



Air Resources Board



Matthew Rodriguez
Secretary for
Environmental Protection

Mary D. Nichols, Chair
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Edmund G. Brown Jr.
Governor

November 14, 2016

Mr. Ken Alex, Director
Office of Planning and Research
Office of Governor Edmund G. Brown, Jr.
1400 10th Street
Sacramento, California 95814

Dear Mr. Alex:

The Jobs and Economic Improvement through Environmental Leadership Act (Assembly Bill 900, statutes of 2011) authorizes the Governor to certify a leadership project for streamlining under the California Environmental Quality Act (CEQA) if the project meets certain conditions. One condition for certification is that the project does not result in any net additional emissions of greenhouse gases (GHG), including GHG emissions from employee transportation, as determined by the Air Resources Board (ARB).

On August 26, 2016, CHE-HAR Crossroads SPV, LLC (the Applicant) submitted an application to ARB with its proposed GHG quantification methodologies and supporting documentation for the proposed Crossroads Hollywood project (proposed project), as required by the Governor's Guidelines for Streamlining Judicial Review under CEQA. A revision to the application with clarifying information pertaining to the GHG emissions quantification methodology was submitted on October 28, 2016. ARB staff conducted an evaluation of the GHG emission estimates and voluntary improvement measures submitted by the Applicant, and confirmed that the Applicant's methodology, calculations, and documentation are adequate. Based on the documentation submitted by the Applicant, ARB has determined the proposed project does not result in any net additional GHG emissions for purposes of certification under AB 900.

ARB staff's evaluation and an Executive Order noting ARB's determination are enclosed.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

Mr. Ken Alex, Director
November 14, 2016
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If you have any questions regarding the evaluation or determination, please contact Ms. Karen Magliano, Chief, Air Quality Planning and Science Division, at (916) 322-5350 or by email at karen.magliano@arb.ca.gov.

Sincerely,


Richard W. Corey
Executive Officer

Enclosures

Electronic cc:

Paul Bauer, Mercury LLC

Glenn Gritzner, Mercury LLC

Kydra Joy Casper, Liner Law LLP

Stephanie Eyestone-Jones, Eyestone Environmental

Mark Hagmann, Eyestone Environmental

Madonna Marcelo, Eyestone Environmental

Scott Morgan, Governor's Office of Planning and Research

Karen Magliano, Chief
Air Quality Planning and Science Division

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER G-16-095

**Relating to Determination of No Net Additional Greenhouse Gas Emissions
Under Public Resources Code section 21183, subdivision (c)
for
Crossroads Hollywood Project**

WHEREAS, in September 2011, Governor Brown signed the "Jobs and Economic Improvement through Environmental Leadership Act" (AB 900);

WHEREAS, under AB 900, the Governor may certify certain projects for judicial streamlining under the California Environmental Quality Act (CEQA) if certain conditions are met;

WHEREAS, under California Public Resources Code section 21183, subdivision (c), one condition for the Governor's certification is that the project does not result in any net additional emission of greenhouse gases (GHG), as determined by the California Air Resources Board (ARB);

WHEREAS, the Governor's Guidelines for Streamlining Judicial Review under the California Environmental Quality Act require for purposes of ARB's determination on GHG emissions that an applicant submit electronically to ARB a proposed methodology for quantifying the project's net additional GHG emissions and documentation that the project does not result in any net additional GHG emissions;

WHEREAS, pursuant to the Governor's Guidelines, CRE-HAR Crossroads SVP, LLC (the Applicant) submitted its initial proposed GHG quantification methodologies and documentation to ARB on the proposed Crossroads Hollywood Project (proposed project) on August 26, 2016, and clarifying documentation submitted on September 28, 2016 when the application was deemed complete;

WHEREAS, the application submitted for the proposed project estimates the project's net additional GHG emissions as follows:

1. Construction GHG Emissions: Additional 9,440 metric tons CO₂e emissions from project construction and demolition activities. Construction-generated GHG emissions were estimated from equipment used for construction activities and from both on-site and off-site vehicles and equipment;
2. Operation-Related GHG Emissions: Additional 14,294 metric tons CO₂e emissions during the first full year of project operation (2022) and

declining operational emissions in future years over the lifetime of the project.

WHEREAS, in the application, the applicant proposes to secure 9,440 metric tons of one-time carbon credits to offset emissions generated during construction and to secure 374,209 metric tons of carbon credits on a net present value basis to offset the net increase in emissions generated during project operation through a voluntary carbon credits market from a qualified GHG emissions broker to fully offset these identified construction and operational GHG emissions;

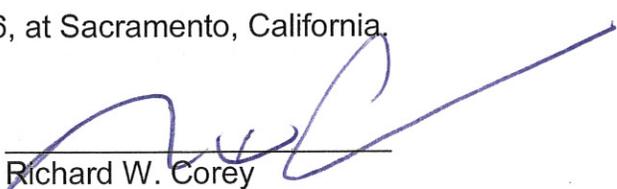
WHEREAS, ARB staff reviewed and evaluated the application in consultation with the lead agency (the City of Los Angeles);

WHEREAS, ARB staff conducted an evaluation of the GHG emission estimates and voluntary mitigation included in the application submitted by the applicant and confirmed the documentation provides an adequate technical basis for estimating total GHG emissions and voluntary mitigation for the proposed project;

WHEREAS, ARB's review and determination on the proposed project's GHG emissions is for the limited purpose of the Governor's findings and certification under AB 900 and should not be construed as meeting any other requirement under State or federal law, including CEQA; the lead agency remains responsible for full CEQA compliance for this project;

NOW, THEREFORE, based on ARB Staff's Evaluation (Attachment 1) of the documentation submitted by the Applicant (Attachment 2), I determine that the Crossroads Hollywood Project does not result in any net additional GHG emissions pursuant to Public Resources Code section 21183, subdivision (c) for purposes of certification under AB 900.

Executed this 14th day of November 2016, at Sacramento, California.


Richard W. Corey
Executive Officer

Attachments

1. ARB Staff Evaluation of AB 900 Application for Crossroads Hollywood Project
2. Crossroads Hollywood Project Greenhouse Gas Emissions Methodology Documentation for AB 900 Application

ATTACHMENT 1

**ARB Staff Evaluation of AB 900 Application for
Crossroads Hollywood Project**

**ARB Staff Evaluation of AB 900 Application for
Crossroads Hollywood Project
November 18, 2016**

I. Introduction

CRE-HAR Crossroads SPV, LLC (the Applicant) proposes to construct a mixed-use development project, located in the Hollywood neighborhood of Los Angeles, California. The proposed project would involve demolition of existing uses, rehabilitation of the existing historic Crossroads of the World site, and construction of nine new mixed-use buildings on several parcels of land. The City of Los Angeles is the Lead Agency, and the developer is the Applicant seeking certification for the project under Assembly Bill 900 (AB 900), the Jobs and Economic Improvement through Environmental Leadership Act.

AB 900 provides for streamlined judicial review under the California Environmental Quality Act (CEQA) if certain conditions are met. One condition is that the proposed project does not result in any net additional greenhouse gas (GHG) emissions as determined by the Air Resources Board (ARB). This is the only condition that involves a determination by ARB. ARB staff prepared this technical evaluation of the GHG emissions from the proposed project as part of its determination.

This evaluation includes an executive summary, an overview of the AB 900 zero net additional GHG emissions requirement, a brief description of the proposed project, a technical review and assessment of GHG emissions information provided by the Applicant in its AB 900 application, and ARB staff's recommendation on the AB 900 GHG emissions determination for the proposed project.

II. Executive Summary

ARB staff reviewed the projected GHG emissions provided by the Applicant and confirmed the GHG emission factors used to estimate construction and operational emissions. Staff concurs with the GHG quantification in the Applicant's proposal (Attachment 2).

Based on an evaluation of the documentation provided by the Applicant, ARB staff concludes that, with commitments to purchase voluntary carbon credits documented in Attachment 2, the proposed project would not result in any net additional GHG emissions relative to the baseline as summarized in Tables 1 and 2 below. ARB staff confirms that the proposed project would meet the GHG emissions requirements of the

Jobs and Economic Improvement through Environmental Leadership Act. (Pub. Resources Code, §21178 et seq.) A detailed description of emissions by source is reviewed in subsequent sections.

Table 1 shows project construction-generated GHG emissions. Project construction is expected to be completed in approximately five years, with construction beginning as early as 2018. The Applicant has committed to offset the GHG emissions generated during project construction within six months of occupancy, and will purchase any necessary carbon credits from a qualified GHG emissions broker. The Applicant has agreed to submit copies of executed contracts for purchased carbon credits to ARB and the Governor’s Office. The commitments to enter into contracts to offset net additional GHG emissions will be a condition of project approval, which represents a binding and enforceable agreement between the Applicant, or its successor, and the lead agency (City of Los Angeles).

Table 1: Project Construction-Generated GHG Emissions¹

Construction Year	GHG Emissions (MT CO₂e/year)
2018	3,315
2019	2,229
2020	2,180
2021	1,716
Total	9,440
GHG Credits Required ²	9,440
Notes: GHG = greenhouse gas; MT CO ₂ e = Metric tons carbon dioxide equivalent ¹ Source: as documented in Attachment 2, and confirmed by ARB staff. ² The Applicant has committed to enter into one of more contracts to purchase carbon credits from a qualified GHG emissions broker (to be selected from an accredited registry) in an amount sufficient to offset all net additional construction-related GHG emissions. No later than six months after the issuance of a Temporary Certificate of Occupancy for the project, the Applicant shall provide the lead agency (the City of Los Angeles) a calculation of the net additional GHG emissions resulting from construction of the Project according to the methodology followed in the Greenhouse Gas Emissions Methodology Documentation (Attachment 2). The Applicant has also agreed to promptly submit copies of executed contracts for purchased carbon credits to ARB and to the Governor’s office. The commitments to enter into contracts to offset net additional GHG emissions will be incorporated as a condition of project approval, which is binding and enforceable by the lead agency.	

Table 2 summarizes the net increase in project operation-related GHG emissions through the lifetime of the proposed project, which the Applicant has defined as 30 years. The continued operation of the existing land uses that would be demolished under the proposed project serves as the reference point for the purpose of defining a baseline.

The Applicant has committed to execute one or more contracts to offset the net increase in GHG emissions generated during project operation for any building in the project prior to issuance of any Certificate of Occupancy for that building. The Applicant will purchase voluntary carbon credits for the net increase in operational emissions on a net-present value basis. The Applicant has agreed to submit copies of executed contracts for purchased carbon credits to ARB and the Governor’s Office. The commitment to enter into contracts to offset net additional GHG emissions will be a condition of project approval, which represents a binding and enforceable agreement between the Applicant, or its successor, and the lead agency (City of Los Angeles).

Table 2: Comparison of Baseline and Project Operation-Related GHG Emissions¹

Year ²	GHG Emissions (MT CO ₂ e/year)			
	Baseline	Proposed Project	Difference	GHG Credits Required ³
2022	3,757	18,051	14,294	14,294
2023	3,757	17,788	14,031	14,031
2024	3,757	17,583	13,826	13,826
2025-2029	3,757	17,321	13,564	13,564
2030-2051⁴	3,757	15,890	12,133	12,133
Total Projected GHG Credits Required to Offset Estimated Project Operational GHG Emissions Over Project Lifetime				374,209
<p>Notes: GHG = greenhouse gas; MT CO₂e = Metric tons carbon dioxide equivalent. ¹ Source: as documented in Attachment 2, and confirmed by ARB staff. ² The Applicant estimates a useful life of the project of 30 years with first year of occupancy as early as 2022. ³ The Applicant has committed to purchase carbon credits in an amount sufficient to offset the net increase in operation-related GHG emissions. Prior to issuance or any Certificate of Occupancy for any building in the project, the Applicant or its successor shall enter into one or more contracts to purchase carbon credits from a qualified GHG emissions broker (to be selected from an accredited registry), which contract, together with any previous contracts, shall evidence the purchase of carbon credits in an amount sufficient to offset the operational emissions attributable to each building constructed within the project. Prior to execution of the contract(s), the Applicant shall provide the lead agency (the City of Los Angeles) a calculation of the net additional operational GHG emissions according to the methodology followed in the Greenhouse Gas Emissions Methodology Documentation (Attachment 2). The Applicant has also agreed to promptly submit copies of executed contracts for purchased carbon credits to ARB and to the Governor’s office. The commitments to enter into contracts to offset net additional GHG emissions will be incorporated as a condition of project approval, which is binding and enforceable by the lead agency. ⁴ Emissions projections after year 2030 for the proposed project would be similar to, or less than the emissions estimated for 2030. The life of the project is estimated as 30 years, which would be approximately 2022 through 2051, as defined by the Applicant.</p>				

III. Overview of AB 900

AB 900, as amended by SB 743 (2013) and SB 734 (2016) provides streamlined judicial review for development projects if, among other conditions, the “project does not result in any net additional emission of greenhouse gases, including greenhouse gas emissions from employee transportation, as determined by the State Air Resources Board pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.” (Pub. Resources Code, §21183, subd. (c).)

The Governor’s Guidelines for AB 900 applications require applicants to submit a proposed methodology for quantifying the project’s GHG emissions and documentation that the project will not result in any net additional GHG emissions. The documentation must quantify direct and indirect GHG emissions associated with the project’s construction and operation, including GHG emissions from employee transportation, and the net emissions of the project after accounting for any mitigation measures. The project’s net emissions, after mitigation, must be monitored and enforced consistent with Public Resources Code section 21183, subdivision (d).

The role of ARB in reviewing AB 900 applications for purposes of the Governor’s certification is limited to an evaluation of the quantification methods and documentation submitted by the Applicant to determine whether the project would result in no net additional emissions of GHG emissions. ARB staff evaluated the technical elements of the project application, including existing emissions in the absence of the project (i.e., baseline), input data and assumptions used for emissions and mitigation calculations, quantification methods, and an estimate of the project’s net GHG emissions after any mitigation.

IV. Existing Conditions

The existing project site consists of a mix of low-density commercial and office uses, 84 multi-family residential units, and surface parking lots located on four city blocks on approximately eight acres of land. The property is located within the Hollywood Community Plan area within the City of Los Angeles. The project site includes Crossroads of the World complex, which consists of approximately 50,000 square feet of retail, office, and entertainment uses, and is a designated historic resource.

V. Proposed Project Description

The proposed project would involve construction of a mixed-use development on the eight acre project site described above. The project proposes to demolish 84 residential units and 115,781 square feet of commercial uses, and construct 950 new residential units, a 308 room hotel, and 280,000 square feet of new commercial uses. The historic

Crossroads of the World complex would be retained, preserved, and rehabilitated as part of the project. The baseline and proposed land uses are summarized in below.

Table 3: Baseline and Proposed Land Uses

Land Use Type	Baseline Land Uses to be Demolished	Proposed Land Uses
Residential	84 du	950 du
Retail	26,690 sf	101,800 sf
Office	79,107 sf	95,000 sf
Restaurant	475 sf	83,200 sf
Hotel	-	308 rooms
Parking	344 spaces	2,596 spaces
Notes: du = dwelling units, sf = square feet Source: as documented in Attachment 2, and confirmed by ARB staff.		

Construction is proposed to begin in 2018 and conclude in 2021. The proposed project was assumed to become operational in as early as 2022.

The Applicant is seeking Leadership in Energy and Environmental Design (LEED) Silver certification for energy efficiency for the proposed project, and would install a 135 kilowatt (kW) photovoltaic (PV) system, which would generate approximately one percent of the project’s electrical demand on-site. In addition, the project would be located within 0.25 mile walking distance from subway and bus lines. The project would provide 1,307 short- and long-term bicycle parking spaces, along with shower facilities for bicycle commuters. The project would provide electric vehicle charging stations and preferential parking for alternative fueled vehicles. The project would also implement a Transportation Demand Management (TDM) program that includes strategies to promote non-auto travel. The TDM program would be expected to further reduce commute vehicle trips to the project site.

VI. Technical Review and Assessment

Eyestone Environmental, on behalf of the Applicant, prepared a GHG emissions assessment for the proposed project to demonstrate that the requirements of AB 900 can be met. A full copy of this proposal can be found in Attachment 2.

The Applicant relied upon a variety of sources for activity data and emission factors to quantify GHG emissions. This ARB staff evaluation is focused on reviewing the data

sources, emission factors, emission calculations, and assumptions used for the application, and determining whether these sources and assumptions are reasonable.

The Applicant relied upon Version 2013.2.2 of the California Emissions Estimator Model (CalEEMod), a widely-used emissions quantification tool developed in coordination with local air districts to quantify criteria pollutant and GHG emissions from land use development projects in California. CalEEMod uses widely-accepted sources for emission estimates combined with appropriate default data that can be used if site-specific information is not available. CalEEMod is populated with data from the United States Environmental Protection Agency AP-42 emission factors, ARB's on-road and off-road equipment emission models such as the Emission Factor 2011 model (EMFAC2011), and the Off-road Emissions Inventory Program model (OFFROAD). The Applicant used CalEEMod, in combination with project-specific data and ARB's more recent EMFAC 2014 mobile-source emission factors, to calculate GHG emissions from construction and operational emissions.

VII. Project Construction Emissions

Construction-related GHG emissions are one-time, direct emissions and would occur over a 48-month construction period. The Applicant estimated GHG emissions associated with project construction by using the CalEEMod tool. With some exceptions, the Applicant used CalEEMod default settings to generate construction-related GHG emissions. The Applicant estimates a total of 9,440 metric tons carbon dioxide equivalent (MT CO₂e) over the project construction period, as shown in Table 1 above. Construction-related GHG emissions reflect the types of equipment expected and the number of hours of operation anticipated over the construction schedule. This includes heavy-duty equipment, such as refuse hauling trucks, excavators, cranes, and conventional work vehicles.

ARB staff concluded that the methodology and estimated GHG emissions provided by the Applicant for construction are appropriate.

VIII. Baseline Operational Emissions

Operational emissions from land uses at the existing project site that would be demolished and removed as part of the project represent baseline conditions. Operational emissions in year 2015 serves as the baseline for purposes of this analysis, which represents existing conditions at the time the Notice of Preparation was issued for the project. GHG emissions were quantified for mobile, electricity, natural gas, area, solid waste, water, and wastewater-related sources. The application states that GHG emissions associated with existing conditions in 2015 are estimated as 3,757 MT CO₂e.

ARB staff evaluated the Applicant's GHG emission estimations, demand factors, and assumptions used in the Applicant's baseline calculations, summarized in Table 2 above. ARB staff concluded that the methodology and estimated baseline GHG emissions provided by the Applicant are appropriate.

IX. Proposed Project Operational Emissions

Operational GHG emission sources from the proposed project include mobile, electricity, natural gas, area, stationary, solid waste, water, and wastewater sources. Operational GHG emissions from the proposed project were assumed to begin in 2022.

The proposed project is seeking LEED Silver certification for energy efficiency and would include an on-site solar PV system with minimum 135 kW of renewable electricity generation capacity.

The Applicant used GHG emission factors for electricity from Los Angeles Department of Water and Power, that will change over time due to the California Renewable Portfolio Standard (RPS), a program designed to require 33 percent of grid electricity to come from renewable sources by 2020, and 50 percent renewable sources by 2030. Additionally, mobile-source emission factors used were based on the ARB EMFAC2014 on-road inventory. Declining mobile-source emission factors were used to estimate GHG emissions from vehicles over the project's lifetime, which reflect additional improvements in fleet fuel economy due to ARB's Advanced Clean Cars regulations, and were not reflected in CalEEMod.

The Applicant used CalEEMod default emission factors and calculation methods to estimate GHG emissions from water consumption and solid waste disposal. The Applicant also estimated that a nominal amount of GHG emissions would be associated with monthly testing of on-site emergency backup generators (i.e., stationary sources).

The Applicant's assumptions and inputs are reasonably conservative, and represent an upper-bound for the net increase in GHG emissions that could occur. ARB staff evaluated the proposed project's emission calculations, demand factors, and assumptions used to estimate operational GHG emissions and concluded that the methodology and estimated operational GHG emissions provided by the Applicant for are appropriate.

Based on the Applicant's proposal, annual project operational emissions would exceed baseline throughout the lifetime of the project, as summarized in Table 2.

X. Method to Offset Emissions

Under the GHG quantification methodology used by the Applicant, the proposed project would result in a one-time net GHG emissions increase of 9,440 MT CO₂e during project construction, and an estimated net increase of 14,294 MT CO₂e during the first year of full project operation (2022). Operational emissions would be on-going for the duration of the project life (defined as 30 years), and would be expected to decline over the life of the project as emission factors decline associated with adoption of lower-GHG-emitting vehicle technologies and renewable sources of electricity. The Applicant has agreed to meet the requirement set forth in California Public Resources Code section 21183, subdivision (c) to demonstrate that the proposed project would result in no net additional GHG emissions through the purchase of voluntary carbon credits sufficient to offset all projected additional GHG emissions, as detailed in Attachment 2.

The Applicant will purchase voluntary carbon credits for the net increase in construction and operational emissions prior to issuance of any Certificate of Occupancy for the project. The commitments to enter into contracts to offset net additional GHG emissions will be incorporated as condition of project approval, which represents a binding and enforceable agreement between the Applicant and the lead agency (City of Los Angeles). The Applicant has agreed to submit copies of executed contracts for purchased carbon credits to ARB and the Governor's Office as evidence that this condition has been met.

XI. Conclusions and Recommendations

Based on an evaluation of the documentation provided by the Applicant and its commitment to purchase voluntary carbon credits, ARB staff concludes that the proposed project would not result in any net additional GHG emissions relative to the baseline.

ATTACHMENT 2

**Greenhouse Gas Emissions Methodology Documentation for Environmental
Leadership Development Project Application**

Crossroads Hollywood Project

(Submitted August 26, 2016; Revised October 28, 2016 and November 16, 2016)

Greenhouse Gas Emissions Methodology and Documentation

Crossroads Hollywood Project

Project Applicant:

**CRE-HAR Crossroads SPV, LLC
6363 Wilshire Boulevard, #600
Los Angeles, CA 90048**

**August 2016
(Revised October 2016)**

Prepared By:

**Eystone Environmental
6701 Center Drive West, Suite 900
Los Angeles, CA 90045**





August 15, 2016

CALIFORNIA AIR RESOURCES BOARD

1001 I Street
Sacramento, CA 95814-2828

**RE: Greenhouse Gas Emissions Methodology and Documentation Pursuant to the
"Jobs and Economic Improvement through Environmental Leadership Act"
(Public Resources Code Section 21178 et seq.) for the Crossroads Hollywood
Project**

To California Air Resources Board:

On behalf of CRE-HAR Crossroads SPV, LLC, the Project Applicant, Eystone Environmental prepared an Application for CEQA Streamlining for the Crossroads Hollywood Project (Project), to demonstrate that the Project meets the requirements of the Jobs and Economic Improvement through Environmental Leadership Act (Public Resources Code Section 21178 et seq.), also referred to as Assembly Bill (AB) 900. As detailed in the application, the Project would incorporate a number of Project characteristics and project design features to avoid, minimum, and reduce greenhouse gas emissions. Our findings conclude that the Project would meet the GHG emissions requirements for streamlined environmental review under CEQA.

Should you have any questions or require additional information please feel free to contact me at (424) 207-5333.

Sincerely,

A handwritten signature in black ink that reads "Mark A. Hagmann". The signature is written in a cursive style with a prominent initial "M".

Mark Hagmann, P.E.

EYESTONE ENVIRONMENTAL

Air Quality Director

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Crossroads Hollywood

Greenhouse Gas Emissions Methodology and Documentation

1. Introduction

Eyestone Environmental has been retained to conduct a comprehensive greenhouse gas (GHG) emissions assessment for the Crossroads Hollywood Project (the “Project”) and to demonstrate that the Project meets the requirements of the *Jobs and Economic Improvement Through Environmental Leadership Act* (“the Act”) (Public Resources Code Section 21178 et seq.), also referred to as Assembly Bill (AB) 900. This assessment describes the methodology used to estimate the GHG emissions from baseline and Project conditions, provides an estimate of the net change in GHG emissions for the Project as compared to baseline conditions, and describes the methodology uses to quantify GHG emission reductions from project design features and mitigation measures. The following baseline and Project-related emission sources have been evaluated:

- Construction Activities—Fossil fueled on- and off-road vehicles and equipment needed for demolition, mass and fine grading, building construction, paving, and architectural coating;
- Direct Emission Sources—Consumption of natural gas on-site for cooking, space heating and water heating, combustion of fossil fuels for lawn care and maintenance activities, and motor vehicles including employee transportation; and
- Indirect Emission Sources—Off-site electricity generation, water conveyance and wastewater treatment, and solid waste disposal.

a. Assembly Bill 900

In September 2011, Governor Brown signed the Act, which required the Governor to establish procedures for applying for streamlined environmental review under the California Environmental Quality Act (CEQA) for projects that meet certain requirements. The Office of Planning and Research (OPR) has provided approved guidelines for submitting applications for streamlined environmental review pursuant to the Act. With respect to GHG emissions, a project must demonstrate that it would not result in any net additional

GHGs including GHG emissions from employee transportation in accordance with Public Resources Code Section 21183(c). For purposes of California Public Resources Code Section 21183(c) the following process applies:

1. The applicant shall submit electronically to AB900ARBsubmittals@arb.ca.gov a proposed methodology for quantifying the project's net additional GHG emissions. The CARB will review and comment on the methodology, at its discretion, within 30 days of submission.
2. At the same time, the applicant shall submit to AB900ARBsubmittals@arb.ca.gov documentation that the project does not result in any net additional GHG emissions. The documentation must at least quantify:
 - a. Both direct and indirect GHG emissions associated with the project's construction and operation, including emissions from the project's projected energy use and transportation related emissions; and
 - b. The net emissions of the project after accounting for any mitigation measures that will be monitored and enforced consistent with Public Resources Code section 21183(d).
3. Within 60 days of receiving the documentation (in Step 2 of the process above), the CARB will determine whether the condition specified in Public Resources section 21183(c) has been met or, if more time is needed, notify the applicant of the expected completion date.
4. The CARB will determine and report to the Governor in writing that a project does not result in any net additional emissions of greenhouse gases if the project demonstrates through a combination of project design features, compliance with (or exceeding minimum requirements of) existing regulations, and mitigation that it would result in zero additional greenhouse gas emissions.

b. Global Climate Change and GHG Emissions

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Global warming, a related concept, is the observed increase in average temperature of the Earth's surface and atmosphere. One identified cause of global warming is an increase of GHGs in the atmosphere. GHGs are those compounds in the Earth's atmosphere that play a critical role in determining the Earth's surface temperature.

By definition, GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃).¹ Carbon dioxide is the most abundant GHG. Other GHGs are less abundant, but have higher global warming potential than CO₂. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO₂, denoted as CO₂e. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. A general description of the GHGs discussed is provided in Table 1 on page 4.

Global Warming Potentials (GWPs) are one type of simplified index based upon radiative properties that can be used to estimate the potential future impacts of emissions of different gases upon the climate system in a relative sense. GWP is based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO₂, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO₂. The larger the GWP, the more that a given gas warms the Earth compared to CO₂ over that time period. A summary of the atmospheric lifetime and GWP of selected gases is presented in Table 2 on page 5. As indicated below, GWP range from 1 to 22,800.

c. Project Description

CRE-HAR Crossroads SPV, LLC, the Project Applicant, proposes to construct a mixed-use development across four City blocks in the Hollywood Community of the City of Los Angeles (the Project Site). The 8.0-acre (348,419-square-foot) Project Site is generally bounded by Selma Avenue to the north; the Blessed Sacrament Catholic Church and School to the east; Sunset Boulevard to the south; and Highland Avenue to the west. The Project Site includes the Crossroads of the World complex (Crossroads of the World), which is a designated City Cultural-Historic Monument (Monument #134) and also appears on the National Register of Historic Places and the California Register of Historical Resources. The Project would retain and rehabilitate Crossroads of the World and remove all other existing uses on the Project Site, including surface parking lots and approximately 172,573 square feet of existing floor area consisting of 84 residential units (including 80 multi-family dwelling units and two duplexes) and commercial/retail and office uses. The Project would integrate Crossroads of the World into a new, mixed-use development that would include eight new mixed-use buildings with residential, hotel, commercial/retail, office, entertainment, and restaurant uses and one additional commercial/retail building. Upon buildout, the Project (including existing uses to be retained within the Crossroads of the World complex) would include approximately 1,432,000 square feet of floor area

¹ As defined by California AB32 and SB104.

Table 1
Description of Identified Greenhouse Gases^a

Greenhouse Gas	General Description
Carbon Dioxide (CO₂)	An odorless, colorless GHG, which has both natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of carbon dioxide are burning coal, oil, natural gas, and wood.
Methane (CH₄)	A flammable gas and is the main component of natural gas. When one molecule of methane is burned in the presence of oxygen, one molecule of carbon dioxide and two molecules of water are released. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.
Nitrous Oxide (N₂O)	A colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. Nitrous oxide 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 in rocket engines, race cars, and as an aerosol spray propellant.
Hydrofluorocarbons (HFCs)	Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane 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 were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. Because they destroy stratospheric ozone, the production of CFCs was stopped as required by the Montreal Protocol in 1987. HFCs are synthetic man-made chemicals that are used as a substitute for CFCs as refrigerants. HFCs deplete stratospheric ozone, but to a much lesser extent than CFCs.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above the earth's surface are able to destroy the compounds. PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.
Sulfur Hexafluoride (SF₆)	An inorganic, odorless, colorless, non-toxic, and nonflammable gas. 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.
Nitrogen Trifluoride (NF₃)	An inorganic, non-toxic, odorless, non-flammable gas. NF ₃ is used in the manufacture of semi-conductors, as an oxidizer of high energy fuels, for the preparation of tetrafluorohydrazine, as an etchant gas in the electronic industry, and as a fluorine source in high power chemical lasers.
<p>^a Greenhouse gases identified in this table are ones identified in the Kyoto protocol and other synthetic gases recently added to the IPCC's Fifth Assessment Report.</p> <p>Source: Association of Environmental Professionals, <i>Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final, June 29, 2007</i>; Environmental Protection Agency, <i>Acute Exposure Guideline Levels (AEGLs) for Nitrogen Trifluoride, January 2009</i>.</p>	

Table 2
Atmospheric Lifetimes and Global Warming Potentials

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide	50–200	1
Methane	12 (+/-3)	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC-14: Tetrafluoromethane (CF ₄)	50,000	6,500
PFC-116: Hexafluoroethane (C ₂ F ₆)	10,000	9,200
Sulfur Hexafluoride (SF ₆)	3,200	23,900
Nitrogen Trifluoride (NF ₃)	740	17,200
<hr/> <i>Source: IPCC, 2007, www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html, accessed August 10, 2016.</i>		

consisting of 950 residential units, 308 hotel rooms, approximately 95,000 square feet of office uses, and approximately 185,000 square feet of commercial/retail uses.

(1) Project Location and Surrounding Uses

The Project Site is located in the Hollywood Community of the City of Los Angeles, approximately 7 miles northwest of downtown Los Angeles and approximately 12 miles east of the Pacific Ocean. A regional map of the Project area is provided in Figure 1 on page 6. The Project Site is irregularly-shaped and consists of 29 individual parcels across four City blocks, as well as Las Palmas Avenue – between Selma Avenue and Sunset Boulevard – that would be re-aligned. As shown in the aerial map in Figure 2 on page 7, the individual parcels are grouped into four Project areas referred to as Development Parcels A, B, C, and D. Generally, the Project Site is bounded by Selma Avenue to the north; the Blessed Sacrament Church and School and associated surface parking to the east; Sunset Boulevard to the south; and Highland Avenue to the west. Development Parcels A, B, and C are located south of Selma Avenue. Development Parcel D is located on the northeastern corner of Selma Avenue and Las Palmas Avenue.

(2) Existing Project Site Conditions

As detailed below, the Project Site is currently developed with various uses, including low-density commercial and office uses in the historic Crossroads of the World

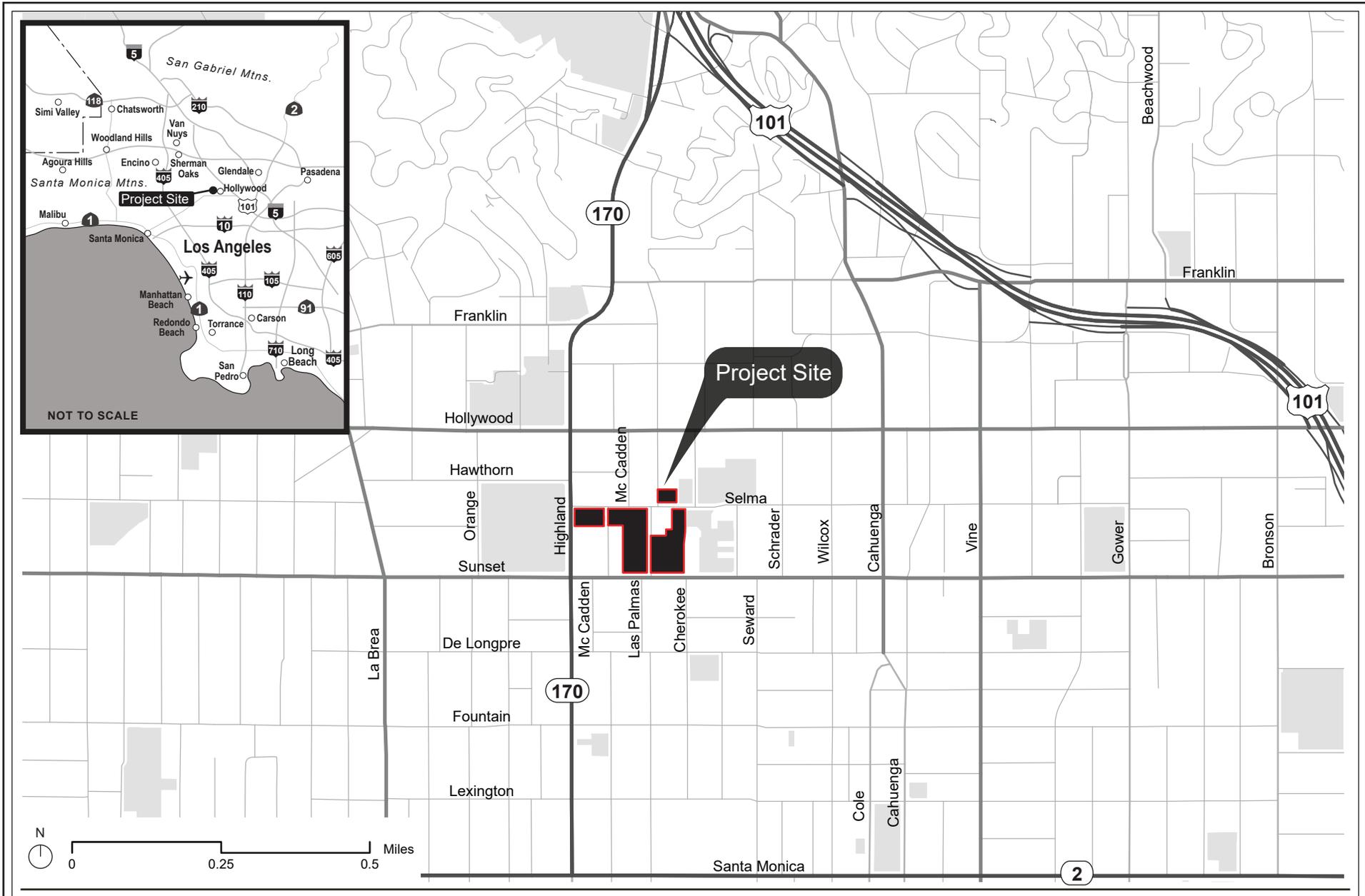


Figure 1
Project Location Map

Source: LA County GIS; Eyestone Environmental, 2015.



Figure 2
 Aerial Photograph of the Project Vicinity

property; two residential duplexes; three two-story, multi-family apartment buildings housing a total of 84 dwelling units; one- and two-story structures used for commercial office and retail uses; and surface parking lots. Existing on-site uses include a total of approximately 154,947 square feet of floor area. Intermittent landscaping is dispersed throughout the Project Site and generally consists of ornamental trees and shrubs. The existing site plan is provided in Figure 3 on page 9.

Development Parcel A of the Project Site includes one- and two-story commercial/retail uses, including a small acting school and music rehearsal store and surface parking areas. Development Parcel B includes a single-story commercial use fronting McCadden Place, two residential duplexes on the south side of Selma Avenue, three two-story multi-family residential buildings along Selma Avenue and Las Palmas Avenue, a small single-story chiropractic office along Las Palmas Avenue, a one- to two-story building consisting of community-serving small retail shops along Sunset Boulevard, and a one- to three-story office building also along Sunset Boulevard.

Existing development on Development Parcel C of the Project Site includes the Crossroads of the World, which is a designated City Cultural-Historic Monument (Monument #134) and also listed on the National Register of Historic Places and the California Register of Historic Resources. The approximate 50,000-square-foot Crossroads of the World complex consists of one- and two-story office, retail and restaurant shops in a variety of architectural styles such as Streamline Moderne, and French-, English-, Moorish- and Spanish-influenced styles. The shops are connected by a series of landscaped walkways with pedestrian entrances on Sunset Boulevard and Las Palmas Avenue; pedestrian access from Selma Avenue has been removed and currently blocked off with a locked wrought iron gate. The complex was designed in 1936 to create an “Old World” Atmosphere and was the City’s first outdoor pedestrian village that included a mix of shopping, dining, and entertainment uses.

Development Parcel C of the Project Site includes a two-story office/retail building west of Crossroads of the World and along Sunset Boulevard, one- and two-story office buildings along Las Palmas Avenue, and a surface parking lot. Existing development on Development Parcel D of the Project Site includes a two-story commercial/retail building and a surface parking lot.

Consistent with Section 15125(a) of the 2016 California Environmental Quality Act (CEQA) Statute and Guidelines, CEQA establishes existing conditions or baseline conditions as the physical environmental conditions at time the Notice of Preparation (NOP) is published. As the Notice of Preparation of an Environmental Impact Report for Crossroads Hollywood was filed on October 22, 2015, the existing conditions or baseline year is considered 2015.

- - - - - Development Parcel Boundary
————— Project Site Boundary

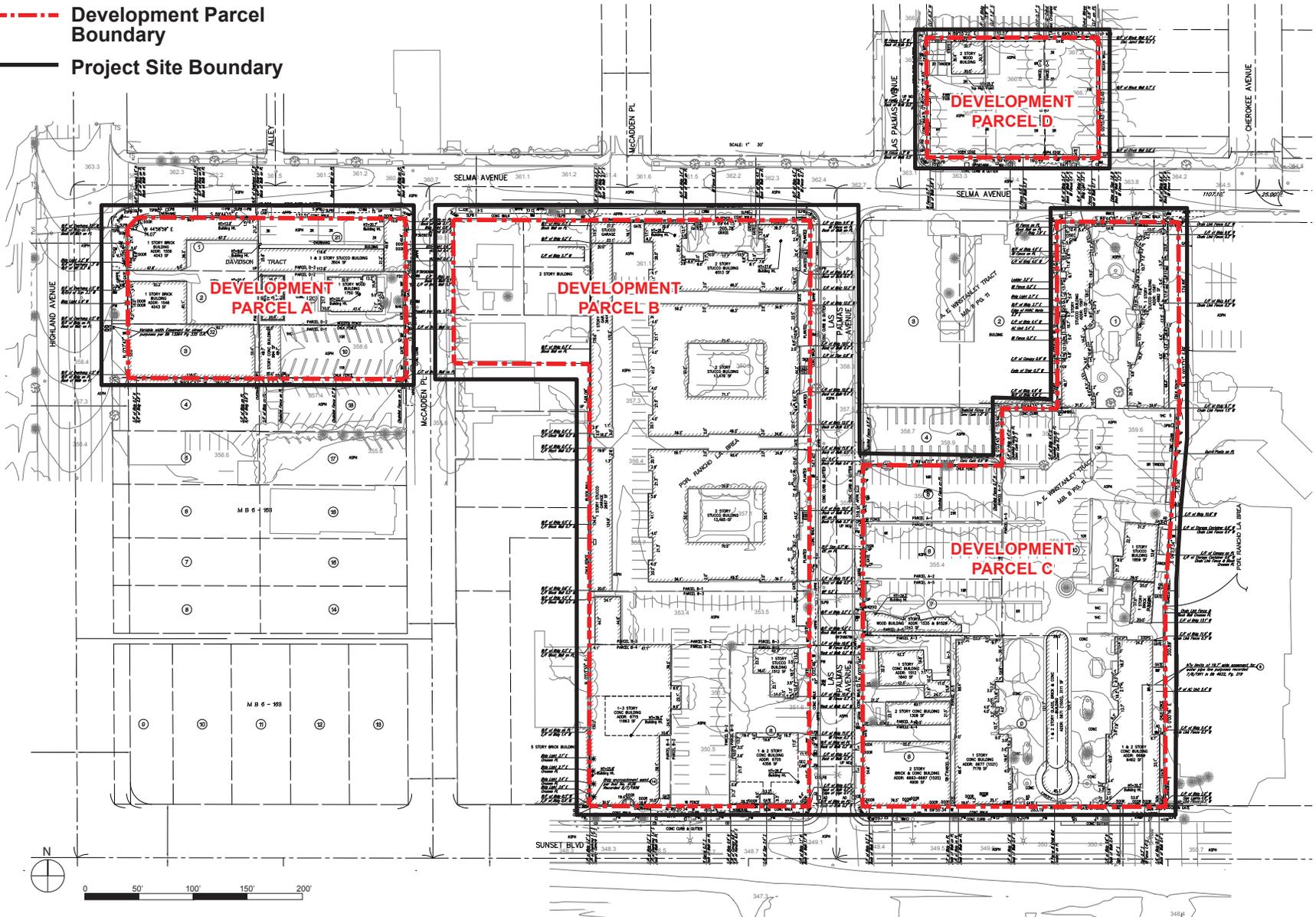


Figure 3
 Existing Site Plan

(3) Project Characteristics

The Project proposes to redevelop the Project Site with a cohesive, mixed-use development that blends the character of Crossroads of the World with a collection of new buildings of modern design and creates an open-air pedestrian district with a mix of shopping, dining, and entertainment uses. Crossroads of the World, which is a designated City Cultural-Historic Monument (Monument #134) and is also listed on the National Register of Historic Places and the California Register of Historical Resources, would be retained, preserved, and rehabilitated as part of the Project. Eighty-four existing residential units (including 80 multi-family dwelling units and two duplexes) and low-density commercial/retail and office uses, as well as surface parking lots, would be demolished and replaced with eight new mixed-use buildings that would include residential, hotel, commercial/retail, office, entertainment, and restaurant uses and one additional small commercial/retail building.

Upon build-out, the Project would include approximately 950 residential units, 308 hotel rooms, approximately 95,000 square feet of office uses, and approximately 185,000 square feet of commercial/retail uses, totaling approximately 1,432,000 square feet of floor area (including existing uses to be retained within the Crossroads of the World complex). The Project would demolish a total of approximately 131,656 square feet of existing development. In total, the Project would result in an increase of approximately 1,259,927 square feet of net new floor area on the Project Site.

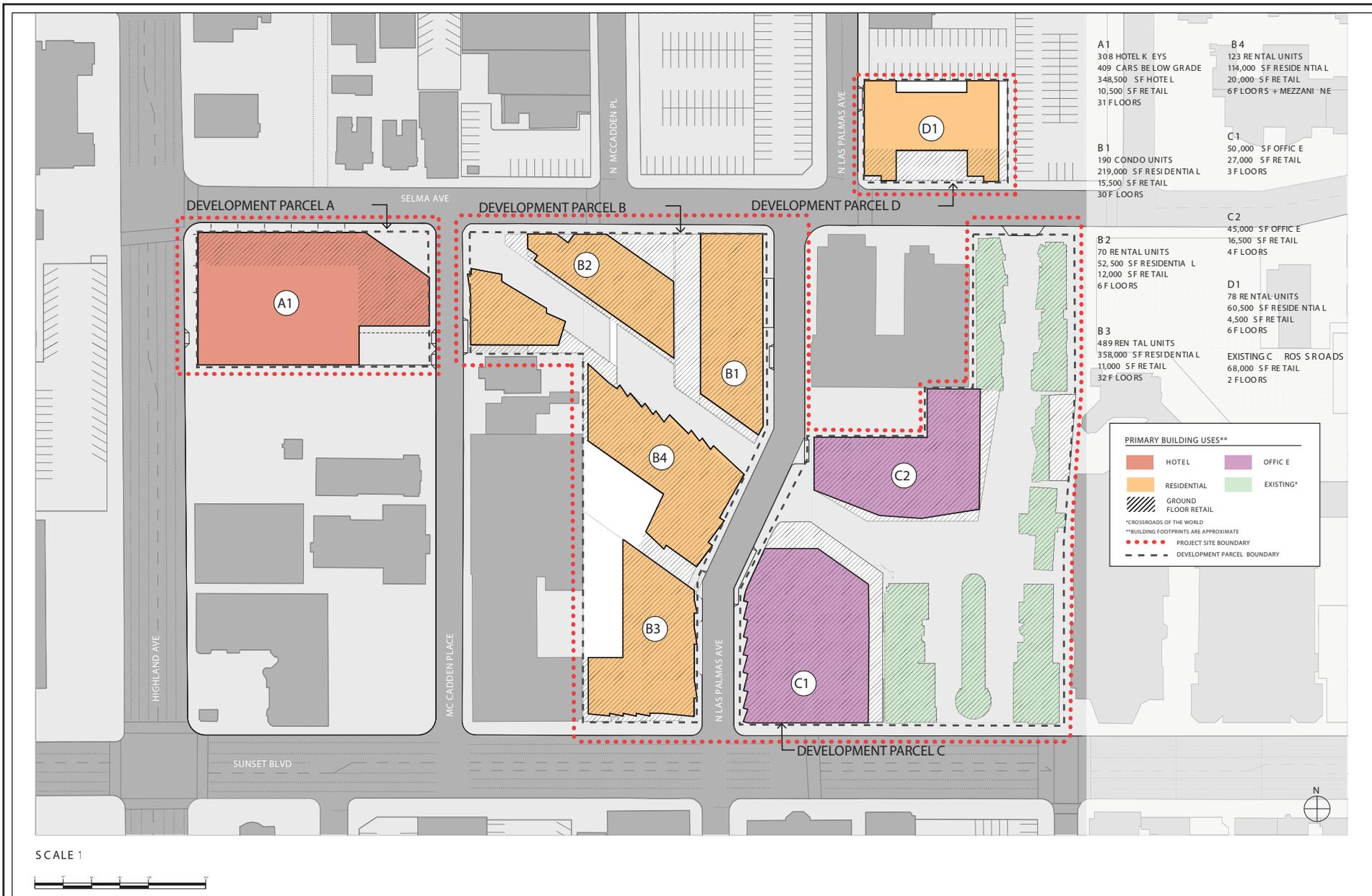
The Project Site includes four areas referred to as Development Parcels A, B, C, and D. The Development Parcels include 10 sub-areas: Parcel A includes Building A1; Parcel B includes Buildings B1, B2, B3, and B4; Parcel C includes Buildings C1, C2, and C3 and Crossroads of the World; and Parcel D includes Building D1. These sub-areas are discussed in further detail below. Table 3 on page 11 provides a summary of the types and sizes of land uses included in the Project. The proposed conceptual site plan is included in Figure 4 on page 12. A conceptual rendering of the Project from Sunset Boulevard is illustrated in Figure 5 on page 13.

(a) Development Parcel A—Hotel Area (Building A1)

The Project would remove all existing land uses on Development Parcel A and construct Building A1, which would be located on the south side of Selma Avenue between Highland Avenue and McCadden Place. Building A1 would consist of an approximately 377,000-square-foot high-rise structure with a 308-room hotel, ancillary meeting rooms, a lobby lounge and bar, a rooftop bar and lounge, and ground floor restaurant and retail uses. Building A1 would be approximately 26 stories tall and would reach a maximum height of approximately 365 feet.

Table 3
Summary of the Proposed Development Areas

Development Area	Land Use	Proposed Development^a
Development Parcel A	Hotel	348,500 sf ^b (308 rm)
	Commercial/Retail	28,500 sf
Development Parcel B	Residential	743,500 sf (190 du condominiums) (682 du rental units)
	Commercial/Retail	58,500 sf
Development Parcel C	Commercial/Retail	93,500 sf
	Office	95,000 sf
Development Parcel D	Residential (Rental)	60,500 sf (78 du rental units)
	Commercial/Retail	4,500 sf
Total Residential (Condominiums + Rental)		804,000 sf 950 du (190 du condominiums) (760 du rental units)
Total Retail		185,000 sf^d
Total Office		95,000 sf
Total Hotel		348,500 sf (308 rm)
Total Proposed Floor Area^c		1,432,500 sf^e
Total Subterranean Parking Area		1,223,700 sf (2,494 parking spaces)
<p><i>sf = square feet</i> <i>du = dwelling unit</i> <i>rm = hotel rooms</i></p> <p>^a Square footages are rounded up to the nearest 500 square feet.</p> <p>^b Hotel square footage includes approximately 39,000 square feet of hotel amenities.</p> <p>^c Except where otherwise noted, square footage is calculated pursuant to the LAMC definition of floor area for the purpose of calculating FAR. In accordance with LAMC Section 12.03, floor area is defined as: “[t]he area in square feet confined within the exterior walls of a building, but not including the area of the following: exterior walls, stairways, shafts, rooms housing building-operating equipment or machinery, parking areas with associated driveways and ramps, space for the landing and storage of helicopters, and basement storage areas.”</p> <p>^d Approximately 83,200 square feet and 40,000 square feet of the proposed retail area would consist of restaurant uses (with a maximum total of 3,376 seats) and a supermarket, respectively.</p> <p>^e Includes the existing Crossroads of the World complex, which would be retained.</p> <p>Source: Skidmore Owings & Merrill, LLP/Rios Clementi Hale Studios, 2016.</p>		



A1 308 HOTEL K EYS 409 CARS BELOW GRADE 348,500 SF HOTEL 10,500 SF RETAIL 31 FLOORS	B4 123 RENTAL UNITS 114,000 SF RESIDENTIAL 20,000 SF RETAIL 6 FLOORS + MEZZANINE
B1 190 CONDO UNITS 219,000 SF RESIDENTIAL 15,500 SF RETAIL 30 FLOORS	C1 50,000 SF OFFICE E 27,000 SF RETAIL 3 FLOORS
B2 70 RENTAL UNITS 52,500 SF RESIDENTIAL 12,000 SF RETAIL 6 FLOORS	C2 45,000 SF OFFICE E 16,500 SF RETAIL 4 FLOORS
B3 489 RENTAL UNITS 358,000 SF RESIDENTIAL 11,000 SF RETAIL 32 FLOORS	D1 78 RENTAL UNITS 60,500 SF RESIDENTIAL 4,500 SF RETAIL 6 FLOORS
	EXISTING CROSROADS 68,000 SF RETAIL 2 FLOORS

Figure 4
Conceptual Site Plan



Figure 5
Conceptual Rendering of the Project from Sunset Boulevard

*(b) Development Parcels B and D—Mixed-Use Residential and Retail Area
(Buildings B1, B2, B3, B4, and D1)*

The Project would remove all existing land uses on Development Parcels B and D and construct a total of five mixed-use residential buildings with ground-floor commercial/retail uses: Buildings B1, B2, B3, B4, and D1. Development Parcel B, consisting of Buildings B1, B2, B3, and B4, would include a total of approximately 872 residential units (190 condominium units and 682 rental units) and approximately 58,500 square feet of commercial/retail uses. Building B1 would consist of 30 floors and would reach a maximum height of approximately 402 feet above grade. Building B2 would consist of 6 floors and would reach a maximum height of approximately 87 feet above grade. Building B3 would consist of 32 floors and would reach a maximum height of approximately 386 feet above grade. Building B4 would consist of six floors in addition to a mezzanine floor and would reach a maximum height of approximately 95 feet above grade. All buildings in Development Parcel B would include ground floor commercial/retail uses with residential units above.

Development Parcel D consists of Building D1, which would include approximately 78 residential units and approximately 4,500 square feet of ground-floor commercial/retail uses. Building D1 would consist of 6 floors and would reach a maximum height of approximately 85 feet above grade.

In total, Development Parcels B and D would have 950 residential units (including 190 condominiums and 760 apartments) and approximately 63,000 square feet of ground-floor commercial/retail uses. Of the 760 apartment units proposed, 84 units would be affordable housing rental units. These affordable housing rental units would replace the existing 84 rent-stabilized units located in Development Parcel B that would be removed.

*(c) Development Parcel C—Commercial Area (Buildings C1 & C2, and C3,
and Crossroads of the World)*

The commercial portion of the Project, consisting of creative office and retail/restaurant uses, would be located in Development Parcel C located east of Las Palmas Avenue and directly adjacent to the historic Crossroads of the World complex. As previously discussed, Crossroads of the World, would be retained and rehabilitated as part of the Project. New development on Development Parcel C would include Buildings C1, C2, and C3, together adding up to approximately 95,000 square feet of office uses and approximately 43,500 square feet of ground-floor retail uses. Building C1 would be three stories tall and would reach a maximum height of approximately 65 feet above grade. Building C2 would consist of two floors and would reach a maximum height of approximately 81 feet above grade. Building C3 would consist of one floor with a maximum height of 19 feet. In total, Development Parcel C would consist of approximately

95,000 square feet of office uses and approximately 93,500 square feet of retail and other commercial uses (including existing uses to be retained within the Crossroads of the World complex).

(d) Parking

All proposed parking for the Project would consist of new subterranean parking garages. Development Parcels A would have six levels of subterranean parking with 307 parking spaces to serve the hotel building on this development parcel. Development Parcels B and C would have five connected/shared levels of subterranean parking with 2,083 parking spaces to accommodate all the uses in Buildings B1, B2, B3, B4, C1, C2, C3, and the Crossroads of the World complex. Development Parcel D would have three levels of subterranean parking with 104 parking spaces to serve the primarily residential building on this development parcel. Vehicle and bicycle parking would be provided in accordance with applicable LAMC requirements. A total of 2,494 vehicle parking spaces would be provided in the three subterranean parking garages, and a total of 1,307 bicycle parking spaces would also be provided.

The Project also proposes to establish a new pedestrian passageway/paseo that would extend diagonally from Sunset Boulevard/Crossroads of the World to the corner of Selma Avenue and Highland Avenue. Additional landscaped public walkways would connect the entire Project Site, while promoting access from Sunset Boulevard, Las Palmas Avenue, Selma Avenue, and McCadden Place.

(e) Landscaping and Open Space

The Project would provide a variety of open space and recreational amenities. The Project would include open space and green space, consisting of a series of integrated walkways that connect the dynamic mixed-use district created by the Project with the Hollywood neighborhood. Proposed additional landscaped public walkways, including 34,786 square feet of the pedestrian paseo, would also promote access and connectivity to and through the Project Site from Sunset Boulevard, Las Palmas Avenue, Selma Avenue, and McCadden Place.

In addition, the Project would also include active and passive recreational spaces, including roof decks and pools, community rooms and recreational facilities, courtyards, landscaped gardens, terraces, and common open space with gathering and seating areas. In total, approximately 108,611 square feet of open space, consisting of approximately 73,411 square feet of common open space and approximately 35,200 square feet of private open space (i.e., balconies), would be provided in accordance with the open space provisions for new residential projects set forth in LAMC Section 12.21.G. Furthermore, the

existing Crossroads of the World courtyards would provide an additional 44,177 square feet of open space.

(f) Project Construction and Scheduling

Project construction would commence with demolition of the existing buildings (excluding Crossroads of the World) and surface parking lots, followed by grading and excavation for the subterranean parking garages. Building foundations would then be placed, followed by building construction, paving/concrete installation, and landscape installation. Project construction is anticipated to occur over approximately 48 months and be completed before 2022. It is estimated that approximately 643,753 cubic yards (cy) of soil would be hauled from the Project Site during the grading and excavation phase, as well as an additional 1,490 cy during off-site improvements to the existing sanitary sewer system related to the re-alignment of Las Palmas Avenue. Haul trucks arriving and leaving the Project Site would travel via one of the following routes: Sunset Boulevard to the Hollywood Freeway; Sunset Boulevard and Highland Avenue to the Hollywood Freeway; or Sunset Boulevard, Highland Avenue, and Santa Monica Boulevard to the Hollywood Freeway.

A Construction Traffic Management Plan and Truck Haul Route Program would be implemented during construction to minimize potential conflicts between construction activity and through traffic. The Construction Traffic Management Plan and Truck Haul Route Program would be subject to LADOT review and approval.

(g) Sustainability Design

The Project would incorporate features to support and promote environmental sustainability. “Green” principles are incorporated throughout the Project to comply with the City of Los Angeles Green Building Code (as amended pursuant to Ordinance No. 181,480 and Ordinance No. 182,849). These include, but are not limited to, energy-efficient buildings, a pedestrian- and bicycle-friendly site design, and water conservation and waste reduction features that would assist the Project to achieve, at a minimum, Silver certification under the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED)-CS[®] or LEED-NC[®] Rating System. The Project would also utilize sustainable planning and building strategies and incorporate the use of environmentally-friendly materials, such as non-toxic paints and recycled finish materials, whenever feasible. Specific sustainability features that are integrated into the Project design to enable the Project to achieve LEED[®] Silver certification are included in Appendix A.

2. Greenhouse Gas Emissions Methodology

The California Climate Action Registry (Climate Registry) General Reporting Protocol provides basic procedures and guidelines for calculating and reporting GHG emissions from a number of general and industry-specific activities.² The General Reporting Protocol is based on the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” developed by the World Business Council for Sustainable Development and the World Resources Institute through “a multi-stakeholder effort to develop a standardized approach to the voluntary reporting of GHG emissions.”³ Although no numerical thresholds of significance have been developed, and no specific protocols are available for land use projects, the General Reporting Protocol provides a basic framework for calculating and reporting GHG emissions from the project. The information provided in this section is consistent with the General Reporting Protocol’s reporting requirements.

The General Reporting Protocol recommends the separation of GHG emissions into three categories that reflect different aspects of ownership or control over emissions. They include the following:

- Scope 1: Direct GHG emissions from human activity (e.g., stationary combustion of fuels, mobile combustion of fuels in transportation).
- Scope 2: Indirect GHG emissions associated with activities of the reporting entity but occur at sources controlled by another entity (e.g., purchased electricity or purchased steam).
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy (e.g., energy used to convey, treat, and distribute water and wastewater).⁴

According to the California Air Resources Board (CARB), the consideration of so-called indirect emissions provides a more complete picture of the GHG footprint of a facility: “As facilities consider changes that would affect their emissions—addition of a cogeneration unit to boost overall efficiency even as it increases direct emissions, for example—the relative impact on total (direct plus indirect) emissions by the facility should be monitored. Annually reported indirect energy usage also aids the conservation awareness of the facility and provides information” to CARB to be considered for future

² *California Climate Action Registry, General Reporting Protocol Version 3.1, January 2009.*

³ *Ibid.*

⁴ *Embodied energy is a scientific term that refers to the quantity of energy required to manufacture and supply to the point of use a product, material, or service.*

strategies by the industrial sector.⁵ Additionally, the Office of Planning and Research directs lead agencies to “make a good-faith effort, based on available information, to calculate, model, or estimate... GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities.”⁶ Therefore, direct and indirect emissions are considered in this assessment.

The California Emissions Estimator Model (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered by the SCAQMD to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.⁷

As discussed above, sustainability features that are integrated into the Project design to enable the Project to achieve LEED[®] Silver certification are included in Appendix A. Although many of the sustainability features provided in Appendix A would serve to reduce GHG emissions, this analysis conservatively only includes measures that are quantifiable.

a. Construction

The Project’s construction emissions were calculated using CalEEMod Version 2013.2.2. CalEEMod calculates emissions from off-road equipment usage and on-road vehicle travel associated with haul, delivery, and construction worker trips. Please refer to Appendix B for detailed construction information (i.e., Construction Equipment and Haul Plan). GHG emissions during construction were forecasted by assuming a conservative start date (i.e., assuming all construction would occur at the earliest feasible date) and applying the mobile-source emissions factors derived from the SCAQMD recommended CalEEMod. The emissions were estimated using the CalEEMod tool, which incorporates the CARB OFFROAD2011 and EMFAC2011 models. These values were applied to the

⁵ *California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (AB 32), (2007).*

⁶ *Office of Planning and Research, Technical Advisory, p. 5.*

⁷ *See www.caleemod.com.*

construction phasing assumptions to generate GHG emissions values for each year of construction activity. The calculations of the emissions generated during Project construction activities reflect the types and quantities of construction equipment that would be used to remove existing uses; grade and excavate the Project Site; construct the proposed building and related improvements; and plant new landscaping within the Project Site.

b. Operation

Similar to construction, the SCAQMD-recommended CalEEMod was used to calculate potential GHG emissions generated by new land uses on the Project Site, including area source, energy sources (electricity and natural gas), mobile source, solid waste generation and disposal, and water usage/wastewater generation.

(1) Area Source Emissions

Area source emissions were calculated using the CalEEMod emissions inventory model, which includes fireplaces and landscape maintenance equipment

CalEEMod calculates GHG emissions associated with natural gas fired fireplaces based on emission factors from the California Climate Action Registry (CCAR) assuming an average heating rate in British Thermal Units (BTU) per hour for fireplaces in homes is 60,000 BTU/hr.⁸ Default values for annual fireplace usage were selected for Los Angeles County.

The combustion of fossil fuels to operate landscape equipment such as lawnmowers and trimmers, results in GHG emissions of CO₂ and smaller amounts of CH₄ and N₂O. The emissions occur on-site and are a direct result of activity from the existing land uses; therefore, the GHG emissions are considered to be direct. The emissions for landscaping equipment are based on the size of the land uses, the GHG emission factors for fuel combustion, and the GWP values for the GHGs emitted. Annual GHG emissions from landscaping equipment in units of MTCO₂e are generally calculated in CalEEMod as follows:

⁸ SCAQMD Rule 445 Staff Report, www.aqmd.gov/hb/2008/March/080337a.html, and SCAQMD Final EA, www.aqmd.gov/ceqa/documents/2008/aqmd/finalEA/FEA445.pdf.

Landscaping Equipment:

$$\text{Annual Emissions [MTCO}_2\text{e]} = (\sum_i (\text{Units} \times \text{EF}_{\text{LE}} \times \text{A}_{\text{LE}} \times \text{GWP})_i) \div 10^6$$

Where: Units = Number of land use units (same land use type) [1,000 sf]

EF_{LE} = GHG emission factor [grams (g)/1,000 sf/day]

A_{LE} = Landscaping equipment operating days per year [day/yr]

GWP = Global warming potential [CO₂ = 1, CH₄ = 21, N₂O = 310]

10⁶ = Conversion factor [g/MT]

i = Summation index

Note: For residential land uses, emission factors are specified in units of dwelling units (DU) instead of 1,000 sf.

CalEEMod uses landscaping equipment GHG emission factors from the CARB OFFROAD2011 model and the CARB *Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment (6/13/2003)*.⁹ CalEEMod estimates that landscaping equipment operate for 250 days per year in the South Coast Air Basin.

(2) Energy Emissions (Electricity and Natural Gas)

GHGs are emitted as a result of activities in buildings when electricity and natural gas are used as energy sources. Combustion of any type of fuel emits CO₂ and other GHGs directly into the atmosphere; when this occurs in a building, it is a direct emission source associated with that building. GHGs are also emitted during the generation of electricity from fossil fuels. When electricity is used in a building, the electricity generation typically takes place off-site at the power plant; electricity use in a building generally causes emissions in an indirect manner.

Energy demand emissions were calculated using the CalEEMod emissions inventory model. Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. CalEEMod calculates energy use from systems covered by Title 24 Building Energy Efficiency Standards (e.g., heating, ventilation, and air

⁹ California Air Resources Board, *OFFROAD Modeling Change Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment, (6/13/2003)*, www.arb.ca.gov/msei/2001_residential_lawn_and_garden_changes_in_eqpt_pop_and_act.pdf, accessed March 2, 2016.

conditioning [HVAC] system, water heating system, and lighting system); energy use from lighting; and energy use from office equipment, appliances, plug-ins, and other sources not covered by Title 24 or lighting.

CalEEMod energy demand is based on the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies.¹⁰ The data is specific for climate zones and, therefore, Zone 11 was selected for the Project Site based on the zip code tool. Since the data from the CEUS is from 2002, CalEEMod incorporates correction factors to account for compliance with the 2008/2010 Title 24 Building Standards Code. However, the model does not account for the 2013 Title 24 Building Standards Code (2013 CalGreen). Thus, an adjustment was made for the Project scenario to account for compliance with 2013 CalGreen. The 2013 CalGreen is anticipated to be 25 percent more efficient than the 2008 Title 24 for residential construction and 30 percent more efficient for nonresidential construction.¹¹ Furthermore, an adjustment was made to account for the 2016 Title 24 standards. The 2016 Title 24 standards would be applicable to the Project as the Project would be built after January 1, 2017, when the 2016 Title 24 standards come into effect. The 2016 Title 24 standards are anticipated to be 28 percent more efficient than the 2013 Title 24 standards for residential construction and five percent more efficient for nonresidential construction.¹² CalEEMod also provides the ability to select electricity and natural gas usage rates that would reflect previous versions of Title 24 Building Standards Code. This assessment conservatively assumes that energy demand for the older buildings on the Project site, most of which were constructed in the early 20th Century, under the Baseline scenario would be consistent with 2005 Title 24 Building Standards Code.

(a) Electricity

Emissions of GHGs associated with electricity demand are based on the size of the residential, commercial and retail land uses, the electrical demand factors for the land uses, the GHG emission factors for the electricity utility provider, and the GWP values for the GHGs emitted. Annual electricity GHG emissions in units of MTCO₂e are calculated as follows:

¹⁰ CEC, *October 2010, Commercial End-Use Survey*, www.energy.ca.gov/ceus/.

¹¹ Website www.energy.ca.gov/releases/2012_releases/2012-05-31_energy_commission_approves_more_efficient_buildings_nr.html.

¹² *State of California Energy Commission, Adoption Hearing, 2016 Building Energy Efficiency Standards*, www.energy.ca.gov/title24/2016standards/rulemaking/documents/2015-06-10_hearing/2015-06-10_Adoption_Hearing_Presentation.pdf, accessed April 7, 2016.

Electricity:

$$\text{Annual Emissions [MTCO}_2\text{e]} = (\sum_i (\text{Units} \times D_E \times EF_E \times \text{GWP})_i) \div 2,204.62$$

Where: Units = Number of land use units (same land use type) [1,000 sf]
 D_E = Electrical demand factor [megawatt-hour (MWh)/1,000 sf/yr]
 EF_E = GHG emission factor [pounds per megawatt-hour (MWh)]
 GWP = Global warming potential [$\text{CO}_2 = 1$, $\text{CH}_4 = 21$, $\text{N}_2\text{O} = 310$]
 2,204.62 = Conversion factor [pounds/MT]
 i = Summation index

Note: For residential land uses, emission factors are specified in units of dwelling units (DU) instead of 1,000 sf.

GHG emissions from electricity use are directly dependent on the electricity utility provider. The Los Angeles Department of Water and Power (LADWP) provides electric service to the Project Site. Thus, GHG intensity factors for LADWP were selected in CalEEMod. Intensity factors for GHGs due to electrical generation to serve the electrical demands of the Baseline Condition were obtained from the LAWDP 2013 Power Integrated Resource Plan, which provides a CO_2 intensity of 1,094 pounds of CO_2 per MWh.¹³ Currently, LADWP provides 20 percent of electricity via renewable sources.¹⁴ By 2020, LADWP is expecting to meet the State's Renewables Portfolio Standard of at least 33 percent of electricity via renewable sources. Based on data obtained from CARB staff, "[i]f an applicant would like to use an EF [emission factor] that represents the state's Renewable Portfolio Standard (RPS) law and growth in electricity demand, the EF of 595 lbs CO_2 /MWh may be used."¹⁵ According to CARB staff, the "EF represents a 'marginal' supply profile for new generation that will be added to the grid in the years 2020 and beyond, and is consistent with the methodology used in state emission rule impact assessments."¹⁶ Therefore, consistent with the CARB staff recommendation, a CO_2

¹³ Los Angeles Department of Water and Power, 2012 Power Integrated Resource Plan, (2012) C-11.

¹⁴ Los Angeles Department of Water and Power, 2013 Power Integrated Resource Plan, (2013) ES-31.

¹⁵ California Air Resources Board, Statewide Emission Factors (EF) For Use With AB 900 Projects, March 2014. The emission factor of 595 lbs CO_2 /MWh is from the California LEV III Initial Statement of Reasons (ISOR, Dec. 7, 2011), www.arb.ca.gov/regact/2012/leviiiighg2012/leviiiighg2012.htm, based on analysis with CA-GREET model. This document is provided in Appendix A.

¹⁶ California Air Resources Board, Statewide Emission Factors (EF) for Use with AB 900 Projects, March 2, 2016.

intensity factor of 595 pounds of CO₂ per MWh was used for electricity emissions for years 2020 through 2029. Senate Bill 350 requires electricity from renewables to increase from 33 percent to 50 percent by 2030. The increase in renewables would reduce the emission factor from 595 lbs CO₂/MWh to 393 lbs CO₂/MWh for 2030 and beyond. Emission factors for CH₄ and N₂O were obtained from the California Emissions Estimator Model (CalEEMod).¹⁷

(b) Natural Gas

As with electricity, the emissions of GHGs associated with natural gas combustion are based on the size of the land uses, the natural gas combustion factors for the land uses in units of million British thermal units (MMBtu), the GHG emission factors for natural gas combustion, and the GWP values for the GHGs emitted. Annual natural gas GHG emissions in units of MTCO₂e were calculated as follows:

Natural Gas:

$$\text{Annual Emissions [MTCO}_2\text{e]} = (\sum_i (\text{Units} \times D_{\text{NG}} \times \text{EF}_{\text{NG}} \times \text{GWP})_i) \div 2,204.62$$

Where: Units = Number of land use units (same land use type) [1,000 sf]
 D_{NG} = Natural Gas combustion factor [MMBtu/1,000 sf/yr]
 EF_{NG} = Natural Gas combustion factor [pounds/MMBtu]
 GWP = Global warming potential [CO₂ = 1, CH₄ = 21, N₂O = 310]
 2,204.62 = Conversion factor [pounds/MT]
i = Summation index

Note: For residential land uses, emission factors are specified in units of dwelling units (DU) instead of 1,000 sf.

The combustion of natural gas results in relatively equal amounts of GHG emissions per unit of gas combusted in the state. Emission factors for GHGs due to natural gas combustion to serve the heating and cooking demands were obtained from the CalEEMod tool, which provides statewide emission factors.¹⁸

¹⁷ California Air Pollution Control Officers Association, *California Emissions Estimator Model*, www.caleemod.com/, accessed March 2, 2016.

¹⁸ California Air Pollution Control Officers Association, *California Emissions Estimator Model*, www.caleemod.com/, accessed March 2014.

(3) Mobile Source Emissions

Mobile-source emissions were calculated using the CalEEMod emissions inventory model. CalEEMod calculates the emissions associated with on-road mobile sources associated with residents, employees, visitors, and delivery vehicles visiting the Project Site based on the number of daily trips generated and vehicle miles traveled (VMT). CalEEMod calculates VMT based on the type of land use, trip purpose, trip type percentages for each land use subtype in the project (primary, diverted, and pass-by). The model assumes that diverted trips are assumed to be 25 percent of the primary trip lengths and pass-by trips are assumed to be 0.1 mile in length and are a result of no diversion from the primary route. The Los Angeles County urban primary trip distance was selected for this analysis. Modeling was also conducted using the Los Angeles County vehicle fleet mix for all vehicle types as provided in EMFAC2011.

Annual mobile source GHG emissions in units of MTCO₂e were generally calculated in CalEEMod as follows:

Mobile:

$$\text{Annual Emissions [MTCO}_2\text{e]} = (\sum_i (\text{Units} \times \text{ADT} \times D_{\text{TRIP}} \times \text{EF} \times \text{GWP})_i) \div 2,204.62$$

Where:	Units	= Number of vehicles (same vehicle model year and class)
	ADT	= Average daily trip rate [trips/day]
	D _{TRIP}	= Trip distance [miles/trip]
	Days	= Number of days per year [days/yr]
	EF	= GHG emission factor [pounds per mile]
	GWP	= Global warming potential [CO ₂ = 1, CH ₄ = 21, N ₂ O = 310]
	2,204.62	= Conversion factor [pounds/MT]
	<i>i</i>	= Summation index

Note: For residential land uses, emission factors are specified in units of dwelling units (DU) instead of 1,000 sf.

Mobile source operational emissions were calculated based on the project trip-generation estimates provided for the Project by Gibson Transportation Consulting, Inc. (Included as Appendix C) and were based on the Institute of Transportation Engineers (ITE)'s *Trip Generation, 9th Edition*. Trip length values were based on the residential and commercial trip distances provided in CalEEMod. The trip distances were applied to the

maximum daily trip estimates for each land use to estimate the total vehicle miles traveled (VMT). The trips take into account VMT reductions from characteristics including the site's proximity to existing public transit and its urban infill location. The estimated VMT reductions were calculated using the equations and methodologies prescribed in the California Air Pollution Control Officers' Association (CAPCOA) guidance document, *Quantifying Greenhouse Gas Mitigation Measures*, which provides VMT reduction values for transportation characteristics and measures.¹⁹ Specific VMT reduction measures for both the Baseline and Project scenarios are discussed in detail in Section 3.b.3, below.

CalEEMod may not adequately reflect future year GHG emissions because it does not incorporate the emission factors for the 2017–2025 vehicle emissions standards. The national policy for fuel efficiency and emissions standards for the United States auto industry requires that new passenger cars and light-duty trucks achieve an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO₂ per mile by model year 2016 (Phase I standards), based on USEPA calculation methods. In August 2012, more stringent phased-in standards were adopted for new model year 2017 through 2025 passenger cars and light-duty trucks. By 2020, new vehicles are projected to achieve 41.7 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 213 grams of CO₂ per mile (Phase II standards). By 2023, new vehicles are projected to achieve 49.4 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 180 grams of CO₂ per mile (Phase II standards). By 2025, new vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO₂ per mile (Phase II standards). CARB staff has provided future year CO₂ emission factors for statewide on-road mobile sources that may be used for AB 900 projects if the project's mobile sources include "all vehicle classifications."²⁰ As discussed above, it was assumed that all vehicle types would visit the site. Therefore, this assessment uses the CO₂ emission factors provided by CARB staff to estimate future year GHG emissions from mobile sources.

(4) Solid Waste Emissions

The generation of municipal solid waste (MSW) from day-to-day operational activities generally consists of product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, plastic, and other items routinely disposed of in trash

¹⁹ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010).

²⁰ California Air Resources Board, *Statewide Emission Factors (EF) for Use with AB 900 Projects*, March 2014.

bins. A portion of the MSW is diverted to waste recycling and reclamation facilities. Waste that is not diverted is usually sent to local landfills for disposal. MSW that is disposed in landfills results in GHG emissions of CO₂ and CH₄ from the decomposition of the waste that occurs over the span of many years.

Emissions of GHGs associated with solid waste disposal were calculated using the CalEEMod emissions inventory model. The emissions are based on the size of the commercial and retail land uses, the waste disposal rate for the land uses, the waste diversion rate, the GHG emission factors for solid waste decomposition, and the GWP values for the GHGs emitted. Annual waste disposal GHG emissions in units of MTCO₂e were calculated in CalEEMod as follows:

Solid Waste:

$$\text{Annual Emissions [MTCO}_2\text{e]} = (\sum_i (\text{Units} \times D_{\text{MSW}} \times EF_{\text{MSW}} \times \text{GWP})_i) \div 1.1023$$

Where: Units = Number of land use units (same land use type) [1,000 sf]

D_{MSW} = Waste disposal rate [tons/1,000 sf/yr]

EF_{MSW} = GHG emission factor [tons/ton waste]

GWP = Global warming potential [CO₂ = 1, CH₄ = 21, N₂O = 310]

1.1023 = Conversion factor [tons/MT]

i = Summation index

Note: For residential land uses, emission factors are specified in units of dwelling units (DU) instead of 1,000 sf.

CalEEMod allows the input of several variables to quantify solid waste emissions. The model requires the amount of waste disposed, which is the product of the waste disposal rate times the land use units. Annual solid waste disposal rates used in CalEEMod are based on data from the California Department of Resources Recycling and Recovery (CalRecycle). The rates were based on statewide averages and the total amount of waste disposed was reduced by the diversion of 50 percent, pursuant to the City of Los Angeles Solid Waste Management Policy Plan, which was adopted by the City to comply with Assembly Bill 939. The GHG emission factors, particularly for CH₄, depend on characteristics of the landfill, such as the presence of a landfill gas capture system and subsequent flaring or energy recovery. The default values, as provided in CalEEMod, for landfill gas capture (e.g., no capture, flaring, energy recovery), which are statewide averages, were used in this assessment.

(5) Water Usage and Wastewater Generation Emissions

GHG emissions are related to the energy used to convey, treat, and distribute water and wastewater. Thus, these emissions are generally indirect emissions from the production of electricity to power these systems. Three processes are necessary to supply potable water and include: (1) supply and conveyance of the water from the source; (2) treatment of the water to potable standards; and (3) distribution of the water to individual users. After use, energy is used as the wastewater is treated and reused as reclaimed water.

Emissions related to water usage and wastewater generation were calculated using the CalEEMod emissions inventory model. The emissions are based on the size of the land uses, the water demand factors, the electrical intensity factors for water supply, treatment, and distribution and for wastewater treatment, the GHG emission factors for the electricity utility provider, and the GWP values for the GHGs emitted. Annual water demand and wastewater GHG emissions due to electricity are calculated in CalEEMod as follows for indoor and outdoor water demand:

Water Supply, Treatment, and Distribution; Wastewater Treatment (electricity):

$$\text{Annual Emissions [MTCO}_2\text{e]} = \frac{(\sum_i (\text{Units} \times D_w \times (EI_w \div 1,000) \times EF_w \times GWP)_i)}{2,204.62}$$

Where:	Units	= Number of land use units (same land use type) [1,000 sf]
	D_w	= Water demand factor [million gallons (Mgal)/1,000 sf/yr]
	EI_w	= Electricity intensity factor [kilowatt-hours (kWh)/Mgal]
	1,000	= Conversion factor [kWh/MWh]
	EF_w	= GHG emission factor [pounds/MWh]
	GWP	= Global warming potential [$\text{CO}_2 = 1$, $\text{CH}_4 = 21$, $\text{N}_2\text{O} = 310$]
	2,204.62	= Conversion factor [pounds/MT]
	i	= Summation index

Note: For residential land uses, emission factors are specified in units of dwelling units (DU) instead of 1,000 sf.

CalEEMod calculates water demand based on annual rates in the Pacific Institute Waste Not Want Not report.²¹ CalEEMod provides options to account for the use of water saving features such as the use of low-flow water fixtures (e.g., low-flow faucets, low-flow toilets). The same electricity GHG emissions factors discussed above were used for water and wastewater energy usage.

The emissions of GHGs associated with wastewater treatment process emissions were also calculated using CalEEMod. The emissions were calculated using the default settings in CalEEMod for the type of wastewater treatment.

(6) Emergency Generator Emissions

Emissions of GHGs associated with use of emergency generators were calculated using Table 3.4-1 (Gaseous Emission Factors for Large Stationary Diesel Engines) from EPA's AP-42: Compilation of Air Pollutant Emission Factors. The emissions are based on the horsepower of the diesel generator and the number of hours operated per year for testing purposes. Annual emergency generator GHG emissions in units of MTCO₂e were calculated as follows:

Emergency Generator:

$$\text{Annual Emissions [MTCO}_2\text{e]} = (\text{Total HP} \times \text{LF} \times \text{HR} \times \text{EF}) \div 2,204.62$$

Where: Total HP = Total horsepower of emergency generators (Hp)

LF = Load Factor (CalEEMod default of 0.73)

HR = Hours Operated per Year

EF = AP-42 Emission Factor of 1.16 lb/hp-hr)

2,204.62 = Conversion factor [pounds/MT]

3. Greenhouse Gas Emissions Calculations

The Project would result in direct and indirect GHG emissions generated by different types of emissions sources, including:

²¹ Gleick, P.H.; Haasz, D.; Henges-Jeck, C.; Srinivasan, V.; Cushing, K.K.; Mann, A. 2003. *Waste Not, Want Not: The Potential for Urban Water Conservation in California*. Pacific Institute for Studies in Development, Environment, and Security. Full report www.pacinst.org/reports/urban_usage/waste_not_want_not_full_report.pdf. Appendices www.pacinst.org/reports/urban_usage/appendices.htm.

- Construction: emissions associated with demolition of the existing parking lot, site preparation, excavation, grading, and construction-related equipment and vehicular activity;
- Area Source: emissions associated with hearths and landscape equipment;²²
- Building operations: emissions associated with space heating and cooling, water heating, energy consumption, and lighting;
- Solid waste: emissions associated with the decomposition of the waste which generates methane based on the total amount of degradable organic carbon; and
- Water: emissions associated with energy used to pump, convey, deliver, and treat water.

A specific discussion regarding potential GHG emissions associated with the construction and operational phases of the Baseline Condition and Project is provided below.

a. Construction

Project construction would commence with demolition of the existing buildings and surface parking lots, followed by excavation and grading for the subterranean parking garages. Building foundations would then be placed, followed by building renovations of the historic Crossroads of the World complex and building construction, paving/concrete installation, and landscape installation. Project construction is anticipated to occur over approximately 48 months and be completed before 2022. It is estimated that approximately 643,753 cubic yards (cy) of soil would be hauled from the Project Site during the excavation and grading phase, as well as an additional 1,490 cy during off-site improvements to the existing sanitary sewer system related to the re-alignment of Las Palmas Avenue. Haul trucks arriving and leaving the Project Site would travel via one of the following routes: Sunset Boulevard to the Hollywood Freeway; Sunset Boulevard and Highland Avenue to the Hollywood Freeway; or Sunset Boulevard, Highland Avenue, and Santa Monica Boulevard to the Hollywood Freeway. Export of material would require approximately 46,100 haul truck trips using 14 cubic yard trucks. It is anticipated that the export of material would be hauled to Scholl Canyon Landfill, which would require a 32-mile round trip. A summary of construction details (e.g., schedule, equipment mix, and

²² *Area source emissions include direct sources of GHG emissions located at the project site (e.g., hearths) with the exception of building operations. For the Project, this would be limited to landscape maintenance equipment.*

vehicular trips) and CalEEMod modeling output files are provided in Appendix B of this assessment. The emissions of GHGs associated with construction of the Project were calculated for each year of construction activity. A summary of GHG emissions for each year of construction is presented in Table 4 on page 31.

b. Operation

(1) Area Source Emissions

Area source emissions were calculated for both the Baseline and Project scenarios. The Project scenario includes a reduction in GHG emissions due to a commitment to limit the use of natural gas fired fireplaces to 20 percent of the proposed residential units. The estimated annual emissions from area sources under Baseline and Project are provided in Table 5 on page 31. Detailed emissions calculations are provided in Appendix C of this assessment.

(2) Energy Emissions (Electricity and Natural Gas)

(a) Electricity

As discussed above in Section 2, Methodology, the Baseline condition assumes that the existing land uses would meet 2005 Title 24 Building Standards Code. This assumption is conservative as most of the existing structures were constructed in the early 20th Century. The estimated annual emissions from electrical demand from the Baseline Condition are provided in Table 6 on page 32. Detailed emissions calculations are provided in Appendix C.

The Project would be designed to incorporate project design features (PDFs) that would reduce its energy demand with the goal of achieving or exceeding the requirements of the State of California Green Building Standards (CALGreen) Code, the City of Los Angeles Green Building Code, and the USGBC LEED Silver rating. Thus, the Project would reduce its electricity demand as compared to the default electricity factors in CalEEMod. The PDFs were accounted for in CalEEMod by selecting the appropriate options in the “mitigation measures” section of the model. A summary of the energy-efficiency PDFs is provided below:

Green Building Measures: The Project would be designed and operated to meet or exceed the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code and achieve the USGBC LEED Silver Certification. The Project would incorporate measures and performance standards to support its LEED Silver Certification, which include but are not limited to the following:

Table 4
Construction-Related Emissions
 (metric tons of CO₂e)

Year	Annual GHG Emissions (MTCO ₂ e/yr)
2018	3,315
2019	2,229
2020	2,180
2021	1,716

^a CO₂e was calculated using CalEEMod and the results are provided in Section 2.0 of the Construction CalEEMod output file within Appendix B of this assessment.

Source: Eyestone Environmental, 2016.

Table 5
Area Source Greenhouse Gas Emissions

GHG Emissions Source	Annual GHG Emissions ^a (MTCO ₂ e/yr)
Baseline (2015)	
Fireplaces	26.8
Landscaping	1.5
Total	28.3
Project (2022)	
Fireplaces ^b	45.9
Landscaping	16.4
Total	62.3

^a CO₂e was calculated using CalEEMod and the results are provided in Section 2.0 of the Operation CalEEMod output file within Appendix C of this assessment.

^b Project scenario reflects a reduction in GHG emissions due to a commitment to limit the use of natural gas fired fireplaces to 20 percent of the proposed residential units.

Source: Eyestone Environmental, 2016.

Table 6
Electrical Demand Greenhouse Gas Emissions^a

Land Use	Units (sf, rm or du)	Annual Electrical Demand Factor (MWh/ 1,000 sf/year)	Annual Electrical Demand (MWh/year)	Annual GHG Emissions ^a (MTCO ₂ e/yr) ^d
Baseline (2015)^b				
Apartments (Low Rise)	84 du	3,612	303	151
Office	79,107 sf	15.2	1,206	600
Restaurant	475 sf	48.3	23	11
Retail	26,690 sf	16.0	426	212
Parking Lot	137,600 sf	0.9	121	60
Total Baseline (2015)			2,079	1,034
Project (2022)^c				
Apartments High Rise	760 du	3,382.7	2,5719	697
Condominiums High Rise	190 du	4,235.2	805	218
Hotel (Rooms)	348,500 sf	7.4	2,582	700
Office	95,000 sf	12.6	1,193	323
Restaurant (High Quality)	41,600 sf	43.4	1,807	490
Restaurant (High Turnover)	41,600 sf	43.4	1,807	490
Retail	61,800 sf	13.5	832	225
Supermarket	40,000 sf	37.3	1,491	404
Parking Structure	1,223,700 sf	2.9	3,573	968
Total Project (2022)			16,662	4,515
Reduction Measures				
135 kW of Photovoltaic Panels ^e			(188)	(56)
15% Below Title 24 2016, Use of Energy Efficient Lighting (25%), and Energy Star–Labeled Products and Appliances			(2,343)	(635)
Total Project (2022) less Reduction Measures			14,131	3,825
<hr/> <p><i>du = dwelling units</i> <i>sf = square feet</i> <i>rm = rooms</i></p> <p>^a Totals may not add up exactly due to rounding in the modeling calculations.</p> <p>^b The Baseline condition conservatively assumed that energy demand for the older buildings on the Project site, most of which were constructed in the early 20th Century, would meet the 2005 Title 24 Building Standards Code.</p> <p>^c The Project scenario assumed that energy demand would comply with the 2016 Title 24 Building Standards Code. CalEEMod default values only account for compliance with 2008 Title 24. Therefore, energy usage was reduced as follows: 2013 Standards reduce Title 24 energy requirements by 25 percent for residential and 30 percent for non-residential (www.energy.ca.gov/releases/2012_releases/2012-05-31_energy_commission_approves_more_efficient_buildings_nr.html and 2016</p>				

Table 6 (Continued)
Electrical Demand Greenhouse Gas Emissions

Land Use	Units (sf, rm or du)	Annual Electrical Demand Factor (MWh/ 1,000 sf/year)	Annual Electrical Demand (MWh/year)	Annual GHG Emissions ^a (MTCO ₂ e/yr) ^d
<p><i>Standards reduce Title 24 electricity requirements by 28 percent for residential and 5 percent for non-residential (www.energy.ca.gov/title24/2016standards/rulemaking/documents/2015-06-10_hearing/2015-06-10_Adoption_Hearing_Presentation.pdf, accessed April 7, 2016.).</i></p> <p>^d <i>Energy calculation worksheets are provided in Appendix C. CO₂e was calculated using CalEEMod, and the results are provided in Section 2.0 of the Operation CalEEMod output file within Appendix C of this assessment. The CalEEMod output for the unmitigated condition reflects consistency with 2016 Title 24 Standards. The mitigated condition reflects the reduction in energy usage from LEED Silver (i.e., 15 percent below 2016 title 24, use of energy efficient lighting, and Energy Star–labeled products and Appliances).</i></p> <p>^e <i>The Project shall provide the equivalent of 135 kilowatts of photovoltaic panels on the Project site. Reduction in energy usage from 135 kW of photovoltaic solar panels (187,690 kWh/year at Statewide average of 595 lbs of CO₂e per kW generated).</i></p> <p><i>Source: Eyestone Environmental, 2016.</i></p>				

- The Project would implement a construction waste management plan to recycle and/or salvage a minimum of 75 percent of nonhazardous construction debris or minimize the generation of construction waste to 2.5 pounds per square foot of building floor area. (LEED Materials and Resources Credit 5 [v4]²³);
- The Project would be designed to optimize energy performance and reduce building energy cost by 15 percent for new construction compared to ASHRAE 90.1-2010, Appendix G and the 2016 Title 24 Building Standards Code. (LEED Energy and Atmosphere Credit 2 [v4]);
- The Project would use of Energy Star–labeled products and appliances, including dishwashers in the residential units, where appropriate.
- The Project would use of light emitting diode (LED) lighting or other energy-efficient lighting technologies, such as occupancy sensors or daylight harvesting and dimming controls, where appropriate, to reduce electricity use.
- The Project shall provide the equivalent of 135 kilowatts of photovoltaic panels on the Project site.

²³ The bracketed text “v4” denotes version 4 of the LEED Building Design and Construction credits.

Project lighting would be energy efficient, effective and aesthetically pleasing and would minimize light trespass from the Project Site. All on-site exterior lighting would be automatically controlled to illuminate only when necessary and would be shielded or directed toward areas to be illuminated and, thereby, limit spillover onto nearby residential areas. In addition, all interior lighting would be equipped with occupancy sensors that would automatically extinguish and/or dim lights when not in use. Electricity from lighting would also be reduced consistent with the Energy Independence and Security Act, which requires approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014.

While this analysis does not account for installation of electric vehicle supply equipment (EVSE), the Project Applicant shall provide at least twenty (20) percent of the total code-required parking spaces provided for all types of parking facilities, but in no case less than one location, shall be capable of supporting future EVSE.

The estimated annual emissions from electrical demand from the Project are provided in Table 6 on page 32. Detailed emissions calculations are provided in Appendix C.

(b) Natural Gas

As discussed above in Section 2, Methodology, the Baseline condition assumes that the existing land uses would meet 2005 Title 24 Building Standards Code. This assumption is conservative as many of the existing structures were built well before 2005. The estimated annual emissions from natural gas demand from the Baseline Condition are provided in Table 7 on page 35. Detailed emissions calculations are provided in Appendix C.

The Project would be designed to incorporate PDFs that would reduce its energy demand with the goal of achieving or exceeding the requirements of the State of California Green Building Standards (CALGreen) Code, the City of Los Angeles Green Building Code, and the USGBC LEED Silver rating. Thus, the Project would reduce its natural gas demand as compared to the default electricity factors in CalEEMod. The PDFs were accounted for in CalEEMod by selecting the appropriate options in the “mitigation measures” section of the model.

The Project would be designed to incorporate PDFs that would reduce its natural gas demand with the goal of achieving or exceeding the requirements of the CALGreen Code, the City of Los Angeles Green Building Code, and the USGBC LEED Silver rating. Thus, the Project would reduce its natural gas demand as compared to the default natural

Table 7
Natural Gas Combustion Greenhouse Gas Emissions

Land Use	Units (sf, rm, or du)	Annual Natural Gas Demand Factor ^a (KBtu/ sf/year)	Annual Natural Gas Demand ^a (MMBtu/year)	Annual GHG Emissions (MTCO ₂ e/yr) ^d
Baseline (2015)^b				
Apartments (Low Rise)	84 du	14,251.6	1,197	64
Office	79,107 sf	12.4	984	53
Restaurant	475 sf	234.4	111	6
Retail	26,690 sf	1.8	49	3
Parking Lot	137,600 sf	0	0	0
Total Baseline (2015)			2,341	126
Project (2022)^c				
Apartments High Rise	760 du	5,530.4	4,203	226
Condominiums High Rise	190 du	13,676.8	2,599	140
Hotel (Rooms)	348,500 sf	18.7	6,527	350
Office	95,000 sf	7.8	738	40
Restaurant (High Quality)	41,600 sf	219.4	9,129	490
Restaurant (High Turnover)	41,600 sf	219.4	9,129	490
Retail	61,800 sf	1.3	83	4
Supermarket	40,000 sf	19.5	780	42
Parking Structure	1,223,700 sf	0	0	0
Total Project (2022)			33,187	1,7812
Reduction Measures				
15 Percent Below Title 24 2016, Use of Energy Efficient Lighting (25 Percent), and Energy Star–Labeled Products and Appliances			(2,062)	(111)
Total Project (2022) less Reduction Measures			31,125	1,671
<hr/> <i>du = dwelling units</i> <i>rm = rooms</i> <i>sf = square feet</i> ^a Totals may not add up exactly due to rounding in the modeling calculations. ^b The Baseline condition conservatively assumed that energy demand for the older buildings on the Project site, most of which were constructed in the early 20th Century, would meet the 2005 Title 24 Building Standards Code. ^c The Project scenario assumed that natural gas demand would comply with the 2016 Title 24 Building Standards Code. CalEEMod default values only account for compliance with 2008 Title 24. Therefore, natural gas usage was reduced as follows: 2013 Standards reduce Title 24 energy requirements by 25 percent for residential and 30 percent for non-residential (www.energy.ca.gov/releases/2012_releases/2012-05-31_energy_commission_approves_more_efficient_buildings_nr.html). ^d Natural gas calculation worksheets are provided in Appendix C. CO ₂ e was calculated using CalEEMod,				

Table 7 (Continued)
Natural Gas Combustion Greenhouse Gas Emissions

Land Use	Units (sf, rm, or du)	Annual Natural Gas Demand Factor ^a (KBtu/ sf/year)	Annual Natural Gas Demand ^a (MMBtu/year)	Annual GHG Emissions (MTCO ₂ e/yr) ^d
<p><i>and the results are provided in Section 2.0 of the Operation CalEEMod output file within Appendix C of this assessment. The CalEEMod output for the unmitigated condition reflects consistency with 2016 Title 24 Standards. The mitigated condition reflects the reduction in energy usage from LEED Silver (i.e., 15 percent below 2016 title 24 and Energy Star-labeled products and appliances).</i></p> <p>Source: Eyestone Environmental, 2016.</p>				

gas factors in CalEEMod. The PDFs were accounted for in the CalEEMod tool by selecting the appropriate options in the “mitigation measures” section of the model.

The estimated annual emissions from natural gas combustion from the Project are provided in Table 7 on page 35. Detailed emissions calculations are provided in Appendix C.

(3) Mobile Source Emissions

Emissions of GHGs from motor vehicles are dependent on model years and the specific types of vehicles that are used to travel to and from the existing Project Site. The emissions were calculated using a representative motor vehicle fleet mix for year 2015 as provided in CalEEMod. The estimated annual emissions from mobile sources from the Baseline Condition are provided in Table 8 on page 37. Detailed emissions calculations are provided in Appendix C.

The Project represents an infill development within an existing urbanized area that would concentrate new residential, office, and neighborhood serving commercial uses within a High-Quality Transit Area (HQTA), which is defined in SCAG’s 2012–2035 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours. The Project site is located approximately 0.13 mile from the Metro Red Line Station at Hollywood Boulevard and Highland Avenue. As such, the Project Site’s location would support the use of public transportation and a reduction in vehicle miles traveled by Project residents.

The Project would incorporate characteristics and PDFs that would reduce trips and VMT as compared to standard ITE trip generation rates. The Project characteristics listed

Table 8
Mobile Source Greenhouse Gas Emissions

Condition	Fleet Mix Year (All Vehicle Classes)	Estimated Annual VMT	CO₂ Emission Factor (grams/mile)	Annual GHG Emissions^a (MTCO₂e/year)
Baseline (2015)	2015	4,857,412	CalEEMod ^a	2,295
Project (Buildout)	2022	29,191,797	400	11,677
	2023	29,191,797	391	11,414
	2024	29,191,797	384	11,210
	2025–Beyond	29,191,797	375	10,947

^a Mobile source GHG emissions for 2015 are based on the direct model result output from CalEEMod.
Source: Eyestone Environmental, 2016.

below are consistent with the CAPCOA guidance document, *Quantifying Greenhouse Gas Mitigation Measures*,²⁴ which provides emission reduction values for recommended mitigation measures, and would reduce VMT and vehicle trips to the Project site by approximately 45 percent compared to a development without these characteristics. They would therefore result in a corresponding reduction in VMT and associated GHG emissions.

- **Increase Density (LUT-1):** Increased density, measured in terms of persons, jobs, or dwelling units per unit area, reduces emissions associated with transportation as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies, such as enhanced transit services. The Project would increase the site density from 11 dwelling units per acre and 10 jobs per acre to approximately 119 dwelling units per acre and 208 jobs per acre.
- **Increase Location Efficiency (LUT-2):** Location efficiency describes the location of the Project relative to the type of urban landscape, such as an urban area, compact infill, or suburban center. In general, compared to the statewide average, a project could realize VMT reductions up to 65 percent in an urban area, up to 30 percent in a compact infill area, or up to 10 percent in a suburban center from land use/location strategies. The Project Site represents an urban/compact infill location within the Hollywood community of the City of Los Angeles. The Project Site is served by existing public transportation located

²⁴ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010).

within 0.25 mile. The Project Site is also located within the Hollywood Center, which is generally located on both sides of Hollywood and Sunset Boulevards between La Brea Avenue and Gower Street.²⁵ The Community Plan calls for the Hollywood Center to function as: (1) the commercial center for Hollywood and surrounding communities; and (2) an entertainment center for the entire region. The Community Plan further states that development, combining residential and commercial uses, is especially encouraged in the Hollywood Center. The location efficiency of the Project Site would result in benefits that would reduce vehicle trips and VMT compared to the statewide average and would result in corresponding reductions in transportation-related emissions for both the Baseline and Project conditions.

- **Increase Diversity of Urban and Suburban Developments (Mixed-Uses) (LUT-3):** The Project would co-locate complementary commercial and residential land uses in proximity to other existing off-site commercial and residential uses. The Project would also introduce new uses on the Project Site, including a new hotel and increase in open space. The increases in land use diversity and mix of uses on the Project Site would reduce vehicle trips and VMT by encouraging walking and non-automotive forms of transportation, which would result in corresponding reductions in transportation-related emissions.
- **Increased Destination Accessibility (LUT-4):** The Project would be located in an area that offers access to multiple other nearby retail and entertainment destinations, including Hollywood & Highland Center located approximately 0.13 mile to the northwest of the Project Site. In addition, the Project Site is located within 5.5 miles of Downtown Los Angeles, a primary job center, also easily accessible by public transportation (including the Metro Red Line, which connects the Hollywood/Highland Station to several stations in Downtown Los Angeles and North Hollywood). The access to multiple destinations in proximity to the Project Site would reduce vehicle trips and VMT compared to the statewide average and encourage walking and non-automotive forms of transportation and would result in corresponding reductions in transportation-related emissions for both the Baseline and Project conditions.
- **Increase Transit Accessibility (LUT-5):** The Project would be located approximately 0.13 mile from the Metro Red Line Hollywood/Highland Station and along several Metro transit and DASH routes. This reduction measure is applicable for both the Baseline and Project conditions. The Project would also provide adequate bicycle parking spaces for residential and commercial uses to encourage utilization of alternative modes of transportation.

²⁵ City of Los Angeles, *Hollywood Community Plan, December 13, 1988, p. HO-2.*

- **Integrate Affordable and Below Market Rate Housing (LUT-6):** Below market rate housing provides greater opportunity for people to live closer to job centers and to accommodate more people in urban infill areas. The Project would include 84 below market rate dwelling units, which would result in an increase in alternative transit usage and a corresponding reduction in transportation-related emissions as income has a statistically significant effect on the probability that a commuter would take transit or walk to work.
- **Improve Design of Development (LUT-9):** The project would include improved design elements including developing ground floor retail, pedestrian paseos, open space and improved streetscape which would enhance walkability in the project vicinity. The Project would also locate a development in an area with 113 intersections per square mile which improves street accessibility and connectivity. This reduction measure is applicable for both the Baseline and Project conditions.
- **Provide Pedestrian Network Improvements (SDT-1):** Providing pedestrian access that minimizes barriers and links the Project Site with existing or planned external streets encourages people to walk instead of drive. The Project would provide an internal pedestrian network that links to the existing off-site pedestrian network including existing off-site sidewalks, to encourage and increase pedestrian activities in the area, which would further reduce VMT and associated transportation-related emissions. Furthermore, the Project would result in an improved and aesthetically appealing streetscape that would promote pedestrian activity, particularly between the Metro Red Line Hollywood/Highland Station and the Hollywood & Highland Center and the Project Site, and enhance the urban lifestyle of the surrounding neighborhood.
- **Traffic Calming Measures (SDT-2):** Providing traffic calming measures encourages people to walk or bike instead of using a vehicle. This mode shift results in a decrease in VMT. Streets within 0.5 mile of the Project Site are equipped with sidewalks, and approximately 25 percent of the intersections include marked crosswalks and/or count-down signal timers.

The estimated annual emissions from mobile sources from the Project are provided in Table 8 on page 37. Detailed emissions calculations are provided in Appendix C.

(4) Solid Waste Emissions

Emissions of GHGs associated with solid waste disposal were calculated using the CalEEMod emissions inventory model. The emissions are based on the size of the commercial and retail land uses, the waste disposal rate for the land uses, the waste diversion rate, the GHG emission factors for solid waste decomposition, and the GWP values for the GHGs emitted. Annual solid waste disposal rates used in CalEEMod are based on data from the California Department of Resources Recycling and Recovery

(CalRecycle). The rates were based on statewide averages and the total amount of waste disposed was reduced by the diversion rate of 50 percent, pursuant to the City of Los Angeles Solid Waste Management Policy Plan, which was adopted by the City to comply with Assembly Bill 939. The estimated annual emissions from solid waste disposal from the Baseline Condition and Project are provided in Table 9 on page 41. Detailed emissions calculations are provided in Appendix C.

(5) Water Usage and Wastewater Generation Emissions

The Baseline condition assumes that the existing land uses would not include any reductions in indoor and outdoor water usage in comparison to CalEEMod default usage rates. This assumption is conservative based on the age of many of the existing structures on the Project site. The estimated annual emissions from water and wastewater from the Baseline Condition are provided in Table 10 on page 42. Detailed emissions calculations are provided in Appendix C.

The Project would be designed to incorporate PDFs that would reduce its indoor and outdoor water usage with the goal of achieving or exceeding the requirements of the State of California Green Building Standards (CALGreen) Code, the City of Los Angeles Green Building Code, and the USGBC LEED Silver rating. Thus, the Project would reduce its indoor and outdoor water usage as compared to the default factors in CalEEMod. The PDFs were accounted for in CalEEMod by selecting the appropriate options in the “mitigation measures” section of the model. A summary of the water-efficiency PDFs is provided below:

- The Project would reduce indoor water use by a minimum of 35 percent by installing water fixtures that exceed applicable standards.
- The Project would reduce outdoor water use by a minimum of 50 percent from the calculated baseline at peak watering month by installing efficient irrigation.

The estimated annual emissions from water and wastewater from the Project are provided in Table 10. Detailed emissions calculations are provided in Appendix C.

(6) Emergency Generator Emissions

The Project would include eight emergency generators with a combined rating of 6,355 kilowatts or 8,519 horsepower. The equipment would be operated approximately once per month for 30 minutes for routine maintenance and testing purposes. The estimated annual emissions from emergency generators would be approximately 22 MT/CO₂e per year. Detailed emissions calculations are provided in Appendix C.

Table 9
Baseline Condition Solid Waste Disposal Greenhouse Gas Emissions

Land Use	Waste Disposal Rate (tons/yr)	Waste Disposal Rate after 50% Diversion ^b (tons/yr)	Annual GHG Emissions ^{a,c} (MTCO ₂ e/yr)
Baseline (2015)			
Apartments (Low Rise)	38.6	19.3	8.8
Office	73.6	36.8	16.7
Restaurant	5.7	2.9	1.3
Retail	28	14	6.4
Parking Lot (Spaces)	0	0	0
Total Baseline (2015)			33.2
Project (2022)			
Apartments High Rise	349.6	174.8	79.5
Condominiums High Rise	87.4	43.7	19.9
Hotel (Rooms)	168.6	84.3	38.4
Office	88.34	44.2	20.1
Restaurant (High Quality)	38	19	8.6
Restaurant (High Turnover)	495	247.5	112.6
Retail	64.9	32.4	14.8
Supermarket	225.6	112.8	51.3
Parking Structure (Spaces)	0	0	0
Total Project (2022)			345.2
<p>^a Totals may not add up exactly due to rounding in the modeling calculations.</p> <p>^b The rates were based on statewide averages and the total amount of waste disposed was reduced by the diversion rate of 50%, pursuant to the City of Los Angeles Solid Waste Management Policy Plan, which was adopted by the City to comply with Assembly Bill 939.</p> <p>^c CO₂e was calculated using CalEEMod and the results are provided in Section 2.0 of the Operation CalEEMod output file within Appendix C of this assessment.</p>			
Source: Eyestone Environmental, 2016.			

(7) Summary of GHG Emissions and Comparison to Baseline Condition

Table 11 on page 43 provides a summary of the determination of net additional GHG emissions comparing the existing site GHG emissions and the Project GHG emissions. As shown in Table 11, the Project site generates approximately 3,757 metric tons of carbon dioxide equivalents (MTCO₂e) per year under the Baseline Condition. This excludes any one-time construction GHG emissions that were generated when the existing

Table 10
Baseline Condition Water and Wastewater Greenhouse Gas Emissions

Land Use	Indoor Water Demand ^{a,b} (Mgal/yr)	Outdoor Water Demand ^{a,b} (Mgal/yr)	Annual GHG Emissions ^{a,c} (MTCO ₂ e/yr)
Baseline (2015)			
Apartments (Low Rise)	5.5	3.5	61.3
Office	14.1	8.6	156.1
Restaurant	0.2	<0.1	1.2
Retail	2.0	1.2	22.0
Parking Lot (Spaces)	0	0	0
Total Baseline (2015)			240.5
Project (2022)			
Apartments High Rise	32.2	15.6	196.5
Condominiums High Rise	8.1	3.9	49.1
Hotel (Rooms)	5.1	0.4	24.9
Office	11.0	2.2	66.6
Restaurant (High Quality)	8.2	0.4	39.4
Restaurant (High Turnover)	8.2	0.4	39.4
Retail	3.0	1.4	18.1
Supermarket	3.2	<0.1	15.1
Parking Structure (Spaces)	0	0	0
Total Project (2022)			449.0
<p>^a Totals may not add up exactly due to rounding in the modeling calculations.</p> <p>^b The Project would be designed to incorporate PDFs that would reduce its water usage with the goal of achieving or exceeding the requirements of USGBC LEED Silver rating (i.e., reduce indoor water use by a minimum of 35% by installing water fixtures that exceed applicable standards and 50% from the outdoor water calculated baseline at peak watering month by installing efficient irrigation).</p> <p>^c CO₂e was calculated using CalEEMod and the results are provided in Section 2.0 of the Operation CalEEMod output file within Appendix C of this assessment.</p>			
Source: Eyestone Environmental, 2016.			

uses and related infrastructure were originally built. Construction of the Project would generate one-time GHG emissions of approximately 3,314 MTCO₂e per year during the first year, 2,229 MTCO₂e during the second year, 2,180 MTCO₂e per year during the third year, and 1,716 MTCO₂e during the fourth year. At Project buildout (2022), the Project Site would generate approximately 18,051 MTCO₂e during the first full year of operation. Future year emissions would decline as a greater percentage of motor vehicles meet more stringent emissions standards, including the Pavley Phase I and Phase II emissions

Table 11
Summary of Annual GHG Emissions (MTCO₂e/yr)

GHG Emission Source	2018	2019	2020	2021	2022	2023	2024	2025–2029	2030–2051
Baseline (2015)									
Area					28	28	28	28	28
Energy					1,160	1,160	1,160	1,160	1,160
Mobile					2,296	2,296	2,296	2,296	2,296
Waste					33	33	33	33	33
Water					241	241	241	241	241
Total Baseline (2015)					3,757	3,757	3,757	3,757	3,757
Project									
Construction	3,314	2,229	2,180	1,716	0	0	0	0	0
Area					62	62	62	62	62
Energy					5,496	5,496	5,496	5,496	4,184
Mobile					11,677	11,414	11,210	10,947	10,947
Waste					345	345	345	345	345
Water					449	449	449	449	330
Emergency Generators					22	22	22	22	22
Total Project	3,314	2,229	2,180	1,716	18,051	17,788	17,583	17,321	15,890
Project less Baseline	3,314	2,229	2,180	1,716	14,294	14,031	13,826	13,564	12,133
Voluntary Carbon Credits^a	(3,314)	(2,229)	(2,180)	(1,716)	(14,294)	(14,031)	(13,826)	(13,564)	(12,133)
Difference	0	0	0	0	0	0	0	0	0
Exceed Baseline?	No	No	No	No	No	No	No	No	No
<p>^a Total voluntary carbon credits required for the life of the Project (30 years) equal 374,209 MT CO₂e. Source: Eyestone Environmental, 2016.</p>									

standards, and power companies meet the 50 percent Renewables Portfolio Standard. In 2030, annual Project emissions would be reduced to approximately 15,890 MTCO₂e. As shown in Table 11 on page 43, the Project would commit to purchase voluntary carbon credits for the life of the Project. Consistent with SCAQMD's definition of the "life of the project" for CEQA GHG purposes, provided in SCAQMD's Governing Board Agenda Item 31, December 5, 2008, the Project would be required to offset 374,209 MT CO₂e over a 30-year lifetime. The SCAQMD recommends that offsets should have a 30-year project life, should be real, quantifiable, verifiable, and surplus and will be considered in the following prioritized manner: (1) project design feature/on-site reduction measures; (2) off-site within neighborhood; (3) off-site within district; (4) off-site within state; and (5) off-site out of state.

(8) Method to Offset Emissions

The Project Sponsor agreed to meet the requirement set forth in California Public Resources Code Section 21183, subdivision (c) to demonstrate that the Project would result in no net additional GHG emissions through the purchase of voluntary carbon credits sufficient to offset all projected additional GHG emissions. A copy of the commitment letter is provided in Appendix A.

Notably, the commitments to enter into contracts to offset net additional GHG emissions will be incorporated as an improvement measure in the Final EIR for the Project. All improvement measures will be enforceable through the Project's Mitigation Monitoring and Reporting Program (MMRP), which represents a binding and enforceable agreement between the Project Sponsor and the lead agency (City of Los Angeles).

Based on this assessment, the Project would not result in any net additional GHGs, including GHG emissions from employee transportation, in accordance with Public Resources Code Section 21183(c) with the purchase of voluntary carbon credits. Therefore, the Project would meet the GHG emissions requirements for streamlined environmental review under CEQA.

Appendix A

Commitment Letter and LEED Measures



Crossroads Hollywood

Application for CEQA Streamlining

Appendix A, Commitment Letter and LEED Measures

- Commitment Letter
- LEED Measures

Crossroads Hollywood

Application for CEQA Streamlining

- Commitment Letter



November 16, 2016

Ms. Terry Roberts, Manager
Sustainable Communities Policy and Planning Section
California Air Resources Board
9500 Telstar Avenue
El Monte, CA 91731

Re: Greenhouse Gas Emissions Offset Approach for the Crossroads Hollywood Project

Dear Ms. Roberts:

This letter is provided as a supplement to the application filed on August 26, 2016, by CRE-HAR Crossroads SPV, LLC (the "Project Applicant"), who proposes to develop the Crossroads Hollywood Project (the "Project") in the Hollywood Community Plan and the Hollywood Redevelopment Plan Project area of the City of Los Angeles.

As you know, the Project Applicant has applied for certification by the Governor as a leadership project under the Jobs and Economic Improvement Through Environmental Leadership Act of 2011, as amended (collectively, "AB 900" or the "Act"). The application includes projected emissions for the Project that show certain projected net additional emissions of greenhouse gases (GHG) as a result of the construction of the Project and as a consequence of Project operations. The Project Applicant proposes to meet the requirement set forth in California Public Resources Code Section 21183 (c), which requires that the Project demonstrate that it will not result in net additional emissions of GHG, through the acquisition of voluntary carbon credits sufficient to offset all projected additional emissions, in the following manner:

1. No later than six (6) months after the issuance of a Temporary Certificate of Occupancy for the Project, the Project Sponsor shall provide to the lead agency, the City of Los Angeles, a calculation of the net additional emissions resulting from the construction of the Project (the "Construction Emissions"), to be calculated in accordance with the methodology agreed upon by the Air Resources Board (ARB) in connection with the AB 900 certification of the Project (the "Agreed Methodology"). Project Sponsor shall provide courtesy copies of the calculations to the ARB and the Governor's Office promptly following transmittal of the calculations to the City of Los Angeles. Project Sponsor shall enter into one or more contracts to purchase voluntary carbon credits from a qualified GHG emissions broker in an amount sufficient to offset the Construction Emissions. The Project Sponsor shall provide

Ms. Terry Roberts, Manager

Re: GHG Emissions Offset Approach for the Crossroads Hollywood Project

November 16, 2016

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courtesy copies of any such contracts to the ARB and the Governor's Office promptly following the execution of such contracts.

2. Prior to issuance of any Certificate of Occupancy for any building in the Project, the Applicant or its successor shall enter into one or more contracts to purchase carbon credits from a qualified GHG emissions broker (to be selected from an accredited registry), which contract, together with any previous contracts for the purchase of carbon credits, shall evidence the purchase of carbon credits in an amount sufficient to offset the Operational Emissions attributable to such building in the Project, as well as all previously constructed buildings in the Project and shall be calculated on a net present value basis for a 30-year useful life.

Prior to execution of the contract(s), the Applicant and its consultant shall calculate the Operational Emissions, in accordance with the methodology described in the Applicant's "Application for Environmental Leadership Development Project", specifically the "Greenhouse Gas Emissions Methodology and Documentation" prepared by Eyestone Environmental.

Once the City has had an opportunity to review and approve the methodology and associated calculations, the Applicant shall provide copies of the calculation methodology to the California Air Resources Board (CARB) and Governor's Office of Planning and Research (OPR), which is then subject to a determination signed by the Executive Officer of CARB pursuant to the procedures set forth in Section 6 of OPR's Guidelines. The City will issue a Certificate of Occupancy upon receipt of the following: (1) a fully executed copy of the carbon offset purchase agreement(s); (2) a final CARB Determination that the Project will not result in any net additional GHG emissions; and (3) a copy of OPR's Certification Letter for the Project.

3. The following project design features were accounted for in the AB 900 application for purposes of reducing GHG emissions and are, therefore, included as commitments in this letter.
 - A. The design of the new buildings shall incorporate features to be capable of achieving at least Silver certification under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED)-CS® or LEED-NC® Rating System as of January 1, 2011. Specific sustainability features that are integrated into the Project design to enable the Project to achieve LEED® Silver certification would include the following:
 - a. Exceeding Title 24, Part 6, California Energy Code baseline standard requirements by 15 percent for energy efficiency, based on the 2016 Building Energy Efficiency Standards requirements.
 - b. Use of Energy Star-labeled products and appliances, including dishwashers in the residential units, where appropriate.

Ms. Terry Roberts, Manager

Re: GHG Emissions Offset Approach for the Crossroads Hollywood Project

November 16, 2016

Page 3

- c. Use of light emitting diode (LED) lighting or other energy-efficient lighting technologies, such as occupancy sensors or daylight harvesting and dimming controls, where appropriate, to reduce electricity use.
- d. The Project would reduce indoor water use by a minimum of 35 percent by installing water fixtures that exceed applicable standards.
- e. The Project would reduce outdoor water use by a minimum of 50 percent from the calculated baseline at peak watering month by installing efficient irrigation.

B. The residential units within the Project shall not include the use of natural gas-fueled fireplaces.

C. The Project shall provide a minimum of 135 kilowatts of photovoltaic panels on the Project site, unless additional kilowatts of photovoltaic panels become feasible due to additional area being added to the Project Site.

The commitments outlined herein will be incorporated into the Project's Final Environmental Impact Report (FEIR) as a proposed improvement measure. The Project Sponsor will agree to comply with all improvement measures and mitigation measures contained in the FEIR through the Project's Mitigation Monitoring and Reporting Program, which represents a binding and enforceable agreement with the Project's lead agency, the City of Los Angeles.

Should you have any questions, please do not hesitate to call Marc Annotti at (323) 658-1511.

Sincerely,

CRE-HAR Crossroads SPV, LLC,
a Delaware limited liability company

By: CRE-HAR Crossroads JV, LLC,
a Delaware limited liability company,
its sole member

By: Crossroads Associates, LLC,
a Delaware limited liability company,
its managing member

By: 
Name: David Schwartzman
Its: Authorized Signatory

Crossroads Hollywood

Application for CEQA Streamlining

- LEED Measures

Crossroads Hollywood

LEED Measures

The following list highlights the main sustainability strategies to be implemented into the Crossroads Hollywood Project in order to achieve the Gold Rating under LEED 2009 (v3) or the Silver Rating under LEED v4 rating system. This is in addition to the strategies needed to reduce the greenhouse gas (GHG) emissions, as required by the California Air Resources Board (ARB).

Design

- Prior to Project approvals, a preliminary LEED action plan will be submitted to the City of Los Angeles Department of City Planning. Prior to issuance of a building permit, conduct a preliminary LEED meeting with a minimum of four key Project team members and the owner or owner's representative. As part of the meeting, review a LEED action plan that, at a minimum (1) determines the LEED certification level to pursue (Certified, Silver, Gold, or Platinum); (2) selects the LEED credits to meet the targeted certification level; and (3) identifies the responsible parties, including but not limited to the Los Angeles Department of Building and Safety, the City of Los Angeles Department of City Planning, the City of Los Angeles Department of Public Works, Bureau of Engineering, to ensure the LEED requirements for each prerequisite and selected credit are met. Modifications to the selected criteria are permissible during construction as long as the LEED certification level continues to be met.

Site

- Implementation of an erosion and sedimentation plan for all construction activities.
- Provision of heat island mitigation strategies for 50 percent of hardscapes or provide 100 percent underground parking.
- Provision of heat island mitigation strategies for 75 percent of roof areas.
- Development of tenant design and construction guidelines, which applies to LEED Core & Shell certification only.

Transportation

- Installation of bike share facilities at the Project Site should a bike share program become available in Los Angeles.
- Allocation of preferred parking for alternative-fuel vehicles, low-emitting, and fuel-efficient and ride-sharing vehicles.
- Provision that 20 percent of parking spaces shall be electric vehicle-ready with 5 percent equipped with charging stations.
- Provide bicycle racks/storage for 5 percent of building users and shower/changing facilities for 0.5 percent of full-time equivalent (FTE) occupants.
- Provide additional bicycle storage and demarcated bike lanes/trails.

Water Quality

- Use of on-site storm water treatment in accordance with City standards.
- Installation of catch basin inserts and screens to provide runoff contaminant removal in accordance with City standards.
- Preparation and implementation of a Stormwater Pollution and Prevention Plan (SWPPP) and Standard Urban Stormwater Mitigation Plan (SUSMP), both of which would include Best Management Practices (BMPs) to control stormwater runoff, minimize pollutant loading and erosion effects during and after construction.

Energy Conservation and Efficiency

- Use of full-cutoff or fully shielded on-street lighting oriented to pedestrian areas/sidewalks so as to minimize overlighting, light trespass, and glare.
- Inclusion of outdoor air flow measuring devices, additional outdoor air ventilation, and use of low emitting materials to promote indoor environmental quality.
- Use of refrigerants that reduce ozone depletion.
- Provision of conduit that is appropriate for future photovoltaic and solar thermal collectors.

- Post-construction commissioning of building energy systems performed on an ongoing basis to ensure all systems are running at optimal efficiency.
- Purchase of renewable source power (“green power”) to minimize carbon emissions.
- Review of commissioning activities by an independent Commissioning Agency and development and implementation of commissioning plan.
- Implementation of building level energy meter to provide monthly tracking of energy consumption.
- Provision of metering for tenant space.

Solid Waste

- Provision of on-site recycling containers to promote the recycling of paper, metal, glass, and other recyclable materials and adequate storage areas for such containers during construction and after the building is occupied.
- Use of building materials with a minimum of 10 percent recycled-content for the construction of the Project.
- Implementation of a construction waste management plan to recycle and/or salvage a minimum of 75 percent of nonhazardous construction debris or minimize the generation of construction waste to 2.5 pounds per square foot of building floor area.
- Utilize building materials extracted, harvested or recovered and manufactured within 500 miles of the Project Site for a minimum of 10 percent based on cost.
- Provide additional dedicated storage for (select two) batteries, mercury lamps, and/or electronic waste.
- Conduct Life Cycle Assessment (LCA), which must be performed using one of the existing LCA tools and dataset; depending on the tools selected for the project, a LCA specialist consultation may be required.
- Selection of materials based on Environmental Product Declaration availability; this strategy requires significant market response.
- Selection of materials based on their reported environmental impact.

- Selection of materials based on their reported ingredients.
- Diversion of construction materials from landfill. Diversion must include at least three material streams (e.g., recovery, reuse, and recycling).

Air Quality

- Employment of practices that prohibit the use of chlorofluorocarbons (CFCs) in heating, ventilation, and air conditioning (HVAC) systems.
- Installation of MERV 13 filtration at outside air intakes to improve indoor air quality.
- Meeting applicable California and/or Los Angeles air emissions requirements for all heating or cogeneration equipment utilized at the Project Site.
- Installation of landscaping throughout the Project Site, including roof decks, pool decks, and terraces, to provide shading and capture carbon dioxide (CO₂) emissions.
- Use of adhesives, sealants, paints, finishes, carpet, and other materials that emit low quantities of volatile organic compounds (VOCs) and/or other air quality pollutants.
- Development of an Indoor Air Quality Management Plan for construction and pre-occupancy phases.
- Installation of CO₂ sensors to monitor indoor air quality.
- Provision of individual control on thermostats to 50 percent of building occupants. For residential buildings, the credit can be achieved by providing access to operable windows. For commercial spaces, control must be provided to 50 percent of occupants in order to meet the intent of the credit.
- HVAC system design compliance to ASHRAE 55. The Core & Shell base building mechanical systems must allow for the tenant build-out to meet the requirement of this credit.