicleEF	LHD2	8.5780e-003	0.01

tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.43
tblVehicleEF	LHD2	1.38	0.78
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.66
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.64	0.80
tblVehicleEF	LHD2	0.56	0.24
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.6000e-005

tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.23
tblVehicleEF	MCY	18.94	19.11
tblVehicleEF	MCY	9.66	8.52
tblVehicleEF	MCY	188.92	223.68
tblVehicleEF	MCY	44.52	59.56
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	2.60	2.61
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.05	1.81
tblVehicleEF	MCY	2.2780e-003	2.2130e-003
tblVehicleEF	MCY	6.6300e-004	5.8900e-004

tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	3.23	3.25
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.23	1.97
tblVehicleEF	MCY	0.53	0.37
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	18.24	18.37
tblVehicleEF	MCY	8.82	7.76
tblVehicleEF	MCY	188.92	222.28
tblVehicleEF	MCY	44.52	57.67
tblVehicleEF	MCY	0.99	0.99
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.73	1.72
tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	2.54	2.55
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.83	1.61
tblVehicleEF	MCY	2.2650e-003	2.2000e-003
tblVehicleEF	MCY	6.4300e-004	5.7100e-004
tblVehicleEF	MCY	1.73	1.72

tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	3.16	3.17
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.99	1.75
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.04	19.25
tblVehicleEF	MCY	9.80	8.66
tblVehicleEF	MCY	188.92	223.96
tblVehicleEF	MCY	44.52	59.94
tblVehicleEF	MCY	1.11	1.11
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84
tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	2.61	2.63
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.09	1.86
tblVehicleEF	MCY	2.2800e-003	2.2160e-003
tblVehicleEF	MCY	6.6700e-004	5.9300e-004
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84

tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	3.25	3.26
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.28	2.02
tblVehicleEF	MDV	0.01	6.5350e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.33	1.22
tblVehicleEF	MDV	2.48	3.10
tblVehicleEF	MDV	512.22	421.49
tblVehicleEF	MDV	103.14	83.59
tblVehicleEF	MDV	0.15	0.11
tblVehicleEF	MDV	0.22	0.34
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.19	0.40
tblVehicleEF	MDV	5.1310e-003	4.1410e-003
tblVehicleEF	MDV	1.0750e-003	8.2200e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09

tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.21	0.44
tblVehicleEF	MDV	0.01	6.9310e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.45	1.32
tblVehicleEF	MDV	2.12	2.63
tblVehicleEF	MDV	534.67	433.96
tblVehicleEF	MDV	103.14	82.70
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.20	0.32
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.17	0.36
tblVehicleEF	MDV	5.3570e-003	4.2630e-003
tblVehicleEF	MDV	1.0680e-003	8.1300e-004
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.05	0.04

tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.18	0.39
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tblVehicleEF	MDV	1.29	1.18
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tblVehicleEF	MDV	0.14	0.11
tblVehicleEF	MDV	0.22	0.35
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
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tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.10	0.50
tblVehicleEF	MDV	0.19	0.41
tblVehicleEF	MDV	5.0480e-003	4.0950e-003
tblVehicleEF	MDV	1.0760e-003	8.2400e-004
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tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.10	0.50

tblVehicleEF	MDV	0.21	0.45
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tblVehicleEF	MH	1,130.03	965.33
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tblVehicleEF	MH	1.08	3.43
tblVehicleEF	MH	0.80	0.00
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tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.1280e-003	0.00
tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
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tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.41	0.00
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
tblVehicleEF	MH	0.01	9.1260e-003
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tblVehicleEF	MH	0.41	0.00
tblVehicleEF	MH	0.12	0.08

tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MH	0.03	3.1210e-003
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tblVehicleEF	MH	1.0370e-003	0.00
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tblVehicleEF	MH	0.07	0.00
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tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.31	0.00
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tblVehicleEF	MH	6.9900e-004	0.00
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tblVehicleEF	MH	0.58	0.00

tblVehicleEF	MH	0.12	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.34	0.00
tblVehicleEF	MH	0.03	3.1210e-003
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tblVehicleEF	MH	2.22	0.27
tblVehicleEF	MH	5.83	0.00
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tblVehicleEF	MH	1.0370e-003	0.00
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tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
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tblVehicleEF	MH	7.0600e-004	0.00
tblVehicleEF	MH	1.08	0.00
tblVehicleEF	MH	0.08	0.00

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tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
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tblVehicleEF	MHD	0.05	0.06

tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.37	0.07
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tblVehicleEF	MHD	7.4300e-004	1.2000e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
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tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.4200e-004	4.3000e-004
tblVehicleEF	MHD	0.05	0.07
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tblVehicleEF	MHD	2.0900e-004	9.0700e-004
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tblVehicleEF	MHD	8.4300e-004	1.3800e-004

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tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
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tblVehicleEF	MHD	1.1690e-003	6.9100e-004
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tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
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tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	1.0900e-004	7.5500e-004
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tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
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tblVehicleEF	OBUS	7.7500e-004	1.9100e-004
tblVehicleEF	OBUS	1.4690e-003	1.9220e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.07
tblVehicleEF	OBUS	7.4700e-004	9.2400e-004
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	0.04	0.28
tblVehicleEF	OBUS	0.37	0.13
tblVehicleEF	SBUS	0.84	0.07
tblVehicleEF	SBUS	0.01	7.0600e-003

tblVehicleEF	SBUS	0.06	6.7770e-003
tblVehicleEF	SBUS	8.15	2.99
tblVehicleEF	SBUS	0.72	0.60
tblVehicleEF	SBUS	7.31	0.93
tblVehicleEF	SBUS	1,121.00	354.63
tblVehicleEF	SBUS	1,079.30	1,100.97
tblVehicleEF	SBUS	55.06	5.73
tblVehicleEF	SBUS	9.20	3.14
tblVehicleEF	SBUS	4.17	4.65
tblVehicleEF	SBUS	12.12	0.90
tblVehicleEF	SBUS	9.3410e-003	3.9540e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	8.9370e-003	3.7830e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	3.3650e-003	9.8900e-004
tblVehicleEF	SBUS	0.03	8.5880e-003
tblVehicleEF	SBUS	0.97	0.34
tblVehicleEF	SBUS	1.7650e-003	5.2700e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.38	0.04
tblVehicleEF	SBUS	0.01	3.3860e-003
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	6.7700e-004	5.7000e-005
tblVehicleEF	SBUS	3.3650e-003	9.8900e-004
tblVehicleEF	SBUS	0.03	8.5880e-003
tblVehicleEF	SBUS	1.40	0.49
tblVehicleEF	SBUS	1.7650e-003	5.2700e-004
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.42	0.04
tblVehicleEF	SBUS	0.84	0.07
tblVehicleEF	SBUS	0.01	7.1400e-003
tblVehicleEF	SBUS	0.06	6.0470e-003
tblVehicleEF	SBUS	8.04	2.95
tblVehicleEF	SBUS	0.73	0.61
tblVehicleEF	SBUS	5.94	0.76
tblVehicleEF	SBUS	1,171.46	362.29
tblVehicleEF	SBUS	1,079.30	1,100.99
tblVehicleEF	SBUS	55.06	5.44
tblVehicleEF	SBUS	9.50	3.21
tblVehicleEF	SBUS	3.93	4.39
tblVehicleEF	SBUS	12.09	0.90
tblVehicleEF	SBUS	7.8750e-003	3.3400e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	7.5340e-003	3.1960e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03

tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	4.9570e-003	1.4290e-003
tblVehicleEF	SBUS	0.03	8.7250e-003
tblVehicleEF	SBUS	0.97	0.34
tblVehicleEF	SBUS	2.5080e-003	7.3100e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.34	0.03
tblVehicleEF	SBUS	0.01	3.4580e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.5400e-004	5.4000e-005
tblVehicleEF	SBUS	4.9570e-003	1.4290e-003
tblVehicleEF	SBUS	0.03	8.7250e-003
tblVehicleEF	SBUS	1.40	0.49
tblVehicleEF	SBUS	2.5080e-003	7.3100e-004
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.37	0.04
tblVehicleEF	SBUS	0.84	0.07
tblVehicleEF	SBUS	0.01	7.0350e-003
tblVehicleEF	SBUS	0.07	6.9450e-003
tblVehicleEF	SBUS	8.31	3.04
tblVehicleEF	SBUS	0.72	0.60
tblVehicleEF	SBUS	7.56	0.96
tblVehicleEF	SBUS	1,051.30	344.05
tblVehicleEF	SBUS	1,079.30	1,100.97
tblVehicleEF	SBUS	55.06	5.78

tblVehicleEF	SBUS	8.80	3.05
tblVehicleEF	SBUS	4.10	4.57
tblVehicleEF	SBUS	12.13	0.90
tblVehicleEF	SBUS	0.01	4.8000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	0.01	4.5930e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
tblVehicleEF	SBUS	0.98	0.34
tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.02	0.07
tblVehicleEF	SBUS	0.39	0.04
tblVehicleEF	SBUS	0.01	3.2860e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.8100e-004	5.7000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
tblVehicleEF	SBUS	1.41	0.49
tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	0.02	0.07

tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.22	45.42
tblVehicleEF	UBUS	8.87	0.71
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.61
tblVehicleEF	UBUS	9.98	0.47
tblVehicleEF	UBUS	15.36	0.08
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003
tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
tblVehicleEF	UBUS	0.85	0.09
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	9.8600e-003	1.4410e-003
tblVehicleEF	UBUS	1.1250e-003	8.5000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003

1130 South Hope Street (Unmitigated) - Los Angeles-South Coast County, Summer

tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
tblVehicleEF	UBUS	3.56	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.74	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.27	45.42
tblVehicleEF	UBUS	7.69	0.63
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.46
tblVehicleEF	UBUS	9.41	0.47
tblVehicleEF	UBUS	15.31	0.08
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	0.86	0.09
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.62	0.04
tblVehicleEF	UBUS	9.8610e-003	1.4410e-003

tblVehicleEF	UBUS	1.1050e-003	8.4000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	3.57	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.21	45.42
tblVehicleEF	UBUS	9.08	0.73
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.64
tblVehicleEF	UBUS	9.79	0.47
tblVehicleEF	UBUS	15.38	0.09
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	0.85	0.09

tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.69	0.05
tblVehicleEF	UBUS	9.8590e-003	1.4410e-003
tblVehicleEF	UBUS	1.1290e-003	8.5000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	3.55	5.97
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.75	0.05
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	8.17	8.36
tblVehicleTrips	WD_TR	42.70	37.04

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	1.3732	16.6811	8.0260	0.0233	7.3990	0.6563	8.0553	3.5094	0.6043	4.1137	0.0000	2,384.0665	2,384.0665	0.4551	0.0000	2,395.2649
2022	73.0230	9.0625	10.7233	0.0179	0.3946	0.4285	0.8026	0.1063	0.4053	0.4817	0.0000	1,774.4920	1,774.4920	0.3999	0.0000	1,784.4898
Maximum	**73.0230**	**16.6811**	**10.7233**	**0.0233**	**7.3990**	**0.6563**	**8.0553**	**3.5094**	**0.6043**	**4.1137**	**0.0000**	**2,384.0665**	**2,384.0665**	**0.4551**	**0.0000**	**2,395.2649**

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	1.3732	16.6811	8.0260	0.0233	3.0708	0.6563	3.7271	1.4191	0.6043	2.0234	0.0000	2,384.0665	2,384.0665	0.4551	0.0000	2,395.2649
2022	73.0230	9.0625	10.7233	0.0179	0.3946	0.4285	0.8026	0.1063	0.4053	0.4817	0.0000	1,774.4920	1,774.4920	0.3999	0.0000	1,784.4898
Maximum	**73.0230**	**16.6811**	**10.7233**	**0.0233**	**3.0708**	**0.6563**	**3.7271**	**1.4191**	**0.6043**	**2.0234**	**0.0000**	**2,384.0665**	**2,384.0665**	**0.4551**	**0.0000**	**2,395.2649**

	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**	**55.54**	**0.00**	**48.86**	**57.81**	**0.00**	**45.49**	**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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Energy	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
Mobile	2.8715	5.1531	25.6302	0.0682	6.1697	0.0680	6.2377	1.6477	0.0638	1.7115		7,084.5364	7,084.5364	0.5187		7,097.5047
Total	**4.3336**	**5.8692**	**26.2529**	**0.0725**	**6.1697**	**0.1225**	**6.2922**	**1.6477**	**0.1183**	**1.7660**		**7,943.7295**	**7,943.7295**	**0.5353**	**0.0158**	**7,961.8063**

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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Energy	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
Mobile	2.8715	5.1531	25.6302	0.0682	6.1697	0.0680	6.2377	1.6477	0.0638	1.7115		7,084.5364	7,084.5364	0.5187		7,097.5047
Total	**4.3336**	**5.8692**	**26.2529**	**0.0725**	**6.1697**	**0.1225**	**6.2922**	**1.6477**	**0.1183**	**1.7660**		**7,943.7295**	**7,943.7295**	**0.5353**	**0.0158**	**7,961.8063**

1130 South Hope Street (Unmitigated) - Los Angeles-South Coast County, Summer

	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	Site Preparation	Site Preparation	5/10/2021	5/21/2021	5	10	
2	Grading	Grading	5/22/2021	8/6/2021	5	55	
3	Building Construction	Building Construction	8/7/2021	8/9/2022	5	262	
4	Architectural Coating	Architectural Coating	8/19/2022	10/6/2022	5	4	
5	Paving	Paving	9/7/2022	9/15/2022	5	7	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 55

Acres of Paving: 0.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 92,523; Non-Residential Outdoor: 30,841; Striped Parking Area: 470 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	8.00	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
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	779.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	29.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 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					1.0605	0.0000	1.0605	0.1145	0.0000	0.1145			0.0000			0.0000
Off-Road	1.0039	12.8926	4.2023	0.0145		0.4499	0.4499		0.4139	0.4139		1,402.046 2	1,402.046 2	0.4535		1,413.382 4
Total	**1.0039**	**12.8926**	**4.2023**	**0.0145**	**1.0605**	**0.4499**	**1.5104**	**0.1145**	**0.4139**	**0.5284**		**1,402.046 2**	**1,402.046 2**	**0.4535**		**1,413.382 4**

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	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804
Total	**0.0214**	**0.0147**	**0.2014**	**5.7000e-004**	**0.0559**	**4.5000e-004**	**0.0563**	**0.0148**	**4.2000e-004**	**0.0152**		**56.9385**	**56.9385**	**1.6800e-003**		**56.9804**

3.2 Site Preparation - 2021

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					0.4136	0.0000	0.4136	0.0447	0.0000	0.0447			0.0000			0.0000
Off-Road	1.0039	12.8926	4.2023	0.0145		0.4499	0.4499		0.4139	0.4139	0.0000	1,402.0462	1,402.0462	0.4535		1,413.3824
Total	**1.0039**	**12.8926**	**4.2023**	**0.0145**	**0.4136**	**0.4499**	**0.8635**	**0.0447**	**0.4139**	**0.4585**	**0.0000**	**1,402.0462**	**1,402.0462**	**0.4535**		**1,413.3824**

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	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804
Total	**0.0214**	**0.0147**	**0.2014**	**5.7000e-004**	**0.0559**	**4.5000e-004**	**0.0563**	**0.0148**	**4.2000e-004**	**0.0152**		**56.9385**	**56.9385**	**1.6800e-003**		**56.9804**

3.3 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					7.0954	0.0000	7.0954	3.4267	0.0000	3.4267			0.0000			0.0000
Off-Road	1.2336	12.8671	6.2980	0.0116		0.6442	0.6442		0.5927	0.5927		1,128.252 3	1,128.252 3	0.3649		1,137.374 8
Total	**1.2336**	**12.8671**	**6.2980**	**0.0116**	**7.0954**	**0.6442**	**7.7396**	**3.4267**	**0.5927**	**4.0194**		**1,128.252 3**	**1,128.252 3**	**0.3649**		**1,137.374 8**

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	0.1181	3.7993	0.8908	0.0111	0.2477	0.0117	0.2593	0.0679	0.0112	0.0790		1,198.875 7	1,198.875 7	0.0814		1,200.909 7
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	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804
Total	**0.1395**	**3.8140**	**1.0922**	**0.0116**	**0.3036**	**0.0121**	**0.3157**	**0.0827**	**0.0116**	**0.0943**		**1,255.814 2**	**1,255.814 2**	**0.0830**		**1,257.890 2**

3.3 Grading - 2021

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					2.7672	0.0000	2.7672	1.3364	0.0000	1.3364			0.0000			0.0000
Off-Road	1.2336	12.8671	6.2980	0.0116		0.6442	0.6442		0.5927	0.5927	0.0000	1,128.2523	1,128.2523	0.3649		1,137.3748
Total	**1.2336**	**12.8671**	**6.2980**	**0.0116**	**2.7672**	**0.6442**	**3.4114**	**1.3364**	**0.5927**	**1.9291**	**0.0000**	**1,128.2523**	**1,128.2523**	**0.3649**		**1,137.3748**

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	0.1181	3.7993	0.8908	0.0111	0.2477	0.0117	0.2593	0.0679	0.0112	0.0790		1,198.8757	1,198.8757	0.0814		1,200.9097
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	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804
Total	**0.1395**	**3.8140**	**1.0922**	**0.0116**	**0.3036**	**0.0121**	**0.3157**	**0.0827**	**0.0116**	**0.0943**		**1,255.8142**	**1,255.8142**	**0.0830**		**1,257.8902**

3.4 Building Construction - 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	0.8588	9.1034	6.5788	0.0119		0.4761	0.4761		0.4380	0.4380		1,155.7005	1,155.7005	0.3738		1,165.0449
Total	**0.8588**	**9.1034**	**6.5788**	**0.0119**		**0.4761**	**0.4761**		**0.4380**	**0.4380**		**1,155.7005**	**1,155.7005**	**0.3738**		**1,165.0449**

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	0.0334	1.0680	0.2792	2.8300e-003	0.0704	2.1800e-003	0.0726	0.0203	2.0900e-003	0.0224		302.3687	302.3687	0.0178		302.8140
Worker	0.1243	0.0854	1.1680	3.3200e-003	0.3242	2.6200e-003	0.3268	0.0860	2.4100e-003	0.0884		330.2433	330.2433	9.7300e-003		330.4865
Total	**0.1578**	**1.1534**	**1.4472**	**6.1500e-003**	**0.3946**	**4.8000e-003**	**0.3994**	**0.1063**	**4.5000e-003**	**0.1107**		**632.6120**	**632.6120**	**0.0275**		**633.3006**

3.4 Building Construction - 2021

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	0.8588	9.1034	6.5788	0.0119		0.4761	0.4761		0.4380	0.4380	0.0000	1,155.7005	1,155.7005	0.3738		1,165.0449
Total	**0.8588**	**9.1034**	**6.5788**	**0.0119**		**0.4761**	**0.4761**		**0.4380**	**0.4380**	**0.0000**	**1,155.7005**	**1,155.7005**	**0.3738**		**1,165.0449**

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	0.0334	1.0680	0.2792	2.8300e-003	0.0704	2.1800e-003	0.0726	0.0203	2.0900e-003	0.0224		302.3687	302.3687	0.0178		302.8140
Worker	0.1243	0.0854	1.1680	3.3200e-003	0.3242	2.6200e-003	0.3268	0.0860	2.4100e-003	0.0884		330.2433	330.2433	9.7300e-003		330.4865
Total	**0.1578**	**1.1534**	**1.4472**	**6.1500e-003**	**0.3946**	**4.8000e-003**	**0.3994**	**0.1063**	**4.5000e-003**	**0.1107**		**632.6120**	**632.6120**	**0.0275**		**633.3006**

3.4 Building Construction - 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	0.7649	7.9697	6.4378	0.0119		0.4036	0.4036		0.3713	0.3713		1,156.1310	1,156.1310	0.3739		1,165.4789
Total	**0.7649**	**7.9697**	**6.4378**	**0.0119**		**0.4036**	**0.4036**		**0.3713**	**0.3713**		**1,156.1310**	**1,156.1310**	**0.3739**		**1,165.4789**

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	0.0314	1.0156	0.2642	2.8000e-003	0.0704	1.9100e-003	0.0723	0.0203	1.8300e-003	0.0221		299.7345	299.7345	0.0172		300.1645
Worker	0.1164	0.0772	1.0777	3.2000e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		318.6266	318.6266	8.7900e-003		318.8464
Total	**0.1478**	**1.0928**	**1.3418**	**6.0000e-003**	**0.3946**	**4.4500e-003**	**0.3990**	**0.1063**	**4.1700e-003**	**0.1104**		**618.3611**	**618.3611**	**0.0260**		**619.0109**

3.4 Building Construction - 2022

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	0.7649	7.9697	6.4378	0.0119		0.4036	0.4036		0.3713	0.3713	0.0000	1,156.1310	1,156.1310	0.3739		1,165.4789
Total	**0.7649**	**7.9697**	**6.4378**	**0.0119**		**0.4036**	**0.4036**		**0.3713**	**0.3713**	**0.0000**	**1,156.1310**	**1,156.1310**	**0.3739**		**1,165.4789**

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	0.0314	1.0156	0.2642	2.8000e-003	0.0704	1.9100e-003	0.0723	0.0203	1.8300e-003	0.0221		299.7345	299.7345	0.0172		300.1645
Worker	0.1164	0.0772	1.0777	3.2000e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		318.6266	318.6266	8.7900e-003		318.8464
Total	**0.1478**	**1.0928**	**1.3418**	**6.0000e-003**	**0.3946**	**4.4500e-003**	**0.3990**	**0.1063**	**4.1700e-003**	**0.1104**		**618.3611**	**618.3611**	**0.0260**		**619.0109**

3.5 Architectural Coating - 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	72.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2727	1.8780	2.4181	3.9600e-003		0.1090	0.1090		0.1090	0.1090		375.2641	375.2641	0.0244		375.8749
Total	**72.2914**	**1.8780**	**2.4181**	**3.9600e-003**		**0.1090**	**0.1090**		**0.1090**	**0.1090**		**375.2641**	**375.2641**	**0.0244**		**375.8749**

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	0.0241	0.0160	0.2230	6.6000e-004	0.0671	5.2000e-004	0.0676	0.0178	4.8000e-004	0.0183		65.9227	65.9227	1.8200e-003		65.9682
Total	**0.0241**	**0.0160**	**0.2230**	**6.6000e-004**	**0.0671**	**5.2000e-004**	**0.0676**	**0.0178**	**4.8000e-004**	**0.0183**		**65.9227**	**65.9227**	**1.8200e-003**		**65.9682**

3.5 Architectural Coating - 2022

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	72.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2727	1.8780	2.4181	3.9600e-003		0.1090	0.1090		0.1090	0.1090	0.0000	375.2641	375.2641	0.0244		375.8749
Total	**72.2914**	**1.8780**	**2.4181**	**3.9600e-003**		**0.1090**	**0.1090**		**0.1090**	**0.1090**	**0.0000**	**375.2641**	**375.2641**	**0.0244**		**375.8749**

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	0.0241	0.0160	0.2230	6.6000e-004	0.0671	5.2000e-004	0.0676	0.0178	4.8000e-004	0.0183		65.9227	65.9227	1.8200e-003		65.9682
Total	**0.0241**	**0.0160**	**0.2230**	**6.6000e-004**	**0.0671**	**5.2000e-004**	**0.0676**	**0.0178**	**4.8000e-004**	**0.0183**		**65.9227**	**65.9227**	**1.8200e-003**		**65.9682**

3.6 Paving - 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	0.6554	6.2368	7.5991	0.0119		0.3179	0.3179		0.2948	0.2948		1,111.6333	1,111.633 3	0.3373		1,120.066 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6554**	**6.2368**	**7.5991**	**0.0119**		**0.3179**	**0.3179**		**0.2948**	**0.2948**		**1,111.633 3**	**1,111.633 3**	**0.3373**		**1,120.066 8**

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	0.0522	0.0346	0.4831	1.4300e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		142.8326	142.8326	3.9400e-003		142.9312
Total	**0.0522**	**0.0346**	**0.4831**	**1.4300e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**142.8326**	**142.8326**	**3.9400e-003**		**142.9312**

3.6 Paving - 2022

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	0.6554	6.2368	7.5991	0.0119		0.3179	0.3179		0.2948	0.2948	0.0000	1,111.6333	1,111.6333	0.3373		1,120.066 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6554**	**6.2368**	**7.5991**	**0.0119**		**0.3179**	**0.3179**		**0.2948**	**0.2948**	**0.0000**	**1,111.633 3**	**1,111.633 3**	**0.3373**		**1,120.066 8**

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	0.0522	0.0346	0.4831	1.4300e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		142.8326	142.8326	3.9400e-003		142.9312
Total	**0.0522**	**0.0346**	**0.4831**	**1.4300e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**142.8326**	**142.8326**	**3.9400e-003**		**142.9312**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	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
	lb/day										lb/day					
Mitigated	2.8715	5.1531	25.6302	0.0682	6.1697	0.0680	6.2377	1.6477	0.0638	1.7115		7,084.5364	7,084.5364	0.5187		7,097.5047
Unmitigated	2.8715	5.1531	25.6302	0.0682	6.1697	0.0680	6.2377	1.6477	0.0638	1.7115		7,084.5364	7,084.5364	0.5187		7,097.5047

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,204.00	1,179.36	856.80	2,746,194	2,746,194
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	14.07	17.53	8.02	29,635	29,635
Total	1,218.07	1,196.89	864.82	2,775,829	2,775,829

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
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Hotel	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Regional Shopping Center	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

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	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
NaturalGas Unmitigated	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529

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					
Enclosed Parking with Elevator	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
Hotel	7301.05	0.0787	0.7158	0.6013	4.2900e-003		0.0544	0.0544		0.0544	0.0544		858.9476	858.9476	0.0165	0.0158	864.0519
Other Non-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
Regional Shopping Center	1.69841	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1998	0.1998	0.0000	0.0000	0.2010
Total		**0.0788**	**0.7160**	**0.6014**	**4.2900e-003**		**0.0544**	**0.0544**		**0.0544**	**0.0544**		**859.1474**	**859.1474**	**0.0165**	**0.0158**	**864.2529**

5.2 Energy by Land Use - NaturalGas

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					
Enclosed Parking with Elevator	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
Hotel	7.30105	0.0787	0.7158	0.6013	4.2900e-003		0.0544	0.0544		0.0544	0.0544		858.9476	858.9476	0.0165	0.0158	864.0519
Other Non-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
Regional Shopping Center	0.00169841	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1998	0.1998	0.0000	0.0000	0.2010
Total		**0.0788**	**0.7160**	**0.6014**	**4.2900e-003**		**0.0544**	**0.0544**		**0.0544**	**0.0544**		**859.1474**	**859.1474**	**0.0165**	**0.0158**	**864.2529**

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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Unmitigated	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487

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	0.1573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9900e-003	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Total	**1.3833**	**1.9000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0457**	**0.0457**	**1.2000e-004**		**0.0487**

6.2 Area by SubCategory

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	0.1573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9900e-003	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Total	**1.3833**	**1.9000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0457**	**0.0457**	**1.2000e-004**		**0.0487**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

1130 South Hope Street (Unmitigated)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	62.00	Space	0.00	5,479.00	0
Other Non-Asphalt Surfaces	2.35	1000sqft	0.05	2,350.00	0
Hotel	144.00	Room	0.13	61,304.00	0
Regional Shopping Center	0.38	1000sqft	0.00	378.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	10			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project site is 0.18 acres.

Construction Phase - Construction Schedule based on consultation with the Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Grading - For purposes of analysis, it is assumed that 1 acre will be disturbed per day

Architectural Coating - Rule 1113

Vehicle Trips - Trip characteristics based on information provided in the 1130 South Hope Street Traffic Impact Study prepared by KOA

Energy Use - The Project will design building shells and building components to meet 2019 Title 24 Standards which expects 30% less energy for nonresidential uses.

Construction Off-road Equipment Mitigation - Rule 403

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	2.00	55.00
tblConstructionPhase	NumDays	100.00	262.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	5.00	7.00
tblEnergyUse	LightingElect	1.75	1.23
tblEnergyUse	LightingElect	5.44	3.81

tblEnergyUse	LightingElect	5.61	3.93
tblEnergyUse	T24E	3.92	2.74
tblEnergyUse	T24E	6.47	4.53
tblEnergyUse	T24E	4.58	3.21
tblEnergyUse	T24NG	55.15	38.61
tblEnergyUse	T24NG	1.92	1.34
tblGrading	AcresOfGrading	0.00	55.00
tblGrading	MaterialExported	0.00	6,233.00
tblLandUse	LandUseSquareFeet	24,800.00	5,479.00
tblLandUse	LandUseSquareFeet	209,088.00	61,304.00
tblLandUse	LandUseSquareFeet	380.00	378.00
tblLandUse	LotAcreage	0.56	0.00
tblLandUse	LotAcreage	4.80	0.13
tblLandUse	LotAcreage	0.01	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
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tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	7.00	8.00
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tblVehicleEF	HHD	1,639.83	1,482.70
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tblVehicleEF	HHD	0.02	0.01
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tblVehicleEF	HHD	8.8380e-003	8.8970e-003
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tblVehicleEF	HHD	8.0000e-005	1.0000e-006
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tblVehicleEF	HHD	0.08	3.0000e-006

tblVehicleEF	HHD	0.04	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.6000e-004	1.0000e-006
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tblVehicleEF	LDA	0.10	0.10
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tblVehicleEF	LDA	0.04	0.21

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tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.21
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tblVehicleEF	LDA	5.6740e-003	3.2280e-003
tblVehicleEF	LDA	4.8010e-003	0.04
tblVehicleEF	LDA	0.72	0.79
tblVehicleEF	LDA	0.98	1.79
tblVehicleEF	LDA	287.10	284.40
tblVehicleEF	LDA	57.08	53.05
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.06	0.17
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.06	0.08
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.06	0.20

tblVehicleEF	LDA	2.8760e-003	2.7950e-003
tblVehicleEF	LDA	5.8700e-004	5.2200e-004
tblVehicleEF	LDA	0.06	0.08
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.22
tblVehicleEF	LDA	5.2330e-003	2.9600e-003
tblVehicleEF	LDA	5.5300e-003	0.05
tblVehicleEF	LDA	0.63	0.69
tblVehicleEF	LDA	1.19	2.17
tblVehicleEF	LDA	269.66	268.07
tblVehicleEF	LDA	57.08	53.75
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.19
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.05	0.24
tblVehicleEF	LDA	0.07	0.23
tblVehicleEF	LDA	2.7010e-003	2.6350e-003

tblVehicleEF	LDA	5.9100e-004	5.2800e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.05	0.24
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDT1	0.02	7.7270e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.68	1.45
tblVehicleEF	LDT1	2.78	2.27
tblVehicleEF	LDT1	341.15	320.55
tblVehicleEF	LDT1	69.44	63.67
tblVehicleEF	LDT1	0.16	0.12
tblVehicleEF	LDT1	0.16	0.26
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.26	0.20
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.17	0.69
tblVehicleEF	LDT1	0.19	0.35
tblVehicleEF	LDT1	3.4330e-003	3.1520e-003
tblVehicleEF	LDT1	7.4300e-004	6.2600e-004

tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.26	0.20
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.17	0.69
tblVehicleEF	LDT1	0.21	0.39
tblVehicleEF	LDT1	0.02	8.1770e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.82	1.58
tblVehicleEF	LDT1	2.36	1.93
tblVehicleEF	LDT1	356.02	332.71
tblVehicleEF	LDT1	69.44	63.00
tblVehicleEF	LDT1	0.14	0.10
tblVehicleEF	LDT1	0.15	0.24
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.16	0.64
tblVehicleEF	LDT1	0.17	0.31
tblVehicleEF	LDT1	3.5840e-003	3.2710e-003
tblVehicleEF	LDT1	7.3600e-004	6.1900e-004
tblVehicleEF	LDT1	0.20	0.20

tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.16	0.64
tblVehicleEF	LDT1	0.18	0.34
tblVehicleEF	LDT1	0.02	7.5820e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.63	1.41
tblVehicleEF	LDT1	2.87	2.35
tblVehicleEF	LDT1	335.69	316.06
tblVehicleEF	LDT1	69.44	63.82
tblVehicleEF	LDT1	0.15	0.12
tblVehicleEF	LDT1	0.16	0.26
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.30	0.22
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.20	0.82
tblVehicleEF	LDT1	0.20	0.36
tblVehicleEF	LDT1	3.3780e-003	3.1070e-003
tblVehicleEF	LDT1	7.4500e-004	6.2800e-004
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.30	0.22

tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.20	0.82
tblVehicleEF	LDT1	0.21	0.40
tblVehicleEF	LDT2	7.2180e-003	4.9730e-003
tblVehicleEF	LDT2	6.3970e-003	0.07
tblVehicleEF	LDT2	0.84	1.02
tblVehicleEF	LDT2	1.35	2.65
tblVehicleEF	LDT2	381.91	343.42
tblVehicleEF	LDT2	78.07	68.73
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.41
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LDT2	3.8260e-003	3.3760e-003
tblVehicleEF	LDT2	8.0300e-004	6.7600e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07

tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.06	0.41
tblVehicleEF	LDT2	0.09	0.34
tblVehicleEF	LDT2	7.6530e-003	5.2910e-003
tblVehicleEF	LDT2	5.6920e-003	0.06
tblVehicleEF	LDT2	0.92	1.12
tblVehicleEF	LDT2	1.15	2.26
tblVehicleEF	LDT2	399.04	355.31
tblVehicleEF	LDT2	78.07	67.99
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.10	0.26
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.06	0.10
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.28
tblVehicleEF	LDT2	3.9980e-003	3.4930e-003
tblVehicleEF	LDT2	8.0000e-004	6.6800e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.06	0.10
tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.31
tblVehicleEF	LDT2	7.0750e-003	4.8730e-003
tblVehicleEF	LDT2	6.5470e-003	0.07
tblVehicleEF	LDT2	0.81	0.99
tblVehicleEF	LDT2	1.39	2.74
tblVehicleEF	LDT2	375.62	339.02
tblVehicleEF	LDT2	78.07	68.90
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.48
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	3.7630e-003	3.3320e-003
tblVehicleEF	LDT2	8.0400e-004	6.7700e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.07	0.48

tblVehicleEF	LDT2	0.10	0.35
tblVehicleEF	LHD1	5.5970e-003	5.6110e-003
tblVehicleEF	LHD1	0.01	5.6770e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.84	0.65
tblVehicleEF	LHD1	2.79	1.14
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.04
tblVehicleEF	LHD1	33.34	12.48
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.95	0.63
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.31	0.55

tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8500e-004	1.2400e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.31	0.55
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD1	5.5970e-003	5.6230e-003
tblVehicleEF	LHD1	0.01	5.7930e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.85	0.66
tblVehicleEF	LHD1	2.66	1.09
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.06
tblVehicleEF	LHD1	33.34	12.39
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.89	0.59
tblVehicleEF	LHD1	0.96	0.32
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004

tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9310e-003	6.5150e-003
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tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD1	5.5970e-003	5.6090e-003
tblVehicleEF	LHD1	0.01	5.6460e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.83	0.64
tblVehicleEF	LHD1	2.81	1.15

tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.03
tblVehicleEF	LHD1	33.34	12.50
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.94	0.62
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8600e-004	1.2400e-004
tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.03

tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD2	4.0020e-003	3.9440e-003
tblVehicleEF	LHD2	4.2980e-003	3.9460e-003
tblVehicleEF	LHD2	8.5190e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.44
tblVehicleEF	LHD2	1.37	0.77
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.65
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.65	0.81
tblVehicleEF	LHD2	0.55	0.23
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02

tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.11	0.06
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.5000e-005
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9530e-003
tblVehicleEF	LHD2	4.3570e-003	3.9910e-003
tblVehicleEF	LHD2	8.2260e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.35	0.44
tblVehicleEF	LHD2	1.31	0.74
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.38
tblVehicleEF	LHD2	27.88	9.59
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.61	0.76
tblVehicleEF	LHD2	0.53	0.22
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0300e-004	9.5000e-005
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9420e-003
tblVehicleEF	LHD2	4.2820e-003	3.9330e-003
tblVehicleEF	LHD2	8.5780e-003	0.01

tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.43
tblVehicleEF	LHD2	1.38	0.78
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.66
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.64	0.80
tblVehicleEF	LHD2	0.56	0.24
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.6000e-005

tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.23
tblVehicleEF	MCY	18.94	19.11
tblVehicleEF	MCY	9.66	8.52
tblVehicleEF	MCY	188.92	223.68
tblVehicleEF	MCY	44.52	59.56
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	2.60	2.61
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.05	1.81
tblVehicleEF	MCY	2.2780e-003	2.2130e-003
tblVehicleEF	MCY	6.6300e-004	5.8900e-004

tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	3.23	3.25
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.23	1.97
tblVehicleEF	MCY	0.53	0.37
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	18.24	18.37
tblVehicleEF	MCY	8.82	7.76
tblVehicleEF	MCY	188.92	222.28
tblVehicleEF	MCY	44.52	57.67
tblVehicleEF	MCY	0.99	0.99
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.73	1.72
tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	2.54	2.55
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.83	1.61
tblVehicleEF	MCY	2.2650e-003	2.2000e-003
tblVehicleEF	MCY	6.4300e-004	5.7100e-004
tblVehicleEF	MCY	1.73	1.72

tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	3.16	3.17
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.99	1.75
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.04	19.25
tblVehicleEF	MCY	9.80	8.66
tblVehicleEF	MCY	188.92	223.96
tblVehicleEF	MCY	44.52	59.94
tblVehicleEF	MCY	1.11	1.11
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84
tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	2.61	2.63
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.09	1.86
tblVehicleEF	MCY	2.2800e-003	2.2160e-003
tblVehicleEF	MCY	6.6700e-004	5.9300e-004
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84

tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	3.25	3.26
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.28	2.02
tblVehicleEF	MDV	0.01	6.5350e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.33	1.22
tblVehicleEF	MDV	2.48	3.10
tblVehicleEF	MDV	512.22	421.49
tblVehicleEF	MDV	103.14	83.59
tblVehicleEF	MDV	0.15	0.11
tblVehicleEF	MDV	0.22	0.34
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.19	0.40
tblVehicleEF	MDV	5.1310e-003	4.1410e-003
tblVehicleEF	MDV	1.0750e-003	8.2200e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09

tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.21	0.44
tblVehicleEF	MDV	0.01	6.9310e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.45	1.32
tblVehicleEF	MDV	2.12	2.63
tblVehicleEF	MDV	534.67	433.96
tblVehicleEF	MDV	103.14	82.70
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.20	0.32
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.17	0.36
tblVehicleEF	MDV	5.3570e-003	4.2630e-003
tblVehicleEF	MDV	1.0680e-003	8.1300e-004
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.05	0.04

tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.18	0.39
tblVehicleEF	MDV	0.01	6.4070e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.29	1.18
tblVehicleEF	MDV	2.56	3.21
tblVehicleEF	MDV	503.99	416.89
tblVehicleEF	MDV	103.14	83.79
tblVehicleEF	MDV	0.14	0.11
tblVehicleEF	MDV	0.22	0.35
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.10	0.50
tblVehicleEF	MDV	0.19	0.41
tblVehicleEF	MDV	5.0480e-003	4.0950e-003
tblVehicleEF	MDV	1.0760e-003	8.2400e-004
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.10	0.50

tblVehicleEF	MDV	0.21	0.45
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.24	0.27
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tblVehicleEF	MH	0.80	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.1280e-003	0.00
tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
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tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.41	0.00
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
tblVehicleEF	MH	0.01	9.1260e-003
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tblVehicleEF	MH	0.12	0.08

tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MH	0.03	3.1210e-003
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tblVehicleEF	MH	1.1280e-003	0.00
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tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
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tblVehicleEF	MH	0.07	0.00
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tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	0.01	9.1260e-003
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tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.58	0.00

tblVehicleEF	MH	0.12	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.34	0.00
tblVehicleEF	MH	0.03	3.1210e-003
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tblVehicleEF	MH	3.2020e-003	4.0000e-003
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tblVehicleEF	MH	1.0370e-003	0.00
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tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
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tblVehicleEF	MH	1.08	0.00
tblVehicleEF	MH	0.08	0.00

tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.12	0.08
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tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MHD	0.02	4.4240e-003
tblVehicleEF	MHD	4.8560e-003	4.6020e-003
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tblVehicleEF	MHD	0.37	0.39
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tblVehicleEF	MHD	9.96	1.29
tblVehicleEF	MHD	2.4800e-004	1.0730e-003
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tblVehicleEF	MHD	8.4300e-004	1.3800e-004
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tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.4200e-004	4.3000e-004
tblVehicleEF	MHD	0.05	0.06

tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.37	0.07
tblVehicleEF	MHD	1.2810e-003	6.4000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.4300e-004	1.2000e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.4200e-004	4.3000e-004
tblVehicleEF	MHD	0.05	0.07
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.41	0.07
tblVehicleEF	MHD	0.02	4.1930e-003
tblVehicleEF	MHD	4.9280e-003	4.6540e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.27	0.32
tblVehicleEF	MHD	0.38	0.48
tblVehicleEF	MHD	5.83	1.36
tblVehicleEF	MHD	140.78	68.14
tblVehicleEF	MHD	1,150.98	1,070.88
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tblVehicleEF	MHD	1.08	1.54
tblVehicleEF	MHD	9.92	1.28
tblVehicleEF	MHD	2.0900e-004	9.0700e-004
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004

tblVehicleEF	MHD	2.0000e-004	8.6800e-004
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.0480e-003	6.0400e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.36	0.06
tblVehicleEF	MHD	1.3550e-003	6.4800e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.3800e-004	1.1900e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
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tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	1.0480e-003	6.0400e-004
tblVehicleEF	MHD	0.06	0.07
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.39	0.07
tblVehicleEF	MHD	0.02	4.7550e-003
tblVehicleEF	MHD	4.8360e-003	4.5850e-003
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tblVehicleEF	MHD	0.52	0.49
tblVehicleEF	MHD	0.37	0.47
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tblVehicleEF	MHD	122.05	66.18

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tblVehicleEF	MHD	1.12	1.60
tblVehicleEF	MHD	9.97	1.29
tblVehicleEF	MHD	3.0200e-004	1.3020e-003
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004
tblVehicleEF	MHD	2.8900e-004	1.2460e-003
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.1690e-003	6.9100e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.16
tblVehicleEF	MHD	0.38	0.07
tblVehicleEF	MHD	1.1790e-003	6.2900e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.4400e-004	1.2100e-004
tblVehicleEF	MHD	1.1690e-003	6.9100e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
tblVehicleEF	MHD	0.05	0.07
tblVehicleEF	MHD	0.02	0.16

tblVehicleEF	MHD	0.41	0.07
tblVehicleEF	OBUS	0.01	8.4750e-003
tblVehicleEF	OBUS	7.7220e-003	6.9630e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.28	0.60
tblVehicleEF	OBUS	0.53	0.78
tblVehicleEF	OBUS	5.41	2.39
tblVehicleEF	OBUS	112.13	94.21
tblVehicleEF	OBUS	1,260.49	1,391.50
tblVehicleEF	OBUS	67.92	19.24
tblVehicleEF	OBUS	0.51	0.46
tblVehicleEF	OBUS	1.55	1.57
tblVehicleEF	OBUS	2.60	0.75
tblVehicleEF	OBUS	1.1400e-004	7.8900e-004
tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	1.0900e-004	7.5500e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004
tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	7.6800e-004	9.4100e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.34	0.11
tblVehicleEF	OBUS	1.0820e-003	8.9600e-004

tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7400e-004	1.9000e-004
tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	7.6800e-004	9.4100e-004
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.37	0.13
tblVehicleEF	OBUS	0.01	8.5340e-003
tblVehicleEF	OBUS	7.8490e-003	7.0850e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.27	0.58
tblVehicleEF	OBUS	0.54	0.80
tblVehicleEF	OBUS	5.11	2.26
tblVehicleEF	OBUS	117.81	94.08
tblVehicleEF	OBUS	1,260.49	1,391.52
tblVehicleEF	OBUS	67.92	19.02
tblVehicleEF	OBUS	0.53	0.45
tblVehicleEF	OBUS	1.46	1.48
tblVehicleEF	OBUS	2.57	0.74
tblVehicleEF	OBUS	9.6000e-005	6.7100e-004
tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	9.2000e-005	6.4200e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004

tblVehicleEF	OBUS	2.1010e-003	2.6500e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	1.0830e-003	1.3070e-003
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.32	0.11
tblVehicleEF	OBUS	1.1360e-003	8.9500e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.6900e-004	1.8800e-004
tblVehicleEF	OBUS	2.1010e-003	2.6500e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	1.0830e-003	1.3070e-003
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.35	0.12
tblVehicleEF	OBUS	0.01	8.4130e-003
tblVehicleEF	OBUS	7.6880e-003	6.9290e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.30	0.61
tblVehicleEF	OBUS	0.53	0.78
tblVehicleEF	OBUS	5.47	2.42
tblVehicleEF	OBUS	104.30	94.40
tblVehicleEF	OBUS	1,260.49	1,391.49
tblVehicleEF	OBUS	67.92	19.29
tblVehicleEF	OBUS	0.49	0.47

tblVehicleEF	OBUS	1.52	1.55
tblVehicleEF	OBUS	2.61	0.76
tblVehicleEF	OBUS	1.3900e-004	9.5300e-004
tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	1.3300e-004	9.1200e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004
tblVehicleEF	OBUS	1.4690e-003	1.9220e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	7.4700e-004	9.2400e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.28
tblVehicleEF	OBUS	0.34	0.12
tblVehicleEF	OBUS	1.0070e-003	8.9800e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7500e-004	1.9100e-004
tblVehicleEF	OBUS	1.4690e-003	1.9220e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.07
tblVehicleEF	OBUS	7.4700e-004	9.2400e-004
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	0.04	0.28
tblVehicleEF	OBUS	0.37	0.13
tblVehicleEF	SBUS	0.84	0.07
tblVehicleEF	SBUS	0.01	7.0600e-003

tblVehicleEF	SBUS	0.06	6.7770e-003
tblVehicleEF	SBUS	8.15	2.99
tblVehicleEF	SBUS	0.72	0.60
tblVehicleEF	SBUS	7.31	0.93
tblVehicleEF	SBUS	1,121.00	354.63
tblVehicleEF	SBUS	1,079.30	1,100.97
tblVehicleEF	SBUS	55.06	5.73
tblVehicleEF	SBUS	9.20	3.14
tblVehicleEF	SBUS	4.17	4.65
tblVehicleEF	SBUS	12.12	0.90
tblVehicleEF	SBUS	9.3410e-003	3.9540e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	8.9370e-003	3.7830e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	3.3650e-003	9.8900e-004
tblVehicleEF	SBUS	0.03	8.5880e-003
tblVehicleEF	SBUS	0.97	0.34
tblVehicleEF	SBUS	1.7650e-003	5.2700e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.38	0.04
tblVehicleEF	SBUS	0.01	3.3860e-003
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	6.7700e-004	5.7000e-005
tblVehicleEF	SBUS	3.3650e-003	9.8900e-004
tblVehicleEF	SBUS	0.03	8.5880e-003
tblVehicleEF	SBUS	1.40	0.49
tblVehicleEF	SBUS	1.7650e-003	5.2700e-004
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.42	0.04
tblVehicleEF	SBUS	0.84	0.07
tblVehicleEF	SBUS	0.01	7.1400e-003
tblVehicleEF	SBUS	0.06	6.0470e-003
tblVehicleEF	SBUS	8.04	2.95
tblVehicleEF	SBUS	0.73	0.61
tblVehicleEF	SBUS	5.94	0.76
tblVehicleEF	SBUS	1,171.46	362.29
tblVehicleEF	SBUS	1,079.30	1,100.99
tblVehicleEF	SBUS	55.06	5.44
tblVehicleEF	SBUS	9.50	3.21
tblVehicleEF	SBUS	3.93	4.39
tblVehicleEF	SBUS	12.09	0.90
tblVehicleEF	SBUS	7.8750e-003	3.3400e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	7.5340e-003	3.1960e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03

tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	4.9570e-003	1.4290e-003
tblVehicleEF	SBUS	0.03	8.7250e-003
tblVehicleEF	SBUS	0.97	0.34
tblVehicleEF	SBUS	2.5080e-003	7.3100e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.34	0.03
tblVehicleEF	SBUS	0.01	3.4580e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.5400e-004	5.4000e-005
tblVehicleEF	SBUS	4.9570e-003	1.4290e-003
tblVehicleEF	SBUS	0.03	8.7250e-003
tblVehicleEF	SBUS	1.40	0.49
tblVehicleEF	SBUS	2.5080e-003	7.3100e-004
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.37	0.04
tblVehicleEF	SBUS	0.84	0.07
tblVehicleEF	SBUS	0.01	7.0350e-003
tblVehicleEF	SBUS	0.07	6.9450e-003
tblVehicleEF	SBUS	8.31	3.04
tblVehicleEF	SBUS	0.72	0.60
tblVehicleEF	SBUS	7.56	0.96
tblVehicleEF	SBUS	1,051.30	344.05
tblVehicleEF	SBUS	1,079.30	1,100.97
tblVehicleEF	SBUS	55.06	5.78

tblVehicleEF	SBUS	8.80	3.05
tblVehicleEF	SBUS	4.10	4.57
tblVehicleEF	SBUS	12.13	0.90
tblVehicleEF	SBUS	0.01	4.8000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	0.01	4.5930e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
tblVehicleEF	SBUS	0.98	0.34
tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.02	0.07
tblVehicleEF	SBUS	0.39	0.04
tblVehicleEF	SBUS	0.01	3.2860e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.8100e-004	5.7000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
tblVehicleEF	SBUS	1.41	0.49
tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	0.02	0.07

tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.22	45.42
tblVehicleEF	UBUS	8.87	0.71
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.61
tblVehicleEF	UBUS	9.98	0.47
tblVehicleEF	UBUS	15.36	0.08
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003
tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
tblVehicleEF	UBUS	0.85	0.09
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	9.8600e-003	1.4410e-003
tblVehicleEF	UBUS	1.1250e-003	8.5000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003

tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
tblVehicleEF	UBUS	3.56	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.74	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.27	45.42
tblVehicleEF	UBUS	7.69	0.63
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.46
tblVehicleEF	UBUS	9.41	0.47
tblVehicleEF	UBUS	15.31	0.08
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	0.86	0.09
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.62	0.04
tblVehicleEF	UBUS	9.8610e-003	1.4410e-003

tblVehicleEF	UBUS	1.1050e-003	8.4000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	3.57	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.21	45.42
tblVehicleEF	UBUS	9.08	0.73
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.64
tblVehicleEF	UBUS	9.79	0.47
tblVehicleEF	UBUS	15.38	0.09
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	0.85	0.09

tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.69	0.05
tblVehicleEF	UBUS	9.8590e-003	1.4410e-003
tblVehicleEF	UBUS	1.1290e-003	8.5000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	3.55	5.97
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.75	0.05
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	8.17	8.36
tblVehicleTrips	WD_TR	42.70	37.04

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	1.3784	16.7293	7.9556	0.0230	7.3990	0.6565	8.0555	3.5094	0.6044	4.1138	0.0000	2,359.972 2	2,359.972 2	0.4550	0.0000	2,371.239 8
2022	73.0318	9.0680	10.6617	0.0178	0.3946	0.4285	0.8027	0.1063	0.4053	0.4818	0.0000	1,747.623 4	1,747.623 4	0.4005	0.0000	1,757.635 8
Maximum	**73.0318**	**16.7293**	**10.6617**	**0.0230**	**7.3990**	**0.6565**	**8.0555**	**3.5094**	**0.6044**	**4.1138**	**0.0000**	**2,359.972 2**	**2,359.972 2**	**0.4550**	**0.0000**	**2,371.239 8**

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	1.3784	16.7293	7.9556	0.0230	3.0708	0.6565	3.7273	1.4191	0.6044	2.0235	0.0000	2,359.972 2	2,359.972 2	0.4550	0.0000	2,371.239 8
2022	73.0318	9.0680	10.6617	0.0178	0.3946	0.4285	0.8027	0.1063	0.4053	0.4818	0.0000	1,747.623 4	1,747.623 4	0.4005	0.0000	1,757.635 8
Maximum	**73.0318**	**16.7293**	**10.6617**	**0.0230**	**3.0708**	**0.6565**	**3.7273**	**1.4191**	**0.6044**	**2.0235**	**0.0000**	**2,359.972 2**	**2,359.972 2**	**0.4550**	**0.0000**	**2,371.239 8**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**55.54**	**0.00**	**48.86**	**57.81**	**0.00**	**45.48**	**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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Energy	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
Mobile	2.9681	5.4266	24.8898	0.0656	6.1689	0.0680	6.2369	1.6474	0.0638	1.7112		6,791.8615	6,791.8615	0.4888		6,804.0821
Total	**4.4302**	**6.1428**	**25.5126**	**0.0699**	**6.1689**	**0.1225**	**6.2914**	**1.6474**	**0.1183**	**1.7657**		**7,651.0545**	**7,651.0545**	**0.5054**	**0.0158**	**7,668.3837**

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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Energy	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
Mobile	2.9681	5.4266	24.8898	0.0656	6.1689	0.0680	6.2369	1.6474	0.0638	1.7112		6,791.8615	6,791.8615	0.4888		6,804.0821
Total	**4.4302**	**6.1428**	**25.5126**	**0.0699**	**6.1689**	**0.1225**	**6.2914**	**1.6474**	**0.1183**	**1.7657**		**7,651.0545**	**7,651.0545**	**0.5054**	**0.0158**	**7,668.3837**

	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	Site Preparation	Site Preparation	5/10/2021	5/21/2021	5	10	
2	Grading	Grading	5/22/2021	8/6/2021	5	55	
3	Building Construction	Building Construction	8/7/2021	8/9/2022	5	262	
4	Architectural Coating	Architectural Coating	8/19/2022	10/6/2022	5	4	
5	Paving	Paving	9/7/2022	9/15/2022	5	7	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 55

Acres of Paving: 0.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 92,523; Non-Residential Outdoor: 30,841; Striped Parking Area: 470 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	8.00	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
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	779.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	29.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 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					1.0605	0.0000	1.0605	0.1145	0.0000	0.1145			0.0000			0.0000
Off-Road	1.0039	12.8926	4.2023	0.0145		0.4499	0.4499		0.4139	0.4139		1,402.0462	1,402.0462	0.4535		1,413.3824
Total	**1.0039**	**12.8926**	**4.2023**	**0.0145**	**1.0605**	**0.4499**	**1.5104**	**0.1145**	**0.4139**	**0.5284**		**1,402.0462**	**1,402.0462**	**0.4535**		**1,413.3824**

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	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	**0.0238**	**0.0163**	**0.1841**	**5.4000e-004**	**0.0559**	**4.5000e-004**	**0.0563**	**0.0148**	**4.2000e-004**	**0.0152**		**53.6126**	**53.6126**	**1.5800e-003**		**53.6520**

3.2 Site Preparation - 2021

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					0.4136	0.0000	0.4136	0.0447	0.0000	0.0447			0.0000			0.0000
Off-Road	1.0039	12.8926	4.2023	0.0145		0.4499	0.4499		0.4139	0.4139	0.0000	1,402.0462	1,402.0462	0.4535		1,413.3824
Total	**1.0039**	**12.8926**	**4.2023**	**0.0145**	**0.4136**	**0.4499**	**0.8635**	**0.0447**	**0.4139**	**0.4585**	**0.0000**	**1,402.0462**	**1,402.0462**	**0.4535**		**1,413.3824**

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	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	**0.0238**	**0.0163**	**0.1841**	**5.4000e-004**	**0.0559**	**4.5000e-004**	**0.0563**	**0.0148**	**4.2000e-004**	**0.0152**		**53.6126**	**53.6126**	**1.5800e-003**		**53.6520**

3.3 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					7.0954	0.0000	7.0954	3.4267	0.0000	3.4267			0.0000			0.0000
Off-Road	1.2336	12.8671	6.2980	0.0116		0.6442	0.6442		0.5927	0.5927		1,128.2523	1,128.2523	0.3649		1,137.3748
Total	**1.2336**	**12.8671**	**6.2980**	**0.0116**	**7.0954**	**0.6442**	**7.7396**	**3.4267**	**0.5927**	**4.0194**		**1,128.2523**	**1,128.2523**	**0.3649**		**1,137.3748**

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	0.1209	3.8458	0.9446	0.0109	0.2477	0.0118	0.2595	0.0679	0.0113	0.0792		1,178.1073	1,178.1073	0.0842		1,180.2130
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	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	**0.1448**	**3.8622**	**1.1288**	**0.0114**	**0.3036**	**0.0123**	**0.3158**	**0.0827**	**0.0118**	**0.0945**		**1,231.7199**	**1,231.7199**	**0.0858**		**1,233.8650**

3.3 Grading - 2021

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					2.7672	0.0000	2.7672	1.3364	0.0000	1.3364			0.0000			0.0000
Off-Road	1.2336	12.8671	6.2980	0.0116		0.6442	0.6442		0.5927	0.5927	0.0000	1,128.252 3	1,128.252 3	0.3649		1,137.374 8
Total	**1.2336**	**12.8671**	**6.2980**	**0.0116**	**2.7672**	**0.6442**	**3.4114**	**1.3364**	**0.5927**	**1.9291**	**0.0000**	**1,128.252 3**	**1,128.252 3**	**0.3649**		**1,137.374 8**

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	0.1209	3.8458	0.9446	0.0109	0.2477	0.0118	0.2595	0.0679	0.0113	0.0792		1,178.107 3	1,178.107 3	0.0842		1,180.213 0
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	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	**0.1448**	**3.8622**	**1.1288**	**0.0114**	**0.3036**	**0.0123**	**0.3158**	**0.0827**	**0.0118**	**0.0945**		**1,231.719 9**	**1,231.719 9**	**0.0858**		**1,233.865 0**

3.4 Building Construction - 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	0.8588	9.1034	6.5788	0.0119		0.4761	0.4761		0.4380	0.4380		1,155.700 5	1,155.700 5	0.3738		1,165.044 9
Total	**0.8588**	**9.1034**	**6.5788**	**0.0119**		**0.4761**	**0.4761**		**0.4380**	**0.4380**		**1,155.700 5**	**1,155.700 5**	**0.3738**		**1,165.044 9**

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	0.0351	1.0658	0.3089	2.7500e-003	0.0704	2.2500e-003	0.0727	0.0203	2.1600e-003	0.0224		294.0801	294.0801	0.0190		294.5547
Worker	0.1383	0.0946	1.0679	3.1200e-003	0.3242	2.6200e-003	0.3268	0.0860	2.4100e-003	0.0884		310.9528	310.9528	9.1500e-003		311.1816
Total	**0.1734**	**1.1604**	**1.3768**	**5.8700e-003**	**0.3946**	**4.8700e-003**	**0.3995**	**0.1063**	**4.5700e-003**	**0.1108**		**605.0329**	**605.0329**	**0.0281**		**605.7363**

3.4 Building Construction - 2021

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	0.8588	9.1034	6.5788	0.0119		0.4761	0.4761		0.4380	0.4380	0.0000	1,155.7005	1,155.7005	0.3738		1,165.0449
Total	**0.8588**	**9.1034**	**6.5788**	**0.0119**		**0.4761**	**0.4761**		**0.4380**	**0.4380**	**0.0000**	**1,155.7005**	**1,155.7005**	**0.3738**		**1,165.0449**

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	0.0351	1.0658	0.3089	2.7500e-003	0.0704	2.2500e-003	0.0727	0.0203	2.1600e-003	0.0224		294.0801	294.0801	0.0190		294.5547
Worker	0.1383	0.0946	1.0679	3.1200e-003	0.3242	2.6200e-003	0.3268	0.0860	2.4100e-003	0.0884		310.9528	310.9528	9.1500e-003		311.1816
Total	**0.1734**	**1.1604**	**1.3768**	**5.8700e-003**	**0.3946**	**4.8700e-003**	**0.3995**	**0.1063**	**4.5700e-003**	**0.1108**		**605.0329**	**605.0329**	**0.0281**		**605.7363**

3.4 Building Construction - 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	0.7649	7.9697	6.4378	0.0119		0.4036	0.4036		0.3713	0.3713		1,156.131 0	1,156.131 0	0.3739		1,165.478 9
Total	**0.7649**	**7.9697**	**6.4378**	**0.0119**		**0.4036**	**0.4036**		**0.3713**	**0.3713**		**1,156.131 0**	**1,156.131 0**	**0.3739**		**1,165.478 9**

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	0.0330	1.0129	0.2924	2.7300e-003	0.0704	1.9700e-003	0.0724	0.0203	1.8900e-003	0.0222		291.4673	291.4673	0.0183		291.9253
Worker	0.1299	0.0854	0.9836	3.0100e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		300.0251	300.0251	8.2600e-003		300.2317
Total	**0.1628**	**1.0983**	**1.2760**	**5.7400e-003**	**0.3946**	**4.5100e-003**	**0.3991**	**0.1063**	**4.2300e-003**	**0.1105**		**591.4925**	**591.4925**	**0.0266**		**592.1569**

3.4 Building Construction - 2022

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	0.7649	7.9697	6.4378	0.0119		0.4036	0.4036		0.3713	0.3713	0.0000	1,156.131 0	1,156.131 0	0.3739		1,165.478 9
Total	**0.7649**	**7.9697**	**6.4378**	**0.0119**		**0.4036**	**0.4036**		**0.3713**	**0.3713**	**0.0000**	**1,156.131 0**	**1,156.131 0**	**0.3739**		**1,165.478 9**

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	0.0330	1.0129	0.2924	2.7300e-003	0.0704	1.9700e-003	0.0724	0.0203	1.8900e-003	0.0222		291.4673	291.4673	0.0183		291.9253
Worker	0.1299	0.0854	0.9836	3.0100e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		300.0251	300.0251	8.2600e-003		300.2317
Total	**0.1628**	**1.0983**	**1.2760**	**5.7400e-003**	**0.3946**	**4.5100e-003**	**0.3991**	**0.1063**	**4.2300e-003**	**0.1105**		**591.4925**	**591.4925**	**0.0266**		**592.1569**

3.5 Architectural Coating - 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	72.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2727	1.8780	2.4181	3.9600e-003		0.1090	0.1090		0.1090	0.1090		375.2641	375.2641	0.0244		375.8749
Total	**72.2914**	**1.8780**	**2.4181**	**3.9600e-003**		**0.1090**	**0.1090**		**0.1090**	**0.1090**		**375.2641**	**375.2641**	**0.0244**		**375.8749**

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	0.0269	0.0177	0.2035	6.2000e-004	0.0671	5.2000e-004	0.0676	0.0178	4.8000e-004	0.0183		62.0742	62.0742	1.7100e-003		62.1169
Total	**0.0269**	**0.0177**	**0.2035**	**6.2000e-004**	**0.0671**	**5.2000e-004**	**0.0676**	**0.0178**	**4.8000e-004**	**0.0183**		**62.0742**	**62.0742**	**1.7100e-003**		**62.1169**

3.5 Architectural Coating - 2022

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	72.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2727	1.8780	2.4181	3.9600e-003		0.1090	0.1090		0.1090	0.1090	0.0000	375.2641	375.2641	0.0244		375.8749
Total	**72.2914**	**1.8780**	**2.4181**	**3.9600e-003**		**0.1090**	**0.1090**		**0.1090**	**0.1090**	**0.0000**	**375.2641**	**375.2641**	**0.0244**		**375.8749**

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	0.0269	0.0177	0.2035	6.2000e-004	0.0671	5.2000e-004	0.0676	0.0178	4.8000e-004	0.0183		62.0742	62.0742	1.7100e-003		62.1169
Total	**0.0269**	**0.0177**	**0.2035**	**6.2000e-004**	**0.0671**	**5.2000e-004**	**0.0676**	**0.0178**	**4.8000e-004**	**0.0183**		**62.0742**	**62.0742**	**1.7100e-003**		**62.1169**

3.6 Paving - 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	0.6554	6.2368	7.5991	0.0119		0.3179	0.3179		0.2948	0.2948		1,111.6333	1,111.6333	0.3373		1,120.0668
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6554**	**6.2368**	**7.5991**	**0.0119**		**0.3179**	**0.3179**		**0.2948**	**0.2948**		**1,111.6333**	**1,111.6333**	**0.3373**		**1,120.0668**

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	0.0582	0.0383	0.4409	1.3500e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		134.4940	134.4940	3.7000e-003		134.5866
Total	**0.0582**	**0.0383**	**0.4409**	**1.3500e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**134.4940**	**134.4940**	**3.7000e-003**		**134.5866**

3.6 Paving - 2022

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	0.6554	6.2368	7.5991	0.0119		0.3179	0.3179		0.2948	0.2948	0.0000	1,111.6333	1,111.6333	0.3373		1,120.0668
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6554**	**6.2368**	**7.5991**	**0.0119**		**0.3179**	**0.3179**		**0.2948**	**0.2948**	**0.0000**	**1,111.6333**	**1,111.6333**	**0.3373**		**1,120.0668**

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	0.0582	0.0383	0.4409	1.3500e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		134.4940	134.4940	3.7000e-003		134.5866
Total	**0.0582**	**0.0383**	**0.4409**	**1.3500e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**134.4940**	**134.4940**	**3.7000e-003**		**134.5866**

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	2.9681	5.4266	24.8898	0.0656	6.1689	0.0680	6.2369	1.6474	0.0638	1.7112		6,791.8615	6,791.8615	0.4888		6,804.0821
Unmitigated	2.9681	5.4266	24.8898	0.0656	6.1689	0.0680	6.2369	1.6474	0.0638	1.7112		6,791.8615	6,791.8615	0.4888		6,804.0821

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,204.00	1,179.36	856.80	2,746,194	2,746,194
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	14.07	17.53	8.02	29,635	29,635
Total	1,218.07	1,196.89	864.82	2,775,829	2,775,829

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
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Hotel	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Regional Shopping Center	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

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	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529
NaturalGas Unmitigated	0.0788	0.7160	0.6014	4.3000e-003		0.0544	0.0544		0.0544	0.0544		859.1474	859.1474	0.0165	0.0158	864.2529

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					
Enclosed Parking with Elevator	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
Hotel	7301.05	0.0787	0.7158	0.6013	4.2900e-003		0.0544	0.0544		0.0544	0.0544		858.9476	858.9476	0.0165	0.0158	864.0519
Other Non-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
Regional Shopping Center	1.69841	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1998	0.1998	0.0000	0.0000	0.2010
Total		**0.0788**	**0.7160**	**0.6014**	**4.2900e-003**		**0.0544**	**0.0544**		**0.0544**	**0.0544**		**859.1474**	**859.1474**	**0.0165**	**0.0158**	**864.2529**

5.2 Energy by Land Use - NaturalGas

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					
Enclosed Parking with Elevator	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
Hotel	7.30105	0.0787	0.7158	0.6013	4.2900e-003		0.0544	0.0544		0.0544	0.0544		858.9476	858.9476	0.0165	0.0158	864.0519
Other Non-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
Regional Shopping Center	0.00169841	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1998	0.1998	0.0000	0.0000	0.2010
Total		**0.0788**	**0.7160**	**0.6014**	**4.2900e-003**		**0.0544**	**0.0544**		**0.0544**	**0.0544**		**859.1474**	**859.1474**	**0.0165**	**0.0158**	**864.2529**

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	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Unmitigated	1.3833	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487

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	0.1573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9900e-003	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Total	**1.3833**	**1.9000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0457**	**0.0457**	**1.2000e-004**		**0.0487**

6.2 Area by SubCategory

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	0.1573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9900e-003	1.9000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0457	0.0457	1.2000e-004		0.0487
Total	**1.3833**	**1.9000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0457**	**0.0457**	**1.2000e-004**		**0.0487**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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 3.3:

2017 EMFAC FACTORS

EMFAC2017 Derived CalEEMod Annual Emission Rates: Year 2022[1,2]

Season	Pollutant	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	OBUS	UBUS	MCY	SBUS	MH
Annual	CH4_IDLEX	0	0	0	0	0.005611	0.003944047	0.004423587	0.026918673	0.0084752	0	0	0.0739897	0
Annual	CH4_RUNEX	0.0030242	0.0077267	0.0049734	0.0065352	0.0056775	0.003945704	0.004601906	0.082507546	0.0069634	5.8456002	0.3807819	0.0070599	0.0031209
Annual	CH4_STREX	0.0497119	0.070705	0.0673164	0.080691	0.0160712	0.011225406	0.012461198	5.38411E-07	0.0218218	0.0111859	0.2344659	0.006777	0
Annual	CO_IDLEX	0	0	0	0	0.1908366	0.152955314	0.394384048	6.226916634	0.5952011	0	0	2.9896242	0
Annual	CO_RUNEX	0.7201367	1.4527755	1.0219519	1.2167364	0.6473021	0.435243788	0.472350966	0.584717248	0.7823623	45.423026	19.105304	0.5993668	0.2690429
Annual	CO_STREX	2.1005975	2.2700339	2.6488862	3.0984851	1.1384467	0.770025562	1.435215411	0.009539162	2.3937088	0.7143595	8.5172687	0.9319113	0
Annual	CO2_NBIO_IDLEX	0	0	0	0	8.8754808	13.40193055	67.31859576	1172.5017	94.214715	0	0	354.62582	0
Annual	CO2_NBIO_RUNEX	272.47447	320.55496	343.41596	421.49481	667.04059	668.3742012	1070.872809	1482.703518	1391.4978	1991.581	223.67565	1100.9725	965.32961
Annual	CO2_NBIO_STREX	53.616905	63.670293	68.728001	83.585595	12.482572	9.648900899	12.16974322	0.090287536	19.244568	8.6084803	59.556617	5.7278912	0
Annual	NOX_IDLEX	0	0	0	0	0.0524484	0.084534621	0.474856688	6.318960426	0.4568364	0	0	3.1431593	0
Annual	NOX_RUNEX	0.040511	0.1201768	0.0856013	0.1130176	0.6271754	0.811152617	1.633735134	3.599432701	1.5748976	0.4697208	1.1316957	4.6496285	3.432833
Annual	NOX_STREX[3]	0.1822069	0.2563963	0.2802614	0.3432342	0.3353256	0.234568425	1.289176771	2.063897191	0.7535135	0.0846513	0.2636683	0.9017689	0
Annual	PM10_IDLEX	0	0	0	0	0.0007495	0.001244273	0.001073214	0.003936807	0.0007892	0	0	0.0039536	0
Annual	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061057896	0.13034	0.0726803	0.01176	0.7448002	0.13034
Annual	PM10_PMTW	0.008	0.008	0.008	0.008	0.0096684	0.010521633	0.012000003	0.035588943	0.012	0.0318756	0.004	0.0106531	0.016
Annual	PM10_RUNEX	0.0018007	0.0027169	0.001911	0.0020878	0.0062844	0.009868432	0.031829818	0.028199781	0.0176188	0.0031836	0.002443	0.0270747	0.0749646
Annual	PM10_STREX	0.0018422	0.0026306	0.0018911	0.0020605	0.0002851	0.00016317	0.00013806	1.61301E-06	0.0001973	4.641E-05	0.0032943	5.518E-05	0
Annual	PM25_IDLEX	0	0	0	0	0.0007171	0.001190446	0.001026787	0.003766502	0.0007551	0	0	0.0037825	0
Annual	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.02616767	0.05586	0.0311487	0.00504	0.3192001	0.05586
Annual	PM25_PMTW	0.002	0.002	0.002	0.002	0.0024171	0.002630408	0.003000001	0.008897236	0.003	0.0079689	0.001	0.0026633	0.004
Annual	PM25_RUNEX	0.001659	0.0025003	0.0017588	0.0019247	0.0059828	0.00942442	0.030446233	0.02697983	0.0168419	0.0030428	0.0022829	0.0258893	0.0717216
Annual	PM25_STREX	0.0016939	0.002419	0.0017389	0.001895	0.0002621	0.000150029	0.000126941	1.4831E-06	0.0001814	4.267E-05	0.0031005	5.074E-05	0
Annual	ROG_DIURN	0.0524196	0.1274576	0.0730385	0.0841768	0.0025541	0.001576501	0.000667636	7.19251E-06	0.0018391	0.0006646	1.0817626	0.0009894	0
Annual	ROG_HTSK	0.1008153	0.1993409	0.1233314	0.1409304	0.0805416	0.054372967	0.027255384	0.000276525	0.022113	0.0084735	0.6546153	0.0085882	0
Annual	ROG_IDLEX	0	0	0	0	0.0223008	0.017986622	0.022226278	0.453910027	0.0559077	0	0	0.3437606	0
Annual	ROG_RESTL	0.0497979	0.1075015	0.0740805	0.0890787	0.0015611	0.000978461	0.00043014	5.06836E-06	0.0009412	0.0004915	0.6628665	0.0005274	0
Annual	ROG_RUNEX	0.0119411	0.0343685	0.0206414	0.0283093	0.0486117	0.049818031	0.062555505	0.082265543	0.0618348	0.0851611	2.611964	0.0921701	0.0671904
Annual	ROG_RUNLS	0.2110443	0.6943408	0.4055255	0.4291112	0.5526459	0.353514692	0.144873584	0.001508325	0.2644634	0.053654	1.9833855	0.0553234	0
Annual	ROG_STREX	0.2237273	0.354093	0.3137551	0.3987574	0.0793062	0.055359584	0.066469247	2.83959E-06	0.1148994	0.0484924	1.8128246	0.0391092	0
Annual	SO2_IDLEX	0	0	0	0	8.627E-05	0.000128552	0.000639803	0.010902219	0.0008963	0	0	0.0033855	0
Annual	SO2_RUNEX	0.0026782	0.0031516	0.0033756	0.0041408	0.0065152	0.006470764	0.010238121	0.013511568	0.0134578	0.0014406	0.0022135	0.0105323	0.0091258
Annual	SO2_STREX	0.0005272	0.000626	0.0006757	0.0008218	0.0001235	9.54837E-05	0.000120429	8.93468E-07	0.0001904	8.519E-05	0.0005894	5.668E-05	0
Annual	TOG_DIURN	0.0524353	0.1274958	0.0730604	0.084202	0.0025541	0.001576501	0.000667636	7.19251E-06	0.0018391	0.0006646	1.0817626	0.0009894	0
Annual	TOG_HTSK	0.1008455	0.1994007	0.1233684	0.1409727	0.0805416	0.054372967	0.027255384	0.000276525	0.022113	0.0084735	0.6546153	0.0085882	0
Annual	TOG_IDLEX	0	0	0	0	0.0315919	0.02470222	0.030324437	0.522617236	0.0723106	0	0	0.4946086	0
Annual	TOG_RESTL	0.0498128	0.1075337	0.0741028	0.0891054	0.0015611	0.000978461	0.00043014	5.06836E-06	0.0009412	0.0004915	0.6628665	0.0005274	0
Annual	TOG_RUNEX	0.0173632	0.050113	0.0300646	0.0410733	0.0621958	0.059663373	0.074624561	0.173011316	0.0784927	5.9677449	3.2456821	0.1106291	0.0764918
Annual	TOG_RUNLS	0.2111077	0.6945491	0.4056472	0.42924	0.5526459	0.353514692	0.144873584	0.001508325	0.2644634	0.053654	1.9833855	0.0553234	0
Annual	TOG_STREX	0.24505	0.3878403	0.343659	0.4367569	0.0868303	0.060611776	0.072775458	3.109E-06	0.1258004	0.0530931	1.9732172	0.0428196	0
Summer	CH4_IDLEX	0	0	0	0	0.0056229	0.00395256	0.004192784	0.028040022	0.0085344	0	0	0.0740425	0
Summer	CH4_RUNEX	0.0032282	0.0081768	0.0052909	0.0069305	0.0057928	0.003991452	0.004654268	0.082509545	0.0070846	5.8456102	0.3737796	0.0071402	0.0031209
Summer	CH4_STREX	0.0447523	0.0632755	0.0605349	0.072483	0.0155239	0.010843845	0.012009655	5.15794E-07	0.0209867	0.0103998	0.2095508	0.0060473	0
Summer	CO_IDLEX	0	0	0	0	0.1908366	0.152955314	0.322787613	6.089397874	0.5813111	0	0	2.9531182	0
Summer	CO_RUNEX	0.7893131	1.5751382	1.1154161	1.3215976	0.6592739	0.439997575	0.478223072	0.585393392	0.796	45.423537	18.368661	0.6078768	0.2690429
Summer	CO_STREX	1.7928853	1.9324236	2.2586417	2.6333531	1.0881875	0.736097884	1.363194297	0.009060559	2.2639575	0.6288227	7.7565371	0.7604063	0
Summer	CO2_NBIO_IDLEX	0	0	0	0	8.8754808	13.40193055	68.13890073	1168.968972	94.080565	0	0	362.28625	0
Summer	CO2_NBIO_RUNEX	284.40184	332.71116	355.31365	433.95807	667.06223	668.3826287	1070.883191	1482.704643	1391.522	1991.5819	222.28274	1100.9877	965.32961
Summer	CO2_NBIO_STREX	53.045587	62.999293	67.992098	82.697902	12.393178	9.588331089	12.0468222	0.089528539	19.023454	8.4608426	57.673194	5.4418287	0
Summer	NOX_IDLEX	0	0	0	0	0.0524484	0.084534621	0.475224904	6.133659065	0.4469892	0	0	3.2081557	0
Summer	NOX_RUNEX	0.0356155	0.1049688	0.0750238	0.0989825	0.5874473	0.76465199	1.538039986	3.406107222	1.475312	0.4672408	0.988815	4.3860802	3.2425213
Summer	NOX_STREX[3]	0.1687012	0.2374487	0.2595048	0.3178035	0.3212826	0.224745739	1.284167877	2.063840585	0.7432406	0.0809543	0.2499432	0.898039	0
Summer	PM10_IDLEX	0	0	0	0	0.0007495	0.001244273	0.000907272	0.003441783	0.0006707	0	0	0.0033404	0
Summer	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061057896	0.13034	0.0726803	0.01176	0.7448002	0.13034
Summer	PM10_PMTW	0.008	0.008	0.008	0.008	0.0096684	0.010521633	0.012000003	0.035588943	0.012	0.0318756	0.004	0.0106531	0.016
Summer	PM10_RUNEX	0.0018007	0.0027169	0.001911	0.0020878	0.0062844	0.009868432	0.031829818	0.028199781	0.0176188	0.0031836	0.002443	0.0270747	0.0749646
Summer	PM10_STREX	0.0018422	0.0026306	0.0018911	0.0020605	0.0002851	0.00016317	0.00013806	1.61301E-06	0.0001973	4.641E-05	0.0032943	5.518E-05	0
Summer	PM25_IDLEX	0	0	0	0	0.0007171	0.001190446	0.000868024	0.003292893	0.0006416	0	0	0.0031959	0
Summer	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.02616767	0.05586	0.0311487	0.00504	0.3192001	0.05586
Summer	PM25_PMTW	0.002	0.002	0.002	0.002	0.0024171	0.002630408	0.003000001	0.008897236	0.003	0.0079689	0.001	0.0026633	0.004
Summer	PM25_RUNEX	0.001659	0.0025003	0.0017588	0.0019247	0.0059828	0.00942442	0.030446233	0.02697983	0.0168419	0.0030428	0.0022829	0.0258893	0.0717216
Summer	PM25_STREX	0.0016939	0.002419	0.0017389	0.001895	0.0002621	0.000150029	0.000126941	1.4831E-06	0.0001814	4.267E-05	0.0031005	5.074E-05	0
Summer	ROG_DIURN	0.0805724	0.1958209	0.1122646	0.129403	0.0037597	0.00232092	0.000992629	1.12824E-05	0.0026504	0.000962	1.7192635	0.0014292	0
Summer	ROG_HTSK	0.1039251	0.20733	0.1273075	0.1449651	0.0824794	0.056058952	0.028106319	0.000282155	0.0225824	0.0087333	0.7111003	0.0087249	0
Summer	ROG_IDLEX	0	0	0	0	0.0223008	0.017986622	0.021299207	0.474766627	0.0568223	0	0	0.3435773	0
Summer	ROG_RESTL	0.0689402	0.1497526	0.1020832	0.1227958	0.0021601	0.00135455	0.000604419	7.70525E-06	0.0013065	0.0006759	1.0655189	0.000731	0
Summer	ROG_RUNEX	0.0126449	0.0362026	0.0218196	0.0297774	0.0492296	0.050024968	0.06280464	0.082277975	0.0624181	0.0851891	2.5493164	0.0925754	0.0671904
Summer	ROG_RUNLS	0.1987581	0.6417513	0.3764737	0.4001356	0.5348767	0.341343418	0.139516438	0.001486925	0.2575294	0.0486126	1.8575833	0.0495244	0
Summer	ROG_STREX	0.1997252	0.3146836	0.2799557	0.3553413	0.0764074	0.053336124	0.063858822	2.72808E-06	0.1102969	0.0449008	1.6089892	0.0348745	0
Summer	SO2_IDLEX	0	0	0	0	8.627E-05	0.000128552	0.000647714	0.010868123	0.000895	0	0	0.0034579	0
Summer	SO2_RUNEX	0.0027955	0.0032711	0.0034926	0.0042633	0.0065154	0.006470847	0.010238224	0.01351158	0.0134581	0.0014406	0.0021997	0.0105324	0.0091258
Summer	SO2_STREX	0.0005215	0.0006194	0.0006685	0.0008131	0.0001226	9.48843E-05	0.000119213	8.85957E-07	0.0001883	8.373E-05	0.0005707	5.385E-05	0
Summer	TOG_DIURN	0.0805965	0.1958796	0.1122982	0.1294418	0.0037597	0.00232092	0.000992629	1.12824E-05	0.0026504	0.000962	1.7192635	0.0014292	0
Summer	TOG_HTSK	0.1039563	0.2073922	0.1273456	0.1450086	0.0824794	0.056058952	0.028106319	0.000282155	0.0225824	0.0087333	0.7111003	0.0087249	0
Summer	TOG_IDLEX	0	0	0	0	0.0315919	0.02470222	0.028967765	0.546513628	0.0733518	0	0	0.4943999	0
Summer	TOG_RESTL	0.0689608	0.1497976	0.1021138	0.1228327	0.0021601	0.00135455	0.000604419	7.70525E-06	0.0013065	0.0006759	1.0655189	0.000731	0
Summer	TOG_RUNEX	0.0183905	0.0527904	0.0317846	0.0432169	0.0630975	0.059965335	0.0749881	0.173029456	0.0793439	5.9677859	3.1699165	0.1112205	0.0764918
Summer	TOG_RUNLS	0.1988178	0.6419438	0.3765867	0.4002556	0.5348767	0.341343418	0.139516438	0.001486925	0.2575294	0.0486126	1.8575833	0.0495244	0
Summer	TOG_STREX	0.2187604	0.3446752	0.3066382	0.3892042	0.0836564	0.058396342	0.069917372	2.9869E-06	0.1207613	0.0491608	1.7514143	0.0381832	0

Winter	CH4_IDLEX	0	0	0	0	0.0056086	0.003942317	0.004755467	0.01973037	0.0084128	0	0	0.0739888	0
Winter	CH4_RUNEX	0.0029599	0.0075825	0.0048731	0.0064066	0.005646	0.00393336	0.004585367	0.003636202	0.0069288	5.8455978	0.3823353	0.0070355	0.0031209
Winter	CH4_STREX	0.0508347	0.0723885	0.0688533	0.0825503	0.0161899	0.011308117	0.012544775	5.43738E-07	0.0220235	0.0113635	0.239769	0.0069446	0
Winter	CO_IDLEX	0	0	0	0	0.1908366	0.152955314	0.494420072	6.3197888	0.6143825	0	0	3.0400371	0
Winter	CO_RUNEX	0.6947585	1.4074551	0.9875842	1.1774753	0.6440847	0.433960268	0.470667137	0.378232006	0.7784512	45.422898	19.251502	0.5967545	0.2690429
Winter	CO_STREX	2.1718736	2.3482348	2.7398535	3.206882	1.1475152	0.776227159	1.449467168	0.009634159	2.4206576	0.7314087	8.6646146	0.9644153	0
Winter	CO2_NBIO_IDLEX	0	0	0	0	8.8754808	13.40193055	66.17894992	1158.962553	94.39997	0	0	344.04713	0
Winter	CO2_NBIO_RUNEX	268.0658	316.06139	339.01831	416.88694	667.03476	668.3719215	1070.869828	1430.090478	1391.4909	1991.5807	223.9573	1100.9678	965.32961
Winter	CO2_NBIO_STREX	53.748702	63.82472	68.898619	83.79125	12.499045	9.660195855	12.19435122	0.0904382	19.291004	8.6382336	59.93538	5.7826736	0
Winter	NOX_IDLEX	0	0	0	0	0.0524484	0.084534621	0.474347261	6.465701188	0.470435	0	0	3.0534024	0
Winter	NOX_RUNEX	0.0392918	0.1167803	0.08308	0.1097293	0.61562	0.796457815	1.602740334	3.488980303	1.5453819	0.4691927	1.1050922	4.5685046	3.368534
Winter	NOX_STREX[3]	0.1852096	0.2606338	0.2848824	0.348904	0.3385109	0.23679626	1.290368034	2.063910648	0.7559833	0.0855041	0.2669026	0.9028594	0
Winter	PM10_IDLEX	0	0	0	0	0.0007495	0.001244273	0.00130237	0.004370771	0.0009529	0	0	0.0048003	0
Winter	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.060105422	0.13034	0.0726803	0.01176	0.7448002	0.13034
Winter	PM10_PMTW	0.008	0.008	0.008	0.008	0.0096684	0.010521633	0.012000003	0.035033564	0.012	0.0318756	0.004	0.0106531	0.016
Winter	PM10_RUNEX	0.0018007	0.0027169	0.001911	0.0020878	0.0062844	0.009868432	0.031829818	0.028096242	0.0176188	0.0031836	0.002443	0.0270747	0.0749646
Winter	PM10_STREX	0.0018422	0.0026306	0.0018911	0.0020605	0.0002851	0.00016317	0.00013806	1.61301E-06	0.0001973	4.641E-05	0.0032943	5.518E-05	0
Winter	PM25_IDLEX	0	0	0	0	0.0007171	0.001190446	0.00124603	0.004181693	0.0009117	0	0	0.0045926	0
Winter	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.025759466	0.05586	0.0311487	0.00504	0.3192001	0.05586
Winter	PM25_PMTW	0.002	0.002	0.002	0.002	0.0024171	0.002630408	0.003000001	0.008758391	0.003	0.0079689	0.001	0.0026633	0.004
Winter	PM25_RUNEX	0.001659	0.0025003	0.0017588	0.0019247	0.0059828	0.00942442	0.030446233	0.02688077	0.0168419	0.0030428	0.0022829	0.0258893	0.0717216
Winter	PM25_STREX	0.0016939	0.002419	0.0017389	0.001895	0.0002621	0.000150029	0.000126941	1.4831E-06	0.0001814	4.267E-05	0.0031005	5.074E-05	0
Winter	ROG_DIURN	0.0510541	0.1275302	0.0699814	0.0800091	0.0026897	0.001633622	0.000691481	7.52303E-06	0.0019222	0.000648	1.1757383	0.0010033	0
Winter	ROG_HTSK	0.1086963	0.2237106	0.1330533	0.1505647	0.0923885	0.061346922	0.029503806	0.000314939	0.0234751	0.0090358	0.8418938	0.0090227	0
Winter	ROG_IDLEX	0	0	0	0	0.0223008	0.017986622	0.023524408	0.424789457	0.0546447	0	0	0.3440137	0
Winter	ROG_RESTL	0.0475461	0.1027519	0.0706838	0.0851103	0.0015404	0.0009504	0.000420717	5.06328E-06	0.0009238	0.0004662	0.6353973	0.0005063	0
Winter	ROG_RUNEX	0.0117058	0.0337488	0.0202481	0.0277916	0.0484416	0.049761171	0.062483287	0.076852175	0.0616657	0.0851541	2.6258813	0.0920455	0.0671904
Winter	ROG_RUNLS	0.2402572	0.8209764	0.475354	0.4989969	0.5986148	0.385180909	0.159150925	0.001601131	0.2833056	0.0654431	2.2829142	0.0680686	0
Winter	ROG_STREX	0.2291274	0.3629262	0.3213604	0.4085149	0.0799314	0.05579603	0.067070422	2.86528E-06	0.1160075	0.0493055	1.8565024	0.0400807	0
Winter	SO2_IDLEX	0	0	0	0	8.627E-05	0.000128552	0.000628811	0.010949304	0.000898	0	0	0.0032856	0
Winter	SO2_RUNEX	0.0026349	0.0031074	0.0033324	0.0040955	0.0065151	0.006470741	0.010238092	0.013511565	0.0134578	0.0014406	0.0022162	0.0105322	0.0091258
Winter	SO2_STREX	0.0005285	0.0006275	0.0006774	0.0008238	0.0001237	9.55955E-05	0.000120673	8.94959E-07	0.0001909	8.548E-05	0.0005931	5.722E-05	0
Winter	TOG_DIURN	0.0510694	0.1275685	0.0700023	0.0800331	0.0026897	0.001633622	0.000691481	7.52303E-06	0.0019222	0.000648	1.1757383	0.0010033	0
Winter	TOG_HTSK	0.1087289	0.2237778	0.1330932	0.1506098	0.0923885	0.061346922	0.029503806	0.000314939	0.0234751	0.0090358	0.8418938	0.0090227	0
Winter	TOG_IDLEX	0	0	0	0	0.0315919	0.02470222	0.03222404	0.483590462	0.0708727	0	0	0.4948967	0
Winter	TOG_RESTL	0.0475604	0.1027827	0.0707051	0.0851358	0.0015404	0.0009504	0.000420717	5.06328E-06	0.0009238	0.0004662	0.6353973	0.0005063	0
Winter	TOG_RUNEX	0.0170198	0.0492087	0.0294906	0.0403188	0.0619477	0.059580403	0.074519181	0.087632854	0.078246	5.9677347	3.2624715	0.1104474	0.0764918
Winter	TOG_RUNLS	0.2403293	0.8212227	0.4754967	0.4991466	0.5986148	0.385180909	0.159150925	0.001601131	0.2833056	0.0654431	2.2829142	0.0680686	0
Winter	TOG_STREX	0.2509647	0.3975153	0.3519891	0.4474441	0.0875148	0.061089629	0.073433669	3.13712E-06	0.1270137	0.0539833	2.0207475	0.0438833	0

1 Source: California Air Resources Board. EMFAC2017 Web Database. https://www.arb.ca.gov/emfac/2017/; California Air Pollution Control Officers Association (CAPCOA). 2017, November. California Emissions Estimator Model User's Guide, Version 2016.3.2, Appendix A.

2 Unless otherwise noted, per CalEEMod methodology, the calculated CalEEMod emission rates are derived from the emission rates obtained using the EMFAC2017 Web Database for the Los Angeles (SC) region .

3 Because EMFAC2017 provides vehicle trips data for MHDT and HHDT diesel trucks, the formula provided in Appendix A of the CalEEMod User's Guide in calculating the NO_X STREX emission rates are utilized.

1130 S. Hope Street

Greenhouse Gas Analysis

City of Los Angeles

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OCTOBER 19, 2020

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TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

%	Percent
°C	Degrees Celsius
°F	Degrees Fahrenheit
(1)	Reference
2017 Scoping Plan	Final 2017 Scoping Plan Update
AB	Assembly Bill
AB 32	Global Warming Solutions Act of 2006
AB 1493	Pavley Fuel Efficiency Standards
AB 1881	California Water Conservation Landscaping Act of 2006
Annex I	Industrialized Nations
APA	Administrative Procedure Act
AQIA	*1130 S. Hope Street Air Quality Impact Analysis*
BAU	Business As Usual
C_2F_6	Hexafluoroethane
C_2H_6	Ethane
$C_2H_2F_4$	Tetrafluroethane
$C_2H_4F_2$	Ethylidene Fluoride
CAA	Federal Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGAPS	California LBNL GHG Analysis of Policies Spreadsheet
CALGreen	California Green Building Standards Code
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CBSC	California Building Standards Commission
CEC	California Energy Commission
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CEQA Guidelines	*2019 CEQA Statute and Guidelines*
CDFA	California Department of Food and Agriculture
CF_4	Tetrafluoromethane
CFC	Chlorofluorocarbons
CFC-113	Trichlorotrifluoroethane
CH_4	Methane
City	City of Los Angeles
CNRA	California Natural Resources Agency

CNRA 2009	*2009 California Climate Adaptation Strategy*
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
Convention	United Nation's Framework Convention on Climate Change
COP	Conference of the Parties
CPUC	California Public Utilities Commission
DWR	Department of Water Resources
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
EV	Electric Vehicle
GCC	Global Climate Change
Gg	Gigagram
GHGA	Greenhouse Gas Analysis
gpd	Gallons Per Day
GWP	Global Warming Potential
H_2O	Water
HFC	Hydrofluorocarbons
HFC-23	Fluoroform
HFC-134a	1,1,1,2-tetrafluoroethane
HFC-152a	1,1-difluoroethane
hp	Horsepower
I-10	Interstate 10
I-110	Interstate 110
IPCC	Intergovernmental Panel on Climate Change
ISO	Independent System Operator
ITE	Institute of Transportation Engineers
kWh	Kilowatt Hours
LADWP	Los Angeles Department of Water and Power
lbs	Pounds
LBNL	Lawrence Berkeley National Laboratory
LCA	Life-Cycle Analysis
LCD	Liquid Crystal Display
LCFS	Low Carbon Fuel Standard or Executive Order S-01-07
LEV III	Low-Emission Vehicle
LULUCF	Land-Use, Land-Use Change and Forestry
MMR	Mandatory Reporting Rule
$MMTCO_2e$	Million Metric Ton of Carbon Dioxide Equivalent
mpg	Miles Per Gallon

$MMTCO_2e$/yr	Million Metric Ton of Carbon Dioxide Equivalent Per Year
MT/yr	Metric Tons Per Year
$MTCO_2e$	Metric Ton of Carbon Dioxide Equivalent
$MTCO_2e$/yr	Metric Ton of Carbon Dioxide Equivalent Per Year
MW	Megawatts
MWh	Megawatts Per Hour
MWELO	California Department of Water Resources' Model Water Efficient
N_2O	Nitrous Oxide
NDC	Nationally Determined Contributions
NF_3	Nitrogen Trifluoride
NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Safety and Health
NO_X	Nitrogen Oxides
Non-Annex I	Developing Nations
OAL	Office of Administrative Law
PFC	Perfluorocarbons
ppb	Parts Per Billion
ppm	Parts Per Million
ppt	Parts Per Trillion
Project	1130 S. Hope Street
RPS	Renewable Portfolio Standards
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel-Efficient Vehicles Rule
SB	Senate Bill
SB 32	California Global Warming Solutions Act of 2006
SB 375	Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies
SB 1078	Renewable Portfolio Standards
SB 1368	Statewide Retail Provider Emissions Performance Standards
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
Scoping Plan	California Air Resources Board Climate Change Scoping Plan
SCS	Sustainable Communities Strategy
sf	Square Feet
SF_6	Sulfur Hexaflouride

SLPS	Short-Lived Climate Pollutant Strategy
SP	Service Population
TIS	*1130 South Hope Street Traffic Impact Study*
Title 20	Appliance Energy Efficiency Standards
Title 24	California Building Code
U.N.	United Nations
U.S.	United States
UNFCCC	United Nations' Framework Convention on Climate Change
URBEMIS	Urban Emissions
UTR	Utility Tractors
VFP	Vehicle Fueling Positions
VMT	Vehicle Miles Traveled
WCI	Western Climate Initiative
WRI	World Resources Institute
ZE/NZE	Zero and Near-Zero Emissions
ZEV	Zero-Emissions Vehicles

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *1130 S. Hope Street Greenhouse Gas Analysis* are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1). Table ES-1 shows the findings of significance for each potential greenhouse gas (GHG) impact under CEQA before and after any required mitigation measures described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
GHG Impact #1: The Project would not generate direct or indirect greenhouse gas emission that would result in a significant impact on the environment.	3.8	*Less Than Significant*	*n/a*
GHG Impact #2: The Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.	3.8	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California and the South Coast Air Quality Management District (SCAQMD) aimed at the reduction of air pollutant emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of GHG emissions include:

- Global Warming Solutions Act of 2006 (Assembly Bill (AB) 32) (2).
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (Senate Bill (SB) 375) (3).
- Pavley Fuel Efficiency Standards (AB 1493). Establishes fuel efficiency ratings for new vehicles (4).
- California Building Code (Title 24 California Code of Regulations (CCR)). Establishes energy efficiency requirements for new construction (5).
- Appliance Energy Efficiency Standards (Title 20 CCR). Establishes energy efficiency requirements for appliances (6).
- Low Carbon Fuel Standard (LCFS). Requires carbon content of fuel sold in California to be 10 percent (%) less by 2020 (7).
- California Water Conservation in Landscaping Act of 2006 (AB 1881). Requires local agencies to adopt the Department of Water Resources (DWR) updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes (8).

- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (9).
- Renewable Portfolio Standards (SB 1078 – also referred to as RPS). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 % by 2010 and 33% by 2020 (10).
- California Global Warming Solutions Act of 2006 (SB 32). Requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15 (11).

Promulgated regulations that will affect the Project's emissions are accounted for in the Project's GHG calculations provided in this report. In particular, AB 1493, LCFS, and RPS, and therefore are accounted for in the Project's emission calculations.

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1 INTRODUCTION

This report presents the results of the greenhouse gas analysis (GHGA) prepared by Urban Crossroads, Inc., for the 1130 S. Hope Street project (referred to as "Project"). The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of greenhouse gas (GHG) impacts as a result of constructing and operating the proposed Project.

1.1 SITE LOCATION

The proposed Project is located at 1130 S. Hope Street between 11th and 12th street, in the City of Los Angeles, as shown on Exhibit 1-A. The Project site is located 0.55 miles east of Interstate 110 (I-110), 0.54 miles north of Interstate 10 (I-10), and 2.44 miles west of Highway 101. Los Angeles International Airport is located 11.10 miles to the southwest.

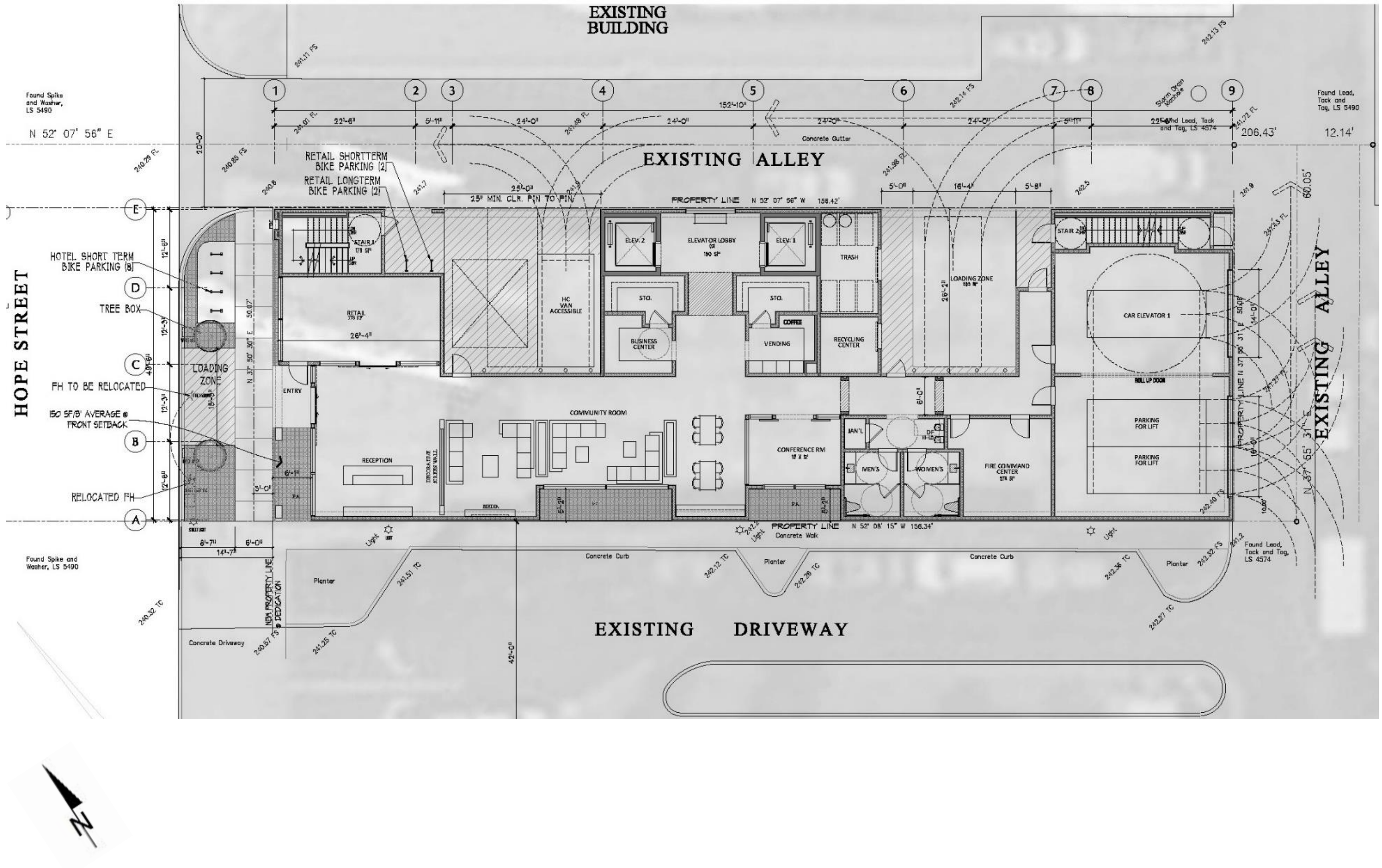
1.2 PROJECT DESCRIPTION

The Project proposes to consist of a mixed-use hotel development, with 144 hotel rooms, 378 square feet (sf) of retail and an indoor parking garage, as shown on Exhibit 1-B. The Project is expected to be fully operational by 2023.

At the time this analysis was prepared, the future tenants of the proposed Project were unknown. Therefore, this analysis includes a conservative assumption of on-site Project-related emission sources for potential future tenants, including architectural coatings, consumer products, landscape maintenance equipment, emissions associated with natural gas and electricity, and mobile source emissions. This analysis is intended to describe GHG impacts associated with the expected operational activities at the Project site. To present a conservative approach, this report assumes the Project will operate 24-hours daily for seven days per week. To present a conservative approach, this report assumes the Project will operate 24-hours daily for seven days per week. Per the *1130 Hope Street Traffic Impact Study* (TIS) prepared by KOA Consultants, the Project is expected to generate 1,035 daily two-way trips (12).

EXHIBIT 1-A: LOCATION MAP

EXHIBIT 1-B: SITE PLAN



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2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE (GCC)

GCC is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GHGA cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

2.2 GLOBAL CLIMATE CHANGE DEFINED

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

2.3 GHGS

2.3.1 GHGS AND HEALTH EFFECTS

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. Many gases demonstrate these properties and as discussed in Table 2-1. For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated (see Table 3-1 later in this report) because these gases are the primary contributors to GCC from development projects.

Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

TABLE 2-1: GREENHOUSE GASES

Greenhouse Gases	Description	Sources	Health Effects
Water	Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is	The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.	There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

Greenhouse Gases	Description	Sources	Health Effects
	unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up) (13).		
CO_2	CO_2 is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (14).	CO_2 is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO_2 is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (15).	Outdoor levels of CO_2 are not high enough to result in negative health effects. According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO_2 can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO_2 in the earth's atmosphere are estimated to be approximately 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15 minute period (16).

Greenhouse Gases	Description	Sources	Health Effects
CH_4	CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.	CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropocentric sources include fossil-fuel combustion and biomass burning (17).	CH_4 is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to high levels of CH_4 can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
N_2O	N_2O, also known as laughing gas, is a colorless GHG. Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).	N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also	N_2O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (18).

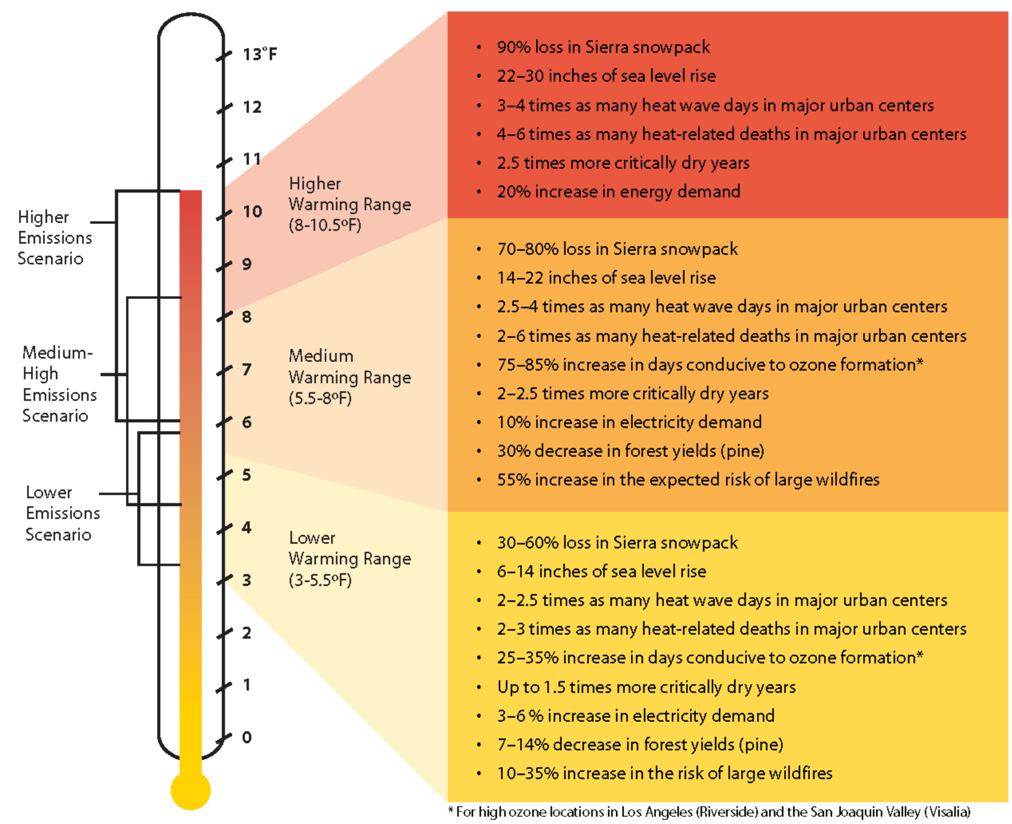
Greenhouse Gases	Description	Sources	Health Effects
		used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction (18).	
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years (19).	In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

Greenhouse Gases	Description	Sources	Health Effects
HFCs	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), fluoroform (CHF_3), 1,1,1,2-tetrafluoroethane (CH_2FCF), and 1,1-difluoroethane (CH_3CF_2). Prior to 1990, the only significant emissions were of CHF_3. CH_2FCF emissions are increasing due to its use as a refrigerant.	HFCs are manmade for applications such as automobile air conditioners and refrigerants.	No health effects are known to result from exposure to HFCs.
PFCs	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The EPA estimates that concentrations of CF_4 in the atmosphere are over 70 parts per trillion (ppt).	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.	No health effects are known to result from exposure to PFCs.
SF_6	SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900) (20). The EPA indicates that concentrations in the 1990s were about 4 ppt.	SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Greenhouse Gases	Description	Sources	Health Effects
Nitrogen Trifluoride (NF_3)	NF_3 is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF_3 has a 100-year GWP of 17,200 (21).	NF_3 is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display (LCD) panels, types of solar panels, and chemical lasers.	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis (22).

The potential health effects related directly to the emissions of CO_2, CH_4, and N_2O as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (23). Exhibit 2-A presents the potential impacts of global warming (24).

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990)



Source: Barbara H. Allen-Diaz. "Climate change affects us all." *University of California, Agriculture and Natural Resources*, 2009.

2.4 GLOBAL WARMING POTENTIAL

GHGs have varying GWP values. GWP of a GHG indicates the amount of warming a gas causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO_2 is utilized as the reference gas for GWP, and thus has a GWP of 1. CO_2 equivalent (CO_2e) is a term used for describing the difference GHGs in a common unit. CO_2e signifies the amount of CO_2 which would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized at Table 2-2. As shown in the table below, GWP for the Second Assessment Report, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for CO_2 to 23,900 for SF_6 and GWP for the IPCC's 5th Assessment Report range from 1 for CO_2 to 23,500 for SF_6 (25).

TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	GWP (100-year time horizon)	
		2nd Assessment Report	5th Assessment Report
CO_2	See*	1	1
CH_4	12 .4	21	28
N_2O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF_6	3,200	23,900	23,500

*As per Appendix 8.A. of IPCC's 5th Assessment Report, no single lifetime can be given.
Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

2.5 GHG EMISSIONS INVENTORIES

2.5.1 GLOBAL

Worldwide anthropogenic GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2018. Based on the latest available data, the sum of these emissions totaled approximately 28,768,439 gigagram (Gg) CO_2e[1] (26) (27) as summarized on Table 2-3.

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2018 data, the United Nations' Framework Convention on Climate Change (UNFCCC) data for the most recent year were used U.N. Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," The most recent GHG emissions for China and India are from 2014 and 2010, respectively.

2.5.2 UNITED STATES

As noted in Table 2-3, the United States, as a single country, was the number two producer of GHG emissions in 2018.

TABLE 2-3: TOP GHG PRODUCING COUNTRIES AND THE EUROPEAN UNION [2]

Emitting Countries	GHG Emissions (Gg CO_2e)
China	12,300,200
United States	6,676,650
European Union (28-member countries)	4,232,274
Russian Federation	2,220,123
India	2,100,850
Japan	1,238,343
Total	**28,768,439**

2.5.3 STATE OF CALIFORNIA

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls, but is still a substantial contributor to the United States (U.S.) emissions inventory total (28). The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 million metric tons of CO_2e per year (MMTCO_2e/yr) (29).

2.6 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

2.6.1 PUBLIC HEALTH

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35% under the lower warming range to 75 to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures

[2] Used http://unfccc.int data for Annex I countries. Consulted the CAIT Climate Data Explorer in https://www.climatewatchdata.org site to reference Non-Annex I countries of China and India.

remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

2.6.2 WATER RESOURCES

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

2.6.3 AGRICULTURE

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

2.6.4 FORESTS AND LANDSCAPES

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90% due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

2.6.5 RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

2.7 REGULATORY SETTING

2.7.1 INTERNATIONAL

Climate change is a global issue involving GHG emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce GHGs.

IPCC

In 1988, the United Nations (U.N.) and the World Meteorological Organization established the IPCC to assess the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

UNITED NATION'S FRAMEWORK CONVENTION ON CLIMATE CHANGE (CONVENTION)

On March 21, 1994, the U.S. joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

INTERNATIONAL CLIMATE CHANGE TREATIES

The Kyoto Protocol is an international agreement linked to the Convention. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of 5% against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2 degrees Celsius (°C) above pre-industrial levels, subject to a review in 2015. The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

On September 23, 2014 more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the U.N. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the U.N. Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties (COP) 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2°C, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will "represent a progression" beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly will not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a) (30).

On November 4, 2019, the Trump administration formally notified the U.N. that the United States would withdraw from the Paris Agreement. It should be noted that withdrawal would be effective one year after notification in 2020.

2.7.2 NATIONAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG ENDANGERMENT

In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the United States Supreme Court (U.S. Court) found that four GHGs, including CO_2, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act (CAA). The Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs— CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the U.S. Court declined to review an Appeals Court ruling that upheld the EPA Administrator's findings (31).

CLEAN VEHICLES

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the U.S. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty (MD) passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and MD passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks (HDT) and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20% reduction in CO_2 emissions and fuel consumption by the 2018 model year. For HDT and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10% reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12 and 17% respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10% reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which declared that the MY 2022-2025 GHG standards are not appropriate and should be revised (32). This Final Determination serves to initiate a notice to further consider appropriate standards for MY 2022-2025 light-duty vehicles. On August 2,2018, the NHTSA in conjunction with the EPA, released a notice of proposed rulemaking, the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule). The SAFE Vehicles Rule was proposed to amend exiting Corporate Average Fuel Economy (CAFE) and tailpipe CO_2 standards for passenger cars and light trucks and to establish new standards covering model years 2021 through 2026. As of March 31, 2020, the NHTSA and EPA finalized the SAFE Vehicle Rule which increased stringency of CAFE and CO_2 emissions standards by 1.5% each year through model year 2026 (33).

MANDATORY REPORTING OF GHGS

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons per year (MT/yr) or more of GHG emissions are required to submit annual reports to the EPA.

NEW SOURCE REVIEW

The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

> *"This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for GHG emissions until at least April 30, 2016."*

The EPA estimates that facilities responsible for nearly 70% of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

STANDARDS OF PERFORMANCE FOR GHG EMISSIONS FOR NEW STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS

As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO_2 for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts (MW) would be required to meet an output-based standard of 1,000 pounds (lbs) of CO_2 per MW-hour (MWh), based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016 the U.S. Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has also signed a measure to repeal the Clean Power Plan, including the CO_2 standards. The Clean Power Plan was officially repealed on June 19, 2019, when the EPA issued the final Affordable Clean Energy rule (ACE). Under ACE, new state emission guidelines were established that provided existing coal-fired electric utility generating units with achievable standards.

CAP-AND-TRADE

Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the U.S. include the Acid Rain Program and the N_2O Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO_2 emissions from power plants, auctions CO_2 emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008 and in 2020 has retained all participating states.

The Western Climate Initiative (WCI) partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15% below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec's cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015. While the WCI has yet to publish whether it has successfully reached the 2020 emissions goal initiative set in 2007, SB 32, requires that California, a major partner in the WCI, adopt the goal of reducing statewide GHG emissions to 40% below the 1990 level by 2030.

SMARTWAY PROGRAM

The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (34):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all HDTs will have to comply with the CARB GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10% or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies – less idling of the engine when it is not needed would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel will eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.
- Federal excise tax exemptions.

2.7.3 CALIFORNIA

2.7.3.1 LEGISLATIVE ACTIONS TO REDUCE GHGS

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32

The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by the year 2020 (this goal has been met[3]). GHGs as defined under AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The CARB is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

> *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."*

SB 32

On September 8, 2016, Governor Jerry Brown signed the SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (35).

CARB SCOPING PLAN UPDATE

In November 2017, CARB released the *Final 2017 Scoping Plan Update*, which identifies the State's post-2020 reduction strategy. The *Final 2017 Scoping Plan Update* reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the LCFS, and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH_4 emissions from agricultural and other wastes.

The *Final 2017 Scoping Plan Update* establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030 (36).

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other

[3] Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 $MMTCO_2e$ (60). This is less than the 2020 emissions target of 431 $MMTCO_2e$.

distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH_4, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the *Final 2017 Scoping Plan Update* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of zero-emission vehicles (ZEV) trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH_4 and hydroflurocarbon emissions by 40% and anthropogenic black carbon emissions by 50% by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Note, however, that the *Final 2017 Scoping Plan Update* acknowledges that:

> *"[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."*

In addition to the statewide strategies listed above, the *Final 2017 Scoping Plan Update* also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO_2e ($MTCO_2e$) or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible; or, a performance-based metric using a CAP or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that by 2030, emissions could range from 211 to 428 $MTCO_2e$ per year ($MTCO_2e$/yr), indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State's 80% reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050 (37) (38).

CAP-AND-TRADE PROGRAM

The Scoping Plan identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program will help put California on the path to meet its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from regulated entities by more than 16% between 2013 and 2020, and by an additional 40% by 2030. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25.000 $MTCO_2e$/yr must comply with the Cap-and-Trade Program. Triggering of the 25.000 $MTCO_2e$/yr "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each $MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30% of the prior year's compliance obligation by November of each year (39).

The Cap-and-Trade Program provides a firm cap, which provides the highest certainty of achieving the 2030 target. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the *First Update to the Climate Change Scoping Plan*:

> *"The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative."* (40)

The Cap-and-Trade Program covered approximately 80% of California's GHG emissions (36). The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported.

THE SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT OF 2008 (SB 375)

Passing the Senate on August 30, 2008, SB 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: it (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

AB 1493

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22% reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30% reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EVs (EV) and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

2.7.3.1 EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

EXECUTIVE ORDER B-55-18

Executive Order B-55-18 was signed by Governor Brown on September 10, 2018. The order establishes an additional Statewide policy to achieve carbon neutrality by 2045 and maintain net negative emissions thereafter. As per Executive Order B-55-18, CARB is directed to work with relevant State agencies to develop a framework for implementation and accounting that tracks progress toward this goal and to ensure future Climate Change Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

EXECUTIVE ORDER S-3-05

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

EXECUTIVE ORDER S-01-07 (LCFS)

The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. The CARB adopted the LCFS on April 23, 2009.

The LCFS was challenged in the U.S. District Court in Fresno in 2011. The court's ruling issued on December 29, 2011, included a preliminary injunction against CARB's implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012, pending final ruling on appeal, allowing CARB to continue to implement and enforce the regulation. The Ninth Circuit Court's decision, filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that LCFS adopted by CARB were not in conflict with federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled CARB failed to comply with CEQA and the Administrative Procedure Act (APA) when adopting regulations for LCFS. In a partially published opinion, the Court of Appeal reversed the trial court's judgment and directed issuance of a writ of mandate setting aside Resolution 09-31 and two executive orders of CARB approving LCFS regulations promulgated to reduce GHG emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while CARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. On November 16, 2015 the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

In 2018, the CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector (41).

EXECUTIVE ORDER S-13-08

Executive Order S-13-08 states that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California’s economy, to the health and welfare of its population and to its natural resources.” Pursuant to the requirements in the Order, the 2009 California Climate Adaptation Strategy (CNRA 2009) was adopted, which is the “…first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

EXECUTIVE ORDER B-30-15

On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. The Governor’s executive order aligns California’s GHG reduction targets with those of leading international governments ahead of the U.N. Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40% below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. The Order also requires the state’s climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable for local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

2.7.3.2 CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California’s energy consumption relatively flat even with rapid population growth.

TITLE 20 CCR

CCR, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment (CEC 2012).

TITLE 24 CCR

CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020.

The CEC indicates that the 2019 Title 24 standards will require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, update indoor and outdoor lighting for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will about 53% less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30% less energy due to lighting upgrades (42).

CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2011, and is administered by the California Building Standards Commission (BSC). CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that have become effective on January 1, 2020. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction and demolition ordinances and defers to them as the ruling guidance provided, they establish a minimum 65% diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official. 2019 CALGreen standards are applicable to the Project and require (43):

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).

- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phase project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
  - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
  - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
  - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
  - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of note more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor portable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new

building or within an addition that is project to consume more than 1,000 gal/day (5.303.1.1 and 5.303.1.2).

- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

MWELO

The MWELO was required by AB 1881, the Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Governor Brown's Drought Executive Order of April 1, 2015 (Executive Order B-29-15) directed DWR to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015 effective December 15, 2015. New development projects that include landscape areas of 500 sf or more are subject to the Ordinance. The update requires:

- More efficient irrigation systems;
- Incentives for graywater usage;
- Improvements in on-site stormwater capture;
- Limiting the portion of landscapes that can be planted with high water use plants; and
- Reporting requirements for local agencies.

CARB Refrigerant Management Program

CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 lbs of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

Tractor-Trailer GHG Regulation

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the HD tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

PHASE I AND 2 HEAVY-DUTY VEHICLE GHG STANDARDS

CARB has adopted a new regulation for GHG emissions from HDTs and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing HD vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. In September 2011, the EPA adopted their new rule for HDTs and engines. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements begin with model year (MY) 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) HD pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB staff has worked jointly with the EPA and the NHTSA on the next phase of federal GHG emission standards for medium-duty trucks (MDT) and HDT vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later model year HDT vehicles, including trailers. But as discussed above, the EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for MDT and HDT vehicles may be pursued.

In February 2019, the OAL approved the Phase 2 Heavy-Duty Vehicle GHG Standards and became effective April 1, 2019. The Phase 2 GHG standards are needed to offset projected VMT growth and keep heavy-duty truck CO_2 emissions declining. The federal Phase 2 standards establish for the first time, federal emissions requirements for trailers hauled by heavy-duty tractors. The federal Phase 2 standards are more technology-forcing than the federal Phase 1 standards, requiring manufacturers to improve existing technologies or develop new technologies to meet the standards. The federal Phase 2 standards for tractors, vocational vehicles, and heavy-duty pick-up trucks and vans (PUVs) will be phased-in from 2021-2027, additionally for trailers, the standards are phased-in from 2018 (2020 in California) through 2027 (44).

SB 97 AND THE CEQA GUIDELINES UPDATE

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the OPR shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA.

On December 28, 2018, the Natural Resources Agency announced the OAL approved the amendments to the CEQA Guidelines for implementing the CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 15064.3 was added the CEQA Guidelines and states that in determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use (45).

CALIFORNIA RPS PROGRAM (SB 100)

Under the existing RPS, 25% of retail sales are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours (kWh) of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

2.7.4 REGIONAL

The project is within the South Coast Air Basin (SCAB), which is under the jurisdiction of the SCAQMD.

SCAQMD

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, that could be applied by lead agencies (46). The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
    - Residential and Commercial land use: 3,000 $MTCO_2e$/yr
    - Industrial land use: 10,000 $MTCO_2e$/yr
    - Based on land use type: residential: 3,500 $MTCO_2e$/yr; commercial: 1,400 $MTCO_2e$/yr; or mixed use: 3,000 $MTCO_2e$/yr
- Tier 4 has the following options:
    - Option 1: Reduce Business-as-Usual (BAU) emissions by a certain percentage; this percentage is currently undefined.
    - Option 2: Early implementation of applicable AB 32 Scoping Plan measures

  - Option 3: 2020 target for service populations, which includes residents and employees: 4.8 $MTCO_2e$ per service population per year for projects and 6.6 $MTCO_2e$ per service population per year for plans;
  - Option 3, 2035 target: 3.0 $MTCO_2e$ per service population per year for projects and 4.1 $MTCO_2e$ per service population per year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

CONNECT SOCAL 2020-2045 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

On September 3,2020 SCAG's Regional Council adopted the Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The plan charts a path toward a more mobile, sustainable and prosperous region by making key connections: between transportation networks, between planning strategies and between the people whose collaboration can make plans a reality (47).

CITY OF LOS ANGELES SUSTAINABLE CITY PLAN/ L.A.'S GREEN NEW DEAL

The City of Los Angeles adopted the Sustainable City pLAn (the pLAn) on April 8, 2015. The pLAn consists of short-term and long-term targets which identify strategies that would help achieve a cleaner environment and stronger economy. Such strategies include a wide range of measures potentially applicable to energy conservation, water use reduction, address global warming, improve pedestrian options, transportation management and solid waste recycling. The long-term goal of the pLAn is to reduce greenhouse gas emissions by 45% by 2025 (48).

In 2019, the update to the pLan was released, known as L.A.'s Green New Deal. Although not a formally adopted plan or policy, the updated document expands on the City's vision for a sustainable future and provides accelerated targets and new goals. Some of the many goals included in L.A.'s Green New Deal includes:

- 100% renewable energy by 2045
- Diversion of 100% waste by 2050
- Recycling 100% wastewater by 2035

CITY OF LOS ANGELES GREEN BUILDING CODE

On December 11, 2019, the City of Los Angeles approved Ordinance No. 186,488, which amended Chapter IX of the Los Angeles Municipal Code, referred to as the Los Angeles Green Building Code. This update incorporated various provisions of the 2019 CALGreen Code. Project's filed on or after January 1, 2020 are required to comply with the provisions of the Los Angeles Green Building Code.

2.8 DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS

The City of Los Angeles has not adopted its own numeric threshold of significance for determining impacts with respect to GHG emissions. A screening threshold of 3,000 $MTCO_2e$/yr to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the City of Menifee and numerous cities in the South Coast Air Basin and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required (49). As noted by the SCAQMD:

> *"…the…screening level for stationary sources is based on an emission capture rate of 90% for all new or modified projects...the policy objective of [SCAQMD's] recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90% of all new or modified stationary source projects. A GHG significance threshold based on a 90% emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90% emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that [SCAQMD] staff estimates that these GHG emissions would account for slightly less than 1% of future 2050 statewide GHG emissions target (85 [$MMTCO_2e$/yr]). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to [Best Available Control Technology] (BACT) for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility."* (50)

Thus, and based on guidance from the SCAQMD, if a non-industrial project would emit GHGs less than 3,000 $MTCO_2e$ per year, the project is not considered a substantial GHG emitter and the GHG impact is less than significant, requiring no additional analysis and no mitigation. On the other hand, if a non-industrial project would emit GHGs in excess of 3,000 $MTCO_2e$/yr, then the project could be considered a substantial GHG emitter, requiring additional analysis and potential mitigation.

As previously discussed, a screening threshold of 3,000 $MTCO_2e$/yr is an acceptable approach for small projects to determine if additional analysis is required and is therefore applied for this Project.

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3 PROJECT GHG IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will result in a significant GHG impact. The significance of these potential impacts is described in the following section.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related GHG impacts are taken from the Initial Study Checklist in Appendix G of the State *CEQA Guidelines* (14 CCR of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to GHG if it would (51):

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

3.3 MODELS EMPLOYED TO ANALYZE GHGS

3.3.1 CALIFORNIA EMISSIONS ESTIMATOR MODEL (CALEEMOD)

On October 17, 2017, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (52). Accordingly, the latest version of CalEEMod has been used for this Project to determine GHG emissions. Output from the model runs for construction and operational activity are provided in Appendix 3.1. CalEEMod includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

3.3.2 EMFAC2017 EMISSION RATES

On August 19, 2019, the EPA approved the 2017 version of the EMissions FACtor model (EMFAC) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by CARB to project changes in future emissions from on-road mobile sources (53). This GHGA utilizes annual EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities.

Because the EMFAC2017 emission rates are associated with vehicle fuel types while CalEEMod vehicle emission factors are aggregated to include all fuel types for each individual vehicle class, the EMFAC2017 emission rates for different fuel types of a vehicle class are averaged by activity or by population and activity to derive CalEEMod emission factors. The equations applied to obtain CalEEMod vehicle emission factors for each emission type are detailed in CalEEMod User's Guide *Appendix A: Calculation Details for CalEEMod* (54).

3.4 LIFE-CYCLE ANALYSIS NOT REQUIRED

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time (55). Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the Project development, infrastructure and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood or documented, and would be challenging to mitigate (56). Additionally, the science to calculate life cycle emissions is not yet established or well defined; therefore, SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

3.5 CONSTRUCTION EMISSIONS

Project construction actvities would generate CO_2 and CH_4 emissions The report *1130 S. Hope Street Air Quality Impact Analysis Report* (AQIA) (Urban Crossroads, Inc.) contains detailed information regarding Project construction activities (57) As discussed in the AQIA, Construction related emissions are expected from the following construction activities and are presented below in Table 3-3.

3.5.1 CONSTRUCTION DURATION

For purposes of analysis, construction is expected to commence in May 2021 and last through October 2022. The construction schedule utilized in the analysis, shown in Table 3-2, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[4] The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (58). The duration of construction activity was based on the information provided by the Project Applicant.

[4] As shown in the CalEEMod User's Guide Version 2016.3.2, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 3-1: CONSTRUCTION ACTIVITIES

Phase Name	Start Date	End Date	Days
Site Preparation	05/10/2021	05/21/2021	10
Grading	05/24/2021	08/06/2021	55
Building Construction	08/09/2021	08/09/2022	262
Architectural Coating	09/07/2022	09/15/2022	7
Paving	10/01/2022	10/06/2022	4

3.5.2 CONSTRUCTION EQUIPMENT

The construction equipment fleet was based on information provided by the Project Applicant. A detailed summary of construction equipment assumptions by phase is provided at Table 3-2. Please refer to specific detailed modeling inputs/outputs contained in Appendix 3.1 of this GHGA.

TABLE 3-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase Name	Equipment	Number	Hours Per Day
Site Preparation	Crawler Tractors	1	8
	Graders	1	8
Grading	Crawler Tractors	1	8
	Rubber Tired Dozers	1	8
Building Construction	Cranes	1	8
	Forklifts	2	8
	Tractors/Loaders/Backhoes	1	8
Architectural Coating	Air Compressors	1	8
Paving	Cement and Mortar Mixers	2	8
	Pavers	1	8
	Rollers	1	8
	Tractors/Loaders/Backhoes	1	8

3.5.3 CONSTRUCTION EMISSIONS SUMMARY

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year Project life then adding that number to the annual operational phase GHG emissions (59). As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 3-3.

TABLE 3-3: AMORTIZED ANNUAL CONSTRUCTION EMISSIONS

Year	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e[1]
2021	150.14	0.03	0.00	150.95
2022	136.08	0.03	0.00	136.82
Total	286.21	0.06	0.00	287.77
Amortized Construction Emissions ($MTCO_2e$)	**9.54**	**0.00**	**0.00**	**9.59**

Source: CalEEMod annual construction-source emissions are presented in Appendix 3.1.
[1] CalEEMod reports the most common GHGs emitted which include CO_2, CH_4, and N_2O. These GHGs are then converted into the CO_2e by

3.6 OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Cargo Handling Equipment Emissions
- Water Supply, Treatment, and Distribution
- Solid Waste

3.6.1 AREA SOURCE EMISSIONS

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

3.6.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building; the building energy use emissions do not include street lighting[5]. GHGs are also emitted

[5] The CalEEMod emissions inventory model does not include indirect emission related to street lighting. Indirect emissions related to street lighting are expected to be negligible and cannot be accurately quantified at this time as there is insufficient information as to the number and type of street lighting that would occur.

during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Unless otherwise noted, CalEEMod default parameters were used.

TITLE 24 ENERGY EFFICIENCY STANDARDS

The CalEEMod defaults for Title 24 – Electricity and Lighting Energy were reduced by 30% in order to reflect consistency with the 2019 Title 24 standard.

3.6.3 MOBILE SOURCE EMISSIONS

The Project related GHG emissions derive primarily from vehicle trips generated by the Project. Trip characteristics available from the TIS report were utilized in this analysis. Per IS prepared by Urban Crossroads, Inc. the Project is expected to generate a total of approximately 1,035 two-way vehicular trips per day (12).

3.6.4 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water. CalEEMod default parameters were used to estimate GHG emissions associated with water supply, treatment and distribution for the Project scenario.

3.6.5 SOLID WASTE

Residential land uses will result in the generation and disposal of solid waste. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by CalEEMod using default parameters.

3.7 EMISSIONS SUMMARY

The annual GHG emissions associated with the operation of the proposed Project are summarized in Table 3-4. As shown in Table 3-4, construction and operation of the Project would generate a net total of approximately 1,826.19 $MTCO_2e$/yr.

TABLE 3-4: PROJECT GHG EMISSIONS

Emission Source	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e
Annual construction-related emissions amortized over 30 years	9.54	0.00	0.00	9.59
Area Source	0.00518	1.00E-05	0.00	5.52E-03
Energy Source	654.43	0.01	5.11E-03	656.32
Mobile Source (Passenger Car)	1,083.96	0.08	0.00	1,086.04
Waste	16.09	0.95	0.00	39.85
Water Usage	30.48	0.12	2.98E-03	34.38
Total CO_2e (All Sources)	**1,826.19**			

3.8 GHG EMISSIONS FINDINGS AND RECOMMENDATIONS

3.8.1 GHG IMPACT 1

The Project would not generate GHG emissions either directly or indirectly that would result in a significant impact on the environment.

As shown on Table 3-4, the Project will result in a net total of approximately 1,826.19 $MTCO_2$/yr; the proposed Project would not exceed the SCAQMD/City's screening threshold of 3,000 $MTCO_2e$/yr. Thus, the Project would not have the potential to result in a cumulatively considerable impact with respect to GHG emissions. As such, a less than significant impact is expected, and the Project would not generate GHG emissions either directly or indirectly that would result in a significant impact on the environment.

3.8.2 GHG IMPACT 2

Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

As previously stated, pursuant to 15604.4 of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (60). As such, the Project's consistency with SB 32 (2017 Scoping Plan), is discussed below. It should be noted that the Project's consistency with the 2017 Scoping Plan also satisfies consistency with AB 32 since the 2017 Scoping Plan is based on the overall targets established by AB 32. Consistency with the 2008 Scoping Plan is not necessary, since the target year for the 2008 Scoping Plan was 2020, and the Project's buildout year is 2022. As such the 2008 Scoping Plan does not apply and consistency with the 2017 Scoping Plan is relevant.

The Project's consistency with SB 32, Connect SoCal, City's Sustainable City pLAn/L.A.'s Green New Deal, and the City's Green Building Code are discussed below:

SB 32/2017 Scoping Plan Consistency

The *2017 Scoping Plan* Update reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table 3-5 summarizes the project's consistency with the *2017 Scoping Plan*.

TABLE 3-5: 2017 SCOPING PLAN CONSISTENCY SUMMARY[6]

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
Electricity and Natural Gas	Renewable Portfolio Standard	SB 100/ Executive Order B-55-18	Consistent. The Project would use energy supplied by the Los Angeles Department of Water and Power (LADWP). LADWP has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources and obtained 32% of its power supply from renewable sources in 2018. The Project would not interfere with or obstruct LADPW energy source diversification efforts.
	Energy Efficiency	Title 20 Appliance Efficiency Regulation Title 24 Part 6 Energy Efficiency Standards for Residential and Non- Residential Building Title 24 Part 11 California Green Building Code	Consistent. The proposed Project would be designed and constructed to implement the energy efficiency measures, where applicable by including several measures designed to reduce energy consumption. The proposed Project includes energy efficient field lighting and fixtures that meet the current Title 24 Standards throughout the Project Site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
	Million Solar Roofs Program	SB 350 Clean Energy and Pollution Reduction Act of 2015 (50% 2030)	Consistent. This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs. The program provides incentives that are in place at the time of construction.
Water	Water	Title 24 Part 11 California Green Building Code Standards	The Project would comply with the CALGreen standards, which requires a 20% reduction in indoor water use.

[6] Source California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017 and CARB, Climate Change Scoping Plan, December 2008.

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
		SBX 7-7—The Water Conservation Act of 2009	
		Model Water Efficient Landscape Ordinance	
Industry	Industrial Emissions	2010 CARB Mandatory Reporting Program	Not applicable. The Mandatory Reporting Regulation requires facilities and entities with more than 10,000 $MTCO_2e$ of combustion and process emissions, all facilities belonging to certain industries, and all electric power entities to submit an annual GHG emissions data report directly to CARB. As shown above, total Project GHG emissions would not exceed 10,000 $MTCO_2e$. Therefore, this regulation would not apply.
Recycling and Waste Management	Recycling and Waste	Title 24 Part 11 California Green Building Code Standards	Consistent. The Project would not conflict with implementation of these measures. The Project is required to achieve the recycling mandates via compliance with the CALGreen code. The City has consistently achieved its state recycling mandates.
		AB 341 Statewide 75% Diversion Goal	
High Global Warming Potential	High Global Warming Potential Gases	CARB Refrigerant Management Program CCR 95380	Not applicable. The regulations are applicable to refrigerants used by large air conditioning systems and large commercial and industrial refrigerators and cold storage system. The Project would not conflict with the refrigerant management regulations adopted by CARB.
Agriculture	Agriculture	Cap and Trade Offset Projects for Livestock and Rice Cultivation	Not applicable. The Project site is designated for urban development. No grazing, feedlot, or other agricultural activities that generate manure occur currently exist on-site or are proposed to be implemented by the Project.
Green Buildings	Green Building Strategy	Title 24 Part 11 California Green Building Code	Consistent. The proposed Project would be designed and constructed to implement the energy efficiency

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
			measures, where applicable by including several measures designed to reduce energy consumption. The proposed Project includes energy efficient field lighting and fixtures that meet the current Title 24 Standards throughout the Project Site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Transportation	Mobile Source Strategy (Cleaner Technology and Fuels)	Executive Order B-48-18	Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with Executive Order B-48-18's target of increasing the number of light-duty EV to 1.5 million by 2025 and 5 million by 2030.
	California Light-Duty Vehicle GHG Standards	Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles	Consistent. This measure applies to all new vehicles starting with model year 2012. The Project would not conflict with its implementation as it would apply to all new passenger vehicles purchased in California. Passenger vehicles, model year 2012 and later, associated with construction and operation of the Project would be required to comply with the Pavley emissions standards.
		2012 LEV III California GHG and Criteria Pollutant Exhaust and Evaporative Emission Standards	Consistent. The LEV III amendments provide reductions from new vehicles sold in California between 2017 and 2025. Passenger vehicles associated with the Project site would comply with LEV III standards.
	Low Carbon Fuel Standard	2009 readopted in 2015. Regulations to Achieve GHG Emission Reductions Subarticle 7. Low Carbon Fuel Standard CCR 95480	Consistent. This measure applies to transportation fuels utilized by vehicles in California. The Project would not conflict with implementation of this measure. Motor vehicles associated with construction and operation of the Project would utilize low carbon transportation fuels as required under this measure

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
	Regional Transportation-Related GHG Targets.	SB 375. Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28	Consistent. The Project would provide development in the region that is consistent with the growth projections in the RTP/SCS.
	Goods Movement	Goods Movement Action Plan January 2007	Not applicable. The Project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
	Medium/Heavy-Duty Vehicle	2010 Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation and the Tractor-Trailer GHG Regulation	Not applicable. This measure applies to medium and heavy-duty vehicles that operate in the state. The Project would not conflict with implementation of this measure. Medium and heavy-duty vehicles associated with construction and operation of the Project would be required to comply with the requirements of this regulation.
	High Speed Rail	SB 862	Not applicable. This is a statewide measure that cannot be implemented by a project applicant or Lead Agency.

As shown above, the Project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the Project. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030 (61).

CONNECT SOCAL 2020-2045 RTP/SCS CONSISTENCY

The Project would be consistent with the plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The Project's consistency with the Connect SoCal 2020-2045 RTP/SCS strategies would therefore not conflict with GHG reduction goals set forth in the SCAG 2016 RTP/SCS.

CONSISTENCY WITH THE CITY OF LOS ANGELES SUSTAINABLE CITY PLAN AND L.A.'S GREEN NEW DEAL

The Project is required to comply with the City of Los Angeles Sustainable City pLAn and L.A.'s Green New Deal. The Project would be required to comply with the Title 24 requirements and would be therefore be consistent with the goals and initiatives of set forth by the Sustainable City pLAn. Additionally, Table 3-6 summarizes the Project's consistency with the L.A.'s Green New Deal.

TABLE 3-6: CONSISTENCY WITH APPLICABLE GHG EMISSIONS GOALS AND ACTIONS OF L.A.'S NEW GREEN DEAL

Focus Area	Consistency
Local Water	
Reduce potable water use per capital by 22.5% by 2025; 25% by 2035; and maintain or reduce 2035 per capita water use through 2050.	Consistent. The Project would comply with the CALGreen standards, which requires a 20% reduction in indoor water use.
Clean and Healthy Buildings	
All new buildings will be net zero carbon by 2030; and 100% of buildings will be net zero carbon by 2050.	Consistent. The proposed Project would be designed and constructed to implement the energy efficiency measures, where applicable by including several measures designed to reduce energy consumption. The proposed Project includes energy efficient field lighting and fixtures that meet the current Title 24 Standards throughout the Project Site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Reduce building energy use per sf for all building types 22% by 2025; 34% by 2035; and 44% by 2050.	
Housing and Development	
Ensure 57% of new housing units are built within 1,500 ft of transit by 2025; and 75% by 2035.	Consistent. While this action primarily applies to the City, the Project would develop a new mixed-use residential/retail development within a quarter mile walking distance toa Metro Rail stop.
Mobility and Public Transit	
Reduce VMT per capita by at least 13% by 2025; 39% by 2035; and 45% by 2050	Consistent. While this action primarily applies to the City, the Project would be located near mass transit stations to reduce vehicle trips. The Project would also promote a pedestrian-friendly community by placing residential/retail uses near transit. The Project would also provide bicycle parking spaces in accordance with the City's municipal code.
Mobility and Public Transit	
Increase the percentage of electric and zero emission vehicles in the city to 25% by 2025; 80% by 2035; and 100% by 2050.	No Conflict. The Project would support this policy as the Project is required to provide electric vehicle charging stations and electric vehicle supply wiring consistent with City code and Title 24 requirements.

CONSISTENCY WITH THE CITY OF LOS ANGELES GREEN BUILDING CODE

The Project would be required to comply with the Title 24 requirements and would be therefore be consistent with the goals and initiatives of set forth by the Sustainable City pLAn. As such, no significant impacts would result from the proposed Project, and no mitigation is required.

The Project would not conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

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5 CERTIFICATIONS

The contents of this greenhouse gas study report represent an accurate depiction of the greenhouse gas impacts associated with the proposed 1130 S. Hope Street Project. The information contained in this greenhouse gas report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

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PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
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ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
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AB2588 Regulatory Standards – Trinity Consultants • November 2006
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APPENDIX 3.1:

CALEEMOD ANNUAL CONSTRUCTION EMISSIONS MODEL OUTPUTS

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1130 South Hope Street (Unmitigated)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	62.00	Space	0.00	5,479.00	0
Other Non-Asphalt Surfaces	2.35	1000sqft	0.05	2,350.00	0
Hotel	144.00	Room	0.13	61,304.00	0
Regional Shopping Center	0.38	1000sqft	0.00	378.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	10			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project site is 0.18 acres.

Construction Phase - Construction Schedule based on consultation with the Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Grading - For purposes of analysis, it is assumed that 1 acre will be disturbed per day

Architectural Coating - Rule 1113

Vehicle Trips - Trip characteristics based on information provided in the 1130 South Hope Street Traffic Impact Study prepared by KOA

Energy Use - The Project will design building shells and building components to meet 2019 Title 24 Standards which expects 30% less energy for nonresidential uses.

Construction Off-road Equipment Mitigation - Rule 403

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	2.00	55.00
tblConstructionPhase	NumDays	100.00	262.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	5.00	7.00
tblEnergyUse	LightingElect	1.75	1.23
tblEnergyUse	LightingElect	5.44	3.81

tblEnergyUse	LightingElect	5.61	3.93
tblEnergyUse	T24E	3.92	2.74
tblEnergyUse	T24E	6.47	4.53
tblEnergyUse	T24E	4.58	3.21
tblEnergyUse	T24NG	55.15	38.61
tblEnergyUse	T24NG	1.92	1.34
tblGrading	AcresOfGrading	0.00	55.00
tblGrading	MaterialExported	0.00	6,233.00
tblLandUse	LandUseSquareFeet	24,800.00	5,479.00
tblLandUse	LandUseSquareFeet	209,088.00	61,304.00
tblLandUse	LandUseSquareFeet	380.00	378.00
tblLandUse	LotAcreage	0.56	0.00
tblLandUse	LotAcreage	4.80	0.13
tblLandUse	LotAcreage	0.01	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	7.00	8.00
tblVehicleEF	HHD	0.62	0.03
tblVehicleEF	HHD	0.09	0.08
tblVehicleEF	HHD	0.08	1.0000e-006
tblVehicleEF	HHD	2.47	6.23
tblVehicleEF	HHD	1.15	0.58
tblVehicleEF	HHD	3.30	9.5390e-003
tblVehicleEF	HHD	4,690.45	1,172.50
tblVehicleEF	HHD	1,639.83	1,482.70
tblVehicleEF	HHD	10.54	0.09
tblVehicleEF	HHD	20.39	6.32
tblVehicleEF	HHD	3.81	3.60
tblVehicleEF	HHD	19.54	2.06
tblVehicleEF	HHD	0.01	3.9370e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	8.7000e-005	2.0000e-006
tblVehicleEF	HHD	0.01	3.7670e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8380e-003	8.8970e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	8.0000e-005	1.0000e-006
tblVehicleEF	HHD	1.0500e-004	7.0000e-006
tblVehicleEF	HHD	4.6110e-003	2.7700e-004
tblVehicleEF	HHD	0.62	0.45
tblVehicleEF	HHD	7.9000e-005	5.0000e-006

tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	3.9500e-004	1.5080e-003
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	HHD	0.04	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.6000e-004	1.0000e-006
tblVehicleEF	HHD	1.0500e-004	7.0000e-006
tblVehicleEF	HHD	4.6110e-003	2.7700e-004
tblVehicleEF	HHD	0.72	0.52
tblVehicleEF	HHD	7.9000e-005	5.0000e-006
tblVehicleEF	HHD	0.25	0.17
tblVehicleEF	HHD	3.9500e-004	1.5080e-003
tblVehicleEF	HHD	0.09	3.0000e-006
tblVehicleEF	HHD	0.58	0.03
tblVehicleEF	HHD	0.10	0.08
tblVehicleEF	HHD	0.07	1.0000e-006
tblVehicleEF	HHD	1.80	6.09
tblVehicleEF	HHD	1.16	0.59
tblVehicleEF	HHD	3.13	9.0610e-003
tblVehicleEF	HHD	4,968.94	1,168.97
tblVehicleEF	HHD	1,639.83	1,482.70
tblVehicleEF	HHD	10.54	0.09
tblVehicleEF	HHD	21.04	6.13
tblVehicleEF	HHD	3.60	3.41
tblVehicleEF	HHD	19.53	2.06
tblVehicleEF	HHD	0.01	3.4420e-003
tblVehicleEF	HHD	0.06	0.06

tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	8.7000e-005	2.0000e-006
tblVehicleEF	HHD	0.01	3.2930e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8380e-003	8.8970e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	8.0000e-005	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	1.1000e-005
tblVehicleEF	HHD	4.7280e-003	2.8200e-004
tblVehicleEF	HHD	0.58	0.47
tblVehicleEF	HHD	1.1400e-004	8.0000e-006
tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	3.8400e-004	1.4870e-003
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	HHD	0.05	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.5700e-004	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	1.1000e-005
tblVehicleEF	HHD	4.7280e-003	2.8200e-004
tblVehicleEF	HHD	0.68	0.55
tblVehicleEF	HHD	1.1400e-004	8.0000e-006
tblVehicleEF	HHD	0.25	0.17
tblVehicleEF	HHD	3.8400e-004	1.4870e-003
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	HHD	0.67	0.02
tblVehicleEF	HHD	0.09	3.6360e-003

tblVehicleEF	HHD	0.08	1.0000e-006
tblVehicleEF	HHD	3.41	6.32
tblVehicleEF	HHD	1.15	0.38
tblVehicleEF	HHD	3.33	9.6340e-003
tblVehicleEF	HHD	4,305.87	1,158.96
tblVehicleEF	HHD	1,639.83	1,430.09
tblVehicleEF	HHD	10.54	0.09
tblVehicleEF	HHD	19.48	6.47
tblVehicleEF	HHD	3.75	3.49
tblVehicleEF	HHD	19.55	2.06
tblVehicleEF	HHD	0.02	4.3710e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	8.7000e-005	2.0000e-006
tblVehicleEF	HHD	0.02	4.1820e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8380e-003	8.7580e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	8.0000e-005	1.0000e-006
tblVehicleEF	HHD	1.0300e-004	8.0000e-006
tblVehicleEF	HHD	4.9260e-003	3.1500e-004
tblVehicleEF	HHD	0.66	0.42
tblVehicleEF	HHD	7.7000e-005	5.0000e-006
tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	4.2900e-004	1.6010e-003
tblVehicleEF	HHD	0.08	3.0000e-006

tblVehicleEF	HHD	0.04	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.6000e-004	1.0000e-006
tblVehicleEF	HHD	1.0300e-004	8.0000e-006
tblVehicleEF	HHD	4.9260e-003	3.1500e-004
tblVehicleEF	HHD	0.78	0.48
tblVehicleEF	HHD	7.7000e-005	5.0000e-006
tblVehicleEF	HHD	0.25	0.09
tblVehicleEF	HHD	4.2900e-004	1.6010e-003
tblVehicleEF	HHD	0.09	3.0000e-006
tblVehicleEF	LDA	5.3420e-003	3.0240e-003
tblVehicleEF	LDA	5.4040e-003	0.05
tblVehicleEF	LDA	0.66	0.72
tblVehicleEF	LDA	1.15	2.10
tblVehicleEF	LDA	274.33	272.47
tblVehicleEF	LDA	57.08	53.62
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.18
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.21

tblVehicleEF	LDA	0.07	0.22
tblVehicleEF	LDA	2.7480e-003	2.6780e-003
tblVehicleEF	LDA	5.9000e-004	5.2700e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.21
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDA	5.6740e-003	3.2280e-003
tblVehicleEF	LDA	4.8010e-003	0.04
tblVehicleEF	LDA	0.72	0.79
tblVehicleEF	LDA	0.98	1.79
tblVehicleEF	LDA	287.10	284.40
tblVehicleEF	LDA	57.08	53.05
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.06	0.17
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.06	0.08
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.06	0.20

tblVehicleEF	LDA	2.8760e-003	2.7950e-003
tblVehicleEF	LDA	5.8700e-004	5.2200e-004
tblVehicleEF	LDA	0.06	0.08
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.22
tblVehicleEF	LDA	5.2330e-003	2.9600e-003
tblVehicleEF	LDA	5.5300e-003	0.05
tblVehicleEF	LDA	0.63	0.69
tblVehicleEF	LDA	1.19	2.17
tblVehicleEF	LDA	269.66	268.07
tblVehicleEF	LDA	57.08	53.75
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.19
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.05	0.24
tblVehicleEF	LDA	0.07	0.23
tblVehicleEF	LDA	2.7010e-003	2.6350e-003

tblVehicleEF	LDA	5.9100e-004	5.2800e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.05	0.24
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDT1	0.02	7.7270e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.68	1.45
tblVehicleEF	LDT1	2.78	2.27
tblVehicleEF	LDT1	341.15	320.55
tblVehicleEF	LDT1	69.44	63.67
tblVehicleEF	LDT1	0.16	0.12
tblVehicleEF	LDT1	0.16	0.26
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.26	0.20
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.17	0.69
tblVehicleEF	LDT1	0.19	0.35
tblVehicleEF	LDT1	3.4330e-003	3.1520e-003
tblVehicleEF	LDT1	7.4300e-004	6.2600e-004

tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.26	0.20
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.17	0.69
tblVehicleEF	LDT1	0.21	0.39
tblVehicleEF	LDT1	0.02	8.1770e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.82	1.58
tblVehicleEF	LDT1	2.36	1.93
tblVehicleEF	LDT1	356.02	332.71
tblVehicleEF	LDT1	69.44	63.00
tblVehicleEF	LDT1	0.14	0.10
tblVehicleEF	LDT1	0.15	0.24
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.16	0.64
tblVehicleEF	LDT1	0.17	0.31
tblVehicleEF	LDT1	3.5840e-003	3.2710e-003
tblVehicleEF	LDT1	7.3600e-004	6.1900e-004
tblVehicleEF	LDT1	0.20	0.20

tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.16	0.64
tblVehicleEF	LDT1	0.18	0.34
tblVehicleEF	LDT1	0.02	7.5820e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.63	1.41
tblVehicleEF	LDT1	2.87	2.35
tblVehicleEF	LDT1	335.69	316.06
tblVehicleEF	LDT1	69.44	63.82
tblVehicleEF	LDT1	0.15	0.12
tblVehicleEF	LDT1	0.16	0.26
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.30	0.22
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.20	0.82
tblVehicleEF	LDT1	0.20	0.36
tblVehicleEF	LDT1	3.3780e-003	3.1070e-003
tblVehicleEF	LDT1	7.4500e-004	6.2800e-004
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.30	0.22

tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.20	0.82
tblVehicleEF	LDT1	0.21	0.40
tblVehicleEF	LDT2	7.2180e-003	4.9730e-003
tblVehicleEF	LDT2	6.3970e-003	0.07
tblVehicleEF	LDT2	0.84	1.02
tblVehicleEF	LDT2	1.35	2.65
tblVehicleEF	LDT2	381.91	343.42
tblVehicleEF	LDT2	78.07	68.73
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.41
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LDT2	3.8260e-003	3.3760e-003
tblVehicleEF	LDT2	8.0300e-004	6.7600e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07

tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.06	0.41
tblVehicleEF	LDT2	0.09	0.34
tblVehicleEF	LDT2	7.6530e-003	5.2910e-003
tblVehicleEF	LDT2	5.6920e-003	0.06
tblVehicleEF	LDT2	0.92	1.12
tblVehicleEF	LDT2	1.15	2.26
tblVehicleEF	LDT2	399.04	355.31
tblVehicleEF	LDT2	78.07	67.99
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.10	0.26
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.06	0.10
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.28
tblVehicleEF	LDT2	3.9980e-003	3.4930e-003
tblVehicleEF	LDT2	8.0000e-004	6.6800e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.06	0.10
tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.31
tblVehicleEF	LDT2	7.0750e-003	4.8730e-003
tblVehicleEF	LDT2	6.5470e-003	0.07
tblVehicleEF	LDT2	0.81	0.99
tblVehicleEF	LDT2	1.39	2.74
tblVehicleEF	LDT2	375.62	339.02
tblVehicleEF	LDT2	78.07	68.90
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.48
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	3.7630e-003	3.3320e-003
tblVehicleEF	LDT2	8.0400e-004	6.7700e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.07	0.48

tblVehicleEF	LDT2	0.10	0.35
tblVehicleEF	LHD1	5.5970e-003	5.6110e-003
tblVehicleEF	LHD1	0.01	5.6770e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.84	0.65
tblVehicleEF	LHD1	2.79	1.14
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.04
tblVehicleEF	LHD1	33.34	12.48
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.95	0.63
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.31	0.55

tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8500e-004	1.2400e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.31	0.55
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD1	5.5970e-003	5.6230e-003
tblVehicleEF	LHD1	0.01	5.7930e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.85	0.66
tblVehicleEF	LHD1	2.66	1.09
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.06
tblVehicleEF	LHD1	33.34	12.39
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.89	0.59
tblVehicleEF	LHD1	0.96	0.32
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004

1130 South Hope Street (Unmitigated) - Los Angeles-South Coast County, Annual

tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
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tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
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tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9310e-003	6.5150e-003
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tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
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tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
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tblVehicleEF	LHD1	5.5970e-003	5.6090e-003
tblVehicleEF	LHD1	0.01	5.6460e-003
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tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.83	0.64
tblVehicleEF	LHD1	2.81	1.15

tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.03
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tblVehicleEF	LHD1	0.94	0.62
tblVehicleEF	LHD1	1.01	0.34
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tblVehicleEF	LHD1	0.01	9.6680e-003
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tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
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tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
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tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
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tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
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tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
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tblVehicleEF	LHD1	0.02	0.03

tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
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tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD2	4.0020e-003	3.9440e-003
tblVehicleEF	LHD2	4.2980e-003	3.9460e-003
tblVehicleEF	LHD2	8.5190e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.44
tblVehicleEF	LHD2	1.37	0.77
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.65
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.65	0.81
tblVehicleEF	LHD2	0.55	0.23
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
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tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
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tblVehicleEF	LHD2	0.01	0.02

tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
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tblVehicleEF	LHD2	0.08	0.35
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tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.5000e-005
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
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tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
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tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9530e-003
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tblVehicleEF	LHD2	8.2260e-003	0.01
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tblVehicleEF	LHD2	0.35	0.44
tblVehicleEF	LHD2	1.31	0.74
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.38
tblVehicleEF	LHD2	27.88	9.59
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tblVehicleEF	LHD2	0.61	0.76
tblVehicleEF	LHD2	0.53	0.22
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003

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tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
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tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
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tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
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tblVehicleEF	LHD2	0.08	0.34
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tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
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tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9420e-003
tblVehicleEF	LHD2	4.2820e-003	3.9330e-003
tblVehicleEF	LHD2	8.5780e-003	0.01

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tblVehicleEF	LHD2	1.38	0.78
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.66
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.64	0.80
tblVehicleEF	LHD2	0.56	0.24
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
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tblVehicleEF	LHD2	0.09	0.39
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tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.6000e-005

tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.05	0.06
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tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.23
tblVehicleEF	MCY	18.94	19.11
tblVehicleEF	MCY	9.66	8.52
tblVehicleEF	MCY	188.92	223.68
tblVehicleEF	MCY	44.52	59.56
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	2.60	2.61
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.05	1.81
tblVehicleEF	MCY	2.2780e-003	2.2130e-003
tblVehicleEF	MCY	6.6300e-004	5.8900e-004

tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	3.23	3.25
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.23	1.97
tblVehicleEF	MCY	0.53	0.37
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	18.24	18.37
tblVehicleEF	MCY	8.82	7.76
tblVehicleEF	MCY	188.92	222.28
tblVehicleEF	MCY	44.52	57.67
tblVehicleEF	MCY	0.99	0.99
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.73	1.72
tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	2.54	2.55
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.83	1.61
tblVehicleEF	MCY	2.2650e-003	2.2000e-003
tblVehicleEF	MCY	6.4300e-004	5.7100e-004
tblVehicleEF	MCY	1.73	1.72

tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	3.16	3.17
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.99	1.75
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.04	19.25
tblVehicleEF	MCY	9.80	8.66
tblVehicleEF	MCY	188.92	223.96
tblVehicleEF	MCY	44.52	59.94
tblVehicleEF	MCY	1.11	1.11
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
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tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84
tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	2.61	2.63
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.09	1.86
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tblVehicleEF	MCY	0.82	0.84

tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	3.25	3.26
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.28	2.02
tblVehicleEF	MDV	0.01	6.5350e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.33	1.22
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tblVehicleEF	MDV	512.22	421.49
tblVehicleEF	MDV	103.14	83.59
tblVehicleEF	MDV	0.15	0.11
tblVehicleEF	MDV	0.22	0.34
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.19	0.40
tblVehicleEF	MDV	5.1310e-003	4.1410e-003
tblVehicleEF	MDV	1.0750e-003	8.2200e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09

tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.21	0.44
tblVehicleEF	MDV	0.01	6.9310e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.45	1.32
tblVehicleEF	MDV	2.12	2.63
tblVehicleEF	MDV	534.67	433.96
tblVehicleEF	MDV	103.14	82.70
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.20	0.32
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.17	0.36
tblVehicleEF	MDV	5.3570e-003	4.2630e-003
tblVehicleEF	MDV	1.0680e-003	8.1300e-004
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.05	0.04

tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.18	0.39
tblVehicleEF	MDV	0.01	6.4070e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.29	1.18
tblVehicleEF	MDV	2.56	3.21
tblVehicleEF	MDV	503.99	416.89
tblVehicleEF	MDV	103.14	83.79
tblVehicleEF	MDV	0.14	0.11
tblVehicleEF	MDV	0.22	0.35
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.10	0.50
tblVehicleEF	MDV	0.19	0.41
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tblVehicleEF	MDV	1.0760e-003	8.2400e-004
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.10	0.50

tblVehicleEF	MDV	0.21	0.45
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.24	0.27
tblVehicleEF	MH	5.78	0.00
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tblVehicleEF	MH	1.08	3.43
tblVehicleEF	MH	0.80	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.1280e-003	0.00
tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
tblVehicleEF	MH	0.95	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.41	0.00
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
tblVehicleEF	MH	0.01	9.1260e-003
tblVehicleEF	MH	7.0500e-004	0.00
tblVehicleEF	MH	0.95	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.41	0.00
tblVehicleEF	MH	0.12	0.08

tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.30	0.27
tblVehicleEF	MH	5.44	0.00
tblVehicleEF	MH	1,130.03	965.33
tblVehicleEF	MH	60.43	0.00
tblVehicleEF	MH	0.99	3.24
tblVehicleEF	MH	0.76	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.1280e-003	0.00
tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
tblVehicleEF	MH	1.41	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.58	0.00
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	0.01	9.1260e-003
tblVehicleEF	MH	6.9900e-004	0.00
tblVehicleEF	MH	1.41	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.58	0.00

tblVehicleEF	MH	0.12	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.34	0.00
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.22	0.27
tblVehicleEF	MH	5.83	0.00
tblVehicleEF	MH	1,130.03	965.33
tblVehicleEF	MH	60.43	0.00
tblVehicleEF	MH	1.06	3.37
tblVehicleEF	MH	0.80	0.00
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tblVehicleEF	MH	0.02	0.07
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tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
tblVehicleEF	MH	1.08	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
tblVehicleEF	MH	0.01	9.1260e-003
tblVehicleEF	MH	7.0600e-004	0.00
tblVehicleEF	MH	1.08	0.00
tblVehicleEF	MH	0.08	0.00

tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.12	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.36	0.00
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tblVehicleEF	MHD	4.8560e-003	4.6020e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.37	0.39
tblVehicleEF	MHD	0.37	0.47
tblVehicleEF	MHD	6.14	1.44
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tblVehicleEF	MHD	1,150.98	1,070.87
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tblVehicleEF	MHD	9.96	1.29
tblVehicleEF	MHD	2.4800e-004	1.0730e-003
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004
tblVehicleEF	MHD	2.3800e-004	1.0270e-003
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.4200e-004	4.3000e-004
tblVehicleEF	MHD	0.05	0.06

tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.37	0.07
tblVehicleEF	MHD	1.2810e-003	6.4000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.4300e-004	1.2000e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.4200e-004	4.3000e-004
tblVehicleEF	MHD	0.05	0.07
tblVehicleEF	MHD	0.02	0.14
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tblVehicleEF	MHD	0.27	0.32
tblVehicleEF	MHD	0.38	0.48
tblVehicleEF	MHD	5.83	1.36
tblVehicleEF	MHD	140.78	68.14
tblVehicleEF	MHD	1,150.98	1,070.88
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tblVehicleEF	MHD	1.08	1.54
tblVehicleEF	MHD	9.92	1.28
tblVehicleEF	MHD	2.0900e-004	9.0700e-004
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004

tblVehicleEF	MHD	2.0000e-004	8.6800e-004
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.0480e-003	6.0400e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.36	0.06
tblVehicleEF	MHD	1.3550e-003	6.4800e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.3800e-004	1.1900e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	1.0480e-003	6.0400e-004
tblVehicleEF	MHD	0.06	0.07
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.39	0.07
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tblVehicleEF	MHD	4.8360e-003	4.5850e-003
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tblVehicleEF	MHD	0.52	0.49
tblVehicleEF	MHD	0.37	0.47
tblVehicleEF	MHD	6.20	1.45
tblVehicleEF	MHD	122.05	66.18

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tblVehicleEF	MHD	9.97	1.29
tblVehicleEF	MHD	3.0200e-004	1.3020e-003
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004
tblVehicleEF	MHD	2.8900e-004	1.2460e-003
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.1690e-003	6.9100e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.16
tblVehicleEF	MHD	0.38	0.07
tblVehicleEF	MHD	1.1790e-003	6.2900e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.4400e-004	1.2100e-004
tblVehicleEF	MHD	1.1690e-003	6.9100e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
tblVehicleEF	MHD	0.05	0.07
tblVehicleEF	MHD	0.02	0.16

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tblVehicleEF	OBUS	7.7220e-003	6.9630e-003
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tblVehicleEF	OBUS	0.28	0.60
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tblVehicleEF	OBUS	1.55	1.57
tblVehicleEF	OBUS	2.60	0.75
tblVehicleEF	OBUS	1.1400e-004	7.8900e-004
tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	1.0900e-004	7.5500e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004
tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	7.6800e-004	9.4100e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.34	0.11
tblVehicleEF	OBUS	1.0820e-003	8.9600e-004

tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7400e-004	1.9000e-004
tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	7.6800e-004	9.4100e-004
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.37	0.13
tblVehicleEF	OBUS	0.01	8.5340e-003
tblVehicleEF	OBUS	7.8490e-003	7.0850e-003
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tblVehicleEF	OBUS	1,260.49	1,391.52
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tblVehicleEF	OBUS	9.6000e-005	6.7100e-004
tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	9.2000e-005	6.4200e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004

tblVehicleEF	OBUS	2.1010e-003	2.6500e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
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tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.32	0.11
tblVehicleEF	OBUS	1.1360e-003	8.9500e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.6900e-004	1.8800e-004
tblVehicleEF	OBUS	2.1010e-003	2.6500e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	1.0830e-003	1.3070e-003
tblVehicleEF	OBUS	0.08	0.08
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tblVehicleEF	OBUS	7.6880e-003	6.9290e-003
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tblVehicleEF	OBUS	1.4690e-003	1.9220e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
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tblVehicleEF	SBUS	0.02	0.03
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tblVehicleEF	SBUS	8.9370e-003	3.7830e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03
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tblVehicleEF	SBUS	1.7650e-003	5.2700e-004
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tblVehicleEF	SBUS	0.01	3.3860e-003
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tblVehicleEF	SBUS	6.7700e-004	5.7000e-005
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tblVehicleEF	SBUS	0.03	8.5880e-003
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tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
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tblVehicleEF	SBUS	2.5080e-003	7.3100e-004
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tblVehicleEF	SBUS	55.06	5.78

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tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	0.01	4.5930e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
tblVehicleEF	SBUS	0.98	0.34
tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
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tblVehicleEF	SBUS	0.39	0.04
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tblVehicleEF	SBUS	6.8100e-004	5.7000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
tblVehicleEF	SBUS	1.41	0.49
tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
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tblVehicleEF	SBUS	0.02	0.07

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tblVehicleEF	UBUS	0.13	3.1840e-003
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tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003
tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
tblVehicleEF	UBUS	0.85	0.09
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	9.8600e-003	1.4410e-003
tblVehicleEF	UBUS	1.1250e-003	8.5000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003

tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
tblVehicleEF	UBUS	3.56	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.74	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.27	45.42
tblVehicleEF	UBUS	7.69	0.63
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.46
tblVehicleEF	UBUS	9.41	0.47
tblVehicleEF	UBUS	15.31	0.08
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	0.86	0.09
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.62	0.04
tblVehicleEF	UBUS	9.8610e-003	1.4410e-003

tblVehicleEF	UBUS	1.1050e-003	8.4000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	3.57	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.21	45.42
tblVehicleEF	UBUS	9.08	0.73
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.64
tblVehicleEF	UBUS	9.79	0.47
tblVehicleEF	UBUS	15.38	0.09
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	0.85	0.09

tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.69	0.05
tblVehicleEF	UBUS	9.8590e-003	1.4410e-003
tblVehicleEF	UBUS	1.1290e-003	8.5000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	3.55	5.97
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.75	0.05
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	8.17	8.36
tblVehicleTrips	WD_TR	42.70	37.04

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	0.0964	1.0667	0.6439	1.6500e-003	0.2292	0.0456	0.2748	0.1026	0.0419	0.1445	0.0000	150.1394	150.1394	0.0324	0.0000	150.9490
2022	1.3398	0.7686	0.6807	1.5200e-003	0.0320	0.0351	0.0671	8.6300e-003	0.0324	0.0411	0.0000	136.0753	136.0753	0.0300	0.0000	136.8249
Maximum	**1.3398**	**1.0667**	**0.6807**	**1.6500e-003**	**0.2292**	**0.0456**	**0.2748**	**0.1026**	**0.0419**	**0.1445**	**0.0000**	**150.1394**	**150.1394**	**0.0324**	**0.0000**	**150.9490**

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	0.0964	1.0667	0.6439	1.6500e-003	0.1070	0.0456	0.1525	0.0448	0.0419	0.0867	0.0000	150.1393	150.1393	0.0324	0.0000	150.9489
2022	1.3398	0.7686	0.6807	1.5200e-003	0.0320	0.0351	0.0671	8.6300e-003	0.0324	0.0411	0.0000	136.0752	136.0752	0.0300	0.0000	136.8248
Maximum	**1.3398**	**1.0667**	**0.6807**	**1.6500e-003**	**0.1070**	**0.0456**	**0.1525**	**0.0448**	**0.0419**	**0.0867**	**0.0000**	**150.1393**	**150.1393**	**0.0324**	**0.0000**	**150.9489**

	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**	**46.80**	**0.00**	**35.76**	**51.99**	**0.00**	**31.16**	**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)
3	4-1-2021	6-30-2021	0.3176	0.3176
4	7-1-2021	9-30-2021	0.4600	0.4600
5	10-1-2021	12-31-2021	0.3712	0.3712
6	1-1-2022	3-31-2022	0.3213	0.3213
7	4-1-2022	6-30-2022	0.3242	0.3242
8	7-1-2022	9-30-2022	1.3046	1.3046
		Highest	1.3046	1.3046

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	0.2523	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003
Energy	0.0144	0.1307	0.1098	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	654.4306	654.4306	0.0148	5.1100e-003	656.3242
Mobile	0.4895	0.9563	4.3787	0.0115	1.0501	0.0118	1.0619	0.2809	0.0111	0.2920	0.0000	1,083.9550	1,083.9550	0.0833	0.0000	1,086.0382
Waste						0.0000	0.0000		0.0000	0.0000	16.0850	0.0000	16.0850	0.9506	0.0000	39.8499
Water						0.0000	0.0000		0.0000	0.0000	1.1678	29.3133	30.4811	0.1206	2.9800e-003	34.3836
Total	**0.7562**	**1.0870**	**4.4912**	**0.0123**	**1.0501**	**0.0217**	**1.0718**	**0.2809**	**0.0210**	**0.3019**	**17.2528**	**1,767.7041**	**1,784.9569**	**1.1694**	**8.0900e-003**	**1,816.6015**

2.2 Overall Operational

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	0.2523	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003
Energy	0.0144	0.1307	0.1098	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	654.4306	654.4306	0.0148	5.1100e-003	656.3242
Mobile	0.4895	0.9563	4.3787	0.0115	1.0501	0.0118	1.0619	0.2809	0.0111	0.2920	0.0000	1,083.9550	1,083.9550	0.0833	0.0000	1,086.0382
Waste						0.0000	0.0000		0.0000	0.0000	16.0850	0.0000	16.0850	0.9506	0.0000	39.8499
Water						0.0000	0.0000		0.0000	0.0000	1.1678	29.3133	30.4811	0.1206	2.9800e-003	34.3836
Total	**0.7562**	**1.0870**	**4.4912**	**0.0123**	**1.0501**	**0.0217**	**1.0718**	**0.2809**	**0.0210**	**0.3019**	**17.2528**	**1,767.7041**	**1,784.9569**	**1.1694**	**8.0900e-003**	**1,816.6015**

	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	Site Preparation	Site Preparation	5/10/2021	5/21/2021	5	10	
2	Grading	Grading	5/22/2021	8/6/2021	5	55	
3	Building Construction	Building Construction	8/7/2021	8/9/2022	5	262	
4	Architectural Coating	Architectural Coating	8/19/2022	10/6/2022	5	4	
5	Paving	Paving	9/7/2022	9/15/2022	5	7	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 55

Acres of Paving: 0.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 92,523; Non-Residential Outdoor: 30,841; Striped Parking Area: 470 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	8.00	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
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	779.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	29.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 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					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0645	0.0210	7.0000e-005		2.2500e-003	2.2500e-003		2.0700e-003	2.0700e-003	0.0000	6.3596	6.3596	2.0600e-003	0.0000	6.4110
Total	**5.0200e-003**	**0.0645**	**0.0210**	**7.0000e-005**	**5.3000e-003**	**2.2500e-003**	**7.5500e-003**	**5.7000e-004**	**2.0700e-003**	**2.6400e-003**	**0.0000**	**6.3596**	**6.3596**	**2.0600e-003**	**0.0000**	**6.4110**

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	1.1000e-004	8.0000e-005	9.5000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2472	0.2472	1.0000e-005	0.0000	0.2474
Total	**1.1000e-004**	**8.0000e-005**	**9.5000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2472**	**0.2472**	**1.0000e-005**	**0.0000**	**0.2474**

3.2 Site Preparation - 2021

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					2.0700e-003	0.0000	2.0700e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0645	0.0210	7.0000e-005		2.2500e-003	2.2500e-003		2.0700e-003	2.0700e-003	0.0000	6.3596	6.3596	2.0600e-003	0.0000	6.4110
Total	**5.0200e-003**	**0.0645**	**0.0210**	**7.0000e-005**	**2.0700e-003**	**2.2500e-003**	**4.3200e-003**	**2.2000e-004**	**2.0700e-003**	**2.2900e-003**	**0.0000**	**6.3596**	**6.3596**	**2.0600e-003**	**0.0000**	**6.4110**

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	1.1000e-004	8.0000e-005	9.5000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2472	0.2472	1.0000e-005	0.0000	0.2474
Total	**1.1000e-004**	**8.0000e-005**	**9.5000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2472**	**0.2472**	**1.0000e-005**	**0.0000**	**0.2474**

3.3 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					0.1951	0.0000	0.1951	0.0942	0.0000	0.0942	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0339	0.3539	0.1732	3.2000e-004		0.0177	0.0177		0.0163	0.0163	0.0000	28.1472	28.1472	9.1000e-003	0.0000	28.3748
Total	**0.0339**	**0.3539**	**0.1732**	**3.2000e-004**	**0.1951**	**0.0177**	**0.2128**	**0.0942**	**0.0163**	**0.1105**	**0.0000**	**28.1472**	**28.1472**	**9.1000e-003**	**0.0000**	**28.3748**

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	3.2800e-003	0.1078	0.0251	3.0000e-004	6.6900e-003	3.2000e-004	7.0200e-003	1.8400e-003	3.1000e-004	2.1500e-003	0.0000	29.6914	29.6914	2.0600e-003	0.0000	29.7430
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	5.9000e-004	4.6000e-004	5.2000e-003	2.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.3598	1.3598	4.0000e-005	0.0000	1.3608
Total	**3.8700e-003**	**0.1083**	**0.0303**	**3.2000e-004**	**8.2000e-003**	**3.3000e-004**	**8.5400e-003**	**2.2400e-003**	**3.2000e-004**	**2.5600e-003**	**0.0000**	**31.0512**	**31.0512**	**2.1000e-003**	**0.0000**	**31.1037**

3.3 Grading - 2021

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					0.0761	0.0000	0.0761	0.0368	0.0000	0.0368	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0339	0.3538	0.1732	3.2000e-004		0.0177	0.0177		0.0163	0.0163	0.0000	28.1471	28.1471	9.1000e-003	0.0000	28.3747
Total	**0.0339**	**0.3538**	**0.1732**	**3.2000e-004**	**0.0761**	**0.0177**	**0.0938**	**0.0368**	**0.0163**	**0.0531**	**0.0000**	**28.1471**	**28.1471**	**9.1000e-003**	**0.0000**	**28.3747**

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	3.2800e-003	0.1078	0.0251	3.0000e-004	6.6900e-003	3.2000e-004	7.0200e-003	1.8400e-003	3.1000e-004	2.1500e-003	0.0000	29.6914	29.6914	2.0600e-003	0.0000	29.7430
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	5.9000e-004	4.6000e-004	5.2000e-003	2.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.3598	1.3598	4.0000e-005	0.0000	1.3608
Total	**3.8700e-003**	**0.1083**	**0.0303**	**3.2000e-004**	**8.2000e-003**	**3.3000e-004**	**8.5400e-003**	**2.2400e-003**	**3.2000e-004**	**2.5600e-003**	**0.0000**	**31.0512**	**31.0512**	**2.1000e-003**	**0.0000**	**31.1037**

3.4 Building Construction - 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	0.0451	0.4779	0.3454	6.3000e-004		0.0250	0.0250		0.0230	0.0230	0.0000	55.0428	55.0428	0.0178	0.0000	55.4878
Total	**0.0451**	**0.4779**	**0.3454**	**6.3000e-004**		**0.0250**	**0.0250**		**0.0230**	**0.0230**	**0.0000**	**55.0428**	**55.0428**	**0.0178**	**0.0000**	**55.4878**

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	1.7900e-003	0.0570	0.0155	1.5000e-004	3.6400e-003	1.2000e-004	3.7500e-003	1.0500e-003	1.1000e-004	1.1600e-003	0.0000	14.2352	14.2352	8.7000e-004	0.0000	14.2570
Worker	6.5500e-003	5.1000e-003	0.0576	1.7000e-004	0.0167	1.4000e-004	0.0168	4.4300e-003	1.3000e-004	4.5600e-003	0.0000	15.0563	15.0563	4.4000e-004	0.0000	15.0673
Total	**8.3400e-003**	**0.0621**	**0.0730**	**3.2000e-004**	**0.0203**	**2.6000e-004**	**0.0206**	**5.4800e-003**	**2.4000e-004**	**5.7200e-003**	**0.0000**	**29.2914**	**29.2914**	**1.3100e-003**	**0.0000**	**29.3244**

3.4 Building Construction - 2021

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	0.0451	0.4779	0.3454	6.3000e-004		0.0250	0.0250		0.0230	0.0230	0.0000	55.0427	55.0427	0.0178	0.0000	55.4878
Total	**0.0451**	**0.4779**	**0.3454**	**6.3000e-004**		**0.0250**	**0.0250**		**0.0230**	**0.0230**	**0.0000**	**55.0427**	**55.0427**	**0.0178**	**0.0000**	**55.4878**

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	1.7900e-003	0.0570	0.0155	1.5000e-004	3.6400e-003	1.2000e-004	3.7500e-003	1.0500e-003	1.1000e-004	1.1600e-003	0.0000	14.2352	14.2352	8.7000e-004	0.0000	14.2570
Worker	6.5500e-003	5.1000e-003	0.0576	1.7000e-004	0.0167	1.4000e-004	0.0168	4.4300e-003	1.3000e-004	4.5600e-003	0.0000	15.0563	15.0563	4.4000e-004	0.0000	15.0673
Total	**8.3400e-003**	**0.0621**	**0.0730**	**3.2000e-004**	**0.0203**	**2.6000e-004**	**0.0206**	**5.4800e-003**	**2.4000e-004**	**5.7200e-003**	**0.0000**	**29.2914**	**29.2914**	**1.3100e-003**	**0.0000**	**29.3244**

3.4 Building Construction - 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					
Off-Road	0.0600	0.6256	0.5054	9.4000e-004		0.0317	0.0317		0.0292	0.0292	0.0000	82.3327	82.3327	0.0266	0.0000	82.9984
Total	**0.0600**	**0.6256**	**0.5054**	**9.4000e-004**		**0.0317**	**0.0317**		**0.0292**	**0.0292**	**0.0000**	**82.3327**	**82.3327**	**0.0266**	**0.0000**	**82.9984**

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	2.5200e-003	0.0810	0.0219	2.2000e-004	5.4400e-003	1.5000e-004	5.5900e-003	1.5700e-003	1.5000e-004	1.7200e-003	0.0000	21.0980	21.0980	1.2600e-003	0.0000	21.1295
Worker	9.1900e-003	6.8900e-003	0.0793	2.4000e-004	0.0250	2.0000e-004	0.0252	6.6300e-003	1.8000e-004	6.8100e-003	0.0000	21.7213	21.7213	6.0000e-004	0.0000	21.7363
Total	**0.0117**	**0.0879**	**0.1012**	**4.6000e-004**	**0.0304**	**3.5000e-004**	**0.0307**	**8.2000e-003**	**3.3000e-004**	**8.5300e-003**	**0.0000**	**42.8194**	**42.8194**	**1.8600e-003**	**0.0000**	**42.8658**

3.4 Building Construction - 2022

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	0.0600	0.6256	0.5054	9.4000e-004		0.0317	0.0317		0.0292	0.0292	0.0000	82.3326	82.3326	0.0266	0.0000	82.9983
Total	**0.0600**	**0.6256**	**0.5054**	**9.4000e-004**		**0.0317**	**0.0317**		**0.0292**	**0.0292**	**0.0000**	**82.3326**	**82.3326**	**0.0266**	**0.0000**	**82.9983**

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	2.5200e-003	0.0810	0.0219	2.2000e-004	5.4400e-003	1.5000e-004	5.5900e-003	1.5700e-003	1.5000e-004	1.7200e-003	0.0000	21.0980	21.0980	1.2600e-003	0.0000	21.1295
Worker	9.1900e-003	6.8900e-003	0.0793	2.4000e-004	0.0250	2.0000e-004	0.0252	6.6300e-003	1.8000e-004	6.8100e-003	0.0000	21.7213	21.7213	6.0000e-004	0.0000	21.7363
Total	**0.0117**	**0.0879**	**0.1012**	**4.6000e-004**	**0.0304**	**3.5000e-004**	**0.0307**	**8.2000e-003**	**3.3000e-004**	**8.5300e-003**	**0.0000**	**42.8194**	**42.8194**	**1.8600e-003**	**0.0000**	**42.8658**

3.5 Architectural Coating - 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	1.2603					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0329	0.0423	7.0000e-005		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	5.9576	5.9576	3.9000e-004	0.0000	5.9673
Total	**1.2651**	**0.0329**	**0.0423**	**7.0000e-005**		**1.9100e-003**	**1.9100e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**5.9576**	**5.9576**	**3.9000e-004**	**0.0000**	**5.9673**

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	4.2000e-004	3.2000e-004	3.6600e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	1.0019	1.0019	3.0000e-005	0.0000	1.0026
Total	**4.2000e-004**	**3.2000e-004**	**3.6600e-003**	**1.0000e-005**	**1.1500e-003**	**1.0000e-005**	**1.1600e-003**	**3.1000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**1.0019**	**1.0019**	**3.0000e-005**	**0.0000**	**1.0026**

3.5 Architectural Coating - 2022

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	1.2603					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0329	0.0423	7.0000e-005		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	5.9576	5.9576	3.9000e-004	0.0000	5.9673
Total	**1.2651**	**0.0329**	**0.0423**	**7.0000e-005**		**1.9100e-003**	**1.9100e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**5.9576**	**5.9576**	**3.9000e-004**	**0.0000**	**5.9673**

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	4.2000e-004	3.2000e-004	3.6600e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	1.0019	1.0019	3.0000e-005	0.0000	1.0026
Total	**4.2000e-004**	**3.2000e-004**	**3.6600e-003**	**1.0000e-005**	**1.1500e-003**	**1.0000e-005**	**1.1600e-003**	**3.1000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**1.0019**	**1.0019**	**3.0000e-005**	**0.0000**	**1.0026**

3.6 Paving - 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					
Off-Road	2.2900e-003	0.0218	0.0266	4.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	3.5296	3.5296	1.0700e-003	0.0000	3.5564
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2900e-003**	**0.0218**	**0.0266**	**4.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**3.5296**	**3.5296**	**1.0700e-003**	**0.0000**	**3.5564**

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	1.8000e-004	1.4000e-004	1.5900e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4341	0.4341	1.0000e-005	0.0000	0.4344
Total	**1.8000e-004**	**1.4000e-004**	**1.5900e-003**	**0.0000**	**5.0000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4341**	**0.4341**	**1.0000e-005**	**0.0000**	**0.4344**

3.6 Paving - 2022

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	2.2900e-003	0.0218	0.0266	4.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	3.5296	3.5296	1.0700e-003	0.0000	3.5564
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2900e-003**	**0.0218**	**0.0266**	**4.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**3.5296**	**3.5296**	**1.0700e-003**	**0.0000**	**3.5564**

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	1.8000e-004	1.4000e-004	1.5900e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4341	0.4341	1.0000e-005	0.0000	0.4344
Total	**1.8000e-004**	**1.4000e-004**	**1.5900e-003**	**0.0000**	**5.0000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4341**	**0.4341**	**1.0000e-005**	**0.0000**	**0.4344**

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	0.4895	0.9563	4.3787	0.0115	1.0501	0.0118	1.0619	0.2809	0.0111	0.2920	0.0000	1,083.955 0	1,083.955 0	0.0833	0.0000	1,086.038 2
Unmitigated	0.4895	0.9563	4.3787	0.0115	1.0501	0.0118	1.0619	0.2809	0.0111	0.2920	0.0000	1,083.955 0	1,083.955 0	0.0833	0.0000	1,086.038 2

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,204.00	1,179.36	856.80	2,746,194	2,746,194
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	14.07	17.53	8.02	29,635	29,635
Total	1,218.07	1,196.89	864.82	2,775,829	2,775,829

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
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Hotel	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Regional Shopping Center	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

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	512.1892	512.1892	0.0121	2.5000e-003	513.2374
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	512.1892	512.1892	0.0121	2.5000e-003	513.2374
NaturalGas Mitigated	0.0144	0.1307	0.1098	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.2415	142.2415	2.7300e-003	2.6100e-003	143.0868
NaturalGas Unmitigated	0.0144	0.1307	0.1098	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.2415	142.2415	2.7300e-003	2.6100e-003	143.0868

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					
Enclosed Parking with Elevator	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
Hotel	2.66488e+006	0.0144	0.1306	0.1097	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.2084	142.2084	2.7300e-003	2.6100e-003	143.0535
Other Non-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
Regional Shopping Center	619.92	0.0000	3.0000e-005	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0331	0.0331	0.0000	0.0000	0.0333
Total		**0.0144**	**0.1307**	**0.1098**	**7.8000e-004**		**9.9300e-003**	**9.9300e-003**		**9.9300e-003**	**9.9300e-003**	**0.0000**	**142.2415**	**142.2415**	**2.7300e-003**	**2.6100e-003**	**143.0868**

5.2 Energy by Land Use - NaturalGas

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					
Enclosed Parking with Elevator	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
Hotel	2.66488e+006	0.0144	0.1306	0.1097	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.2084	142.2084	2.7300e-003	2.6100e-003	143.0535
Other Non-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
Regional Shopping Center	619.92	0.0000	3.0000e-005	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0331	0.0331	0.0000	0.0000	0.0333
Total		**0.0144**	**0.1307**	**0.1098**	**7.8000e-004**		**9.9300e-003**	**9.9300e-003**		**9.9300e-003**	**9.9300e-003**	**0.0000**	**142.2415**	**142.2415**	**2.7300e-003**	**2.6100e-003**	**143.0868**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	22792.6	12.6946	3.0000e-004	6.0000e-005	12.7206
Hotel	893199	497.4776	0.0118	2.4300e-003	498.4958
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3621.24	2.0169	5.0000e-005	1.0000e-005	2.0210
Total		**512.1892**	**0.0121**	**2.5000e-003**	**513.2374**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	22792.6	12.6946	3.0000e-004	6.0000e-005	12.7206
Hotel	893199	497.4776	0.0118	2.4300e-003	498.4958
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3621.24	2.0169	5.0000e-005	1.0000e-005	2.0210
Total		**512.1892**	**0.0121**	**2.5000e-003**	**513.2374**

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	0.2523	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003
Unmitigated	0.2523	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003

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	0.0287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2234					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003
Total	**0.2523**	**2.0000e-005**	**2.6700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.1800e-003**	**5.1800e-003**	**1.0000e-005**	**0.0000**	**5.5200e-003**

6.2 Area by SubCategory

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	0.0287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2234					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003
Total	**0.2523**	**2.0000e-005**	**2.6700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.1800e-003**	**5.1800e-003**	**1.0000e-005**	**0.0000**	**5.5200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	30.4811	0.1206	2.9800e-003	34.3836
Unmitigated	30.4811	0.1206	2.9800e-003	34.3836

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	3.65281 / 0.405868	30.1613	0.1197	2.9500e-003	34.0338
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.0281476 / 0.0172517	0.3198	9.2000e-004	2.0000e-005	0.3498
Total		**30.4811**	**0.1206**	**2.9700e-003**	**34.3836**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	3.65281 / 0.405868	30.1613	0.1197	2.9500e-003	34.0338
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.0281476 / 0.0172517	0.3198	9.2000e-004	2.0000e-005	0.3498
Total		**30.4811**	**0.1206**	**2.9700e-003**	**34.3836**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	16.0850	0.9506	0.0000	39.8499
Unmitigated	16.0850	0.9506	0.0000	39.8499

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	78.84	16.0038	0.9458	0.0000	39.6488
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.4	0.0812	4.8000e-003	0.0000	0.2012
Total		**16.0850**	**0.9506**	**0.0000**	**39.8499**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	78.84	16.0038	0.9458	0.0000	39.6488
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.4	0.0812	4.8000e-003	0.0000	0.2012
Total		**16.0850**	**0.9506**	**0.0000**	**39.8499**

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 3.2:

CALEEMOD ANNUAL OPERATIONAL EMISSIONS MODEL OUTPUTS

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1130 South Hope Street (Unmitigated)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	62.00	Space	0.00	5,479.00	0
Other Non-Asphalt Surfaces	2.35	1000sqft	0.05	2,350.00	0
Hotel	144.00	Room	0.13	61,304.00	0
Regional Shopping Center	0.38	1000sqft	0.00	378.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	10			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

1130 South Hope Street (Unmitigated) - Los Angeles-South Coast County, Annual

Project Characteristics -

Land Use - Total Project site is 0.18 acres.

Construction Phase - Construction Schedule based on consultation with the Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Off-road Equipment - Construction Equipment based on consultation with Project Applicant.

Grading - For purposes of analysis, it is assumed that 1 acre will be disturbed per day

Architectural Coating - Rule 1113

Vehicle Trips - Trip characteristics based on information provided in the 1130 South Hope Street Traffic Impact Study prepared by KOA

Energy Use - The Project will design building shells and building components to meet 2019 Title 24 Standards which expects 30% less energy for nonresidential uses.

Construction Off-road Equipment Mitigation - Rule 403

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	2.00	55.00
tblConstructionPhase	NumDays	100.00	262.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	5.00	7.00
tblEnergyUse	LightingElect	1.75	1.23
tblEnergyUse	LightingElect	5.44	3.81

tblEnergyUse	LightingElect	5.61	3.93
tblEnergyUse	T24E	3.92	2.74
tblEnergyUse	T24E	6.47	4.53
tblEnergyUse	T24E	4.58	3.21
tblEnergyUse	T24NG	55.15	38.61
tblEnergyUse	T24NG	1.92	1.34
tblGrading	AcresOfGrading	0.00	55.00
tblGrading	MaterialExported	0.00	6,233.00
tblLandUse	LandUseSquareFeet	24,800.00	5,479.00
tblLandUse	LandUseSquareFeet	209,088.00	61,304.00
tblLandUse	LandUseSquareFeet	380.00	378.00
tblLandUse	LotAcreage	0.56	0.00
tblLandUse	LotAcreage	4.80	0.13
tblLandUse	LotAcreage	0.01	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	7.00	8.00
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tblVehicleEF	HHD	0.09	0.08
tblVehicleEF	HHD	0.08	1.0000e-006
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tblVehicleEF	HHD	1.15	0.58
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tblVehicleEF	HHD	8.7000e-005	2.0000e-006
tblVehicleEF	HHD	0.01	3.7670e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8380e-003	8.8970e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	8.0000e-005	1.0000e-006
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tblVehicleEF	HHD	3.9500e-004	1.5080e-003
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tblVehicleEF	HHD	0.04	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.6000e-004	1.0000e-006
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tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
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tblVehicleEF	HHD	8.8380e-003	8.8970e-003
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tblVehicleEF	HHD	0.08	1.0000e-006
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tblVehicleEF	HHD	0.04	0.04
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tblVehicleEF	HHD	8.8380e-003	8.7580e-003
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tblVehicleEF	HHD	4.2900e-004	1.6010e-003
tblVehicleEF	HHD	0.08	3.0000e-006

tblVehicleEF	HHD	0.04	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.6000e-004	1.0000e-006
tblVehicleEF	HHD	1.0300e-004	8.0000e-006
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tblVehicleEF	HHD	7.7000e-005	5.0000e-006
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tblVehicleEF	HHD	4.2900e-004	1.6010e-003
tblVehicleEF	HHD	0.09	3.0000e-006
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tblVehicleEF	LDA	0.07	0.18
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.21

tblVehicleEF	LDA	0.07	0.22
tblVehicleEF	LDA	2.7480e-003	2.6780e-003
tblVehicleEF	LDA	5.9000e-004	5.2700e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.21
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDA	5.6740e-003	3.2280e-003
tblVehicleEF	LDA	4.8010e-003	0.04
tblVehicleEF	LDA	0.72	0.79
tblVehicleEF	LDA	0.98	1.79
tblVehicleEF	LDA	287.10	284.40
tblVehicleEF	LDA	57.08	53.05
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.06	0.17
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.06	0.08
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.06	0.20

tblVehicleEF	LDA	2.8760e-003	2.7950e-003
tblVehicleEF	LDA	5.8700e-004	5.2200e-004
tblVehicleEF	LDA	0.06	0.08
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.22
tblVehicleEF	LDA	5.2330e-003	2.9600e-003
tblVehicleEF	LDA	5.5300e-003	0.05
tblVehicleEF	LDA	0.63	0.69
tblVehicleEF	LDA	1.19	2.17
tblVehicleEF	LDA	269.66	268.07
tblVehicleEF	LDA	57.08	53.75
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.19
tblVehicleEF	LDA	2.1700e-003	1.8010e-003
tblVehicleEF	LDA	2.2660e-003	1.8420e-003
tblVehicleEF	LDA	2.0000e-003	1.6590e-003
tblVehicleEF	LDA	2.0830e-003	1.6940e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.05	0.24
tblVehicleEF	LDA	0.07	0.23
tblVehicleEF	LDA	2.7010e-003	2.6350e-003

tblVehicleEF	LDA	5.9100e-004	5.2800e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.05	0.24
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDT1	0.02	7.7270e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.68	1.45
tblVehicleEF	LDT1	2.78	2.27
tblVehicleEF	LDT1	341.15	320.55
tblVehicleEF	LDT1	69.44	63.67
tblVehicleEF	LDT1	0.16	0.12
tblVehicleEF	LDT1	0.16	0.26
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.26	0.20
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.17	0.69
tblVehicleEF	LDT1	0.19	0.35
tblVehicleEF	LDT1	3.4330e-003	3.1520e-003
tblVehicleEF	LDT1	7.4300e-004	6.2600e-004

tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.26	0.20
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.17	0.69
tblVehicleEF	LDT1	0.21	0.39
tblVehicleEF	LDT1	0.02	8.1770e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.82	1.58
tblVehicleEF	LDT1	2.36	1.93
tblVehicleEF	LDT1	356.02	332.71
tblVehicleEF	LDT1	69.44	63.00
tblVehicleEF	LDT1	0.14	0.10
tblVehicleEF	LDT1	0.15	0.24
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.16	0.64
tblVehicleEF	LDT1	0.17	0.31
tblVehicleEF	LDT1	3.5840e-003	3.2710e-003
tblVehicleEF	LDT1	7.3600e-004	6.1900e-004
tblVehicleEF	LDT1	0.20	0.20

tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.16	0.64
tblVehicleEF	LDT1	0.18	0.34
tblVehicleEF	LDT1	0.02	7.5820e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.63	1.41
tblVehicleEF	LDT1	2.87	2.35
tblVehicleEF	LDT1	335.69	316.06
tblVehicleEF	LDT1	69.44	63.82
tblVehicleEF	LDT1	0.15	0.12
tblVehicleEF	LDT1	0.16	0.26
tblVehicleEF	LDT1	3.5390e-003	2.7170e-003
tblVehicleEF	LDT1	3.4320e-003	2.6310e-003
tblVehicleEF	LDT1	3.2590e-003	2.5000e-003
tblVehicleEF	LDT1	3.1560e-003	2.4190e-003
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.30	0.22
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.20	0.82
tblVehicleEF	LDT1	0.20	0.36
tblVehicleEF	LDT1	3.3780e-003	3.1070e-003
tblVehicleEF	LDT1	7.4500e-004	6.2800e-004
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.30	0.22

tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.20	0.82
tblVehicleEF	LDT1	0.21	0.40
tblVehicleEF	LDT2	7.2180e-003	4.9730e-003
tblVehicleEF	LDT2	6.3970e-003	0.07
tblVehicleEF	LDT2	0.84	1.02
tblVehicleEF	LDT2	1.35	2.65
tblVehicleEF	LDT2	381.91	343.42
tblVehicleEF	LDT2	78.07	68.73
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.41
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LDT2	3.8260e-003	3.3760e-003
tblVehicleEF	LDT2	8.0300e-004	6.7600e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07

tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.06	0.41
tblVehicleEF	LDT2	0.09	0.34
tblVehicleEF	LDT2	7.6530e-003	5.2910e-003
tblVehicleEF	LDT2	5.6920e-003	0.06
tblVehicleEF	LDT2	0.92	1.12
tblVehicleEF	LDT2	1.15	2.26
tblVehicleEF	LDT2	399.04	355.31
tblVehicleEF	LDT2	78.07	67.99
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.10	0.26
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.06	0.10
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.28
tblVehicleEF	LDT2	3.9980e-003	3.4930e-003
tblVehicleEF	LDT2	8.0000e-004	6.6800e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.06	0.10
tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.08	0.31
tblVehicleEF	LDT2	7.0750e-003	4.8730e-003
tblVehicleEF	LDT2	6.5470e-003	0.07
tblVehicleEF	LDT2	0.81	0.99
tblVehicleEF	LDT2	1.39	2.74
tblVehicleEF	LDT2	375.62	339.02
tblVehicleEF	LDT2	78.07	68.90
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.11	0.28
tblVehicleEF	LDT2	2.1510e-003	1.9110e-003
tblVehicleEF	LDT2	2.3580e-003	1.8910e-003
tblVehicleEF	LDT2	1.9790e-003	1.7590e-003
tblVehicleEF	LDT2	2.1690e-003	1.7390e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.48
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	3.7630e-003	3.3320e-003
tblVehicleEF	LDT2	8.0400e-004	6.7700e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.07	0.48

tblVehicleEF	LDT2	0.10	0.35
tblVehicleEF	LHD1	5.5970e-003	5.6110e-003
tblVehicleEF	LHD1	0.01	5.6770e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.84	0.65
tblVehicleEF	LHD1	2.79	1.14
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.04
tblVehicleEF	LHD1	33.34	12.48
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.95	0.63
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.31	0.55

tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8500e-004	1.2400e-004
tblVehicleEF	LHD1	3.1460e-003	2.5540e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.9140e-003	1.5610e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.31	0.55
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD1	5.5970e-003	5.6230e-003
tblVehicleEF	LHD1	0.01	5.7930e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.85	0.66
tblVehicleEF	LHD1	2.66	1.09
tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.06
tblVehicleEF	LHD1	33.34	12.39
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.89	0.59
tblVehicleEF	LHD1	0.96	0.32
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004

tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9310e-003	6.5150e-003
tblVehicleEF	LHD1	3.8300e-004	1.2300e-004
tblVehicleEF	LHD1	4.7100e-003	3.7600e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.6900e-003	2.1600e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.30	0.53
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD1	5.5970e-003	5.6090e-003
tblVehicleEF	LHD1	0.01	5.6460e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.83	0.64
tblVehicleEF	LHD1	2.81	1.15

tblVehicleEF	LHD1	8.92	8.88
tblVehicleEF	LHD1	603.81	667.03
tblVehicleEF	LHD1	33.34	12.50
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.94	0.62
tblVehicleEF	LHD1	1.01	0.34
tblVehicleEF	LHD1	8.2600e-004	7.5000e-004
tblVehicleEF	LHD1	0.01	9.6680e-003
tblVehicleEF	LHD1	9.1270e-003	6.2840e-003
tblVehicleEF	LHD1	1.0140e-003	2.8500e-004
tblVehicleEF	LHD1	7.9000e-004	7.1700e-004
tblVehicleEF	LHD1	2.5160e-003	2.4170e-003
tblVehicleEF	LHD1	8.7050e-003	5.9830e-003
tblVehicleEF	LHD1	9.3300e-004	2.6200e-004
tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	9.0000e-005	8.6000e-005
tblVehicleEF	LHD1	5.9300e-003	6.5150e-003
tblVehicleEF	LHD1	3.8600e-004	1.2400e-004
tblVehicleEF	LHD1	3.3080e-003	2.6900e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.03

tblVehicleEF	LHD1	1.8850e-003	1.5400e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.33	0.60
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD2	4.0020e-003	3.9440e-003
tblVehicleEF	LHD2	4.2980e-003	3.9460e-003
tblVehicleEF	LHD2	8.5190e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.44
tblVehicleEF	LHD2	1.37	0.77
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.65
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.65	0.81
tblVehicleEF	LHD2	0.55	0.23
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02

tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.11	0.06
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.5000e-005
tblVehicleEF	LHD2	1.1380e-003	1.5770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.4500e-004	9.7800e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9530e-003
tblVehicleEF	LHD2	4.3570e-003	3.9910e-003
tblVehicleEF	LHD2	8.2260e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.35	0.44
tblVehicleEF	LHD2	1.31	0.74
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.38
tblVehicleEF	LHD2	27.88	9.59
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.61	0.76
tblVehicleEF	LHD2	0.53	0.22
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0300e-004	9.5000e-005
tblVehicleEF	LHD2	1.6960e-003	2.3210e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.0400e-003	1.3550e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.34
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	4.0020e-003	3.9420e-003
tblVehicleEF	LHD2	4.2820e-003	3.9330e-003
tblVehicleEF	LHD2	8.5780e-003	0.01

tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.34	0.43
tblVehicleEF	LHD2	1.38	0.78
tblVehicleEF	LHD2	13.57	13.40
tblVehicleEF	LHD2	617.83	668.37
tblVehicleEF	LHD2	27.88	9.66
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.64	0.80
tblVehicleEF	LHD2	0.56	0.24
tblVehicleEF	LHD2	1.1620e-003	1.2440e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.8510e-003	9.8680e-003
tblVehicleEF	LHD2	4.6900e-004	1.6300e-004
tblVehicleEF	LHD2	1.1110e-003	1.1900e-003
tblVehicleEF	LHD2	2.6540e-003	2.6300e-003
tblVehicleEF	LHD2	8.4540e-003	9.4240e-003
tblVehicleEF	LHD2	4.3100e-004	1.5000e-004
tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	1.3300e-004	1.2900e-004
tblVehicleEF	LHD2	6.0210e-003	6.4710e-003
tblVehicleEF	LHD2	3.0400e-004	9.6000e-005

tblVehicleEF	LHD2	1.1610e-003	1.6340e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.2300e-004	9.5000e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.23
tblVehicleEF	MCY	18.94	19.11
tblVehicleEF	MCY	9.66	8.52
tblVehicleEF	MCY	188.92	223.68
tblVehicleEF	MCY	44.52	59.56
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	2.60	2.61
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.05	1.81
tblVehicleEF	MCY	2.2780e-003	2.2130e-003
tblVehicleEF	MCY	6.6300e-004	5.8900e-004

tblVehicleEF	MCY	1.06	1.08
tblVehicleEF	MCY	0.63	0.65
tblVehicleEF	MCY	0.65	0.66
tblVehicleEF	MCY	3.23	3.25
tblVehicleEF	MCY	0.60	1.98
tblVehicleEF	MCY	2.23	1.97
tblVehicleEF	MCY	0.53	0.37
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	18.24	18.37
tblVehicleEF	MCY	8.82	7.76
tblVehicleEF	MCY	188.92	222.28
tblVehicleEF	MCY	44.52	57.67
tblVehicleEF	MCY	0.99	0.99
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.73	1.72
tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	2.54	2.55
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.83	1.61
tblVehicleEF	MCY	2.2650e-003	2.2000e-003
tblVehicleEF	MCY	6.4300e-004	5.7100e-004
tblVehicleEF	MCY	1.73	1.72

tblVehicleEF	MCY	0.70	0.71
tblVehicleEF	MCY	1.07	1.07
tblVehicleEF	MCY	3.16	3.17
tblVehicleEF	MCY	0.56	1.86
tblVehicleEF	MCY	1.99	1.75
tblVehicleEF	MCY	0.54	0.38
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.04	19.25
tblVehicleEF	MCY	9.80	8.66
tblVehicleEF	MCY	188.92	223.96
tblVehicleEF	MCY	44.52	59.94
tblVehicleEF	MCY	1.11	1.11
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	2.4360e-003	2.4430e-003
tblVehicleEF	MCY	3.8630e-003	3.2940e-003
tblVehicleEF	MCY	2.2770e-003	2.2830e-003
tblVehicleEF	MCY	3.6360e-003	3.1000e-003
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84
tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	2.61	2.63
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.09	1.86
tblVehicleEF	MCY	2.2800e-003	2.2160e-003
tblVehicleEF	MCY	6.6700e-004	5.9300e-004
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.82	0.84

tblVehicleEF	MCY	0.62	0.64
tblVehicleEF	MCY	3.25	3.26
tblVehicleEF	MCY	0.69	2.28
tblVehicleEF	MCY	2.28	2.02
tblVehicleEF	MDV	0.01	6.5350e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.33	1.22
tblVehicleEF	MDV	2.48	3.10
tblVehicleEF	MDV	512.22	421.49
tblVehicleEF	MDV	103.14	83.59
tblVehicleEF	MDV	0.15	0.11
tblVehicleEF	MDV	0.22	0.34
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.19	0.40
tblVehicleEF	MDV	5.1310e-003	4.1410e-003
tblVehicleEF	MDV	1.0750e-003	8.2200e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.07	0.09

tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.21	0.44
tblVehicleEF	MDV	0.01	6.9310e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.45	1.32
tblVehicleEF	MDV	2.12	2.63
tblVehicleEF	MDV	534.67	433.96
tblVehicleEF	MDV	103.14	82.70
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.20	0.32
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.17	0.36
tblVehicleEF	MDV	5.3570e-003	4.2630e-003
tblVehicleEF	MDV	1.0680e-003	8.1300e-004
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.05	0.04

tblVehicleEF	MDV	0.08	0.40
tblVehicleEF	MDV	0.18	0.39
tblVehicleEF	MDV	0.01	6.4070e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.29	1.18
tblVehicleEF	MDV	2.56	3.21
tblVehicleEF	MDV	503.99	416.89
tblVehicleEF	MDV	103.14	83.79
tblVehicleEF	MDV	0.14	0.11
tblVehicleEF	MDV	0.22	0.35
tblVehicleEF	MDV	2.3560e-003	2.0880e-003
tblVehicleEF	MDV	2.5140e-003	2.0610e-003
tblVehicleEF	MDV	2.1720e-003	1.9250e-003
tblVehicleEF	MDV	2.3120e-003	1.8950e-003
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.10	0.50
tblVehicleEF	MDV	0.19	0.41
tblVehicleEF	MDV	5.0480e-003	4.0950e-003
tblVehicleEF	MDV	1.0760e-003	8.2400e-004
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.10	0.50

tblVehicleEF	MDV	0.21	0.45
tblVehicleEF	MH	0.03	3.1210e-003
tblVehicleEF	MH	0.02	0.00
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tblVehicleEF	MH	0.02	0.07
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tblVehicleEF	MH	3.2020e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.07
tblVehicleEF	MH	1.0370e-003	0.00
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tblVehicleEF	MH	0.12	0.08

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tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	0.01	9.1260e-003
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tblVehicleEF	MH	0.12	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.34	0.00
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tblVehicleEF	MH	1.0370e-003	0.00
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tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.08	0.07
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tblVehicleEF	MH	0.08	0.00

tblVehicleEF	MH	0.42	0.00
tblVehicleEF	MH	0.12	0.08
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tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MHD	0.02	4.4240e-003
tblVehicleEF	MHD	4.8560e-003	4.6020e-003
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tblVehicleEF	MHD	0.37	0.39
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tblVehicleEF	MHD	0.05	0.06

tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.37	0.07
tblVehicleEF	MHD	1.2810e-003	6.4000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.4300e-004	1.2000e-004
tblVehicleEF	MHD	1.1350e-003	6.6800e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.4200e-004	4.3000e-004
tblVehicleEF	MHD	0.05	0.07
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.41	0.07
tblVehicleEF	MHD	0.02	4.1930e-003
tblVehicleEF	MHD	4.9280e-003	4.6540e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.27	0.32
tblVehicleEF	MHD	0.38	0.48
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tblVehicleEF	MHD	140.78	68.14
tblVehicleEF	MHD	1,150.98	1,070.88
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tblVehicleEF	MHD	1.08	1.54
tblVehicleEF	MHD	9.92	1.28
tblVehicleEF	MHD	2.0900e-004	9.0700e-004
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004

tblVehicleEF	MHD	2.0000e-004	8.6800e-004
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.0480e-003	6.0400e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.36	0.06
tblVehicleEF	MHD	1.3550e-003	6.4800e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.3800e-004	1.1900e-004
tblVehicleEF	MHD	1.7000e-003	9.9300e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	1.0480e-003	6.0400e-004
tblVehicleEF	MHD	0.06	0.07
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.39	0.07
tblVehicleEF	MHD	0.02	4.7550e-003
tblVehicleEF	MHD	4.8360e-003	4.5850e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.52	0.49
tblVehicleEF	MHD	0.37	0.47
tblVehicleEF	MHD	6.20	1.45
tblVehicleEF	MHD	122.05	66.18

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tblVehicleEF	MHD	0.47	0.47
tblVehicleEF	MHD	1.12	1.60
tblVehicleEF	MHD	9.97	1.29
tblVehicleEF	MHD	3.0200e-004	1.3020e-003
tblVehicleEF	MHD	5.1090e-003	0.03
tblVehicleEF	MHD	8.4300e-004	1.3800e-004
tblVehicleEF	MHD	2.8900e-004	1.2460e-003
tblVehicleEF	MHD	4.8830e-003	0.03
tblVehicleEF	MHD	7.7600e-004	1.2700e-004
tblVehicleEF	MHD	1.1690e-003	6.9100e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.16
tblVehicleEF	MHD	0.38	0.07
tblVehicleEF	MHD	1.1790e-003	6.2900e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.4400e-004	1.2100e-004
tblVehicleEF	MHD	1.1690e-003	6.9100e-004
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.2400e-004	4.2100e-004
tblVehicleEF	MHD	0.05	0.07
tblVehicleEF	MHD	0.02	0.16

tblVehicleEF	MHD	0.41	0.07
tblVehicleEF	OBUS	0.01	8.4750e-003
tblVehicleEF	OBUS	7.7220e-003	6.9630e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.28	0.60
tblVehicleEF	OBUS	0.53	0.78
tblVehicleEF	OBUS	5.41	2.39
tblVehicleEF	OBUS	112.13	94.21
tblVehicleEF	OBUS	1,260.49	1,391.50
tblVehicleEF	OBUS	67.92	19.24
tblVehicleEF	OBUS	0.51	0.46
tblVehicleEF	OBUS	1.55	1.57
tblVehicleEF	OBUS	2.60	0.75
tblVehicleEF	OBUS	1.1400e-004	7.8900e-004
tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	1.0900e-004	7.5500e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004
tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	7.6800e-004	9.4100e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.34	0.11
tblVehicleEF	OBUS	1.0820e-003	8.9600e-004

tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7400e-004	1.9000e-004
tblVehicleEF	OBUS	1.4340e-003	1.8390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	7.6800e-004	9.4100e-004
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.37	0.13
tblVehicleEF	OBUS	0.01	8.5340e-003
tblVehicleEF	OBUS	7.8490e-003	7.0850e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.27	0.58
tblVehicleEF	OBUS	0.54	0.80
tblVehicleEF	OBUS	5.11	2.26
tblVehicleEF	OBUS	117.81	94.08
tblVehicleEF	OBUS	1,260.49	1,391.52
tblVehicleEF	OBUS	67.92	19.02
tblVehicleEF	OBUS	0.53	0.45
tblVehicleEF	OBUS	1.46	1.48
tblVehicleEF	OBUS	2.57	0.74
tblVehicleEF	OBUS	9.6000e-005	6.7100e-004
tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	9.2000e-005	6.4200e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004

tblVehicleEF	OBUS	2.1010e-003	2.6500e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	1.0830e-003	1.3070e-003
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.32	0.11
tblVehicleEF	OBUS	1.1360e-003	8.9500e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.6900e-004	1.8800e-004
tblVehicleEF	OBUS	2.1010e-003	2.6500e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	1.0830e-003	1.3070e-003
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.35	0.12
tblVehicleEF	OBUS	0.01	8.4130e-003
tblVehicleEF	OBUS	7.6880e-003	6.9290e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.30	0.61
tblVehicleEF	OBUS	0.53	0.78
tblVehicleEF	OBUS	5.47	2.42
tblVehicleEF	OBUS	104.30	94.40
tblVehicleEF	OBUS	1,260.49	1,391.49
tblVehicleEF	OBUS	67.92	19.29
tblVehicleEF	OBUS	0.49	0.47

tblVehicleEF	OBUS	1.52	1.55
tblVehicleEF	OBUS	2.61	0.76
tblVehicleEF	OBUS	1.3900e-004	9.5300e-004
tblVehicleEF	OBUS	7.4300e-003	0.02
tblVehicleEF	OBUS	8.0700e-004	1.9700e-004
tblVehicleEF	OBUS	1.3300e-004	9.1200e-004
tblVehicleEF	OBUS	7.0930e-003	0.02
tblVehicleEF	OBUS	7.4200e-004	1.8100e-004
tblVehicleEF	OBUS	1.4690e-003	1.9220e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	7.4700e-004	9.2400e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.28
tblVehicleEF	OBUS	0.34	0.12
tblVehicleEF	OBUS	1.0070e-003	8.9800e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7500e-004	1.9100e-004
tblVehicleEF	OBUS	1.4690e-003	1.9220e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.07
tblVehicleEF	OBUS	7.4700e-004	9.2400e-004
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	0.04	0.28
tblVehicleEF	OBUS	0.37	0.13
tblVehicleEF	SBUS	0.84	0.07
tblVehicleEF	SBUS	0.01	7.0600e-003

tblVehicleEF	SBUS	0.06	6.7770e-003
tblVehicleEF	SBUS	8.15	2.99
tblVehicleEF	SBUS	0.72	0.60
tblVehicleEF	SBUS	7.31	0.93
tblVehicleEF	SBUS	1,121.00	354.63
tblVehicleEF	SBUS	1,079.30	1,100.97
tblVehicleEF	SBUS	55.06	5.73
tblVehicleEF	SBUS	9.20	3.14
tblVehicleEF	SBUS	4.17	4.65
tblVehicleEF	SBUS	12.12	0.90
tblVehicleEF	SBUS	9.3410e-003	3.9540e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	8.9370e-003	3.7830e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	3.3650e-003	9.8900e-004
tblVehicleEF	SBUS	0.03	8.5880e-003
tblVehicleEF	SBUS	0.97	0.34
tblVehicleEF	SBUS	1.7650e-003	5.2700e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.38	0.04
tblVehicleEF	SBUS	0.01	3.3860e-003
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	6.7700e-004	5.7000e-005
tblVehicleEF	SBUS	3.3650e-003	9.8900e-004
tblVehicleEF	SBUS	0.03	8.5880e-003
tblVehicleEF	SBUS	1.40	0.49
tblVehicleEF	SBUS	1.7650e-003	5.2700e-004
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.42	0.04
tblVehicleEF	SBUS	0.84	0.07
tblVehicleEF	SBUS	0.01	7.1400e-003
tblVehicleEF	SBUS	0.06	6.0470e-003
tblVehicleEF	SBUS	8.04	2.95
tblVehicleEF	SBUS	0.73	0.61
tblVehicleEF	SBUS	5.94	0.76
tblVehicleEF	SBUS	1,171.46	362.29
tblVehicleEF	SBUS	1,079.30	1,100.99
tblVehicleEF	SBUS	55.06	5.44
tblVehicleEF	SBUS	9.50	3.21
tblVehicleEF	SBUS	3.93	4.39
tblVehicleEF	SBUS	12.09	0.90
tblVehicleEF	SBUS	7.8750e-003	3.3400e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	7.5340e-003	3.1960e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03

tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	4.9570e-003	1.4290e-003
tblVehicleEF	SBUS	0.03	8.7250e-003
tblVehicleEF	SBUS	0.97	0.34
tblVehicleEF	SBUS	2.5080e-003	7.3100e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.34	0.03
tblVehicleEF	SBUS	0.01	3.4580e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.5400e-004	5.4000e-005
tblVehicleEF	SBUS	4.9570e-003	1.4290e-003
tblVehicleEF	SBUS	0.03	8.7250e-003
tblVehicleEF	SBUS	1.40	0.49
tblVehicleEF	SBUS	2.5080e-003	7.3100e-004
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.37	0.04
tblVehicleEF	SBUS	0.84	0.07
tblVehicleEF	SBUS	0.01	7.0350e-003
tblVehicleEF	SBUS	0.07	6.9450e-003
tblVehicleEF	SBUS	8.31	3.04
tblVehicleEF	SBUS	0.72	0.60
tblVehicleEF	SBUS	7.56	0.96
tblVehicleEF	SBUS	1,051.30	344.05
tblVehicleEF	SBUS	1,079.30	1,100.97
tblVehicleEF	SBUS	55.06	5.78

tblVehicleEF	SBUS	8.80	3.05
tblVehicleEF	SBUS	4.10	4.57
tblVehicleEF	SBUS	12.13	0.90
tblVehicleEF	SBUS	0.01	4.8000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.1500e-004	5.5000e-005
tblVehicleEF	SBUS	0.01	4.5930e-003
tblVehicleEF	SBUS	2.6670e-003	2.6630e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.5000e-004	5.1000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
tblVehicleEF	SBUS	0.98	0.34
tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.02	0.07
tblVehicleEF	SBUS	0.39	0.04
tblVehicleEF	SBUS	0.01	3.2860e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.8100e-004	5.7000e-005
tblVehicleEF	SBUS	3.4320e-003	1.0030e-003
tblVehicleEF	SBUS	0.03	9.0230e-003
tblVehicleEF	SBUS	1.41	0.49
tblVehicleEF	SBUS	1.6940e-003	5.0600e-004
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	0.02	0.07

tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.22	45.42
tblVehicleEF	UBUS	8.87	0.71
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.61
tblVehicleEF	UBUS	9.98	0.47
tblVehicleEF	UBUS	15.36	0.08
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003
tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
tblVehicleEF	UBUS	0.85	0.09
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	9.8600e-003	1.4410e-003
tblVehicleEF	UBUS	1.1250e-003	8.5000e-005
tblVehicleEF	UBUS	4.1440e-003	6.6500e-004
tblVehicleEF	UBUS	0.07	8.4730e-003

tblVehicleEF	UBUS	2.3870e-003	4.9100e-004
tblVehicleEF	UBUS	3.56	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.74	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.27	45.42
tblVehicleEF	UBUS	7.69	0.63
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.46
tblVehicleEF	UBUS	9.41	0.47
tblVehicleEF	UBUS	15.31	0.08
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	0.86	0.09
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.62	0.04
tblVehicleEF	UBUS	9.8610e-003	1.4410e-003

tblVehicleEF	UBUS	1.1050e-003	8.4000e-005
tblVehicleEF	UBUS	5.9080e-003	9.6200e-004
tblVehicleEF	UBUS	0.07	8.7330e-003
tblVehicleEF	UBUS	3.2830e-003	6.7600e-004
tblVehicleEF	UBUS	3.57	5.97
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	2.61	5.85
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	11.21	45.42
tblVehicleEF	UBUS	9.08	0.73
tblVehicleEF	UBUS	1,968.89	1,991.58
tblVehicleEF	UBUS	96.56	8.64
tblVehicleEF	UBUS	9.79	0.47
tblVehicleEF	UBUS	15.38	0.09
tblVehicleEF	UBUS	0.61	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	3.1840e-003
tblVehicleEF	UBUS	1.0870e-003	4.6000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9690e-003
tblVehicleEF	UBUS	0.13	3.0430e-003
tblVehicleEF	UBUS	9.9900e-004	4.3000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	0.85	0.09

tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.69	0.05
tblVehicleEF	UBUS	9.8590e-003	1.4410e-003
tblVehicleEF	UBUS	1.1290e-003	8.5000e-005
tblVehicleEF	UBUS	4.7000e-003	6.4800e-004
tblVehicleEF	UBUS	0.08	9.0360e-003
tblVehicleEF	UBUS	2.5010e-003	4.6600e-004
tblVehicleEF	UBUS	3.55	5.97
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	0.75	0.05
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	8.17	8.36
tblVehicleTrips	WD_TR	42.70	37.04

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	0.0964	1.0667	0.6439	1.6500e-003	0.2292	0.0456	0.2748	0.1026	0.0419	0.1445	0.0000	150.1394	150.1394	0.0324	0.0000	150.9490
2022	1.3398	0.7686	0.6807	1.5200e-003	0.0320	0.0351	0.0671	8.6300e-003	0.0324	0.0411	0.0000	136.0753	136.0753	0.0300	0.0000	136.8249
Maximum	**1.3398**	**1.0667**	**0.6807**	**1.6500e-003**	**0.2292**	**0.0456**	**0.2748**	**0.1026**	**0.0419**	**0.1445**	**0.0000**	**150.1394**	**150.1394**	**0.0324**	**0.0000**	**150.9490**

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	0.0964	1.0667	0.6439	1.6500e-003	0.1070	0.0456	0.1525	0.0448	0.0419	0.0867	0.0000	150.1393	150.1393	0.0324	0.0000	150.9489
2022	1.3398	0.7686	0.6807	1.5200e-003	0.0320	0.0351	0.0671	8.6300e-003	0.0324	0.0411	0.0000	136.0752	136.0752	0.0300	0.0000	136.8248
Maximum	**1.3398**	**1.0667**	**0.6807**	**1.6500e-003**	**0.1070**	**0.0456**	**0.1525**	**0.0448**	**0.0419**	**0.0867**	**0.0000**	**150.1393**	**150.1393**	**0.0324**	**0.0000**	**150.9489**

	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**	**46.80**	**0.00**	**35.76**	**51.99**	**0.00**	**31.16**	**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)
3	4-1-2021	6-30-2021	0.3176	0.3176
4	7-1-2021	9-30-2021	0.4600	0.4600
5	10-1-2021	12-31-2021	0.3712	0.3712
6	1-1-2022	3-31-2022	0.3213	0.3213
7	4-1-2022	6-30-2022	0.3242	0.3242
8	7-1-2022	9-30-2022	1.3046	1.3046
		Highest	1.3046	1.3046

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	0.2523	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003
Energy	0.0144	0.1307	0.1098	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	654.4306	654.4306	0.0148	5.1100e-003	656.3242
Mobile	0.4895	0.9563	4.3787	0.0115	1.0501	0.0118	1.0619	0.2809	0.0111	0.2920	0.0000	1,083.9550	1,083.9550	0.0833	0.0000	1,086.0382
Waste						0.0000	0.0000		0.0000	0.0000	16.0850	0.0000	16.0850	0.9506	0.0000	39.8499
Water						0.0000	0.0000		0.0000	0.0000	1.1678	29.3133	30.4811	0.1206	2.9800e-003	34.3836
Total	**0.7562**	**1.0870**	**4.4912**	**0.0123**	**1.0501**	**0.0217**	**1.0718**	**0.2809**	**0.0210**	**0.3019**	**17.2528**	**1,767.7041**	**1,784.9569**	**1.1694**	**8.0900e-003**	**1,816.6015**

2.2 Overall Operational

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	0.2523	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003
Energy	0.0144	0.1307	0.1098	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	654.4306	654.4306	0.0148	5.1100e-003	656.3242
Mobile	0.4895	0.9563	4.3787	0.0115	1.0501	0.0118	1.0619	0.2809	0.0111	0.2920	0.0000	1,083.955 0	1,083.955 0	0.0833	0.0000	1,086.038 2
Waste						0.0000	0.0000		0.0000	0.0000	16.0850	0.0000	16.0850	0.9506	0.0000	39.8499
Water						0.0000	0.0000		0.0000	0.0000	1.1678	29.3133	30.4811	0.1206	2.9800e-003	34.3836
Total	**0.7562**	**1.0870**	**4.4912**	**0.0123**	**1.0501**	**0.0217**	**1.0718**	**0.2809**	**0.0210**	**0.3019**	**17.2528**	**1,767.704 1**	**1,784.956 9**	**1.1694**	**8.0900e-003**	**1,816.601 5**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/10/2021	5/21/2021	5	10	
2	Grading	Grading	5/22/2021	8/6/2021	5	55	
3	Building Construction	Building Construction	8/7/2021	8/9/2022	5	262	
4	Architectural Coating	Architectural Coating	8/19/2022	10/6/2022	5	4	
5	Paving	Paving	9/7/2022	9/15/2022	5	7	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 55

Acres of Paving: 0.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 92,523; Non-Residential Outdoor: 30,841; Striped Parking Area: 470 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	8.00	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
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	779.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	29.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 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					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0645	0.0210	7.0000e-005		2.2500e-003	2.2500e-003		2.0700e-003	2.0700e-003	0.0000	6.3596	6.3596	2.0600e-003	0.0000	6.4110
Total	**5.0200e-003**	**0.0645**	**0.0210**	**7.0000e-005**	**5.3000e-003**	**2.2500e-003**	**7.5500e-003**	**5.7000e-004**	**2.0700e-003**	**2.6400e-003**	**0.0000**	**6.3596**	**6.3596**	**2.0600e-003**	**0.0000**	**6.4110**

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	1.1000e-004	8.0000e-005	9.5000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2472	0.2472	1.0000e-005	0.0000	0.2474
Total	**1.1000e-004**	**8.0000e-005**	**9.5000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2472**	**0.2472**	**1.0000e-005**	**0.0000**	**0.2474**

3.2 Site Preparation - 2021

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					2.0700e-003	0.0000	2.0700e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0645	0.0210	7.0000e-005		2.2500e-003	2.2500e-003		2.0700e-003	2.0700e-003	0.0000	6.3596	6.3596	2.0600e-003	0.0000	6.4110
Total	**5.0200e-003**	**0.0645**	**0.0210**	**7.0000e-005**	**2.0700e-003**	**2.2500e-003**	**4.3200e-003**	**2.2000e-004**	**2.0700e-003**	**2.2900e-003**	**0.0000**	**6.3596**	**6.3596**	**2.0600e-003**	**0.0000**	**6.4110**

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	1.1000e-004	8.0000e-005	9.5000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2472	0.2472	1.0000e-005	0.0000	0.2474
Total	**1.1000e-004**	**8.0000e-005**	**9.5000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2472**	**0.2472**	**1.0000e-005**	**0.0000**	**0.2474**

3.3 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					0.1951	0.0000	0.1951	0.0942	0.0000	0.0942	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0339	0.3539	0.1732	3.2000e-004		0.0177	0.0177		0.0163	0.0163	0.0000	28.1472	28.1472	9.1000e-003	0.0000	28.3748
Total	**0.0339**	**0.3539**	**0.1732**	**3.2000e-004**	**0.1951**	**0.0177**	**0.2128**	**0.0942**	**0.0163**	**0.1105**	**0.0000**	**28.1472**	**28.1472**	**9.1000e-003**	**0.0000**	**28.3748**

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	3.2800e-003	0.1078	0.0251	3.0000e-004	6.6900e-003	3.2000e-004	7.0200e-003	1.8400e-003	3.1000e-004	2.1500e-003	0.0000	29.6914	29.6914	2.0600e-003	0.0000	29.7430
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	5.9000e-004	4.6000e-004	5.2000e-003	2.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.3598	1.3598	4.0000e-005	0.0000	1.3608
Total	**3.8700e-003**	**0.1083**	**0.0303**	**3.2000e-004**	**8.2000e-003**	**3.3000e-004**	**8.5400e-003**	**2.2400e-003**	**3.2000e-004**	**2.5600e-003**	**0.0000**	**31.0512**	**31.0512**	**2.1000e-003**	**0.0000**	**31.1037**

3.3 Grading - 2021

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					0.0761	0.0000	0.0761	0.0368	0.0000	0.0368	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0339	0.3538	0.1732	3.2000e-004		0.0177	0.0177		0.0163	0.0163	0.0000	28.1471	28.1471	9.1000e-003	0.0000	28.3747
Total	**0.0339**	**0.3538**	**0.1732**	**3.2000e-004**	**0.0761**	**0.0177**	**0.0938**	**0.0368**	**0.0163**	**0.0531**	**0.0000**	**28.1471**	**28.1471**	**9.1000e-003**	**0.0000**	**28.3747**

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	3.2800e-003	0.1078	0.0251	3.0000e-004	6.6900e-003	3.2000e-004	7.0200e-003	1.8400e-003	3.1000e-004	2.1500e-003	0.0000	29.6914	29.6914	2.0600e-003	0.0000	29.7430
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	5.9000e-004	4.6000e-004	5.2000e-003	2.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.3598	1.3598	4.0000e-005	0.0000	1.3608
Total	**3.8700e-003**	**0.1083**	**0.0303**	**3.2000e-004**	**8.2000e-003**	**3.3000e-004**	**8.5400e-003**	**2.2400e-003**	**3.2000e-004**	**2.5600e-003**	**0.0000**	**31.0512**	**31.0512**	**2.1000e-003**	**0.0000**	**31.1037**

3.4 Building Construction - 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	0.0451	0.4779	0.3454	6.3000e-004		0.0250	0.0250		0.0230	0.0230	0.0000	55.0428	55.0428	0.0178	0.0000	55.4878
Total	**0.0451**	**0.4779**	**0.3454**	**6.3000e-004**		**0.0250**	**0.0250**		**0.0230**	**0.0230**	**0.0000**	**55.0428**	**55.0428**	**0.0178**	**0.0000**	**55.4878**

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	1.7900e-003	0.0570	0.0155	1.5000e-004	3.6400e-003	1.2000e-004	3.7500e-003	1.0500e-003	1.1000e-004	1.1600e-003	0.0000	14.2352	14.2352	8.7000e-004	0.0000	14.2570
Worker	6.5500e-003	5.1000e-003	0.0576	1.7000e-004	0.0167	1.4000e-004	0.0168	4.4300e-003	1.3000e-004	4.5600e-003	0.0000	15.0563	15.0563	4.4000e-004	0.0000	15.0673
Total	**8.3400e-003**	**0.0621**	**0.0730**	**3.2000e-004**	**0.0203**	**2.6000e-004**	**0.0206**	**5.4800e-003**	**2.4000e-004**	**5.7200e-003**	**0.0000**	**29.2914**	**29.2914**	**1.3100e-003**	**0.0000**	**29.3244**

3.4 Building Construction - 2021

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	0.0451	0.4779	0.3454	6.3000e-004		0.0250	0.0250		0.0230	0.0230	0.0000	55.0427	55.0427	0.0178	0.0000	55.4878
Total	**0.0451**	**0.4779**	**0.3454**	**6.3000e-004**		**0.0250**	**0.0250**		**0.0230**	**0.0230**	**0.0000**	**55.0427**	**55.0427**	**0.0178**	**0.0000**	**55.4878**

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	1.7900e-003	0.0570	0.0155	1.5000e-004	3.6400e-003	1.2000e-004	3.7500e-003	1.0500e-003	1.1000e-004	1.1600e-003	0.0000	14.2352	14.2352	8.7000e-004	0.0000	14.2570
Worker	6.5500e-003	5.1000e-003	0.0576	1.7000e-004	0.0167	1.4000e-004	0.0168	4.4300e-003	1.3000e-004	4.5600e-003	0.0000	15.0563	15.0563	4.4000e-004	0.0000	15.0673
Total	**8.3400e-003**	**0.0621**	**0.0730**	**3.2000e-004**	**0.0203**	**2.6000e-004**	**0.0206**	**5.4800e-003**	**2.4000e-004**	**5.7200e-003**	**0.0000**	**29.2914**	**29.2914**	**1.3100e-003**	**0.0000**	**29.3244**

3.4 Building Construction - 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					
Off-Road	0.0600	0.6256	0.5054	9.4000e-004		0.0317	0.0317		0.0292	0.0292	0.0000	82.3327	82.3327	0.0266	0.0000	82.9984
Total	**0.0600**	**0.6256**	**0.5054**	**9.4000e-004**		**0.0317**	**0.0317**		**0.0292**	**0.0292**	**0.0000**	**82.3327**	**82.3327**	**0.0266**	**0.0000**	**82.9984**

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	2.5200e-003	0.0810	0.0219	2.2000e-004	5.4400e-003	1.5000e-004	5.5900e-003	1.5700e-003	1.5000e-004	1.7200e-003	0.0000	21.0980	21.0980	1.2600e-003	0.0000	21.1295
Worker	9.1900e-003	6.8900e-003	0.0793	2.4000e-004	0.0250	2.0000e-004	0.0252	6.6300e-003	1.8000e-004	6.8100e-003	0.0000	21.7213	21.7213	6.0000e-004	0.0000	21.7363
Total	**0.0117**	**0.0879**	**0.1012**	**4.6000e-004**	**0.0304**	**3.5000e-004**	**0.0307**	**8.2000e-003**	**3.3000e-004**	**8.5300e-003**	**0.0000**	**42.8194**	**42.8194**	**1.8600e-003**	**0.0000**	**42.8658**

3.4 Building Construction - 2022

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	0.0600	0.6256	0.5054	9.4000e-004		0.0317	0.0317		0.0292	0.0292	0.0000	82.3326	82.3326	0.0266	0.0000	82.9983
Total	**0.0600**	**0.6256**	**0.5054**	**9.4000e-004**		**0.0317**	**0.0317**		**0.0292**	**0.0292**	**0.0000**	**82.3326**	**82.3326**	**0.0266**	**0.0000**	**82.9983**

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	2.5200e-003	0.0810	0.0219	2.2000e-004	5.4400e-003	1.5000e-004	5.5900e-003	1.5700e-003	1.5000e-004	1.7200e-003	0.0000	21.0980	21.0980	1.2600e-003	0.0000	21.1295
Worker	9.1900e-003	6.8900e-003	0.0793	2.4000e-004	0.0250	2.0000e-004	0.0252	6.6300e-003	1.8000e-004	6.8100e-003	0.0000	21.7213	21.7213	6.0000e-004	0.0000	21.7363
Total	**0.0117**	**0.0879**	**0.1012**	**4.6000e-004**	**0.0304**	**3.5000e-004**	**0.0307**	**8.2000e-003**	**3.3000e-004**	**8.5300e-003**	**0.0000**	**42.8194**	**42.8194**	**1.8600e-003**	**0.0000**	**42.8658**

3.5 Architectural Coating - 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	1.2603					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0329	0.0423	7.0000e-005		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	5.9576	5.9576	3.9000e-004	0.0000	5.9673
Total	**1.2651**	**0.0329**	**0.0423**	**7.0000e-005**		**1.9100e-003**	**1.9100e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**5.9576**	**5.9576**	**3.9000e-004**	**0.0000**	**5.9673**

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	4.2000e-004	3.2000e-004	3.6600e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	1.0019	1.0019	3.0000e-005	0.0000	1.0026
Total	**4.2000e-004**	**3.2000e-004**	**3.6600e-003**	**1.0000e-005**	**1.1500e-003**	**1.0000e-005**	**1.1600e-003**	**3.1000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**1.0019**	**1.0019**	**3.0000e-005**	**0.0000**	**1.0026**

3.5 Architectural Coating - 2022

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	1.2603					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0329	0.0423	7.0000e-005		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	5.9576	5.9576	3.9000e-004	0.0000	5.9673
Total	**1.2651**	**0.0329**	**0.0423**	**7.0000e-005**		**1.9100e-003**	**1.9100e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**5.9576**	**5.9576**	**3.9000e-004**	**0.0000**	**5.9673**

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	4.2000e-004	3.2000e-004	3.6600e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	1.0019	1.0019	3.0000e-005	0.0000	1.0026
Total	**4.2000e-004**	**3.2000e-004**	**3.6600e-003**	**1.0000e-005**	**1.1500e-003**	**1.0000e-005**	**1.1600e-003**	**3.1000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**1.0019**	**1.0019**	**3.0000e-005**	**0.0000**	**1.0026**

3.6 Paving - 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					
Off-Road	2.2900e-003	0.0218	0.0266	4.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	3.5296	3.5296	1.0700e-003	0.0000	3.5564
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2900e-003**	**0.0218**	**0.0266**	**4.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**3.5296**	**3.5296**	**1.0700e-003**	**0.0000**	**3.5564**

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	1.8000e-004	1.4000e-004	1.5900e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4341	0.4341	1.0000e-005	0.0000	0.4344
Total	**1.8000e-004**	**1.4000e-004**	**1.5900e-003**	**0.0000**	**5.0000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4341**	**0.4341**	**1.0000e-005**	**0.0000**	**0.4344**

3.6 Paving - 2022

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	2.2900e-003	0.0218	0.0266	4.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	3.5296	3.5296	1.0700e-003	0.0000	3.5564
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2900e-003**	**0.0218**	**0.0266**	**4.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**3.5296**	**3.5296**	**1.0700e-003**	**0.0000**	**3.5564**

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	1.8000e-004	1.4000e-004	1.5900e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4341	0.4341	1.0000e-005	0.0000	0.4344
Total	**1.8000e-004**	**1.4000e-004**	**1.5900e-003**	**0.0000**	**5.0000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4341**	**0.4341**	**1.0000e-005**	**0.0000**	**0.4344**

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	0.4895	0.9563	4.3787	0.0115	1.0501	0.0118	1.0619	0.2809	0.0111	0.2920	0.0000	1,083.955 0	1,083.955 0	0.0833	0.0000	1,086.038 2
Unmitigated	0.4895	0.9563	4.3787	0.0115	1.0501	0.0118	1.0619	0.2809	0.0111	0.2920	0.0000	1,083.955 0	1,083.955 0	0.0833	0.0000	1,086.038 2

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,204.00	1,179.36	856.80	2,746,194	2,746,194
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	14.07	17.53	8.02	29,635	29,635
Total	1,218.07	1,196.89	864.82	2,775,829	2,775,829

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
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Hotel	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Regional Shopping Center	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

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	512.1892	512.1892	0.0121	2.5000e-003	513.2374
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	512.1892	512.1892	0.0121	2.5000e-003	513.2374
NaturalGas Mitigated	0.0144	0.1307	0.1098	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.2415	142.2415	2.7300e-003	2.6100e-003	143.0868
NaturalGas Unmitigated	0.0144	0.1307	0.1098	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.2415	142.2415	2.7300e-003	2.6100e-003	143.0868

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					
Enclosed Parking with Elevator	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
Hotel	2.66488e+006	0.0144	0.1306	0.1097	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.2084	142.2084	2.7300e-003	2.6100e-003	143.0535
Other Non-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
Regional Shopping Center	619.92	0.0000	3.0000e-005	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0331	0.0331	0.0000	0.0000	0.0333
Total		**0.0144**	**0.1307**	**0.1098**	**7.8000e-004**		**9.9300e-003**	**9.9300e-003**		**9.9300e-003**	**9.9300e-003**	**0.0000**	**142.2415**	**142.2415**	**2.7300e-003**	**2.6100e-003**	**143.0868**

5.2 Energy by Land Use - NaturalGas

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					
Enclosed Parking with Elevator	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
Hotel	2.66488e+006	0.0144	0.1306	0.1097	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.2084	142.2084	2.7300e-003	2.6100e-003	143.0535
Other Non-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
Regional Shopping Center	619.92	0.0000	3.0000e-005	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0331	0.0331	0.0000	0.0000	0.0333
Total		**0.0144**	**0.1307**	**0.1098**	**7.8000e-004**		**9.9300e-003**	**9.9300e-003**		**9.9300e-003**	**9.9300e-003**	**0.0000**	**142.2415**	**142.2415**	**2.7300e-003**	**2.6100e-003**	**143.0868**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	22792.6	12.6946	3.0000e-004	6.0000e-005	12.7206
Hotel	893199	497.4776	0.0118	2.4300e-003	498.4958
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3621.24	2.0169	5.0000e-005	1.0000e-005	2.0210
Total		**512.1892**	**0.0121**	**2.5000e-003**	**513.2374**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	22792.6	12.6946	3.0000e-004	6.0000e-005	12.7206
Hotel	893199	497.4776	0.0118	2.4300e-003	498.4958
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3621.24	2.0169	5.0000e-005	1.0000e-005	2.0210
Total		**512.1892**	**0.0121**	**2.5000e-003**	**513.2374**

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	0.2523	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003
Unmitigated	0.2523	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003

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	0.0287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2234					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003
Total	**0.2523**	**2.0000e-005**	**2.6700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.1800e-003**	**5.1800e-003**	**1.0000e-005**	**0.0000**	**5.5200e-003**

6.2 Area by SubCategory

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	0.0287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2234					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1800e-003	5.1800e-003	1.0000e-005	0.0000	5.5200e-003
Total	**0.2523**	**2.0000e-005**	**2.6700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.1800e-003**	**5.1800e-003**	**1.0000e-005**	**0.0000**	**5.5200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	30.4811	0.1206	2.9800e-003	34.3836
Unmitigated	30.4811	0.1206	2.9800e-003	34.3836

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	3.65281 / 0.405868	30.1613	0.1197	2.9500e-003	34.0338
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.0281476 / 0.0172517	0.3198	9.2000e-004	2.0000e-005	0.3498
Total		**30.4811**	**0.1206**	**2.9700e-003**	**34.3836**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	3.65281 / 0.405868	30.1613	0.1197	2.9500e-003	34.0338
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.0281476 / 0.0172517	0.3198	9.2000e-004	2.0000e-005	0.3498
Total		**30.4811**	**0.1206**	**2.9700e-003**	**34.3836**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	16.0850	0.9506	0.0000	39.8499
Unmitigated	16.0850	0.9506	0.0000	39.8499

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	78.84	16.0038	0.9458	0.0000	39.6488
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.4	0.0812	4.8000e-003	0.0000	0.2012
Total		**16.0850**	**0.9506**	**0.0000**	**39.8499**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	78.84	16.0038	0.9458	0.0000	39.6488
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.4	0.0812	4.8000e-003	0.0000	0.2012
Total		**16.0850**	**0.9506**	**0.0000**	**39.8499**

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 3.3:

EMFAC 2017 FACTORS

EMFAC2017 Derived CalEEMod Annual Emission Rates: Year 2022[1,2]

Season	Pollutant	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	OBUS	UBUS	MCY	SBUS	MH
Annual	CH4_IDLEX	0	0	0	0	0.005611	0.003944047	0.004423587	0.026918673	0.0084752	0	0	0.0739897	0
Annual	CH4_RUNEX	0.0030242	0.0077267	0.0049734	0.0065352	0.0056775	0.003945704	0.004601906	0.082507546	0.0069634	5.8456002	0.3807819	0.0070599	0.0031209
Annual	CH4_STREX	0.0497119	0.070705	0.0673164	0.080691	0.0160712	0.011225406	0.012461198	5.38411E-07	0.0218218	0.0111859	0.2344659	0.006777	0
Annual	CO_IDLEX	0	0	0	0	0.1908366	0.152955314	0.394384048	6.226916634	0.5952011	0	0	2.9896242	0
Annual	CO_RUNEX	0.7201367	1.4527755	1.0219519	1.2167364	0.6473021	0.435243788	0.472350966	0.584717248	0.7823623	45.423026	19.105304	0.5993668	0.2690429
Annual	CO_STREX	2.1005975	2.2700339	2.6488862	3.0984851	1.1384467	0.770025562	1.435215411	0.009539162	2.3937088	0.7143595	8.5172687	0.9319113	0
Annual	CO2_NBIO_IDLEX	0	0	0	0	8.8754808	13.40193055	67.31859576	1172.5017	94.214715	0	0	354.62582	0
Annual	CO2_NBIO_RUNEX	272.47447	320.55496	343.41596	421.49481	667.04059	668.3742012	1070.872809	1482.703518	1391.4978	1991.581	223.67565	1100.9725	965.32961
Annual	CO2_NBIO_STREX	53.616905	63.670293	68.728001	83.585595	12.482572	9.648900899	12.16974322	0.090287536	19.244568	8.6084803	59.556617	5.7278912	0
Annual	NOX_IDLEX	0	0	0	0	0.0524484	0.084534621	0.474856688	6.318960426	0.4568364	0	0	3.1431593	0
Annual	NOX_RUNEX	0.040511	0.1201768	0.0856013	0.1130176	0.6271754	0.811152617	1.633735134	3.599432701	1.5748976	0.4697208	1.1316957	4.6496285	3.432833
Annual	NOX_STREX[3]	0.1822069	0.2563963	0.2802614	0.3432342	0.3353256	0.234568425	1.289176771	2.063897191	0.7535135	0.0846513	0.2636683	0.9017689	0
Annual	PM10_IDLEX	0	0	0	0	0.0007495	0.001244273	0.001073214	0.003936807	0.0007892	0	0	0.0039536	0
Annual	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061057896	0.13034	0.0726803	0.01176	0.7448002	0.13034
Annual	PM10_PMTW	0.008	0.008	0.008	0.008	0.0096684	0.010521633	0.012000003	0.035588943	0.012	0.0318756	0.004	0.0106531	0.016
Annual	PM10_RUNEX	0.0018007	0.0027169	0.001911	0.0020878	0.0062844	0.009868432	0.031829818	0.028199781	0.0176188	0.0031836	0.002443	0.0270747	0.0749646
Annual	PM10_STREX	0.0018422	0.0026306	0.0018911	0.0020605	0.0002851	0.00016317	0.00013806	1.61301E-06	0.0001973	4.641E-05	0.0032943	5.518E-05	0
Annual	PM25_IDLEX	0	0	0	0	0.0007171	0.001190446	0.001026787	0.003766502	0.0007551	0	0	0.0037825	0
Annual	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.02616767	0.05586	0.0311487	0.00504	0.3192001	0.05586
Annual	PM25_PMTW	0.002	0.002	0.002	0.002	0.0024171	0.002630408	0.003000001	0.008897236	0.003	0.0079689	0.001	0.0026633	0.004
Annual	PM25_RUNEX	0.001659	0.0025003	0.0017588	0.0019247	0.0059828	0.00942442	0.030446233	0.02697983	0.0168419	0.0030428	0.0022829	0.0258893	0.0717216
Annual	PM25_STREX	0.0016939	0.002419	0.0017389	0.001895	0.0002621	0.000150029	0.000126941	1.4831E-06	0.0001814	4.267E-05	0.0031005	5.074E-05	0
Annual	ROG_DIURN	0.0524196	0.1274576	0.0730385	0.0841768	0.0025541	0.001576501	0.000667636	7.19251E-06	0.0018391	0.0006646	1.0817626	0.0009894	0
Annual	ROG_HTSK	0.1008153	0.1993409	0.1233314	0.1409304	0.0805416	0.054372967	0.027255384	0.000276525	0.022113	0.0084735	0.6546153	0.0085882	0
Annual	ROG_IDLEX	0	0	0	0	0.0223008	0.017986622	0.022226278	0.453910027	0.0559077	0	0	0.3437606	0
Annual	ROG_RESTL	0.0497979	0.1075015	0.0740805	0.0890787	0.0015611	0.000978461	0.00043014	5.06836E-06	0.0009412	0.0004915	0.6628665	0.0005274	0
Annual	ROG_RUNEX	0.0119411	0.0343685	0.0206414	0.0283093	0.0486117	0.049818031	0.062555505	0.082265543	0.0618348	0.0851611	2.611964	0.0921701	0.0671904
Annual	ROG_RUNLS	0.2110443	0.6943408	0.4055255	0.4291112	0.5526459	0.353514692	0.144873584	0.001508325	0.2644634	0.053654	1.9833855	0.0553234	0
Annual	ROG_STREX	0.2237273	0.354093	0.3137551	0.3987574	0.0793062	0.055359584	0.066469247	2.83959E-06	0.1148994	0.0484924	1.8128246	0.0391092	0
Annual	SO2_IDLEX	0	0	0	0	8.627E-05	0.000128552	0.000639803	0.010902219	0.0008963	0	0	0.0033855	0
Annual	SO2_RUNEX	0.0026782	0.0031516	0.0033756	0.0041408	0.0065152	0.006470764	0.010238121	0.013511568	0.0134578	0.0014406	0.0022135	0.0105323	0.0091258
Annual	SO2_STREX	0.0005272	0.000626	0.0006757	0.0008218	0.0001235	9.54837E-05	0.000120429	8.93468E-07	0.0001904	8.519E-05	0.0005894	5.668E-05	0
Annual	TOG_DIURN	0.0524353	0.1274958	0.0730604	0.084202	0.0025541	0.001576501	0.000667636	7.19251E-06	0.0018391	0.0006646	1.0817626	0.0009894	0
Annual	TOG_HTSK	0.1008455	0.1994007	0.1233684	0.1409727	0.0805416	0.054372967	0.027255384	0.000276525	0.022113	0.0084735	0.6546153	0.0085882	0
Annual	TOG_IDLEX	0	0	0	0	0.0315919	0.02470222	0.030324437	0.522617236	0.0723106	0	0	0.4946086	0
Annual	TOG_RESTL	0.0498128	0.1075337	0.0741028	0.0891054	0.0015611	0.000978461	0.00043014	5.06836E-06	0.0009412	0.0004915	0.6628665	0.0005274	0
Annual	TOG_RUNEX	0.0173632	0.050113	0.0300646	0.0410733	0.0621958	0.059663373	0.074624561	0.173011316	0.0784927	5.9677449	3.2456821	0.1106291	0.0764918
Annual	TOG_RUNLS	0.2111077	0.6945491	0.4056472	0.42924	0.5526459	0.353514692	0.144873584	0.001508325	0.2644634	0.053654	1.9833855	0.0553234	0
Annual	TOG_STREX	0.24505	0.3878403	0.343659	0.4367569	0.0868303	0.060611776	0.072775458	3.109E-06	0.1258004	0.0530931	1.9732172	0.0428196	0
Summer	CH4_IDLEX	0	0	0	0	0.0056229	0.00395256	0.004192784	0.028040022	0.0085344	0	0	0.0740425	0
Summer	CH4_RUNEX	0.0032282	0.0081768	0.0052909	0.0069305	0.0057928	0.003991452	0.004654268	0.082509545	0.0070846	5.8456102	0.3737796	0.0071402	0.0031209
Summer	CH4_STREX	0.0447523	0.0632755	0.0605349	0.072483	0.0155239	0.010843845	0.012009655	5.15794E-07	0.0209867	0.0103998	0.2095508	0.0060473	0
Summer	CO_IDLEX	0	0	0	0	0.1908366	0.152955314	0.322787613	6.089397874	0.5813111	0	0	2.9531182	0
Summer	CO_RUNEX	0.7893131	1.5751382	1.1154161	1.3215976	0.6592739	0.439997575	0.478223072	0.585393392	0.796	45.423537	18.368661	0.6078768	0.2690429
Summer	CO_STREX	1.7928853	1.9324236	2.2586417	2.6333531	1.0881875	0.736097884	1.363194297	0.009060559	2.2639575	0.6288227	7.7565371	0.7604063	0
Summer	CO2_NBIO_IDLEX	0	0	0	0	8.8754808	13.40193055	68.13890073	1168.968972	94.080565	0	0	362.28625	0
Summer	CO2_NBIO_RUNEX	284.40184	332.71116	355.31365	433.95807	667.06223	668.3826287	1070.883191	1482.704643	1391.522	1991.5819	222.28274	1100.9877	965.32961
Summer	CO2_NBIO_STREX	53.045587	62.999293	67.992098	82.697902	12.393178	9.588331089	12.0468222	0.089528539	19.023454	8.4608426	57.673194	5.4418287	0
Summer	NOX_IDLEX	0	0	0	0	0.0524484	0.084534621	0.475224904	6.133659065	0.4469892	0	0	3.2081557	0
Summer	NOX_RUNEX	0.0356155	0.1049688	0.0750238	0.0989825	0.5874473	0.76465199	1.538039986	3.406107222	1.475312	0.4672408	0.988815	4.3860802	3.2425213
Summer	NOX_STREX[3]	0.1687012	0.2374487	0.2595048	0.3178035	0.3212826	0.224745739	1.284167877	2.063840585	0.7432406	0.0809543	0.2499432	0.898039	0
Summer	PM10_IDLEX	0	0	0	0	0.0007495	0.001244273	0.000907272	0.003441783	0.0006707	0	0	0.0033404	0
Summer	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061057896	0.13034	0.0726803	0.01176	0.7448002	0.13034
Summer	PM10_PMTW	0.008	0.008	0.008	0.008	0.0096684	0.010521633	0.012000003	0.035588943	0.012	0.0318756	0.004	0.0106531	0.016
Summer	PM10_RUNEX	0.0018007	0.0027169	0.001911	0.0020878	0.0062844	0.009868432	0.031829818	0.028199781	0.0176188	0.0031836	0.002443	0.0270747	0.0749646
Summer	PM10_STREX	0.0018422	0.0026306	0.0018911	0.0020605	0.0002851	0.00016317	0.00013806	1.61301E-06	0.0001973	4.641E-05	0.0032943	5.518E-05	0
Summer	PM25_IDLEX	0	0	0	0	0.0007171	0.001190446	0.000868024	0.003292893	0.0006416	0	0	0.0031959	0
Summer	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.02616767	0.05586	0.0311487	0.00504	0.3192001	0.05586
Summer	PM25_PMTW	0.002	0.002	0.002	0.002	0.0024171	0.002630408	0.003000001	0.008897236	0.003	0.0079689	0.001	0.0026633	0.004
Summer	PM25_RUNEX	0.001659	0.0025003	0.0017588	0.0019247	0.0059828	0.00942442	0.030446233	0.02697983	0.0168419	0.0030428	0.0022829	0.0258893	0.0717216
Summer	PM25_STREX	0.0016939	0.002419	0.0017389	0.001895	0.0002621	0.000150029	0.000126941	1.4831E-06	0.0001814	4.267E-05	0.0031005	5.074E-05	0
Summer	ROG_DIURN	0.0805724	0.1958209	0.1122646	0.129403	0.0037597	0.00232092	0.000992629	1.12824E-05	0.0026504	0.000962	1.7192635	0.0014292	0
Summer	ROG_HTSK	0.1039251	0.20733	0.1273075	0.1449651	0.0824794	0.056058952	0.028106319	0.000282155	0.0225824	0.0087333	0.7111003	0.0087249	0
Summer	ROG_IDLEX	0	0	0	0	0.0223008	0.017986622	0.021299207	0.474766627	0.0568223	0	0	0.3435773	0
Summer	ROG_RESTL	0.0689402	0.1497526	0.1020832	0.1227958	0.0021601	0.00135455	0.000604419	7.70525E-06	0.0013065	0.0006759	1.0655189	0.000731	0
Summer	ROG_RUNEX	0.0126449	0.0362026	0.0218196	0.0297774	0.0492296	0.050024968	0.06280464	0.082277975	0.0624181	0.0851891	2.5493164	0.0925754	0.0671904
Summer	ROG_RUNLS	0.1987581	0.6417513	0.3764737	0.4001356	0.5348767	0.341343418	0.139516438	0.001486925	0.2575294	0.0486126	1.8575833	0.0495244	0
Summer	ROG_STREX	0.1997252	0.3146836	0.2799557	0.3553413	0.0764074	0.053336124	0.063858822	2.72808E-06	0.1102969	0.0449008	1.6089892	0.0348745	0
Summer	SO2_IDLEX	0	0	0	0	8.627E-05	0.000128552	0.000647714	0.010868123	0.000895	0	0	0.0034579	0
Summer	SO2_RUNEX	0.0027955	0.0032711	0.0034926	0.0042633	0.0065154	0.006470847	0.010238224	0.01351158	0.0134581	0.0014406	0.0021997	0.0105324	0.0091258
Summer	SO2_STREX	0.0005215	0.0006194	0.0006685	0.0008131	0.0001226	9.48843E-05	0.000119213	8.85957E-07	0.0001883	8.373E-05	0.0005707	5.385E-05	0
Summer	TOG_DIURN	0.0805965	0.1958796	0.1122982	0.1294418	0.0037597	0.00232092	0.000992629	1.12824E-05	0.0026504	0.000962	1.7192635	0.0014292	0
Summer	TOG_HTSK	0.1039563	0.2073922	0.1273456	0.1450086	0.0824794	0.056058952	0.028106319	0.000282155	0.0225824	0.0087333	0.7111003	0.0087249	0
Summer	TOG_IDLEX	0	0	0	0	0.0315919	0.02470222	0.028967765	0.546513628	0.0733518	0	0	0.4943999	0
Summer	TOG_RESTL	0.0689608	0.1497976	0.1021138	0.1228327	0.0021601	0.00135455	0.000604419	7.70525E-06	0.0013065	0.0006759	1.0655189	0.000731	0
Summer	TOG_RUNEX	0.0183905	0.0527904	0.0317846	0.0432169	0.0630975	0.059965335	0.0749881	0.173029456	0.0793439	5.9677859	3.1699165	0.1112205	0.0764918
Summer	TOG_RUNLS	0.1988178	0.6419438	0.3765867	0.4002556	0.5348767	0.341343418	0.139516438	0.001486925	0.2575294	0.0486126	1.8575833	0.0495244	0
Summer	TOG_STREX	0.2187604	0.3446752	0.3066382	0.3892042	0.0836564	0.058396342	0.069917372	2.9869E-06	0.1207613	0.0491608	1.7514143	0.0381832	0

Winter	CH4_IDLEX	0	0	0	0	0.0056086	0.003942317	0.004755467	0.01973037	0.0084128	0	0	0.0739888	0
Winter	CH4_RUNEX	0.0029599	0.0075825	0.0048731	0.0064066	0.005646	0.00393336	0.004585367	0.003636202	0.0069288	5.8455978	0.3823353	0.0070355	0.0031209
Winter	CH4_STREX	0.0508347	0.0723885	0.0688533	0.0825503	0.0161899	0.011308117	0.012544775	5.43738E-07	0.0220235	0.0113635	0.239769	0.0069446	0
Winter	CO_IDLEX	0	0	0	0	0.1908366	0.152955314	0.494420072	6.3197888	0.6143825	0	0	3.0400371	0
Winter	CO_RUNEX	0.6947585	1.4074551	0.9875842	1.1774753	0.6440847	0.433960268	0.470667137	0.378232006	0.7784512	45.422898	19.251502	0.5967545	0.2690429
Winter	CO_STREX	2.1718736	2.3482348	2.7398535	3.206882	1.1475152	0.776227159	1.449467168	0.009634159	2.4206576	0.7314087	8.6646146	0.9644153	0
Winter	CO2_NBIO_IDLEX	0	0	0	0	8.8754808	13.40193055	66.17894992	1158.962553	94.39997	0	0	344.04713	0
Winter	CO2_NBIO_RUNEX	268.0658	316.06139	339.01831	416.88694	667.03476	668.3719215	1070.869828	1430.090478	1391.4909	1991.5807	223.9573	1100.9678	965.32961
Winter	CO2_NBIO_STREX	53.748702	63.82472	68.898619	83.79125	12.499045	9.660195855	12.19435122	0.0904382	19.291004	8.6382336	59.93538	5.7826736	0
Winter	NOX_IDLEX	0	0	0	0	0.0524484	0.084534621	0.474347261	6.465701188	0.470435	0	0	3.0534024	0
Winter	NOX_RUNEX	0.0392918	0.1167803	0.08308	0.1097293	0.61562	0.796457815	1.602740334	3.488980303	1.5453819	0.4691927	1.1050922	4.5685046	3.368534
Winter	NOX_STREX[3]	0.1852096	0.2606338	0.2848824	0.348904	0.3385109	0.23679626	1.290368034	2.063910648	0.7559833	0.0855041	0.2669026	0.9028594	0
Winter	PM10_IDLEX	0	0	0	0	0.0007495	0.001244273	0.00130237	0.004370771	0.0009529	0	0	0.0048003	0
Winter	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.060105422	0.13034	0.0726803	0.01176	0.7448002	0.13034
Winter	PM10_PMTW	0.008	0.008	0.008	0.008	0.0096684	0.010521633	0.012000003	0.035033564	0.012	0.0318756	0.004	0.0106531	0.016
Winter	PM10_RUNEX	0.0018007	0.0027169	0.001911	0.0020878	0.0062844	0.009868432	0.031829818	0.028096242	0.0176188	0.0031836	0.002443	0.0270747	0.0749646
Winter	PM10_STREX	0.0018422	0.0026306	0.0018911	0.0020605	0.0002851	0.00016317	0.00013806	1.61301E-06	0.0001973	4.641E-05	0.0032943	5.518E-05	0
Winter	PM25_IDLEX	0	0	0	0	0.0007171	0.001190446	0.00124603	0.004181693	0.0009117	0	0	0.0045926	0
Winter	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.025759466	0.05586	0.0311487	0.00504	0.3192001	0.05586
Winter	PM25_PMTW	0.002	0.002	0.002	0.002	0.0024171	0.002630408	0.003000001	0.008758391	0.003	0.0079689	0.001	0.0026633	0.004
Winter	PM25_RUNEX	0.001659	0.0025003	0.0017588	0.0019247	0.0059828	0.00942442	0.030446233	0.02688077	0.0168419	0.0030428	0.0022829	0.0258893	0.0717216
Winter	PM25_STREX	0.0016939	0.002419	0.0017389	0.001895	0.0002621	0.000150029	0.000126941	1.4831E-06	0.0001814	4.267E-05	0.0031005	5.074E-05	0
Winter	ROG_DIURN	0.0510541	0.1275302	0.0699814	0.0800091	0.0026897	0.001633622	0.000691481	7.52303E-06	0.0019222	0.000648	1.1757383	0.0010033	0
Winter	ROG_HTSK	0.1086963	0.2237106	0.1330533	0.1505647	0.0923885	0.061346922	0.029503806	0.000314939	0.0234751	0.0090358	0.8418938	0.0090227	0
Winter	ROG_IDLEX	0	0	0	0	0.0223008	0.017986622	0.023524408	0.424789457	0.0546447	0	0	0.3440137	0
Winter	ROG_RESTL	0.0475461	0.1027519	0.0706838	0.0851103	0.0015404	0.0009504	0.000420717	5.06328E-06	0.0009238	0.0004662	0.6353973	0.0005063	0
Winter	ROG_RUNEX	0.0117058	0.0337488	0.0202481	0.0277916	0.0484416	0.049761171	0.062483287	0.076852175	0.0616657	0.0851541	2.6258813	0.0920455	0.0671904
Winter	ROG_RUNLS	0.2402572	0.8209764	0.475354	0.4989969	0.5986148	0.385180909	0.159150925	0.001601131	0.2833056	0.0654431	2.2829142	0.0680686	0
Winter	ROG_STREX	0.2291274	0.3629262	0.3213604	0.4085149	0.0799314	0.05579603	0.067070422	2.86528E-06	0.1160075	0.0493055	1.8565024	0.0400807	0
Winter	SO2_IDLEX	0	0	0	0	8.627E-05	0.000128552	0.000628811	0.010949304	0.000898	0	0	0.0032856	0
Winter	SO2_RUNEX	0.0026349	0.0031074	0.0033324	0.0040955	0.0065151	0.006470741	0.010238092	0.013511565	0.0134578	0.0014406	0.0022162	0.0105322	0.0091258
Winter	SO2_STREX	0.0005285	0.0006275	0.0006774	0.0008238	0.0001237	9.55955E-05	0.000120673	8.94959E-07	0.0001909	8.548E-05	0.0005931	5.722E-05	0
Winter	TOG_DIURN	0.0510694	0.1275685	0.0700023	0.0800331	0.0026897	0.001633622	0.000691481	7.52303E-06	0.0019222	0.000648	1.1757383	0.0010033	0
Winter	TOG_HTSK	0.1087289	0.2237778	0.1330932	0.1506098	0.0923885	0.061346922	0.029503806	0.000314939	0.0234751	0.0090358	0.8418938	0.0090227	0
Winter	TOG_IDLEX	0	0	0	0	0.0315919	0.02470222	0.03222404	0.483590462	0.0708727	0	0	0.4948967	0
Winter	TOG_RESTL	0.0475604	0.1027827	0.0707051	0.0851358	0.0015404	0.0009504	0.000420717	5.06328E-06	0.0009238	0.0004662	0.6353973	0.0005063	0
Winter	TOG_RUNEX	0.0170198	0.0492087	0.0294906	0.0403188	0.0619477	0.059580403	0.074519181	0.087632854	0.078246	5.9677347	3.2624715	0.1104474	0.0764918
Winter	TOG_RUNLS	0.2403293	0.8212227	0.4754967	0.4991466	0.5986148	0.385180909	0.159150925	0.001601131	0.2833056	0.0654431	2.2829142	0.0680686	0
Winter	TOG_STREX	0.2509647	0.3975153	0.3519891	0.4474441	0.0875148	0.061089629	0.073433669	3.13712E-06	0.1270137	0.0539833	2.0207475	0.0438833	0

1 Source: California Air Resources Board. EMFAC2017 Web Database. https://www.arb.ca.gov/emfac/2017/; California Air Pollution Control Officers Association (CAPCOA). 2017, November. California Emissions Estimator Model User's Guide, Version 2016.3.2, Appendix A.

2 Unless otherwise noted, per CalEEMod methodology, the calculated CalEEMod emission rates are derived from the emission rates obtained using the EMFAC2017 Web Database for the Los Angeles (SC) region .

3 Because EMFAC2017 provides vehicle trips data for MHDT and HHDT diesel trucks, the formula provided in Appendix A of the CalEEMod User's Guide in calculating the NO_X STREX emission rates are utilized.

1130 S. Hope Street

NOISE IMPACT ANALYSIS

CITY OF LOS ANGELES

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OCTOBER 15, 2020

TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PPV	Peak Particle Velocity
Project	1130 S. Hope Street
REMEL	Reference Energy Mean Emission Level
VdB	Vibration Decibels

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EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed 1130 S. Hope Street development ("Project"). The Project site is located east of Staples Center in South Park area in the City of Los Angeles . The Project is proposed to consist of a 12-story, 175-foot high limited-service hotel with 144 guest rooms and 378 square feet of ground-floor retail uses. The total floor area of the building is 61,392 square feet.

The results of this 1130 S. Hope Street Noise Impact Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1). Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA. All impacts are considered less than significant without mitigation.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Operational Noise	7	*Less Than Significant*	-
Construction Noise	8	*Less Than Significant*	-
Construction Vibration		*Less Than Significant*	-

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed 1130 S. Hope Street ("Project"). This noise study describes the proposed Project, provides information regarding noise fundamentals, outlines the local regulatory setting, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational noise and short-term construction noise impacts.

1.1 SITE LOCATION

The proposed Project is located at 1130 S. Hope Street between 11th and 12th street, in the City of Los Angeles, as shown on Exhibit 1-A. The Project site is located around 0.5 miles east of Interstate 110 (I-110), 0.5 miles north of Interstate 10 (I-10), and 2 miles west of Highway 101. Los Angeles International Airport is located approximately 11 miles to the southwest.

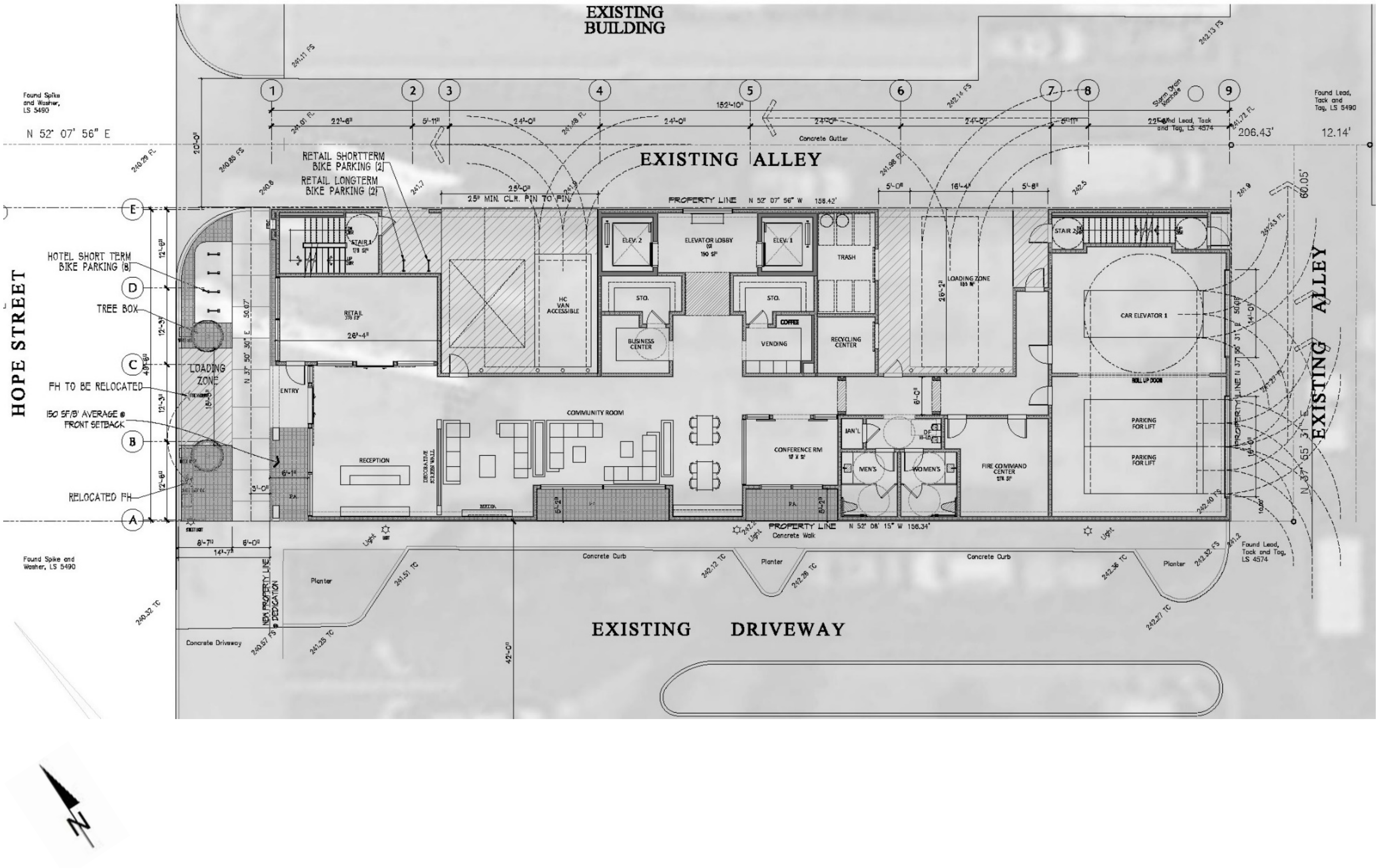
1.2 PROJECT DESCRIPTION

The Project proposes to consist of a mixed-use hotel development, with 144 hotel rooms, 378 square feet of retail and 53 parking spaces within an indoor parking garage as shown on Exhibit 1-B. The Project is expected to be fully operational by 2023.

The on-site Project-related noise sources are expected to include: roof-top air conditioning units, outdoor activity area, exercise station, and pool activity. This noise analysis is intended to describe noise level impacts associated with the expected typical operational activities at the Project site. To present a conservative approach, this report assumes the Project will operate 24-hours daily for seven days per week. Per the 1130 Hope Street Traffic Impact Analysis by KOA Consultants, the Project is expected to generate 1,035 daily two way trips (538 inbound and 538 outbound) (2).

EXHIBIT 1-A: LOCATION MAP

EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

<table>
<tr><th>COMMON OUTDOOR ACTIVITIES</th><th>COMMON INDOOR ACTIVITIES</th><th>A - WEIGHTED SOUND LEVEL dBA</th><th>SUBJECTIVE LOUDNESS</th><th>EFFECTS OF NOISE</th></tr>
<tr><td>THRESHOLD OF PAIN</td><td></td><td>140</td><td rowspan="4">INTOLERABLE OR DEAFENING</td><td rowspan="6">HEARING LOSS</td></tr>
<tr><td>NEAR JET ENGINE</td><td></td><td>130</td></tr>
<tr><td></td><td></td><td>120</td></tr>
<tr><td>JET FLY-OVER AT 300m (1000 ft)</td><td>ROCK BAND</td><td>110</td></tr>
<tr><td>LOUD AUTO HORN</td><td></td><td>100</td><td rowspan="3">VERY NOISY</td></tr>
<tr><td>GAS LAWN MOWER AT 1m (3 ft)</td><td></td><td>90</td></tr>
<tr><td>DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)</td><td>FOOD BLENDER AT 1m (3 ft)</td><td>80</td><td rowspan="4">SPEECH INTERFERENCE</td></tr>
<tr><td>NOISY URBAN AREA, DAYTIME</td><td>VACUUM CLEANER AT 3m (10 ft)</td><td>70</td><td rowspan="2">LOUD</td></tr>
<tr><td>HEAVY TRAFFIC AT 90m (300 ft)</td><td>NORMAL SPEECH AT 1m (3 ft)</td><td>60</td></tr>
<tr><td>QUIET URBAN DAYTIME</td><td>LARGE BUSINESS OFFICE</td><td>50</td><td rowspan="2">MODERATE</td></tr>
<tr><td>QUIET URBAN NIGHTTIME</td><td>THEATER, LARGE CONFERENCE ROOM (BACKGROUND)</td><td>40</td><td>SLEEP DISTURBANCE</td></tr>
<tr><td>QUIET SUBURBAN NIGHTTIME</td><td>LIBRARY</td><td>30</td><td rowspan="2">FAINT</td><td rowspan="4">NO EFFECT</td></tr>
<tr><td>QUIET RURAL NIGHTTIME</td><td>BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)</td><td>20</td></tr>
<tr><td></td><td>BROADCAST/RECORDING STUDIO</td><td>10</td><td rowspan="2">VERY FAINT</td></tr>
<tr><td>LOWEST THRESHOLD OF HUMAN HEARING</td><td>LOWEST THRESHOLD OF HUMAN HEARING</td><td>0</td></tr>
</table>

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (3) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort. (4) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period (typically one hour) and is commonly used to describe the "average" noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment, however. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Los Angeles relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. Based on guidance from the U.S. Department of Transportation, Federal Highway Administration (FHWA), Office of Environment and Planning, Noise and Air Quality Branch, the way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (3)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (5)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (3)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearest residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

2.3.5 REFLECTION

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels. (5) If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (5)

2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

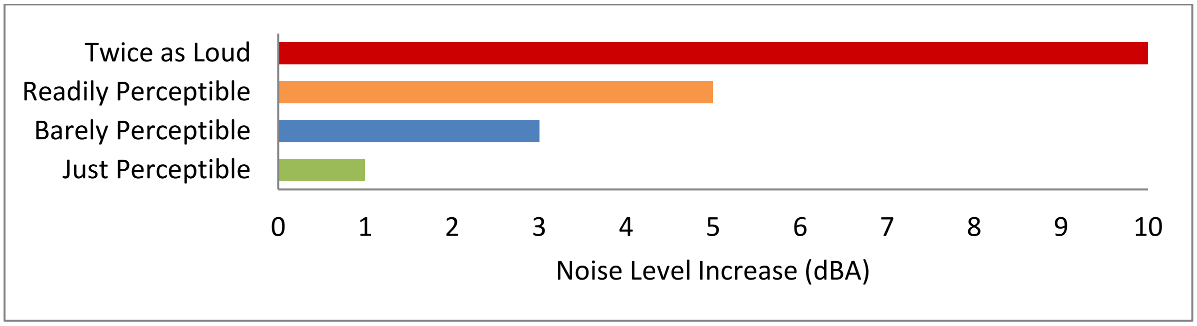
2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (7) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (7) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (5)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



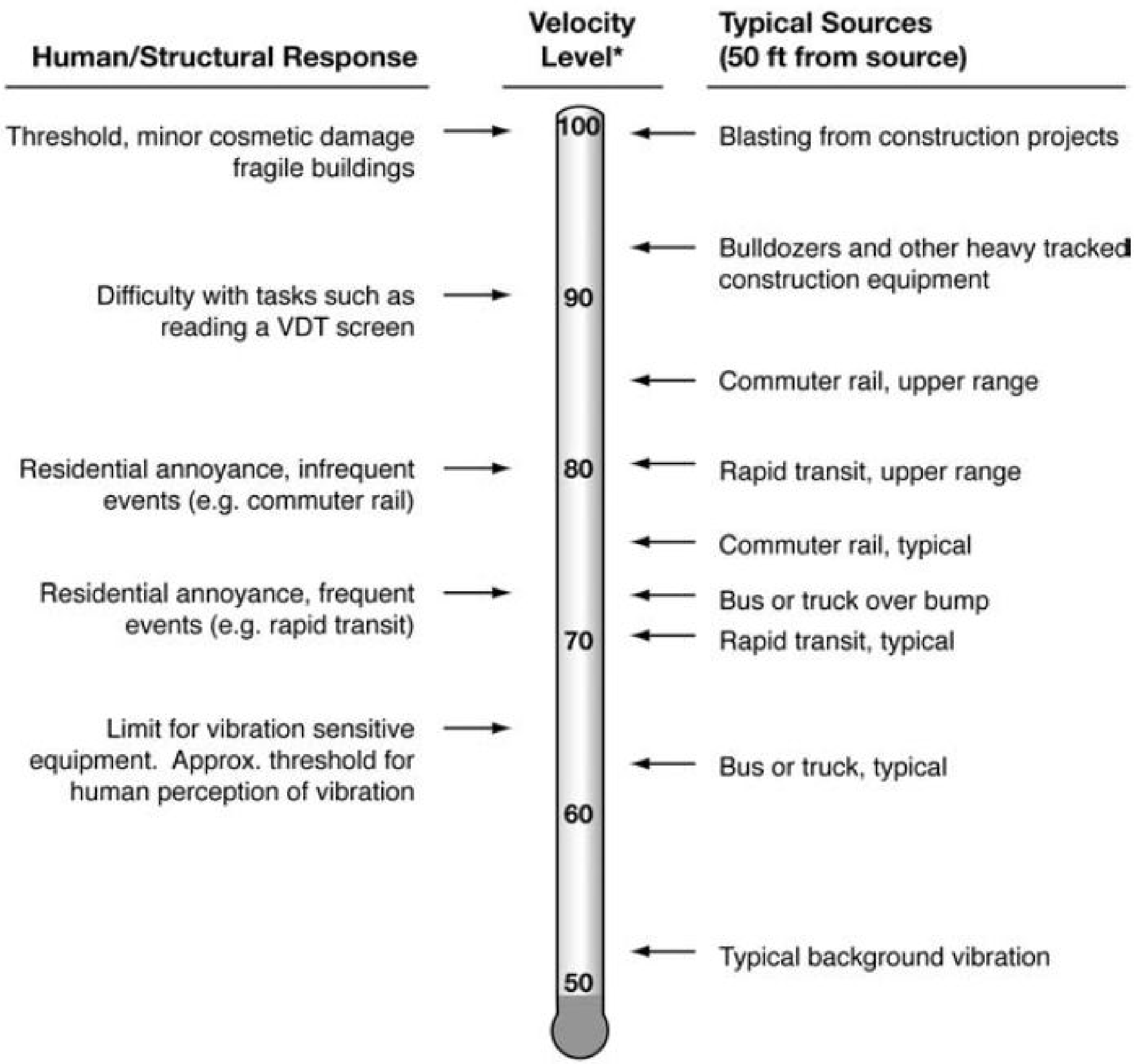
2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (8), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (9) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 STATE OF CALIFORNIA BUILDING CODE

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

3.3 CITY OF LOS ANGELES GENERAL PLAN NOISE ELEMENT

The City of Los Angeles has adopted a Noise Element of the General Plan to identify goals, objectives, and policies for managing noise issues within the City. (10) The following goal and objectives are identified in the General Plan Noise Element:

Goal *A city where noise does not reduce the quality of urban life.*
Objective 1 *Reduce airport and harbor related noise impacts.*

Objective 2 *Reduce or eliminate nonairport related intrusive noise, especially relative to noise sensitive uses.*

Objective 3 *Reduce or eliminate noise impacts associated with proposed development of land and changes in land use.*

Exhibit I of the City of Los Angeles General Plan Noise Element identifies *Guidelines for Noise Compatible Land Use* to evaluate the potential impacts of transportation-related noise. Multi-family residential land use, such as the Project, is considered *conditionally acceptable* with unmitigated exterior noise levels of less than 65 dBA CNEL. For *conditionally acceptable* exterior noise levels, n*ew construction or development only after a detailed analysis of noise mitigation is made and needed noise insulation features are included in project design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning normally will suffice.* (10)

3.4 CITY OF LOS ANGELES OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as 1130 S. Hope Street Project, stationary-source (operational) noise such as the expected roof-top air conditioning units, outdoor activity area, exercise station, and pool activity are typically evaluated against standards established under a jurisdiction's Municipal Code or General Plan.

The City of Los Angeles Municipal Code, Chapter XI *Noise Regulation,* has set exterior noise limits to control community noise impacts from non-transportation noise sources (such as air-conditioning units, refrigeration, heating, pumping, and filtering equipment). Section 112.02 indicates that stationary noise sources shall not operate in such a manner as to cause the noise level at any sensitive use to exceed the existing ambient noise level by 5 dBA. (11) The City of Los Angeles Municipal Code, Chapter XI, is provided in Appendix 3.1.

3.5 CITY OF LOS ANGELES CONSTRUCTION NOISE STANDARDS

Section 112.05 of the City's Municipal Code identifies exterior noise level limits for construction equipment and states: *in any residential zone or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet therefrom*: (11)

- *75dB(A) for construction, industrial, and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment.*

Therefore, for the purpose of this noise study, the City of Los Angeles Municipal Code 75 dBA L_{eq} threshold is used to determine potential Project-related construction noise level impacts at nearby sensitive receiver locations.

4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

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 ground-borne vibration or ground-borne 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?

While the City of Los Angeles General Plan Guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts, they do not define the levels at which increases are considered substantial for use under Guideline A. CEQA Appendix G Guideline C applies to nearby public and private airports, if any, and the Project's land use compatibility.

4.1 CEQA GUIDELINES NOT FURTHER ANALYZED

The Project site is not located within two miles of a public airport or within an airport land use plan; nor is the Project within the vicinity of a private airstrip. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant,* and no further noise analysis is conducted in relation to Guideline C.

4.2 NOISE-SENSITIVE RECEIVERS

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the nearest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise level increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant.* (12) Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged.

Since neither the City of Los Angeles General Plan Noise Element or Municipal Code identify any noise level increase thresholds, the substantial noise level increase criteria are derived from the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual.* To describe the amount to which a given noise level increase is considered acceptable, the FTA criteria is used to evaluate the incremental noise level increase and establishes a method for comparing future project noise with existing ambient conditions under CEQA Significance Threshold A. In effect, the amount to which a given noise level increase is considered acceptable is reduced based on existing ambient noise conditions.

4.3 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Operational	Noise-Sensitive[1]	Exterior Noise Level Standards	Existing Ambient Noise Level plus 5 dBA L_{eq}	
Construction	Noise-Sensitive	Exterior Noise Level Standards[2]	75 dBA L_{eq}	n/a
		Vibration Level Threshold[3]	78 VdB	n/a

[1] City of Los Angeles Municipal Code, Section 112.02 (Appendix 3.1).
[2] City of Los Angeles Municipal Code, Section 112.05 (Appendix 3.1).
[3] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at four locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, September 2nd, 2020. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (13)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (3) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (8)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (8) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels.

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations. The 24-hour existing noise level measurement results are shown on Table 5-1.

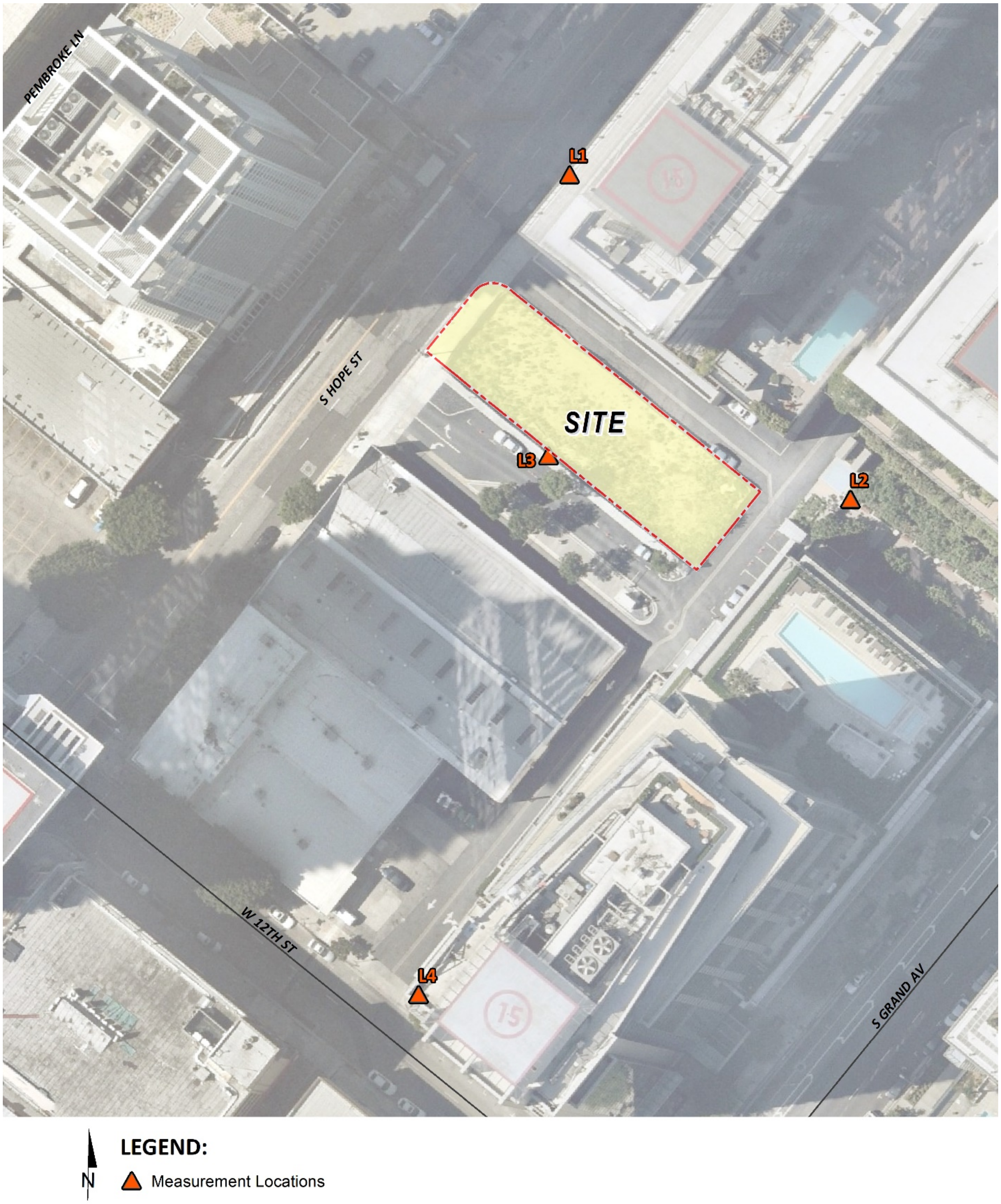
TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]		CNEL
		Daytime	Nighttime	
L1	Located north of the Project site on Hope Street across from existing multi-family residential homes as 1133 South Hope Street.	63.3	59.2	66.8
L2	Located east of the Project site near Elleven South Lofts at 1111 South Grand Avenue.	58.1	53.7	61.4
L3	Located by the southwest border of the Project site near Downtown Dance & Movement at 1144 South Hope Street.	59.8	55.9	63.5
L4	Located south of the Project site on West 12th Street near Evo South at 1155 South Grand Avenue.	64.4	57.1	65.9

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1, L_2, L_5, L_8, L_{25}, L_{50}, L_{90}, L_{95}, and L_{99} percentile noise levels observed during the daytime and nighttime periods.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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6 RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 6-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, four receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

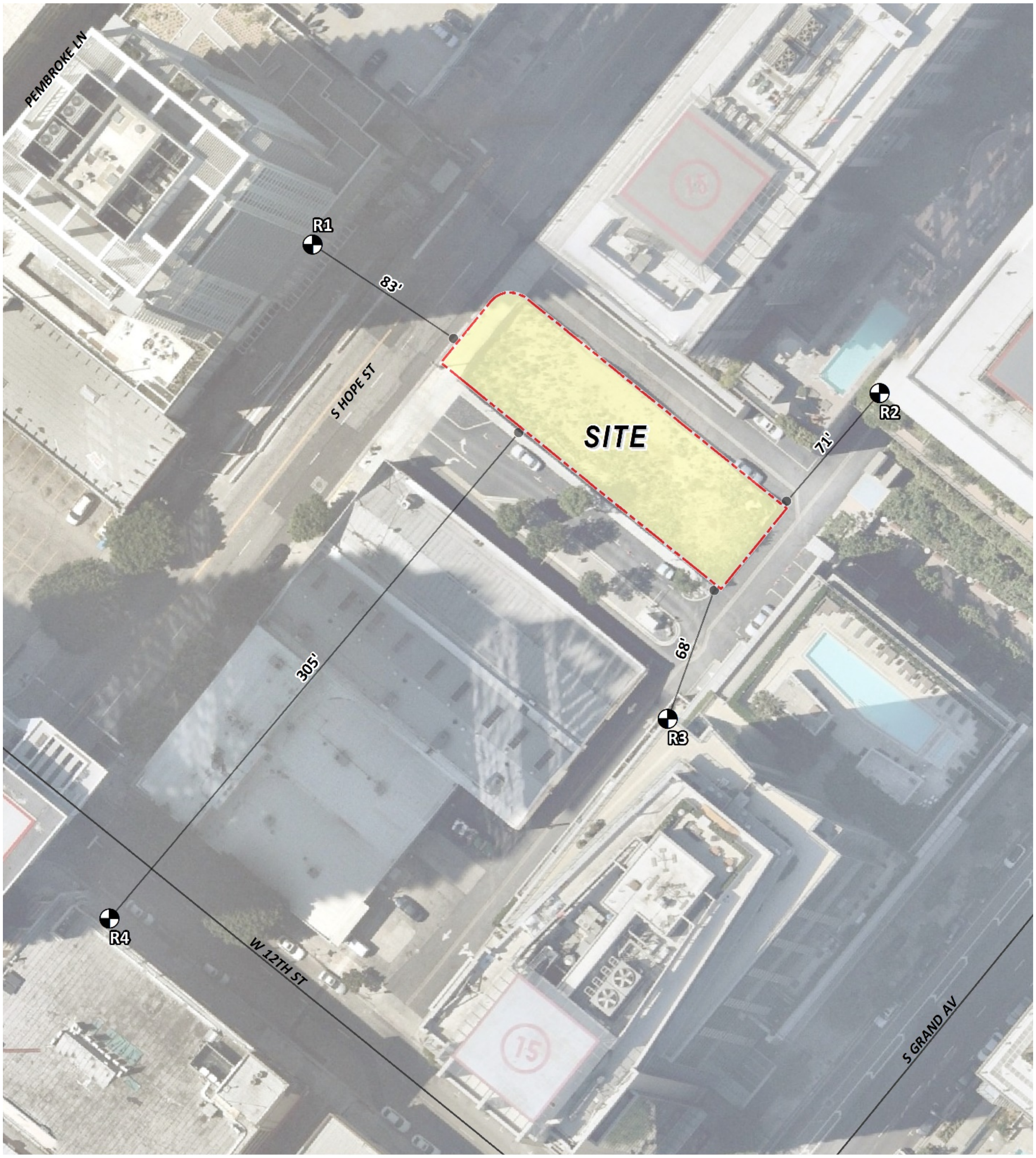
R1: Location R1 represents the existing noise sensitive residence at 1133 South Hope Street, approximately 83 feet northwest of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R1 is placed at the residential building façade. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the existing noise sensitive residence at 1111 South Grand Avenue, approximately 71 feet east of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R2 is placed at the residential building façade. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents the existing noise sensitive residence at 1155 South Grand Avenue, approximately 68 feet south of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R3 is placed at the residential building façade. A 24-hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.

R4: Location R4 represents Hudson Loft at 1200 South Hope Street, approximately 305 feet southwest of the Project site. R4 is placed at the building façade. A 24-hour noise measurement near this location, L4, is used to describe the existing ambient noise environment.

EXHIBIT 6-A: RECEIVER LOCATIONS



LEGEND:

N

Receiver Locations

Distance from receiver to Project site boundary (in feet)

7 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts due to the Project's stationary noise sources on the off-site sensitive receiver locations identified in Section 6. Exhibit 7-A identifies the noise source locations used to assess the Project-related operational noise levels.

7.1 OPERATIONAL NOISE SOURCES

Project-related stationary-source (operational) noise sources are expected to include: roof-top air conditioning units, outdoor activity area, exercise station, and pool activity. Further, the proposed residential land uses are considered noise-sensitive receiving land uses and are not expected to include any specific type of operational noise levels beyond the typical noise sources associated with existing residential land use in the Project study area.

7.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. Table 7-1 presents a summary of the reference noise level measurements used in this analysis to describe the Project operational noise levels. It is important to note that the following projected noise levels assume the worst-case noise environment with the roof-top air conditioning units, outdoor activity area, exercise station, and pool activity all operating continuously. These sources of noise activity will likely vary throughout the day.

TABLE 7-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source[1]	Noise Source Height (Feet)	Min./Hour[2]		Reference Noise Level @ 50' (dBA L_{eq})	Sound Power Level (dBA)[3]
		Day	Night		
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Outdoor Activity Area	5'	60	0	59.8	91.5
Exercise Station	6'	60	0	57.4	89.1
Pool Activity	5'	60	0	54.7	86.4

[1] As measured by Urban Crossroads, Inc.
[2] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

EXHIBIT 7-A: OPERATIONAL NOISE SOURCE LOCATIONS

7.2.1 ROOF-TOP AIR CONDITIONING UNITS

To assess the noise levels created by the roof-top air conditioning units, reference noise level measurements were collected from a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise levels are 57.2 dBA L_{eq}. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for an average of 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. For this noise analysis, the air conditioning units are expected to be located on the roof of the proposed building. This reference noise level describes the expected roof-top air conditioning units located 5 feet above the roof for the planned air conditioning units at the Project Site.

7.2.2 OUTDOOR ACTIVITY

To describe the outdoor common area courtyards activity areas, a reference noise level measurement was taken at the Louie's by the Bay in Newport Beach. At 50 feet, the reference noise level is 59.8 dBA L_{eq} at a noise source height of 5 feet. The reference noise level measurement includes outdoor eating, drinking, with patrons laughing and talking. Outdoor activities are limited to the daytime hours.

7.2.3 EXERCISE STATION

To describe the potential noise levels associated with the Project's exercise stations, a reference noise level measurement was collected at Rialto City Park. The reference noise levels collected are expected to reflect the noise level activities within the park uses at the Project site, since the reference noise level measurement includes children and adults using exercise equipment, people talking, and background playground activity noise levels. Using a uniform reference distance of 50 feet, the reference exercise station activity noise level is 57.4 dBA Leq. The exercise station activities are estimated to occur for 60 minutes during the peak hour conditions.

7.2.4 POOL ACTIVITY

To represent the noise levels associated with pool activities, Urban Crossroads collected a reference noise level measurement at the Covenant Hill Clubhouse Pool in the unincorporated community of Ladera Ranch in the County of Orange. The measured reference noise level at the uniform 50-foot reference distance is 54.7 dBA L_{eq} for pool activity. The pool activity noise levels include kids playing, running, screaming, splashing, playing with a ball, and parents talking. Noise associated with pool activities is expected to occur for the entire hour (60 minutes).

7.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels. This includes the additional noise attenuation provided by the existing intervening building structures and noise barriers located between the Project and the nearest receiver locations. Using the ISO 9613 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613 protocol, the CadnaA noise prediction model relies on the reference sound power level (PWL) to describe individual noise sources.

While sound pressure levels (e.g. L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (PWL) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish as a result of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.0 was used in the CadnaA noise analysis to account for hard site conditions. Appendix 7.1 includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this section.

7.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include roof-top air conditioning units, outdoor activity area, exercise station, and pool activity, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Tables 7-2 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 38.5 to 43.2 dBA L_{eq}.

TABLE 7-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)			
	R1	R2	R3	R4
Roof-Top Air Conditioning Units	29.5	32.5	33.9	37.1
Outdoor Activity Area	34.5	35.6	36.0	39.6
Exercise Station	25.0	27.5	28.1	31.5
Pool Activity	41.7	30.7	32.4	37.2
Total (All Noise Sources)	**42.7**	**38.5**	**39.5**	**43.2**

[1] See Exhibit 7-A for the noise source locations. CadnaA noise model calculations are included in Appendix 7.1.

Table 7-3 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 27.1 to 34.7 dBA L_{eq}. The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 7-1).

TABLE 7-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)			
	R1	R2	R3	R4
Roof-Top Air Conditioning Units	27.1	30.1	31.5	34.7
Outdoor Activity Area	0.0	0.0	0.0	0.0
Exercise Station	0.0	0.0	0.0	0.0
Pool Activity	0.0	0.0	0.0	0.0
Total (All Noise Sources)	**27.1**	**30.1**	**31.5**	**34.7**

[1] See Exhibit 7-A for the noise source locations. CadnaA noise model calculations are included in Appendix 7.1.

7.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Los Angeles exterior noise level standards at nearby noise-sensitive receiver locations. Table 7-4 shows the operational noise levels associated with 1130 S. Hope Street Project will satisfy the City of Los Angeles daytime and nighttime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 7-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	Project Operational Noise Levels (dBA Leq)[2]		Reference Ambient Noise Levels (dBA Leq)[3]		Noise Level Standards (dBA Leq)[4]		Noise Level Standards Exceeded?[5]	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	42.7	27.1	63.3	59.2	68	64	No	No
R2	38.5	30.1	58.1	53.7	63	59	No	No
R3	39.5	31.5	59.8	55.9	65	61	No	No
R4	43.2	34.7	64.4	57.1	69	62	No	No

[1] See Exhibit 6-A for the receiver locations.
[2] Proposed Project operational noise levels as shown on Tables 7-2 and 7-3.
[3] Observed ambient noise levels as shown on Table 5-1.
[4] Ambient plus 5 dBA per the Municipal Code Section 112.02(a).
[5] Do the estimated Project operational noise source activities exceed the noise level standards?
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

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8 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 8-A shows the construction activity boundaries in relation to the nearby sensitive receiver locations previously described in Section 6.

8.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators operating simultaneously that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels with multiple pieces of equipment operating simultaneously to conservatively estimate Project construction noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to more than 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver, and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

8.2 TYPICAL CONSTRUCTION REFERENCE NOISE LEVELS

To describe the Project typical construction noise levels, measurements were collected for similar activities at several construction sites. Table 8-1 provides a summary of the construction reference noise level measurements. Since the reference noise levels were collected at varying distances of 30 feet and 50 feet, all construction noise level measurements presented on Table 8-1 have been adjusted for consistency to describe a uniform reference distance of 50 feet. Construction noise generated from concrete crushing activities and nighttime concrete pours are addressed separately, below.

TABLE 8-1: TYPICAL CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity[1]	Reference Noise Level @ 50 Feet (dBA L_{eq})	Highest Reference Noise Level (dBA L_{eq})
Site Preparation	Scraper, Water Truck, & Dozer Activity	75.3	75.3
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Grading	Rough Grading Activities	73.5	73.5
	Water Truck Pass-By & Backup Alarm	71.9	
	Construction Vehicle Maintenance Activities	67.5	
Building Construction	Foundation Trenching	68.2	71.6
	Framing	62.3	
	Concrete Mixer Backup Alarms & Air Brakes	71.6	
Paving	Concrete Mixer Truck Movements	71.2	71.2
	Concrete Paver Activities	65.6	
	Concrete Mixer Pour & Paving Activities	65.9	
Architectural Coating	Air Compressors	65.2	65.2
	Generator	64.9	
	Crane	62.3	

[1] Reference construction noise level measurements taken by Urban Crossroads, Inc.

8.3 TYPICAL CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearest sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location. As shown on Table 8-2, the construction noise levels are expected to range from 45.8 to 64.8 dBA L_{eq}, and the highest construction levels are expected to range from 55.9 to 64.8 dBA L_{eq} at the nearest receiver locations. Appendix 8.1 includes the detailed CadnaA construction noise model inputs.

The construction noise analysis presents a conservative approach with the highest noise-level-producing equipment for each stage of Project construction operating at the closest point from primary construction activity to the nearest sensitive receiver locations. This scenario is unlikely to occur during typical construction activities and likely overstates the construction noise levels which will be experienced at each receiver location.

TABLE 8-2: TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	63.0	61.2	59.3	58.9	52.9	63.0
R2	64.8	63.0	61.1	60.7	54.7	64.8
R3	64.4	62.6	60.7	60.3	54.3	64.4
R4	55.9	54.1	52.2	51.8	45.8	55.9

[1] Noise receiver locations are shown on Exhibit 8-A.
[2] Construction noise level calculations based on distance from the project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 8.1.

8.4 TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

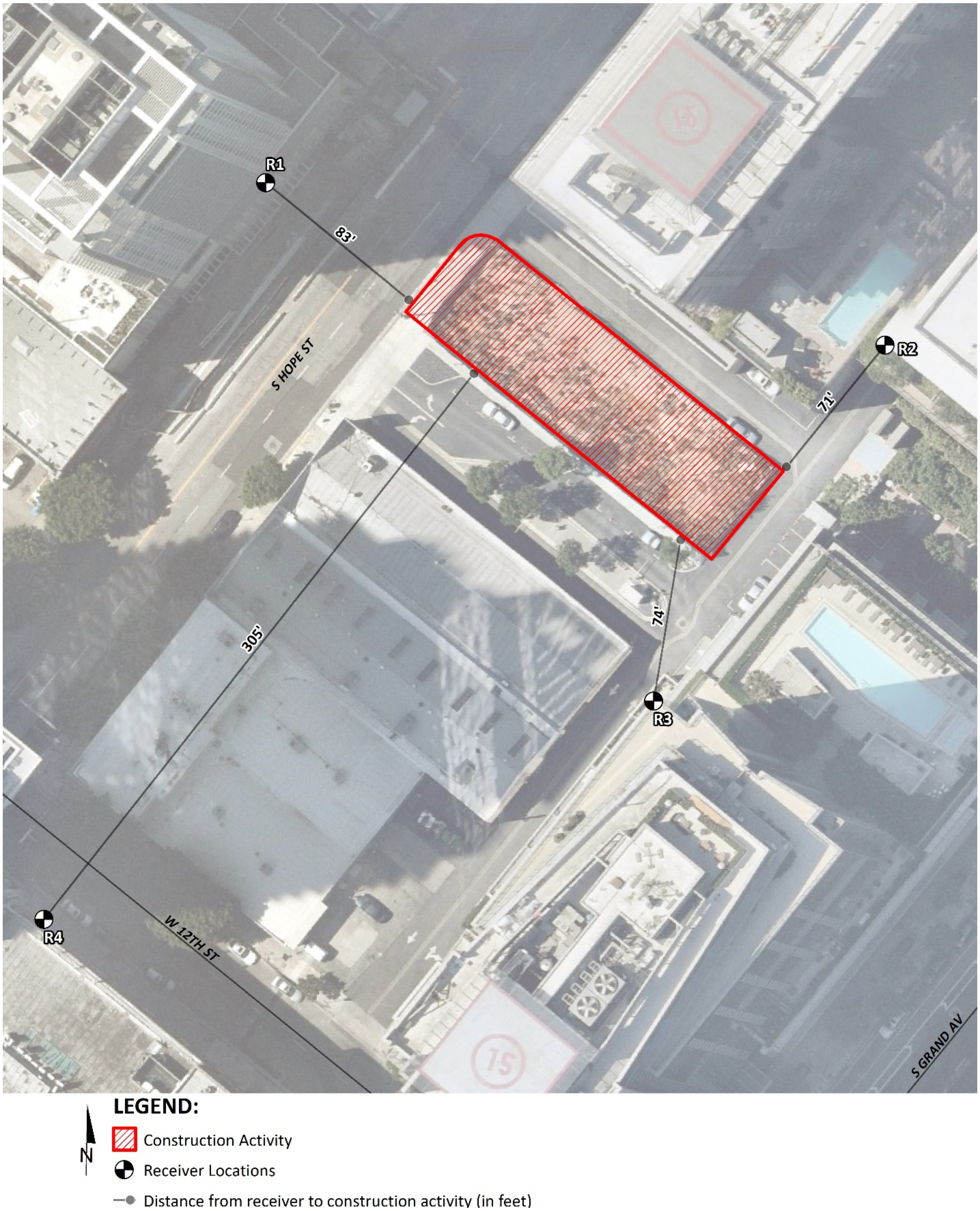
To evaluate whether the Project will generate potentially significant short-term noise levels at nearest receiver locations, a construction-related daytime noise level threshold of 75 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the reasonable daytime 75 dBA L_{eq} significance threshold during Project construction activities as shown on Table 8-3. Therefore, the noise impacts due to Project construction noise is considered *less than significant* at all receiver locations.

TABLE 8-3: TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	63.0	75	No
R2	64.8	75	No
R3	64.4	75	No
R4	55.9	75	No

[1] Noise receiver locations are shown on Exhibit 8-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 8-2.
[3] City of Los Angeles Municipal Code, Section 112.05 (Appendix 3.1).
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

EXHIBIT 8-A: CONSTRUCTION NOISE SOURCE AND RECEIVER LOCATIONS



8.5 TYPICAL CONSTRUCTION VIBRATION IMPACTS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. Ground-borne vibration levels resulting from typical construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA). (8) However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 8-4. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $L_{VdB}(D) = L_{VdB}(25\text{ ft}) - 30\log(D/25)$

TABLE 8-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Vibration Decibels (VdB) at 25 feet
Small bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large bulldozer	87

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 8-5 presents the expected typical construction equipment vibration levels at the nearby receiver locations. At distances ranging from 68 feet to 305 feet from typical Project construction activities (at the Project site boundary), construction vibration levels are estimated to range from 54.4 to 74.0 VdB and will satisfy the FTA *Transit Noise and Vibration Impact Assessment* vibration criteria at all receiver locations. Therefore, the vibration impacts due to Project construction is considered *less than significant* at all receiver locations.

Further, vibration levels at the site of the closest sensitive receiver are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating simultaneously adjacent to the Project site perimeter.

TABLE 8-5: TYPICAL CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver Location[1]	Distance to Construction Activity (Feet)	Receiver Vibration Levels (VdB)[2]					Threshold VdB[3]	Threshold Exceeded?[4]
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Highest Vibration Levels		
R1	83'	42.4	63.4	70.4	71.4	71.4	78	No
R2	71'	44.4	65.4	72.4	73.4	73.4	78	No
R3	68'	45.0	66.0	73.0	74.0	74.0	78	No
R4	305'	25.4	46.4	53.4	54.4	54.4	78	No

[1] Noise receiver locations are shown on Exhibit 8-A.
[2] Based on the Vibration Source Levels of Construction Equipment included on Table 8-4.
[3] FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria as shown on Table 4.1.
[4] Does the vibration level exceed the maximum acceptable vibration threshold?

9 REFERENCES

1. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
2. **KOA Consultants.** *1130 Hope Street Traffic Impact Analysis.* 2020.
3. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
4. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
5. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
6. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
7. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
8. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
9. **Office of Planning and Research.** *State of California General Plan Guidelines.* October 2017.
10. **City of Los Angeles.** *General Plan Noise Element.* February 1999.
11. —. *Municipal Code, Chapter XI - Noise Regulation.*
12. **California Court of Appeal.** *King and Gardiner Farms, LLC v. County of Kern (2020)* . 45 Cal.App.5th 814, 893,
13. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*

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10 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed 1130 S. Hope Street Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5979.

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EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:

CITY OF LOS ANGELES MUNICIPAL CODE

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Print

Los Angeles Municipal Code

CHAPTER XI
NOISE REGULATION

(Added by Ord. No. 144,331, Eff. 3/2/73.)

Article

ARTICLE 1
GENERAL PROVISIONS

Section

SEC. 111.00. DECLARATION OF POLICY.

It is hereby declared to be the policy of the City to prohibit unnecessary, excessive and annoying noises from all sources subject to its police power. At certain levels noises are detrimental to the health and welfare of the citizenry and in the public interests shall be systematically proscribed.

SEC. 111.01. DEFINITIONS.

Unless the context otherwise clearly indicates, the words and phrases used in this chapter are defined as follows:

(a) "**Ambient Noise**" is the composite of noise from all sources near and far in a given environment, exclusive of occasional and transient intrusive noise sources and of the particular noise source or sources to be measured. Ambient noise shall be averaged over a period of at least 15 minutes at a location and time of day comparable to that during which the measurement is taken of the particular noise source being measured. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(b) "**Commercial Purpose**" is the use, operation, or maintenance of any sound amplifying equipment for the purpose of advertising any business, goods, or services, or for the purpose of attracting the attention of the public to, advertising for, or soliciting patronage or customers to or for any performance, show, entertainment, exhibition, or event, or for the purpose of demonstrating such sound equipment. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(c) "**Decibel**" (dB) is a unit of level which denotes the ratio between two (2) quantities which are proportional to power; the number of decibels corresponding to the ratio of two (2) amounts of power is ten (10) times the logarithm to the base (10) of this ratio. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(d) "**Emergency Work**" is work made necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from an imminent exposure to danger, or work by private or public utilities when restoring utility service. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(e) "**Impulsive Sound**" is sound of short duration, usually less than one second, with an abrupt onset and rapid decay. By way of example "**impulsive sound**" shall include, but shall not be limited to, explosions, musical base drum beats, or the discharge of firearms. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(f) "**Motor Vehicle**" includes, but shall not be limited to, automobiles, trucks, motorcycles, minibikes and go-carts. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(g) "**Noncommercial Purpose**" is the use, operation, or maintenance of any sound equipment for other than a "commercial purpose". "Noncommercial purpose" shall mean and include, but shall not be limited to, philanthropic, political, patriotic, and charitable purposes. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(h) "**Octave Band Noise Analyzer**" is an instrument for measurement of sound levels in octave frequency bands which satisfies the pertinent requirements for Class II octave band analyzers of the American National Standard Specifications for Octave, Half-Octave, and Third-Octave Band Filters, S1.11-1966 or the most recent revision thereof. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(i) "**Person**" is a person, firm, association, co-partnership, joint venture, corporation, or any entity, private or public in nature. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(j) "**Sound Amplifying Equipment**" **(Amended by Ord. No. 156,363, Eff. 3/29/82.)** is any machine or device for the amplification of the human voice, music or any other sound, but shall not include:

1. Automobile radios, stereo players or television receivers when used and heard only by the occupants of the vehicle in which the same is installed.

2. Radio, stereo players, phonographs or television receivers used in any house or apartment within any residential zone or within 500 feet thereof.

3. Warning devices on emergency vehicles.

4. Horns or other warning devices authorized by law on any vehicle when used for traffic purposes.

(k) "**Sound Level**" (Noise level) in decibels (dB) is the sound measured with the "A" weighting and slow responses by a sound level meter; except for impulsive or rapidly varying sounds, the fast response shall be used. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(l) "**Sound Level Meter**" is an instrument including a microphone, an amplifier, an output meter, and "A" frequency weighting network for the measurement of sound levels which satisfies the pertinent requirements for Type S2A meters in American Standard Specifications for sound level meters in S1.4-1971 or the most recent revision thereof. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(m) "**Sound Truck**" is any motor vehicle, or any other vehicle regardless of motive power, whether in motion or stationary, which carries, is equipped with, or which has mounted thereon, or attached thereto, any sound amplifying equipment. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

(n) **Supplementary Definitions of Technical Terms**. Definitions of technical terms not defined herein shall be obtained from American Standard Acoustical Terminology S1-1-1971 or the most recent revision thereof. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

SEC. 111.02. SOUND LEVEL MEASUREMENT PROCEDURE AND CRITERIA.

(Title amended by Ord. No. 156,363, Eff. 3/29/82.)

(a) **(Amended by Ord. No. 156,363, Eff. 3/29/82.)** Any sound level measurement made pursuant to the provisions of this chapter shall be measured with a sound level meter using the "A" weighting and response as indicated in Section 111.01(k) of this article.

Except when impractical, the microphone shall be located four to five feet above the ground and ten feet or more from the nearest reflective surface. However, in those cases where another elevation is deemed appropriated, the latter shall be utilized.

Interior sound level measurements shall be made at a point at least four feet from the wall, ceiling, or floor nearest the noise source.

Calibration of the sound level meter, utilizing an acoustic calibrator shall be performed immediately prior to recording any sound level data. The ambient noise level and the level of a particular noise being measured shall be the numerical average of noise measurements taken at a given location during a given time period.

(b) **(Amended by Ord. No. 156,363, Eff. 3/29/82.)** Where the sound alleged to be offending is of a type or character set forth below, the following values shall be added to the sound level measurement of the offending noise:

1. Except for noise emanating from any electrical transformer or gas metering and pressure control equipment existing and installed prior to the effective date of the ordinance enacting this chapter, any steady tone with audible fundamental frequency or overtones have 200 Hz.....+5

2. Repeated impulsive noise.....+5

3. Noise occurring more than 5 but less than 15 minutes in any period of 60 consecutive minutes between the hours of 7:00 a.m. and 10:00 p.m. of any day.....-5

4. Noise occurring five minutes or less in any period of 60 consecutive minutes, between the hours of 7:00 a.m. and 10:00 p.m. of any day.....-5 **(Amended by Ord. No. 161,574, Eff. 9/8/86.)**

(c) For those cases where an objectionable noise is clearly audible, but where the level of ambient noise does not permit direct quantative sound level "A" measurements of the objectionable noise, sound measurements may be performed utilizing an octave band sound analyzer to determine sound level "A" limits as indicated in the Table I below. This table is used to convert the sound pressure level meter readings in dB for each band to SPL in dB(A) for each band.

TABLE I
OCTAVE BAND NOISE VALUES CORRESPONDING TO SOUND LEVEL "A" VALUES

Sound Level	**Octave Band Sound Pressure Level, dB re .0002 dyne/cm^2 Octave Band Center Frequency in Hz**								
"A"	31.5	63	125	250	500	1000	2000	4000	8000
35	58	50	42	35	32	29	26	23	20
40	61	54	46	40	37	34	31	28	25
45	64	58	51	45	42	39	36	33	30
50	67	61	55	50	47	44	41	38	35
55	70	64	60	55	52	49	46	43	40
60	73	68	64	60	57	54	51	48	45
65	76	72	68	65	62	59	56	53	50
70	79	76	73	70	67	64	61	58	55
75	84	81	78	75	72	69	66	63	60

(d) For those cases where a sound level measurement has been made pursuant to the provisions of this chapter and two or more provisions of this chapter apply, the provision establishing the lower or lowest noise level, respectively, shall be used. **(Added by Ord. No. 156,363, Eff. 3/29/82.)**

SEC. 111.03. MINIMUM AMBIENT NOISE LEVEL.

(Amended by Ord. No. 156,363, Eff. 3/29/82.)

Where the ambient noise level is less than the presumed ambient noise level designated in this section, the presumed ambient noise level in this section shall be deemed to be the minimum ambient noise level for purposes of this chapter.

TABLE II
SOUND LEVEL "A" DECIBELS

(In this chart, daytime levels are to be used from 7:00 a.m. to 10:00 p.m. and nighttime levels from 10:00 p.m. to 7:00 a.m.)

ZONE	**PRESUMED AMBIENT NOISE LEVEL (dB(A))**	
	DAY	**NIGHT**
A1, A2, RA, RE, RS, RD, RW1, RW2, R1, R2, R3, R4, and R5	50	40
P, PB, CR, C1, C1.5, C2, C4, C5, and CM	60	55
M1, MR1, and MR2	60	55

M2 and M3	65	65

At the boundary line between two zones, the presumed ambient noise level of the quieter zone shall be used.

SEC. 111.04. VIOLATIONS: ADDITIONAL REMEDIES, INJUNCTIONS.

As an additional remedy, the operation or maintenance of any device, instrument, vehicle, or machinery in violation of any provision of this chapter, which operation or maintenance causes discomfort or annoyance to reasonable persons or which endangers the comfort, repose, health, or peace of residents in the area, shall be deemed and is declared to be.a public nuisance and may be subject to abatement summarily by a restraining order or injunction issued by a court order of competent jurisdiction. **(Amended by Ord. No. 156,363, Eff. 3/29/82.)**

SEC. 111.05. ENFORCEMENT, CITATIONS.

(Added by Ord. No. 156,363, Eff. 3/29/82.)

(a) The Department of Building and Safety shall have the power and duty to enforce the following noise control provisions of this Code: Section 12.14 A.6.(h), Section 12.19 A.4.(b)(1), Section 112.02 and Section 112.04(c). **(Amended by Ord. No. 172,086, Eff. 7/30/98.)**

(b) The Police Department shall have the power and duty to enforce the following noise control provisions of this Code: Section 41.32, Section 41.40, Section 41.42, Section 41.44, Section 41.57, Section 63.51(m), Section 112.01, Section 112.04, Section 112.05, Section 112.06, Section 113.01, Section 114.01 through Section 114.05, inclusive, Section 115.02 through Section 115.03, inclusive, and Section 116.01. **(Amended by Ord. No. 185,601, Eff. 7/18/18.)**

(c) Any Building Mechanical Inspector assigned to noise enforcement inspection shall have the power, authority and immunity of a public officer and employee, as set forth in the Penal Code of the State of California, Section 836.5, to make arrests without a warrant whenever such employee has reasonable cause to believe that the person to be arrested has committed a misdemeanor in his presence which is a violation of any provision set forth in Section 111.05(a) of this chapter. The provisions of said Penal Code section regarding issuance of a written promise to appear shall be applicable to arrests authorized herein.

ARTICLE 2
SPECIAL NOISE SOURCES

Section

SEC. 112.01. RADIOS, TELEVISION SETS, AND SIMILAR DEVICES.

(Amended by Ord. No. 156,363, Eff. 3/29/82.)

(a) It shall be unlawful for any person within any zone of the City to use or operate any radio, musical instrument, phonograph, television receiver, or other machine or device for the producing, reproducing or amplification of the human voice, music, or any other sound, in such a manner, as to disturb the peace, quiet, and comfort of neighbor occupants or any reasonable person residing or working in the area.

(b) Any noise level caused by such use or operation which is audible to the human ear at a distance in excess of 150 feet from the property line of the noise source, within any residential zone of the City or within 500 feet thereof, shall be a violation of the provisions of this section.

(c) Any noise level caused by such use or operation which exceeds the ambient noise level on the premises of any other occupied property, or if a condominium, apartment house, duplex, or attached business, within any adjoining unit, by more than five (5) decibels shall be a violation of the provisions of this section.

SEC. 112.02. AIR CONDITIONING, REFRIGERATION, HEATING, PUMPING, FILTERING EQUIPMENT.

(Amended by Ord. No. 156,363, Eff. 3/29/82.)

(a) It shall be unlawful for any person, within any zone of the city to operate any air conditioning, refrigeration or heating equipment for any residence or other structure or to operate any pumping, filtering or heating equipment for any pool or reservoir in such manner as to create any noise which would cause the noise level on the premises of any other occupied property or if a condominium, apartment house, duplex, or attached business, within any adjoining unit.to exceed the ambient noise level by more than five (5) decibels

(b) This section shall not be applicable to emergency work as defined in Section 111.01(c) of this chapter, or to periodic maintenance or testing of such equipment reasonably necessary to maintain such equipment in good working order.

SEC. 112.03. CONSTRUCTION NOISE.

Noise due to construction or repair work shall be regulated as provided by Section 41.40 of this Code. **(Amended by Ord. No. 161,574, Eff. 9/8/86.)**

SEC. 112.04. POWERED EQUIPMENT INTENDED FOR REPETITIVE USE IN RESIDENTIAL AREAS AND OTHER MACHINERY, EQUIPMENT, AND DEVICES.

(Title and Section Amended by Ord. No. 161,574, Eff 9/8/86.)

(a) Between the hours of 10:00 p.m and. 7:00 a.m. of the following day, no person shall operate any lawn mower, backpack blower, lawn edger, riding tractor, or any other machinery, equipment, or other mechanical or electrical device, or any hand tool which creates a loud, raucous or impulsive sound, within any residential zone or within 500 feet of a residence.

(b) Except as to the equipment and operations specifically mentioned and related elsewhere in this Chapter or for emergency work as that term is defined in Section 111.01(d), and except as to aircraft, tow tractors, aircraft auxiliary power units, trains and motor vehicles in their respective operations governed by State or federal regulations, no person shall operate or cause to be operated any machinery, equipment, tools, or other mechanical or electrical device, or engage in any other activity in such manner as to create any noise which would cause the noise level on the premises of any other occupied property, or, if a condominium, apartment house, duplex, or attached business, within any adjoining unit, to exceed the ambient noise level by more than five (5) decibels.

(c) Notwithstanding the provisions of Subsection (a) above, no gas powered blower shall be used within 500 feet of a residence at anytime. Both the user of such a blower as well as the individual who contracted for the services of the user, if any, shall be subject to the requirements of and penalty provisions for this ordinance. Violation of the provisions of this subsection shall be punishable as an infraction in an amount not to exceed One Hundred Dollars ($100.00), notwithstanding the graduated fines set forth in LAMC § 11.00(m). **(Amended by Ord. No. 171,890, Eff. 2/13/98.)**

SEC. 112.05. MAXIMUM NOISE LEVEL OF POWERED EQUIPMENT OR POWERED HAND TOOLS.

(Amended by Ord. No. 161,574, Eff. 9/8/86.)

Between the hours of 7:00 a.m. and 10:00 p.m., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet therefrom:

(a) 75dB(A) for construction, industrial, and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment;

(b) 75dB(A) for powered equipment of 20 HP or less intended for infrequent use in residential areas, including chain saws, log chippers and powered hand tools;

(c) 65dB(A) for powered equipment intended for repetitive use in residential areas, including lawn mowers, backpack blowers, small lawn and garden tools and riding tractors;

The noise limits for particular equipment listed above in (a), (b) and (c) shall be deemed to be superseded and replaced by noise limits for such equipment from and after their establishment by final regulations adopted by the Federal Environmental Protection Agency and published in the Federal Register.

Said noise limitations shall not apply where compliance therewith is technically infeasible The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers and/or other noise reduction device or techniques during the operation of the equipment.

SEC. 112.06. PLACES OF PUBLIC ENTERTAINMENT.

It shall be unlawful for any person to operate, play, or to permit the operation or playing of any radio, television receiver, phonograph, musical instrument, sound amplifying equipment, or similar device which produces, reproduces, or amplifies sound in any place of public entertainment at a sound level greater than 95dB(A) at any point that is normally occupied by a customer, unless a conspicuous and legible sign is located outside such place, near each public entrance, stating:

"WARNING: SOUND LEVELS WITHIN MAY CAUSE HEARING IMPAIRMENT."

(Added by Ord. No. 156,363, Eff. 3/29/82.)

ARTICLE 3
SANITARY OPERATION

SEC. 113.01. RUBBISH AND GARBAGE COLLECTION AND DISPOSAL.
(Amended by Ord. No. 161,574, Eff. 9/8/86.)

It shall be unlawful for any person engaged in the business of collecting or disposing of rubbish or garbage to operate any refuse disposal truck, parking lot sweeper, or vacuum truck, or to collect, load, pick up, transfer, unload, dump, discard, sweep, vacuum, or dispose of any rubbish or garbage, as such terms are defined in Section 66.00 of this Code, within 200 feet of any residential building between the hours of 9:00 p.m. and 6:00 a.m. of the following day, unless a permit therefore has been duly obtained beforehand from the Board of Police Commissioners.

The standards which shall be considered in determining whether a permit shall be granted are the following:

(a) Whether the work to be done is in the public interest, or

(b) Whether the applicant would suffer hardship, injustice or delay if the permit were not granted, or

(c) Whether fuel conservation would result if the permit were issued.

No permit shall be required to perform emergency work as defined in Sec. 111.01(c) of this chapter.

ARTICLE 4
VEHICLES

SEC. 114.01. VEHICLE REPAIRS.
(Amended by Ord. No. 156,363, Eff. 3/29/82.)

It shall be unlawful for any person, within any residential property located within any residential zone of the City or within 500 feet thereof, to repair, rebuild, reconstruct or dismantle any motor vehicle between the hours of 8:00 p.m. of one day and 8:00 a.m. of the next day in such manner:

(a) That a reasonable person residing in the area is caused discomfort or annoyance;

(d) That such activity is audible to the human ear at a distance in excess of 150 feet from the property line of the noise source;

(c) As to create any noise which would cause the noise level on the premises of any occupied residential property, or if a condominium, apartment house or duplex, within any adjoining unit, to exceed the ambient noise level by more than five (5) decibels.

SEC. 114.02. MOTOR DRIVEN VEHICLES.

(Amended by Ord. No. 156,363, Eff. 3/29/82.)

(a) It shall be unlawful for any person to unreasonably operate any motor driven vehicle upon any property within the City or to unreasonably accelerate the engine of any vehicle, or unreasonably sound, blow or operate the horn or other warning device of such vehicle in such manner:

1. As to disturb the peace, quiet and comfort of any neighborhood or of any reasonable person residing in such area

2. That such activity is audible to the human ear at a distance in excess of 150 feet from the property line of the noise source;

3. As to create any noise which would cause the noise level on the premises of any occupied residential property, or if a condominium, apartment house or duplex, within any adjoining unit, to exceed the ambient noise level by more than five (5) decibels.

(b) This section shall not be applicable to any vehicle which is operated upon any public highway, street or right-of-way or to the operation of any off-highway vehicle to the extent it is regulated in the Vehicle Code.

SEC. 114.03. VEHICLES – LOADING AND UNLOADING.

(Amended by Ord. No. 166,514, Eff. 1/24/91.)

(a) It shall be unlawful for any person, between the hours of 10:00 p.m. and 7:00 a.m. of the following day, to load or unload any vehicle, or operate any dollies, carts, forklifts, or other wheeled equipment, which causes any impulsive sound, raucous or unnecessary noise within 200 feet of any residential building.

(b) Irrespective of the provisions of Subsection (a), loading or unloading of vehicles of the type of activity referred to in Subsection (a) may occur between the hours of 6:00 a.m. to 11:00 p.m. of the same day pursuant to a permit issued by the Department of Transportation in accordance with a business program as defined by said department. This permit program would be limited to the area bounded by Western Avenue, Santa Monica Freeway, Central Avenue, and the San Diego Freeway, within the limits of the City of Los Angeles. Such permits will not be issued to high-noise businesses such as trash pickup.

SEC. 114.04. AUDIBLE SIGNALING DEVICES.

(Added by Ord. No. 161,574, Eff. 9/8/86.)

It shall be unlawful for any person, within any residential zone of the City or within 500 feet thereof, to sound, blow, or operate any audible signaling device, including sequential airhorns or electronically operated vehicular loud speaker music devices, which can be heard for a distance greater than 200 feet for any purpose. Violation of this section shall constitute an infraction This section does not address horn or warning devices regulated in Article 1 of Chapter 5 of Division 12 of the Vehicle Code of the State of California, commencing at Section 27000. **(Last sentence amended by Ord. No. 165.191, Eff. 10/23/89.)**

SEC. 114.05. AUDIBLE ADVERTISING DEVICES – COMMERCIAL FOOD VENDORS.

(Added by Ord. No. 164,532, Eff. 4/20/89.)

Notwithstanding the provisions of Section 114.04, it shall be unlawful for any person, to sound, blow or operate any music, chimes or bells, or any similar sound device, amplified or otherwise, within 200 feet of any residential building between the hours of 9:00 p.m. and 7:00 a.m. the next day while operating a catering truck, as that term is defined in Section 80.73 of the Municipal Code.

SEC. 114.06. VEHICLE THEFT ALARM SYSTEMS.

(Former Sec. 114.05, Renumbered by Ord. No. 164,532, Eff. 4/20/89.)

It shall be unlawful for any person to install, operate or use any vehicle theft alarm system that emits or causes the emission of an audible sound, which is not, or does not become, automatically and completely silenced within five minutes. The time period shall be calculated based upon the emission of the first audible sound and shall end five minutes thereafter notwithstanding any variation or stoppage in the emissions of audible sound. Violation of this section shall constitute an infraction.

SEC. 114.07. AUDIBLE STATUS INDICATOR.

(Added by Ord. No. 169,785, Eff. 6/9/94.)

It shall be unlawful for any person to install, operate, use or maintain any vehicle theft alarm system which utilizes an audible status indicator emitting or causing the emission of an audible sound for a duration of more than one minute. The time period shall be calculated from the point in time of the emission of the first audible sound used in calculation and shall end one minute thereafter, notwithstanding any variation or temporary stoppage in the emission of audible sound.

As used in this section, an audible status indicator is a component of a vehicle theft alarm system which emits sound audible outside the vehicle for the purpose of warning that a vehicle theft alarm system is installed and armed or operational. The term "**audible status indicator**" shall include any device which emits a chirp, voice message or other sound when an approaching person is within a certain distance of the vehicle in which the device is installed.

In the event enforcement of a violation occurs under this section, no enforcement shall be taken under Section 80.75.l of the Municipal Code for the same violation.

Violation of any provision of this section shall constitute an infraction.

ARTICLE 5
AMPLIFIED SOUND

SEC. 115.01. PURPOSE.

The Council enacts this legislation for the sole purpose of securing and promoting the public health, comfort, safety, and welfare of its citizenry. While recognizing that certain uses of sound amplifying equipment are protected by the constitutional rights of freedom of speech and assembly, the Council nevertheless feels obligated to reasonably regulate the use of sound amplifying equipment in order to protect the correlative constitutional rights of the citizens of this community to privacy and freedom from public nuisance of loud and unnecessary noise.

SEC. 115.02. PROHIBITION AND REGULATIONS.

It shall be unlawful for any person, other than personnel of law enforcement or governmental agencies, or permittees duly authorized to use the same pursuant to Sec. 103.111 of this Code, to install, use, or operate within the City a loudspeaker or sound amplifying equipment in a fixed or movable position or mounted upon any sound truck for the purposes of giving instructions, directions, talks, addresses, lectures, or transmitting music to any persons or assemblages of persons in or upon any public street, alley, sidewalk, park or place, or other public property except when installed, used or operated in compliance with the following provisions:

(a) In all residential zones and within 500 feet thereof, no sound amplifying equipment shall be installed, operated or used for commercial purposes at any time.

(b) The operation or use of sound amplifying equipment for noncommercial purposes in all residential zones and within 500 feet thereof, except when used for regularly scheduled operative functions by any school or for the usual and customary purposes of any church, is prohibited between the hours of 4:30 p.m. and 9:00 a.m. of the following day.

(c) In all other zones, except such portions thereof as may be included within 500 feet of any residential zone, the operation or use of sound amplifying equipment for commercial purposes is prohibited between the hours of 9:00 p.m. and 8:00 a.m. of the following day.

(d) In all other zones, except such portions thereof as may be included within 500 feet of any residential zone, the operation or use of sound amplifying equipment for noncommercial purposes is prohibited between the hours of 10:00 p.m. and 7:00 a.m. of the following day.

(e) The only sounds permitted shall be either music, human speech, or both.

(f) Sound emanating from sound amplifying equipment shall be limited in volume, tone and intensity as follows:

1. The sound shall not be audible at a distance in excess of 200 feet from the sound equipment.

2. In no event shall the sound be loud and raucous or unreasonably jarring, disturbing, annoying or a nuisance to reasonable persons of normal sensitiveness within the area of audibility.

(g) Except as provided in (b) above, no sound amplifying equipment shall be operated upon any property adjacent to and within 200 feet of any hospital grounds or any school or church building while in use.

(h) **(Amended by Ord. No. 145,691, Eff. 5/2/74.)** The operation or use of any sound amplifying equipment installed, mounted, attached or carried in or by any sound truck is further prohibited:

1. Within the Central Traffic district at any time;
2. Upon Hollywood Boulevard between Vermont Avenue and La Brea at any time;
3. Upon Wilshire Boulevard at any time;
4. Upon Sunset Boulevard at any time;
5. Upon Vine Street at any time;
6. Upon any street between the hours of 4:30 p.m. and 9:00 a.m. of the following day;
7. Upon any street on any Sunday.

SEC. 115.03. AMPLIFIED SOUND ON UNENCLOSED TOUR BUSES.

(Added by Ord. No. 185,601, Eff. 7/18/18.)

(a) **Definitions.** As used in this section:

1. "**Operator**" means any person or corporation who conducts a business or enterprise that operates one or more Unenclosed Tour Buses.

2. "**Sound Amplifying Equipment**" shall have the same meaning as in Subsection (j) of Section 111.01 of this chapter, and shall include loud speakers and public address systems.

3. "**Tour Bus**" means a privately-owned bus or passenger vehicle for hire, which is operated by or for a charter-party carrier of passengers or a passenger stage corporation, as set forth in California Vehicle Code Section 612, subsection (a), and as defined in California Public Utilities Code Sections 226 and 5360. A Tour Bus includes any vehicle that is used primarily for the conveyance of passengers over the public streets, for the purpose of visiting or viewing places of interest.

4. "**Unenclosed Tour Bus**" means a Tour Bus that has had its roof substantially structurally modified or removed, as set forth in California Vehicle Code Section 612, Subsection (b), such that it can be and is operated without a solid roof covering all seating areas of the vehicle. An Unenclosed Tour Bus shall also include any Tour Bus that has had its side panels substantially structurally modified and/or removed, such that it can be and is operated without side panels fully enclosing the sides of the vehicle, when doors and windows are closed.

(b) **Use of Sound Amplifying Equipment Prohibited.** It shall be unlawful for any Operator or any person employed by an Operator to cause, allow, or permit the use of Sound Amplifying Equipment on any Unenclosed Tour Bus while the vehicle is operating within the City of Los Angeles.

(c) **Violation and Punishment.** A violation of this Section shall constitute an infraction pursuant to California Vehicle Code Sections 40000.1 and 42001, and shall be punished pursuant to the fine structure set forth in California Vehicle Code Section 42001.

(d) **Severability.** If any subsection, subdivision, sentence, clause, phrase, or portion of this section, or the application thereof to any person, is for any reason held to be invalid or constitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this section or its application to other persons. The City Council hereby declares that it would have adopted this section and each subsection, subdivision, sentence, clause, phrase or portion thereof, irrespective of the fact that any one or more subsections, subdivisions, sentences, clauses, phrases, or portions, or the application thereof to any person, be declared invalid or unconstitutional.

ARTICLE 6
GENERAL NOISE

SEC. 116.01. LOUD, UNNECESSARY AND UNUSUAL NOISE.

Notwithstanding any other provisions of this chapter and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. The standard which may be considered in determining whether a violation of the provisions of this section exists may include, but not be limited to, the following:

(a) The level of noise;

(b) Whether the nature of the noise is usual or unusual;

(c) Whether the origin of the noise is natural or unnatural;

(d) The level and intensity of the background noise, if any;

(e) The proximity of the noise to residential sleeping facilities;

(f) The nature and zoning of the area within which the noise emanates;

(g) The density of the inhabitation of the area within which the noise emanates;

(h) The time of the day and night the noise occurs;

(i) The duration of the noise;

(j) Whether the noise is recurrent, intermittent, or constant; and

(k) Whether the noise is produced by a commercial or noncommercial activity.

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APPENDIX 5.1:

STUDY AREA PHOTOS

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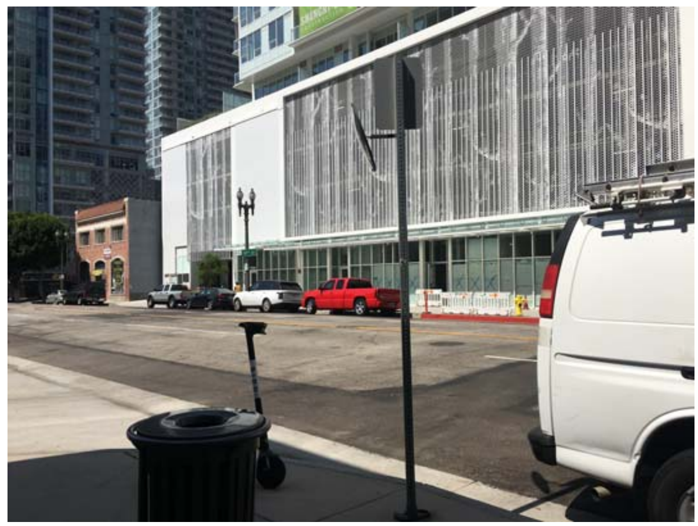
L1_E
34, 2' 29.500000", 118, 15' 49.380000"

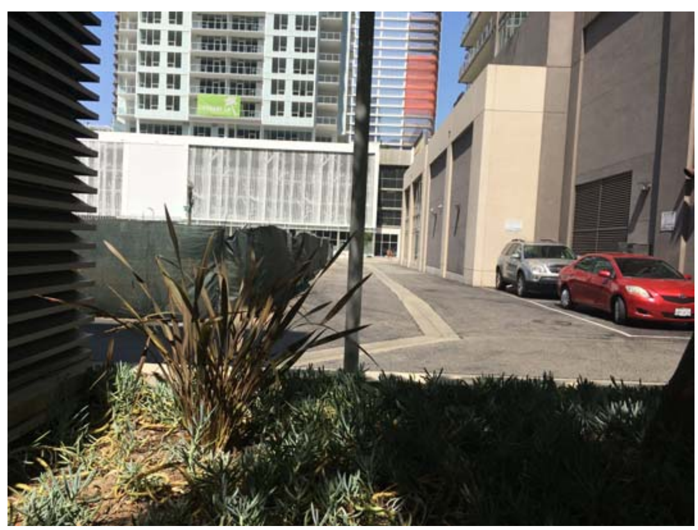
L1_N
34, 2' 29.520000", 118, 15' 49.550000"

L1_S
34, 2' 29.570000", 118, 15' 49.360000"



L1_W
34, 2' 29.620000", 118, 15' 49.380000"

L2_E
34, 2' 27.310000", 118, 15' 46.860000"



L2_N
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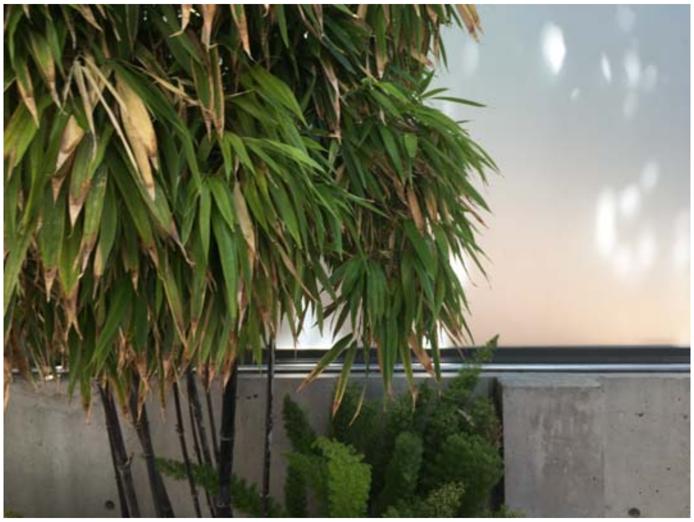
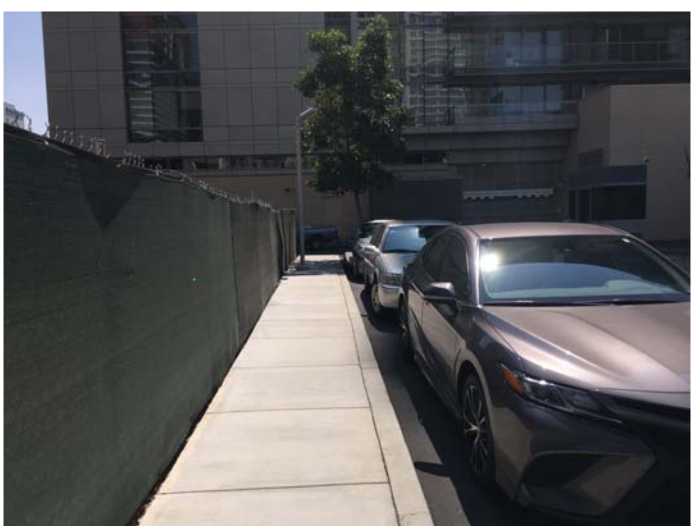


L2_S
34, 2' 27.510000", 118, 15' 47.020000"

L2_W
34, 2' 27.680000", 118, 15' 47.020000"

L3_E
34, 2' 28.880000", 118, 15' 48.890000"

L3_N
34, 2' 29.460000", 118, 15' 48.590000"



L3_S
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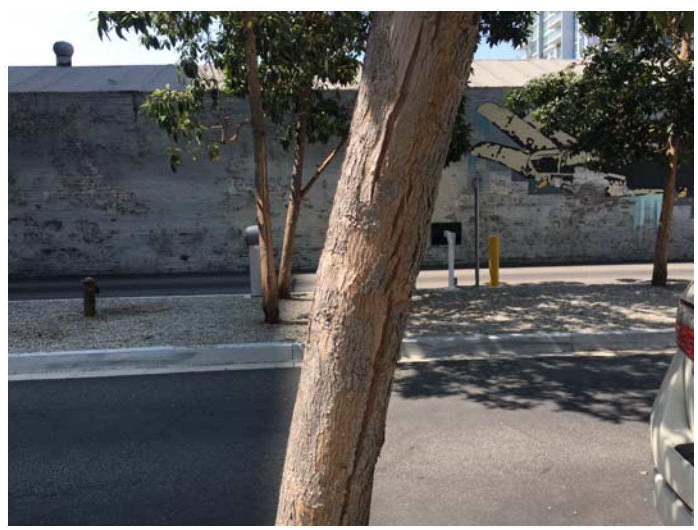

L3_W
34, 2' 28.950000", 118, 15' 48.830000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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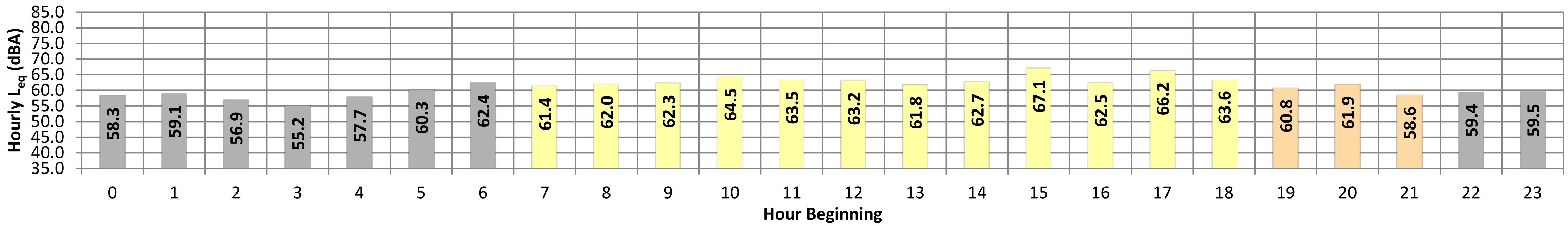
24-Hour Noise Level Measurement Summary

Date: Wednesday, September 02, 2020
Project: 1130 Hope Street
Location: L1 - Located north of the Project site on Hope Street across from existing multi-family residential homes as 1133 South Hope Street.
Meter: Piccolo II
JN: 13686
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	58.3	67.8	52.2	67.5	67.0	64.9	63.2	57.2	54.4	52.6	52.5	52.3	58.3	10.0	68.3
	1	59.1	70.0	52.0	69.6	69.0	66.4	64.2	56.4	53.6	52.3	52.1	52.0	59.1	10.0	69.1
	2	56.9	68.2	51.5	67.4	66.4	63.5	61.0	54.6	52.4	51.8	51.7	51.5	56.9	10.0	66.9
	3	55.2	64.0	51.5	63.7	63.3	61.4	59.5	53.9	52.3	51.7	51.7	51.6	55.2	10.0	65.2
	4	57.7	69.0	52.5	68.5	67.6	64.4	61.6	55.2	53.6	52.8	52.7	52.5	57.7	10.0	67.7
	5	60.3	70.1	53.3	69.8	69.2	67.4	65.6	59.0	55.9	53.6	53.5	53.3	60.3	10.0	70.3
	6	62.4	71.3	54.0	70.9	70.5	69.2	67.5	62.0	58.2	54.7	54.4	54.1	62.4	10.0	72.4
Day	7	61.4	71.1	54.6	70.3	69.5	67.4	66.0	61.4	58.1	55.3	55.0	54.7	61.4	0.0	61.4
	8	62.0	70.5	56.2	70.1	69.5	67.6	66.1	62.1	59.4	57.1	56.7	56.3	62.0	0.0	62.0
	9	62.3	70.8	55.4	70.3	69.8	68.0	66.7	62.6	59.4	56.1	55.8	55.5	62.3	0.0	62.3
	10	64.5	73.7	56.8	73.2	72.6	70.7	69.2	64.3	61.0	57.7	57.2	56.9	64.5	0.0	64.5
	11	63.5	71.2	58.3	70.4	69.8	68.1	67.2	64.1	61.8	59.0	58.7	58.4	63.5	0.0	63.5
	12	63.2	71.7	56.8	71.2	70.7	68.9	67.8	63.5	60.1	57.4	57.2	56.8	63.2	0.0	63.2
	13	61.8	70.0	56.3	69.4	68.8	66.7	65.6	62.4	59.7	57.2	56.8	56.4	61.8	0.0	61.8
	14	62.7	71.6	56.0	71.0	70.3	68.8	66.9	62.9	59.7	56.7	56.4	56.1	62.7	0.0	62.7
	15	67.1	70.9	64.4	70.6	70.3	69.5	68.9	67.7	66.9	65.2	64.8	64.4	67.1	0.0	67.1
	16	62.5	82.2	78.6	81.9	81.7	81.6	81.5	81.0	80.2	79.2	79.0	78.7	62.5	0.0	62.5
	17	66.2	75.8	56.7	75.1	74.4	72.8	71.5	65.8	62.2	57.7	57.3	56.8	66.2	0.0	66.2
	18	63.6	72.6	56.8	72.2	71.3	69.3	68.0	63.5	60.7	57.6	57.2	56.9	63.6	0.0	63.6
Evening	19	60.8	69.3	54.2	68.9	68.1	66.5	65.2	61.1	58.1	54.9	54.5	54.3	60.8	5.0	65.8
	20	61.9	71.4	54.5	71.1	70.6	68.6	66.5	61.3	58.1	55.3	54.9	54.6	61.9	5.0	66.9
	21	58.6	66.8	53.8	66.3	65.7	63.8	62.6	58.6	56.0	54.3	54.1	53.9	58.6	5.0	63.6
Night	22	59.4	68.3	52.4	68.0	67.4	65.7	64.3	59.3	55.8	53.0	52.8	52.5	59.4	10.0	69.4
	23	59.5	70.5	51.7	69.9	69.3	66.6	64.5	57.8	54.4	52.3	52.0	51.8	59.5	10.0	69.5

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	61.4	70.0	54.6	69.4	68.8	66.7	65.6	61.4	58.1	55.3	55.0	54.7
	Max	67.1	82.2	78.6	81.9	81.7	81.6	81.5	81.0	80.2	79.2	79.0	78.7
Energy Average		63.8	Average:		72.2	71.6	69.9	68.8	65.1	62.4	59.7	59.3	59.0
Evening	Min	58.6	66.8	53.8	66.3	65.7	63.8	62.6	58.6	56.0	54.3	54.1	53.9
	Max	61.9	71.4	54.5	71.1	70.6	68.6	66.5	61.3	58.1	55.3	54.9	54.6
Energy Average		60.6	Average:		68.8	68.2	66.3	64.8	60.3	57.4	54.8	54.5	54.3
Night	Min	55.2	64.0	51.5	63.7	63.3	61.4	59.5	53.9	52.3	51.7	51.7	51.5
	Max	62.4	71.3	54.0	70.9	70.5	69.2	67.5	62.0	58.2	54.7	54.4	54.1
Energy Average		59.2	Average:		68.4	67.7	65.5	63.5	57.3	54.5	52.8	52.6	52.4

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
62.2	63.3	59.2

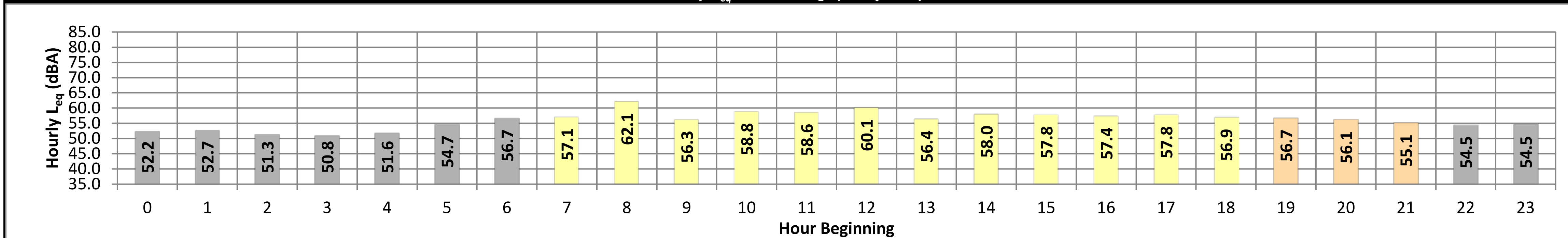
24-Hour CNEL (dBA)
66.8

URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Date: Wednesday, September 02, 2020
Project: 1130 Hope Street
Location: L2 - Located east of the Project site near Elleven South Lofts at 1111 South Grand Avenue.
Meter: Piccolo II
JN: 13686
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	52.2	57.1	50.3	56.6	56.0	54.9	54.4	52.7	51.5	50.6	50.5	50.4	52.2	10.0	62.2
	1	52.7	59.6	49.8	59.2	58.9	57.1	55.7	52.7	51.1	50.1	50.0	49.9	52.7	10.0	62.7
	2	51.3	58.4	49.2	57.7	56.9	54.7	53.3	51.4	50.2	49.6	49.5	49.3	51.3	10.0	61.3
	3	50.8	55.2	49.3	54.8	54.4	53.3	52.7	51.2	50.1	49.6	49.5	49.4	50.8	10.0	60.8
	4	51.6	57.1	49.8	56.6	56.0	54.6	53.6	51.9	50.9	50.1	50.0	49.8	51.6	10.0	61.6
	5	54.7	59.6	53.1	58.9	58.2	56.8	56.3	55.0	54.2	53.5	53.4	53.2	54.7	10.0	64.7
	6	56.7	62.2	52.6	61.8	61.5	60.3	59.7	57.9	55.6	53.2	52.9	52.7	56.7	10.0	66.7
Day	7	57.1	63.1	54.1	62.6	61.9	60.7	59.8	57.5	56.1	54.6	54.4	54.2	57.1	0.0	57.1
	8	62.1	72.1	53.5	70.8	70.1	68.7	67.4	62.0	57.5	54.7	54.2	53.8	62.1	0.0	62.1
	9	56.3	63.3	52.4	62.5	61.6	60.2	59.4	56.8	55.1	53.1	52.8	52.5	56.3	0.0	56.3
	10	58.8	67.9	54.7	66.9	65.7	63.2	61.5	58.9	57.3	55.4	55.1	54.8	58.8	0.0	58.8
	11	58.6	66.2	53.8	65.6	64.7	62.5	61.5	59.1	57.4	54.6	54.3	53.9	58.6	0.0	58.6
	12	60.1	68.7	54.5	68.4	67.9	66.5	65.1	59.5	57.3	55.2	54.9	54.6	60.1	0.0	60.1
	13	56.4	62.1	53.6	61.6	60.9	59.4	58.7	56.9	55.6	54.1	53.9	53.7	56.4	0.0	56.4
	14	58.0	63.7	55.0	63.1	62.5	61.3	60.5	58.5	57.0	55.6	55.4	55.1	58.0	0.0	58.0
	15	57.8	62.2	55.8	61.9	61.5	60.6	60.0	58.1	57.1	56.2	56.0	55.9	57.8	0.0	57.8
	16	57.4	65.4	53.5	64.9	64.3	61.9	60.3	57.6	55.7	54.1	53.8	53.6	57.4	0.0	57.4
	17	57.8	64.6	53.2	64.2	63.9	62.7	61.5	58.0	56.1	54.0	53.7	53.4	57.8	0.0	57.8
	18	56.9	63.3	53.5	62.7	62.1	60.4	59.6	57.4	55.9	54.1	53.8	53.6	56.9	0.0	56.9
Evening	19	56.7	64.6	52.8	63.9	63.1	60.8	59.7	57.1	55.3	53.4	53.2	52.9	56.7	5.0	61.7
	20	56.1	63.8	52.1	63.2	62.5	60.7	59.4	56.4	54.5	52.6	52.4	52.2	56.1	5.0	61.1
	21	55.1	62.7	51.6	61.8	61.0	59.2	58.1	55.4	53.6	52.1	51.9	51.7	55.1	5.0	60.1
Night	22	54.5	60.8	51.3	60.3	59.7	58.3	57.6	55.0	53.2	51.7	51.6	51.4	54.5	10.0	64.5
	23	54.5	62.7	50.7	61.9	61.3	59.6	58.0	54.7	52.4	51.1	51.0	50.8	54.5	10.0	64.5

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	56.3	62.1	52.4	61.6	60.9	59.4	58.7	56.8	55.1	53.1	52.8	52.5
	Max	62.1	72.1	55.8	70.8	70.1	68.7	67.4	62.0	57.5	56.2	56.0	55.9
Energy Average		58.4	Average:		64.6	63.9	62.3	61.3	58.4	56.5	54.6	54.4	54.1
Evening	Min	55.1	62.7	51.6	61.8	61.0	59.2	58.1	55.4	53.6	52.1	51.9	51.7
	Max	56.7	64.6	52.8	63.9	63.1	60.8	59.7	57.1	55.3	53.4	53.2	52.9
Energy Average		56.0	Average:		63.0	62.2	60.2	59.1	56.3	54.4	52.7	52.5	52.3
Night	Min	50.8	55.2	49.2	54.8	54.4	53.3	52.7	51.2	50.1	49.6	49.5	49.3
	Max	56.7	62.7	53.1	61.9	61.5	60.3	59.7	57.9	55.6	53.5	53.4	53.2
Energy Average		53.7	Average:		58.6	58.1	56.6	55.7	53.6	52.1	51.1	50.9	50.8

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
56.9	58.1	53.7

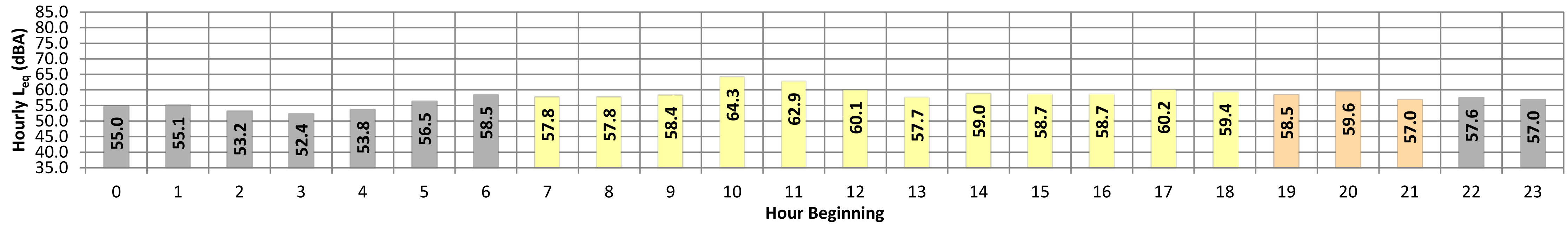
24-Hour CNEL (dBA)

61.4

24-Hour Noise Level Measurement Summary

Date: Wednesday, September 02, 2020
Project: 1130 Hope Street
Location: L3 - Located by the southwest border of the Project site near Downtown Dance & Movement at 1144 South Hope Street.
Meter: Piccolo II
JN: 13686
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	55.0	60.7	52.9	60.3	59.8	58.6	57.7	55.1	54.0	53.2	53.1	53.0	55.0	10.0	65.0
	1	55.1	62.4	52.1	62.0	61.5	60.2	58.7	54.7	53.2	52.3	52.2	52.1	55.1	10.0	65.1
	2	53.2	59.8	51.1	59.5	59.0	57.7	56.0	52.9	51.8	51.3	51.2	51.2	53.2	10.0	63.2
	3	52.4	57.5	50.7	57.3	56.9	55.8	55.0	52.6	51.3	50.9	50.8	50.8	52.4	10.0	62.4
	4	53.8	60.3	51.5	60.0	59.6	58.2	56.7	53.7	52.5	51.7	51.6	51.6	53.8	10.0	63.8
	5	56.5	66.0	53.3	64.8	63.5	60.7	59.4	56.2	54.8	53.6	53.5	53.4	56.5	10.0	66.5
	6	58.5	65.3	53.5	64.9	64.3	63.1	62.3	59.1	56.9	54.0	53.8	53.6	58.5	10.0	68.5
Day	7	57.8	63.4	54.4	63.0	62.7	61.7	60.9	58.4	56.6	54.9	54.7	54.5	57.8	0.0	57.8
	8	57.8	64.8	53.9	64.4	63.7	61.9	60.8	58.2	56.6	54.6	54.3	54.0	57.8	0.0	57.8
	9	58.4	64.8	53.8	64.4	63.9	62.7	61.7	59.1	57.2	54.7	54.3	53.9	58.4	0.0	58.4
	10	64.3	74.9	57.7	74.0	72.2	69.5	67.4	64.0	62.1	58.6	58.3	58.0	64.3	0.0	64.3
	11	62.9	70.3	57.1	69.6	68.6	66.8	66.0	63.6	61.7	58.3	57.6	57.2	62.9	0.0	62.9
	12	60.1	67.9	55.0	67.6	66.9	65.8	64.5	60.1	57.7	55.5	55.2	55.1	60.1	0.0	60.1
	13	57.7	63.4	54.4	62.9	62.3	61.1	60.2	58.3	56.8	55.0	54.7	54.5	57.7	0.0	57.7
	14	59.0	66.2	54.7	65.7	65.0	63.1	62.3	59.4	57.4	55.3	55.1	54.8	59.0	0.0	59.0
	15	58.7	63.6	56.1	63.2	62.9	61.9	61.0	59.2	57.9	56.6	56.4	56.2	58.7	0.0	58.7
	16	58.7	64.2	55.2	63.7	63.2	62.4	61.8	59.6	57.5	55.7	55.5	55.2	58.7	0.0	58.7
	17	60.2	67.2	54.3	66.8	66.3	65.2	64.5	60.7	58.1	55.1	54.7	54.4	60.2	0.0	60.2
	18	59.4	66.6	54.3	66.3	65.9	64.4	63.5	59.8	57.5	55.0	54.7	54.4	59.4	0.0	59.4
Evening	19	58.5	65.0	54.0	64.7	64.1	62.8	61.9	59.1	57.0	54.7	54.4	54.1	58.5	5.0	63.5
	20	59.6	68.5	54.0	68.0	67.2	65.3	63.8	59.7	56.7	54.5	54.2	54.0	59.6	5.0	64.6
	21	57.0	63.6	53.7	63.2	62.8	61.3	60.3	57.3	55.6	54.1	53.9	53.8	57.0	5.0	62.0
Night	22	57.6	65.3	53.7	65.0	64.3	62.4	61.0	58.0	55.6	54.1	53.9	53.8	57.6	10.0	67.6
	23	57.0	64.7	53.2	64.3	63.8	62.5	61.0	57.1	54.9	53.5	53.3	53.2	57.0	10.0	67.0

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	57.7	63.4	53.8	62.9	62.3	61.1	60.2	58.2	56.6	54.6	54.3	53.9
	Max	64.3	74.9	57.7	74.0	72.2	69.5	67.4	64.0	62.1	58.6	58.3	58.0
Energy Average		60.1	Average:		66.0	65.3	63.9	62.9	60.0	58.1	55.8	55.5	55.2
Evening	Min	57.0	63.6	53.7	63.2	62.8	61.3	60.3	57.3	55.6	54.1	53.9	53.8
	Max	59.6	68.5	54.0	68.0	67.2	65.3	63.8	59.7	57.0	54.7	54.4	54.1
Energy Average		58.5	Average:		65.3	64.7	63.2	62.0	58.7	56.4	54.4	54.2	54.0
Night	Min	52.4	57.5	50.7	57.3	56.9	55.8	55.0	52.6	51.3	50.9	50.8	50.8
	Max	58.5	66.0	53.7	65.0	64.3	63.1	62.3	59.1	56.9	54.1	53.9	53.8
Energy Average		55.9	Average:		62.0	61.4	59.9	58.6	55.5	53.9	52.7	52.6	52.5

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
58.7	**59.8**	**55.9**

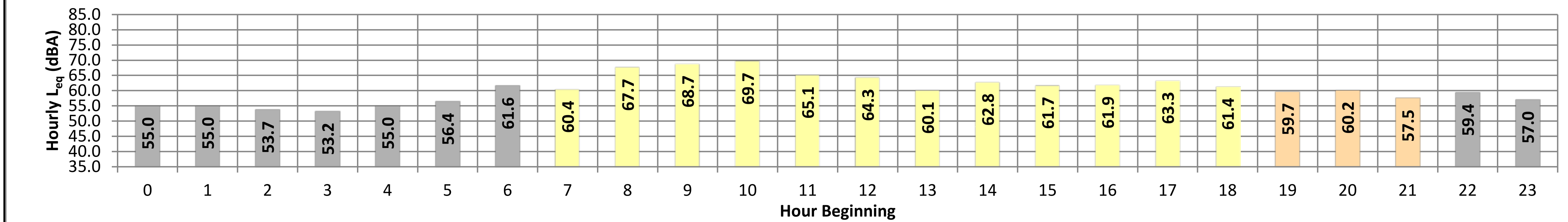
24-Hour CNEL (dBA)
63.5

URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Date: Wednesday, September 02, 2020
Project: 1130 Hope Street
Location: L4 - Located south of the Project site on West 12th Street near Evo South at 1155 South Grand Avenue.
Meter: Piccolo II
JN: 13686
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	55.0	61.9	51.8	61.5	61.0	59.4	58.5	55.2	53.3	52.1	52.0	51.9	55.0	10.0	65.0
	1	55.0	60.1	52.4	59.9	59.6	58.7	57.8	55.6	54.0	52.7	52.6	52.5	55.0	10.0	65.0
	2	53.7	60.7	51.2	60.4	60.0	58.5	57.0	53.3	52.1	51.4	51.4	51.2	53.7	10.0	63.7
	3	53.2	58.5	51.2	58.3	58.0	56.9	55.9	53.1	52.2	51.5	51.4	51.3	53.2	10.0	63.2
	4	55.0	63.0	52.0	61.9	61.4	59.5	58.1	55.0	53.4	52.3	52.2	52.1	55.0	10.0	65.0
	5	56.4	63.0	53.0	62.7	62.2	61.1	60.2	56.5	54.6	53.4	53.2	53.1	56.4	10.0	66.4
	6	61.6	69.4	56.8	68.6	67.5	65.9	65.1	62.4	59.9	57.5	57.2	56.9	61.6	10.0	71.6
Day	7	60.4	69.3	55.1	68.4	67.4	65.4	64.0	60.7	58.6	55.9	55.5	55.1	60.4	0.0	60.4
	8	67.7	77.9	59.6	77.2	75.7	73.2	71.7	68.0	64.6	60.5	60.2	59.7	67.7	0.0	67.7
	9	68.7	76.6	57.3	76.1	75.6	74.1	73.2	70.0	66.3	59.6	58.8	57.6	68.7	0.0	68.7
	10	69.7	80.5	62.5	79.3	77.7	75.8	73.8	69.4	66.0	63.4	62.9	62.6	69.7	0.0	69.7
	11	65.1	73.4	60.4	72.5	71.4	69.2	68.1	65.4	63.7	61.7	60.9	60.5	65.1	0.0	65.1
	12	64.3	72.5	60.0	71.9	71.0	69.3	68.2	64.4	62.2	60.5	60.3	60.1	64.3	0.0	64.3
	13	60.1	67.1	55.0	66.7	66.1	64.9	63.8	60.8	58.5	55.7	55.4	55.1	60.1	0.0	60.1
	14	62.8	72.3	56.1	71.9	71.1	68.9	66.9	62.2	59.7	57.1	56.7	56.3	62.8	0.0	62.8
	15	61.7	71.7	55.6	71.1	70.2	67.6	65.1	61.2	59.0	56.4	56.0	55.7	61.7	0.0	61.7
	16	61.9	70.6	55.5	69.9	69.2	67.4	65.9	62.4	59.3	56.2	55.9	55.6	61.9	0.0	61.9
	17	63.3	74.5	55.7	73.4	71.9	68.8	67.2	63.0	60.1	56.6	56.2	55.8	63.3	0.0	63.3
	18	61.4	71.4	54.9	70.6	69.6	67.2	65.2	61.1	58.6	55.7	55.4	55.0	61.4	0.0	61.4
Evening	19	59.7	67.1	54.5	66.4	65.8	64.4	63.5	60.4	57.9	55.1	54.8	54.5	59.7	5.0	64.7
	20	60.2	69.2	53.8	68.9	68.3	66.0	64.1	60.3	56.9	54.4	54.1	53.9	60.2	5.0	65.2
	21	57.5	65.7	52.6	65.3	64.9	63.2	61.5	57.4	55.1	53.1	52.9	52.7	57.5	5.0	62.5
Night	22	59.4	67.4	53.8	66.9	66.4	64.9	63.4	59.6	57.2	54.7	54.4	54.0	59.4	10.0	69.4
	23	57.0	64.1	52.4	63.8	63.4	62.3	61.1	57.4	54.5	52.8	52.6	52.5	57.0	10.0	67.0

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	60.1	67.1	54.9	66.7	66.1	64.9	63.8	60.7	58.5	55.7	55.4	55.0
	Max	69.7	80.5	62.5	79.3	77.7	75.8	73.8	70.0	66.3	63.4	62.9	62.6
Energy Average		65.1	Average:		72.4	71.4	69.3	67.8	64.0	61.4	58.3	57.8	57.4
Evening	Min	57.5	65.7	52.6	65.3	64.9	63.2	61.5	57.4	55.1	53.1	52.9	52.7
	Max	60.2	69.2	54.5	68.9	68.3	66.0	64.1	60.4	57.9	55.1	54.8	54.5
Energy Average		59.3	Average:		66.8	66.3	64.5	63.0	59.4	56.6	54.2	53.9	53.7
Night	Min	53.2	58.5	51.2	58.3	58.0	56.9	55.9	53.1	52.1	51.4	51.4	51.2
	Max	61.6	69.4	56.8	68.6	67.5	65.9	65.1	62.4	59.9	57.5	57.2	56.9
Energy Average		57.1	Average:		62.7	62.2	60.8	59.7	56.5	54.6	53.2	53.0	52.8

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
62.8	**64.4**	**57.1**

24-Hour CNEL (dBA)
65.9

URBAN CROSSROADS

APPENDIX 7.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS

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13686 - 1130 S. Hope Street

CadnaA Noise Prediction Model: 13686.cna
Date: 24.09.20
Analyst: S. Shami

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.00
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	42.8	27.1	40.6	0.0	0.0	0.0		x	Total	5.00	a	5951556.75	2328516.62	5.00
RECEIVERS		R2	38.5	30.1	38.7	0.0	0.0	0.0		x	Total	5.00	a	5951826.79	2328445.80	5.00
RECEIVERS		R3	39.5	31.5	39.9	0.0	0.0	0.0		x	Total	5.00	a	5951725.88	2328290.63	5.00
RECEIVERS		R4	43.2	34.7	43.3	0.0	0.0	0.0		x	Total	5.00	a	5951460.03	2328195.58	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			K0	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night				X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		court04	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	5.00	g	5951683.36	2328441.90	177.00
POINTSOURCE		court03	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	5.00	g	5951678.31	2328436.09	177.00
POINTSOURCE		court02	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	5.00	g	5951713.89	2328417.23	177.00
POINTSOURCE		court01	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	5.00	g	5951709.06	2328411.33	177.00
POINTSOURCE		station01	89.1	89.1	89.1	Lw	89.1		900.00	0.00	0.00	0.0	6.00	g	5951729.88	2328400.06	178.00
POINTSOURCE		pool01	86.4	86.4	86.4	Lw	86.4		900.00	0.00	0.00	0.0	5.00	g	5951652.05	2328471.78	177.00
POINTSOURCE		pool02	86.4	86.4	86.4	Lw	86.4		900.00	0.00	0.00	0.0	5.00	g	5951659.91	2328442.35	177.00
POINTSOURCE		pool03	86.4	86.4	86.4	Lw	86.4		900.00	0.00	0.00	0.0	5.00	g	5951673.16	2328459.61	177.00
POINTSOURCE		pool04	86.4	86.4	86.4	Lw	86.4		900.00	0.00	0.00	0.0	5.00	g	5951638.64	2328455.76	177.00
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	5951761.92	2328387.49	177.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	5951737.73	2328379.17	177.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	5951683.02	2328425.40	177.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			K0	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night				X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	5951710.91	2328423.86	177.00

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	x	0		172.00	a	5951629.63	2328450.63	172.00	0.00
								5951660.76	2328489.10	172.00	0.00
								5951782.39	2328390.92	172.00	0.00
								5951751.16	2328352.54	172.00	0.00

APPENDIX 8.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

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13686 - 1130 S. Hope Street

CadnaA Noise Prediction Model: 13686 Construction.cna
Date: 23.09.20
Analyst: S. Shami

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.00
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	63.0	63.0	69.7	0.0	0.0	0.0		x	Total	5.00	a	5951556.75	2328516.62	5.00
RECEIVERS		R2	64.8	64.8	71.4	0.0	0.0	0.0		x	Total	5.00	a	5951826.79	2328445.80	5.00
RECEIVERS		R3	64.4	64.4	71.1	0.0	0.0	0.0		x	Total	5.00	a	5951725.88	2328290.63	5.00
RECEIVERS		R4	55.9	55.9	62.6	0.0	0.0	0.0		x	Total	5.00	a	5951460.03	2328195.58	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL			Lw / Li			Operating Time			Height
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
SITEBOUNDARY		CONSTRUCTION	104.3	104.3	104.3	75.3	75.3	75.3	Lw"	75.3					8

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	a			5951629.63	2328450.63	8.00	0.00
					5951617.80	2328460.31	8.00	0.00
					5951641.08	2328488.98	8.00	0.00
					5951643.06	2328491.11	8.00	0.00
					5951644.10	2328491.89	8.00	0.00
					5951646.03	2328492.83	8.00	0.00
					5951648.26	2328493.61	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					5951651.03	2328493.77	8.00	0.00
					5951654.36	2328493.20	8.00	0.00
					5951655.92	2328492.41	8.00	0.00
					5951657.48	2328491.74	8.00	0.00
					5951663.63	2328486.79	8.00	0.00
					5951782.39	2328390.92	8.00	0.00
					5951751.16	2328352.54	8.00	0.00

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April 21, 2022

BY EMAIL

President Gold and Members of the
Central Los Angeles Area Planning Commission
200 N. Spring Street
Los Angeles, CA 90012
Etta Armstrong, Commission Executive Assistant
apccentral@lacity.org

Re: 1130 Hope Street - Hotel Project
DIR-2020-3656-SPR
Hearing Date: April 26, 2022

Dear President Gold and Members of the Central Los Angeles Area Planning Commission:

Our firm represents the Luma Homeowners Association ("Luma") and Evo Homeowners Association ("Evo"), located immediately adjacent to the north and east of the proposed 112 room, 8 story, 106-foot hotel project at 1130 S. Hope Street. ("Hotel Project"). Luma and Evo are the appellants of the Site Plan Review for the Hotel Project, which is scheduled for April 26, 2022. We request that, if the Central Los Angeles Area Planning Commission ("Central LA APC") upholds the approval of the Site Plan Review for the Hotel Project, you include operational and construction conditions as typically required by the City of Los Angeles and which limit the development of the property to the project shown in the approved plans, as set forth below.

This letter augments all of the claims set forth in the appeal. In order to comply with the Central LA APC's submissions requirements, we provided the following documents to you on April 18, 2022: (i) Noise Impact Analysis, dated October 15, 2020, by Urban Crossroads, ("Noise Study"), (ii) Greenhouse Gas Analysis, dated October 19, 2020, by Urban Crossroads ("GHG Study"), and (iii) Air Quality Impact Analysis, dated October 19, 2020, by Urban Crossroads ("Air Quality Study").

1. **Rooftop**

The Hotel rooftop is located directly across the alley from residence windows at both Luma and Evo, and many units look down on the rooftop. Therefore, any noise or light on the roof, especially in the evenings, would impact the neighbors that surround it on two sides. Although both Luma and Evo have pools and rooftop use, these are monitored by the HOAs that make sure they are quiet and do not disturb the owners in the complex. It is unlikely that a hotel guest who is only there temporarily would have the same consideration unless it is required by the hotel. Therefore, the following conditions should be imposed.

(a) ***Use.*** The hotel rooftop should only be used for quiet passive use. There should be no third party events (such as a private party, wedding or fitness class), and no sale or providing of alcohol for consumption on the roof. The hotel rooftop is only for hotel patrons and their guests. There should be a hotel employee on the roof or regularly monitoring the roof to ensure quiet when guests are present.

(b) ***Hours of Use.*** The hotel rooftop should be accessible only Monday – Friday from 8am – 10pm, and on the Friday/Saturday from 8am – 11pm.

(c) ***Design.*** The rooftop area that is accessible to guests should be designed to be fully enclosed by the elevator/stair, mechanical rooms, and foliage on all sides to reduce the noise and visibility into the surrounding residential units to maintain as much privacy as possible. There shall be a minimum 6 foot wall enclosing the roof on all sides.

(d) ***Light.*** There shall be no use of strobe lights or any lights that shine into residential windows from the hotel rooftop at any time.

(e) ***Mechanical Rooms.*** All mechanical equipment on the roof shall be fully enclosed in a mechanical room. The mechanical equipment shall be fully insulated so that it is not audible outside of the hotel property boundary, including in any of the surrounding residential units. There shall be no vents or exhaust facing any of the residential units across the alley for any mechanical equipment in the hotel.

2. **Valet/Drop Off.** The frontage of the building is very narrow (50') and so does not provide a significant waiting or drop off area or room for cars to queue. Therefore, the hotel staff must manage the drop off area to ensure that any cars or rideshare vehicles do not block the alley to the north or the Evo driveway to the south. The Evo driveway is the sole means of access to the Evo parking garage and is heavily used, and therefore cannot be blocked, even temporarily. The following conditions are required:

(a) ***Valet.*** The hotel shall provide a valet 24-hours a day when guests are dropping off or being picked up to manage the queue of guests and rideshare drivers.

(b) ***Signage.*** The hotel shall have clear signage that no drivers shall park to block the alley or the Evo driveway at any time, even temporarily.

(c) ***Striping.*** The applicant shall coordinate with DOT and BOE to provide striping on Hope Street in front of the Evo driveway to state that it should remain clear.

(d) ***TDM***. The applicant shall prepare a TDM plan that includes information regarding valet and accessing the off-site lot for guests.

(e) ***Metro passes.*** The hotel shall provide metro passes and bicycles/scooters to encourage alternative modes of transportation.

3. **Parking.** Condition No. 4 of the approval states that the project parking will be on-site, but the parking description states that there are 2 on-site parking spaces, 22 parking spaces within 750 feet, and 4 spaces replaced with 16 bicycle spaces. The approval should clarify that only two parking spaces are on site, and that the remaining parking spaces will be off-site. In the event that additional parking is placed on site in the final design, this should not increase the height of the building by adding a parking level.

4. **Community Benefits.** The project provides no community benefits, and only provides a 528 square foot retail space that the applicant's representative stated would be for hotel guest amenities. The hotel should provide a use for the retail that benefits the community, such as a coffee shop or area where residents can lounge and enjoy it.

5. **Alley**. The alley serves as an entrance to the parking garages of Luma and Evo, and is also heavily used by moving trucks and delivery trucks for the residents of the Luma and Evo buildings. The hotel project locates the loading dock at the rear of the building, across from Luma parking spaces and entrance to the Luma parking garage. The use of the loading dock by delivery trucks shall not be permitted to block any use of the Luma parking spaces or parking garage entrance at any time.

6. **Employees.** The applicant's representative stated that the hotel is a low-service hotel with few employees. This is of specific concern in the South Park neighborhood where other hotel and short term stay units were the site of drug sales and parties. The hotel shall be required to maintain a security guard 24 hours per day to maintain safety for hotel guests and nearby residents. In addition, at least one other employee shall be on site at all times to respond to guest calls, neighbor calls, and to monitor the drop off and valet at the front. During the day, the hotel shall have sufficient employees at peak hours to check in guests and respond to guest calls while maintaining a valet to monitor the car queue at all times. The condition of approval should require at least a security guard and valet/employee at all times.

7. **Noise.** Hotels are much more likely to have loud parties and guests that do not consider their residential neighbors. The hotel should have policies to limit guest noise, especially not permitting loud parties in the rooms or on the roof, and requiring guests to be quiet while waiting for rideshare or entering the building at night. There should be no noise audible from the hotel at any time in the residential units of Luma and Evo.

8. **Light.** All lights on the project, including any signage, shall be shielded and shall not shine any light into the neighboring residences. There shall be no digital signage or neon signage on the project.

9. **Design.** The Project shall include four facades that are designed with varying materials, color, textures and articulation and that have design interest. The Project shall not include any flat façades without architectural interest that will cause noise to reverberate, especially adjacent to the alley and facing residential units. The conditions of approval should also limit the building to the design shown in Exhibit A of the approval, including "A maximum height of eight stories and 106 feet in height, and a total floor area of 46,741 square feet, and a maximum FAR of 6:1 with a maximum 112 hotel guest rooms." If the project is revised in the future, a new Site Plan Review should be required. The conditions of approval must require substantial compliance with the drawings attached as Exhibit A.

10. **Use/Density.** The conditions of approval state that the project allows any use permitted in the zone. However, this does not provide a finite project description as required under CEQA. Therefore, the use must be identified as a hotel use only, and any change would require modification of the Site Plan Review approval. The hotel includes 112 guest rooms, however, the prior approval only permitted 44 guest rooms. The small site would better accommodate less guest rooms, even if the zoning does not limit the guest room density.

11. **Setback.** The Evo HOA owns the empty lot to the south of the 1130 Hope property, which is used as the driveway entrance to the Evo parking garage. Evo intends to develop the property in the future, and can build commercial building with no lot line setbacks. The hotel design includes only a 5 foot setback from the south property line for all hotel rooms facing this direction. When Evo completes their project, the hotel rooms will be looking at a wall only five feet away without any Fire Department access. The conditions of approval should either require a greater setback or confirm that the applicant understands these rooms will be blocked because they face a side lot line.

12. **24-hour Neighbor Access.** The hotel manager shall provide a contact number so that the residents can contact the manager directly 24-hours a day in case of any issues.

13. **Construction.** The Project will cause significant disturbance to the neighboring residential units, especially for those that work at home and have children at home during the day. The conditions of approval do not have any specific analysis or conditions for the construction period. In addition to complying with the City's standard construction requirements, the following construction conditions should be included:

(a) ***Noise.*** The applicant provided the Noise Study that identified quieter construction equipment and claimed it would not exceed noise thresholds or cause a noise impact. The construction equipment used in the construction of the project must be limited to the specified equipment identified in the study and limited to the maximum sound levels stated in the study. All equipment shall be insulated to the greatest extent possible. All equipment shall be located as far from Evo and Luma's residential units as possible. The contractor shall install a minimum 15 foot height fence with insulation material to reduce the construction noise heard in the alley to the greatest extent possible.

(b) ***Dust.*** The contractor shall fully cover and/or water all hauling trucks, even when on site, to avoid dirt and dust in the alley where Luma and Evo residents frequently drive, walk and bicycle.

(c) ***Hours.*** The hours of construction shall be limited to 8am to 4pm. Monday through Friday. There shall be no construction work on the weekends or holidays. Any loud construction equipment that may exceed the City's Noise Ordinance thresholds shall be limited to 10am to 2pm daily (during school hours).

(d) ***Alley***. The construction work and equipment shall not block any part of the alley at any time. There are parking and loading spaces adjacent to the alley that are part of the property of Luma or Evo, and the construction equipment shall never use these areas. The construction and loading equipment shall not block the entrance to the alley on Hope Street or the Evo driveway on Hope Street at any time. Any crane or large equipment not stored on site shall be located on Hope Street in front of the 1130 Hope property, and shall not be located in the alley at any time. The contractor may also not use any of the parking spaces in the alley, because these are on Evo and Luma's property.

(e) ***24-hour Contact.*** The contractor shall provide Luma and Evo representatives with the phone number of a project manager who will respond to issues or complaints 24-hours per day.

(f) ***TDM Program.*** The Project should comply with the provisions of the City's TDM program, which is currently under consideration by the City Council both during construction and operation. This is a regular request of other projects currently in the entitlement process.

In conclusion, we request that, if the Central LA APC upholds the Site Plan Review approval for the Hotel Project, you impose all of the above operational and construction conditions to protect the immediate neighbors and the community.

Very truly yours,

Sheri Bonstelle

SHERI L. BONSTELLE for
Jeffer Mangels Butler & Mitchell LLP

SLB
Encls.
cc: Emma Howard, CD14 Planning Deputy (emma.howard@lacity.org)

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April 18, 2022

BY EMAIL

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Etta Armstrong, Commission Executive Assistant
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In order to comply with the Central LA APC's submissions requirements, we are providing the Applicant's Noise Study, GHG Study, and Air Quality Study referenced and provided in the Appeal to ensure that they are included in the administrative record. These include: (i) Noise Impact Analysis, dated October 15, 2020, by Urban Crossroads, ("Noise Study"), (ii) Greenhouse Gas Analysis, dated October 19, 2020, by Urban Crossroads ("GHG Study"), and (iii) Air Quality Impact Analysis, dated October 19, 2020, by Urban Crossroads ("Air Quality Study").

Very truly yours,

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cc: Emma Howard, CD14 Planning Deputy (emma.howard@lacity.org)