

MEMORANDUM

To: Jennifer Lopez (jenniferlo@moval.org)
City of Moreno Valley

From: Miles Eaton, PE
Kimley-Horn and Associates, Inc.

Date: March 24, 2026

Subject: PEN25-0136 – Revised CEQA Section 15332 Justification Memorandum

1.0 – Introduction and Purpose

This memorandum was prepared to demonstrate that the proposed McDonald’s Moreno Valley Pigeon Pass (4-5290) (Project) qualifies to be exempt from the California Environmental Quality Act (CEQA) pursuant to State CEQA Guidelines Section 15332 for “In-Fill Development Projects” and that none of the exceptions apply pursuant to State CEQA Guidelines Section 15300.2.

The Project consists of the demolition of an existing multi-tenant commercial building and surface parking lot and construction of a 4,180-square-foot McDonald’s drive-through restaurant and parking lot. The Project site has a General Plan Land Use Designation of “C – Commercial” and is zoned for “C C – Community Commercial.” The Project is wholly consistent with both designations. The Project is preparing a conditional use permit due to proposing a drive-through restaurant within 300 feet of a residential zone. The Project site is surrounded by existing commercial developments to the north and west, Pigeon Pass Road to the east, and Ironwood Avenue to the south.

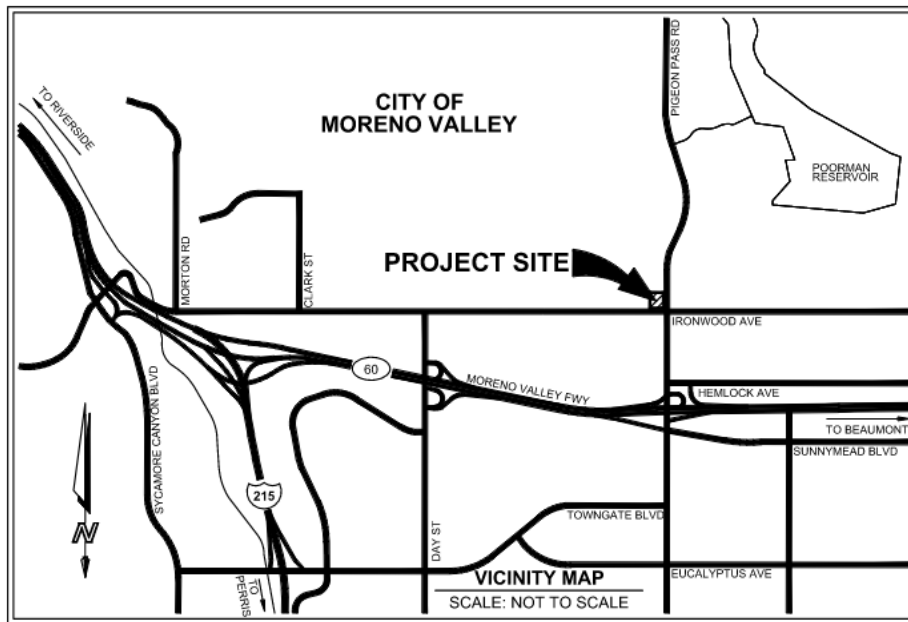
2.0 – Existing Conditions and Project Description Summary

The Project site is located generally on the northwest corner of the intersection of Pigeon Pass Road and Ironwood Avenue in the City of Moreno Valley (City). The Project site is approximately 1.30 acres and comprises Assessor’s Parcel Number (APN) 264-030-025. Topographically, the Project site is relatively flat at an elevation of approximately 1,721 feet above mean sea level. Refer to **Figure 1: Vicinity Map**.

The Project site is surrounded by a mixture of commercial and residential uses. A multi-tenant commercial center with parking lots is located directly north and west of the Project site and single-family residential properties are located east and south of the Project site. Pigeon Pass Road and Ironwood Avenue bound the Project site on the east and south, respectively. In its existing conditions, the site contains a paved parking lot and multi-tenant building along with associated utilities and landscaping.

The Project proposes the demolition of the existing multi-tenant building and parking lot and the construction of a new 4,180-square-foot McDonald’s drive-through restaurant; an associated parking lot with 40 parking stalls, of which 6 will be electric vehicle (EV) charging capable and 2 will be EV charging stalls; 16,340 square feet of landscaping; and other associated utilities.

Figure 1: Vicinity Map



3.0 – Regulatory Authority

State CEQA Guidelines Section 15300.2 provides exceptions for which a Project may not be categorically exempt from CEQA. Section 15300.2 states:

15300.2. EXCEPTIONS

- (a) *Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.*
- (b) *Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.*
- (c) *Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.*
- (d) *Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.*
- (e) *Hazardous Waste Sites. A categorical exemption shall not be used for a project located on*

a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

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

State CEQA Guidelines Section 15332 provides criteria for which a Project may be categorically exempt from CEQA as a Class 32 – In-Fill Development Projects. Section 15332 states:

15332. IN-FILL DEVELOPMENT PROJECTS

Class 32 consists of projects characterized as in-fill development meeting the conditions described in this section.

- (a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.*
- (b) The proposed development occurs within city limits on a project site of no more than five (5) acres substantially surrounded by urban uses.*
- (c) The project site has no value as habitat for endangered, rare, or threatened species.*
- (d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.*
- (e) The site can be adequately served by all required utilities and public services.*

4.0 – Project Compliance with CEQA

4.1 – PROJECT CONSISTENCY WITH SECTION 15300.2

15300.2(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

This exception does not apply. The Project meets the requirements for a Class 32 Exemption and therefore does not fall under a Class 3, 4, 5, 6, or 11 CEQA Exemption.

15300.2(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

The Project site has been previously disturbed and developed with a paved parking lot and multi-tenant commercial building, which contained a restaurant. This Project proposes the demolition of the existing multi-tenant commercial building and the construction of a new 4,180-square-foot restaurant building. As such, the proposed land use is similar to the previous development. Further, as noted in the Project-specific technical reports described in detail below in **Section 4.2: Project Consistency with Section 15332**, the Project is not anticipated to result in significant impacts with respect to Traffic, Air Quality and Greenhouse Gases (GHG), Hydrology, and Geology that would result

in significant cumulative impacts over time. Further, the Project would redevelop the site using up to date building and energy codes and it could be reasonable to assume that certain aspects of the Project may result in less intense impacts in comparison to the existing use.

The project site is designated for commercial use under both the City's General Plan and zoning, and the surrounding area along the Ironwood and Pigeon Pass corridors is already developed with a mix of retail, food service, and residential uses. Further, the cumulative buildout of commercial land uses through the City, and the Ironwood/Pigeon Pass corridor was contemplated in the City's General Plan environmental impact report. Because cumulative buildout of these areas was previously assessed at a programmatic level, individual infill projects consistent with that vision do not generate new cumulative impacts beyond what was already studied.

Importantly, the Project is a drive through restaurant building in an urban infill area, which is a single, discrete development on a previously disturbed parcel. The Project does not consist of a programmed or phased development plan, or a part of a series of approvals by the same Applicant that would constitute successive projects over time. As such, the Project is consistent with Section 15300.2(b) and is not considered to be an exception.

15300.2(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

The Project proposes the construction and development of a drive-through restaurant which is consistent with the City of Moreno Valley General Plan Land Use designation and zoning for the subject site. Additionally, the Project proposes a use that is common both within the City and the region. Due to the size of the Project, and the nature of the existing Project site (fully developed and served by all utilities), there are no unusual circumstances which could result in a significant impact on the environment. Further, as noted in the Project-specific technical reports described in detail below in **Section 4.2: Project Consistency with Section 15332**, the Project is not anticipated to result in significant impacts on the environment. Lastly, there are no known sensitive environmental resources on the site under existing conditions. As such, the Project is consistent with Section 15300.2(c) and is not considered to be an exception.

15300.2(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway.

According to the California State Scenic Highway System Map, there are no designated state scenic highways within or adjacent to the Project site. The nearest designated or eligible state scenic highway is State Route 38 (SR-38), located approximately 9.15 miles northeast of the Project site in the City of Redlands.¹ However, the Project site is not visible from SR-38 due to intervening topographical features, chiefly the Box Springs Mountains. Additionally, in its existing condition, the Project site does not contain any scenic resources such as trees, historic buildings, rock outcroppings, or similar resources. As such, the Project is consistent with Section 15300.2(d) and is not considered to be an exception.

¹ CalTrans. 2018. *California State Scenic High System*. Available at: [California State Scenic Highway System](https://www.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca)
[Maphttps://www.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca](https://www.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca) (accessed January 2026).

15300.2(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

The Project site is not located on the Cortese list and therefore is consistent with Section 15300.2(e) and is not considered to be an exception.²

15300.2(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

The Project site has been previously disturbed and is currently developed with a paved parking lot and restaurant building which was constructed sometime between 1985 and 1994, making the subject property at most 41 years old.³ The existing structures would not be considered historical and there are no known historical resources present within the Project site. As such, the Project site is consistent with Section 15300.2(f) and is not considered an exception.

Conclusion

The Project is wholly consistent with State CEQA Guidelines 15300.2 and qualifies to be categorically exempt from CEQA provided the Project meets the requirements of the Class 32 exemption requirements as described below.

4.2 – PROJECT CONSISTENCY WITH SECTION 15332

As previously discussed, the Project qualifies for Class 32 Categorical Exemption under CEQA Guidelines Article 19, Section 15332 for “Infill Development Projects.” The infill development exemption is subject to five limitations relating to general plan and zoning consistency; size and location of the site; absence of habitat value for endangered, rare, or threatened species; absence of significant effects relating to traffic, noise, air quality, and water quality; and ability to be adequately served by existing utilities and public services. The Project’s consistency with each of the five criteria is discussed below.

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

The Project site is currently designated as Commercial under the existing City of Moreno Valley General Plan Land Use Map.⁴ Additionally, the Project site is currently zoned as Community Commercial.⁵ The Commercial Land Use designation is intended to provide property for business purposes, including, but not limited to, retail stores, restaurants, banks, hotels, professional offices, personal services and repair services. Permitted uses allowed within the C C Community Commercial zoning include a variety of commercial uses, including restaurants with drive-throughs.⁶ The Project proposes the demolition of the existing multi-tenant commercial building and the construction of a 4,180-square-foot McDonald’s drive-through restaurant with related parking lot, landscaping, and utilities. The proposed restaurant land use is

² California Department of Toxic Substances Control. 2025. *Hazardous Waste and Substances Site List (Cortese)*. Available at: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG.COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29 (accessed January 2026).

³ Historic Aerials. ND. *Historic Aerials Viewer*. Available at: <https://www.historicaerials.com/viewer> (accessed January 2026).

⁴ City of Moreno Valley. 2020. *City of Moreno Valley Land Use Map*. Available at: https://www.moval.org/city_hall/general-plan/landuse-map.pdf (accessed January 2026).

⁵ City of Moreno Valley. 2025. *City of Moreno Valley Zoning*. Available at: <https://moval.gov/cdd/pdfs/2040GP-Update/Zoning.pdf> (accessed January 2026).

⁶ City of Moreno Valley. 2024. *Moreno Valley Municipal Code; Table 9.02.020-1*. Available at: <https://ecode360.com/attachment/317126/MO4973-009a%20Permitted%20Uses%20Table%209.02.020-1.pdf> (accessed January 2026).

consistent with the City's General Plan Commercial land use designation and is permitted under the C C Community Commercial zoning under the City's Zoning Code. The Project is wholly consistent with the General Plan land use designations, policies, and the City zoning and regulations. The Project is preparing a conditional use permit due to proposing a drive-through restaurant within 300 feet of a residential zone, as required by the City zoning and regulations. As such, the Project is consistent with Section 15332(a).

b) The proposed development occurs within the city limits on a project site of no more than 5 acres substantially surrounded by urban uses.

The Project site is an approximately 1.30-acre site located at 11875 Pigeon Pass Road within the City of Moreno Valley. As previously described, the Project site is surrounded by commercial uses to the north and west and is bounded by Pigeon Pass Road to the east and Ironwood Avenue to the south. As such, the Project is consistent with Section 15332(b).

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

A California Natural Diversity Database (CNDDDB) search was performed on January 20, 2026, using the January 2026 data. Forty-one species have been recorded as occurring within five miles of the Project site. Of those species, one species occurrence overlaps the Project site and three species occurrences are within 0.3 miles of the Project site. A red-diamond rattlesnake (*crotalus rubar*) occurrence dated 1988 overlaps the Project site. Since 1988, the Project site and surrounding areas have been extensively developed. No suitable habitat for red-diamond rattlesnake (i.e., arid deserts in rocky areas and dense vegetation) remains on or immediately adjacent to the Project site. Three additional species occurrences were recorded within 0.3 miles of the Project site including, the western yellow bat (*Lasiurus xanthinus*), Crotch's bumble bee (*Bombus crotchii*), and Busck's gallmoth (*Eugnosta busckana*). The western yellow bat occurrence is dated 1981. Similar to red-diamond rattlesnake, no suitable habitat for western yellow bat (i.e., dry tropical forest, desert riparian) remains on or immediately adjacent to the Project site as result of development in the area. The Crotch's bumble bee occurrence is dated 2020; however, the Project site and adjacent areas do not contain any suitable habitat for the species as the area primarily comprises hardscape and ornamental plantings. The Busck's gallmoth occurrence is dated 2023. Similar to Crotch's bumblebee, suitable habitat for Busck's gallmoth (i.e., costal sand dunes) does not occur within the Project site and surrounding areas. Due to development, the prevalence of pavement and ornamental plantings, the Project site has no value as a habitat for the special status species previously recorded on-site and in the vicinity. As such, the Project is consistent with Section 15332(c).

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

The consistency analysis is constructed based on the results of the following Project-specific technical reports that analyzed potential Project-generated impacts with respect to traffic, noise, air quality, and water quality:

- Level of Service (LOS) and Vehicle Miles Traveled (VMT) Memorandum for the Proposed McDonald's Drive-Through Restaurant in the City of Moreno Valley (**Appendix A**)
- Drive-Through Queuing Analysis for the Proposed McDonald's Restaurant in the City of Moreno Valley (**Appendix B**)
- Moreno Valley McDonald's – Moreno Valley, CA – Noise and Vibration Analysis (**Appendix C**)

- Moreno Valley McDonald's – Moreno Valley, CA – Air Quality and Greenhouse Gas Analysis (Appendix D)

Traffic and Transportation

A Traffic Memorandum (Memo) was prepared for the Project and is available as **Appendix A** to this Memorandum. The Memo included a LOS screening analysis and VMT screening analysis. The LOS analysis is provided for informational purposes only. Pursuant to Senate Bill 743, LOS is no longer used for the determination of traffic and transportation impacts under CEQA, instead VMT is used.

Trip Generation

As the Project consists of the demolition of an existing 9,527-square-foot multi-tenant commercial building and the construction of a 4,180-square-foot McDonald's drive-through restaurant, comparison of existing and proposed trip generation is warranted. Vehicular trips for the existing multi-tenant commercial building were calculated using trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021).

The Traffic Memo (**Appendix A**) determined that the existing trip generation for the Project site is approximately 311 trips daily with 13 trips in the morning peak hour and 38 trips in the evening peak hour.

The Traffic Memo (**Appendix A**) determined that the proposed trip generation for the Project would be approximately 675 trips on a daily basis with 82 morning peak hour trips and 31 evening peak hour trips.

Level of Service (LOS) Screening

Based on City of Moreno Valley guidelines, certain types of projects are exempt from Traffic Impact Analysis (TIA) preparation based on their size, nature, or location.⁷ City guidelines present the following criteria:

“The following activities generally will not require a TIA that includes LOS analysis. This presumption is based on the activities associated with the project (e.g. they are local serving) or the limited trip generation of the project (e.g. projects that generate less than 100 peak hour trips as projects that generate 100 or less trips typically do not affect LOS significantly once distributed to the local roadway network).”

Based on the project trip generation provided in **Appendix A**, the Project would not exceed the 100-peak hour trip threshold established by the City. Therefore, the Project would be exempt from LOS analysis.

Vehicle Miles Traveled (VMT) Screening

As the proposed McDonald's drive-through restaurant is a locally-serving retail development with a building area of 4,180 square-feet, based on City of Moreno Valley *Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment* (July 2020), the Project will not require a further VMT Analysis.⁸ Refer to **Appendix A** for the Project Scoping Form.

Queuing Analysis

The proposed McDonald's drive-through would provide queuing capacity for approximately 295 feet, equal to 14 vehicles under “regular” conditions and could accommodate up to 22 vehicles under peak

⁷ City of Moreno Valley. 2020. *Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment*. Available at: <https://moval.gov/departments/public-works/transportation/TIA-Guidelines.pdf> (accessed January 2026).

⁸ Ibid.

conditions, assuming 21 feet per vehicle, from the pick-up window to the opening of the drive-through lane. The peak queue is estimated to be 15 vehicles. Based on the proposed drive-through queuing capacity and estimated peak drive-through queue demand, the McDonald's would provide sufficient queuing capacity to accommodate the peak observed queue. No conflicts are anticipated between McDonald's drive through users and other McDonald's trips to and from the restaurant. Additionally, no conflicts are anticipated between McDonald's ingress/egress and the adjacent commercial uses. Furthermore, the use of mobile ordering through the McDonald's app can be emphasized to combat future increases in drive through demand, particularly as more customers adopt mobile app usage. Refer to **Appendix B**.

Noise

The Project site is impacted by various noise sources. In general, vehicle traffic on roadways, construction activities, and outdoor activities are common noise sources throughout the City. Other noise sources include transportation, commercial and industrial centers, and property maintenance operations. The primary sources of stationary noise near the Project site include parking lot noise at the commercial properties and other urban-related activities (e.g., idling cars, vehicles passing by, trucks, pedestrians, birds chirping, etc.). The noise associated with these sources may represent a single-event noise occurrence or short-term noise.

To quantify existing ambient noise levels in the Project area, Kimley-Horn conducted four short-term (10-minute) measurements on July 16, 2025, and one long-term noise measurement (24 hours in duration) starting on July 16, 2025, and ending July 17, 2025; see **Appendix C**. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the Project site. The 10-minute daytime measurements were taken between 10:08 a.m. and 11:27 a.m. Measurements of L_{eq} are considered representative of the noise levels throughout the day. The average noise levels and sources of noise measured at each location are listed in Table 4: Existing Noise Measurements and shown on Exhibit 3: Noise Measurement Locations of **Appendix C**.

Construction Noise

Construction activities would not take place between the hours of 8:00 p.m. and 7:00 a.m., to be in compliance with City Municipal Code Section 11.80.030. The City's permitted hours of construction are required in recognition that construction activities undertaken during daytime hours are a typical part of living in an urban environment and do not cause a significant impact. While the City establishes limits to the hours during which construction activity may take place, it does not identify specific noise level limits for construction noise levels. Thus, this analysis uses the Federal Transit Administration's (FTA) threshold of 80 dBA (8-hour L_{eq}) for residential uses.

The Federal Highway Administration Roadway Construction Noise Model was used to calculate the worst-case construction noise levels at nearby sensitive receptors and commercial uses surrounding the Project site during construction. All construction equipment was assumed to operate simultaneously at the property line of the Project site to represent a worst-case noise scenario, as construction activities would routinely be spread throughout the construction site and would operate at different intervals. The modeled receptor locations represent the closest existing receiving land uses to Project construction activities. The nearest sensitive receptor is a single-family residential building located approximately 87 feet south of the Project site.

As modeled and described in **Appendix C**, construction noise levels would range between 60.7 dBA L_{eq} and 79.2 dBA L_{eq} at the nearest properties surrounding the Project site and would not exceed the FTA's construction noise thresholds for residential uses. Additionally, compliance with City Municipal Code Section 11.80.030 would minimize potential impacts from construction noise, as construction would be limited to the hours between 7:00 a.m. and 8:00 p.m. Because Project construction noise levels would not exceed any applicable standards and would be required to comply with the City's allowable construction hours, construction noise impacts would be less than significant.

Operational Noise

Exterior noise levels associated with drive-through operations, parking lot noise, and mechanical equipment were modeled with the SoundPLAN software. SoundPLAN allows computer simulations of noise situations, and creates noise contour maps using reference noise levels, topography, point and area noise sources, mobile noise sources, and intervening walls and structures. Inputs to the SoundPLAN model included ground topography and ground type, noise source locations and heights, receiver locations, and sound power level data. The SoundPLAN run for Project operations conservatively assumes the simultaneous operation of all on-site noise sources.

The modeled Project-generated noise levels would range from 27.2 dBA L_{eq} to 49.7 dBA L_{eq} during the daytime hours, and between 27.1 dBA L_{eq} to 49.7 dBA L_{eq} during the nighttime hours at the surrounding residential uses. Project-generated operational levels would not exceed the City's most stringent daytime or nighttime exterior noise standards of 60 dBA and 55 dBA, respectively, for residential uses.

Noise levels at the nearest commercial uses would range from 42.3 dBA L_{eq} to 48.8 dBA L_{eq} during the daytime hours, and between 42.1 dBA L_{eq} to 48.7 dBA L_{eq} during the nighttime hours. Project-generated operational levels would comply with the City's Land Use Compatibility standards for commercial uses.

According to the California Department of Transportation (Caltrans) *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), a noise level increase of 3 dBA is generally regarded as barely perceivable and a 5 dBA is readily noticeable. **Appendix C** shows that the maximum noise increase at the nearest commercial uses would be 0.1 dBA during the daytime and nighttime hours and the maximum noise increase at the nearest residential uses would be 0.8 dBA during the daytime hours and 0.2 dBA during nighttime hours. Therefore, Project noise levels at the nearest commercial and residential uses would not exceed the barely noticeable 3 dBA noise increase threshold. A less than significant impact would occur in this regard.

Truck delivery noise was modeled separately due to the infrequent nature and non-sustained characteristics of truck deliveries. Truck delivery noise levels would range from approximately 54.3 dBA L_{eq} to 57.5 dBA L_{eq} at the nearest commercial uses and would comply with the City's Land Use Compatibility Plan standards. Truck delivery noise levels at the nearest residential uses would range from 34.0 dBA L_{eq} to 61.5 dBA L_{eq} .

Furthermore, the increase in ambient noise levels from truck deliveries would be 0.4 dBA at the nearest commercial uses and 7.0 dBA at the nearest residential uses during the daytime. However, on-site truck movements and the use of backup beepers would be short in duration (ranging from approximately 30 seconds to one minute), and thus, the exposure of temporary noise levels would be limited, not exceeding the City's noise sound level of 115 dBA for more than 15 minutes. Truck delivery activity currently occurs

under existing conditions and would not be a new noise source. As such, Project noise levels from truck delivery activity would result in a less than significant impact.

Vibration

Increases in groundborne vibration levels attributable to the Project would be primarily associated with construction-related activities. The FTA has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) appears to be conservative. The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. For example, for a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.50 inch/second is considered safe and would not result in any construction-based vibration damage. This evaluation uses the FTA architectural damage criterion for continuous vibrations at non-engineered timber and masonry buildings of 0.2 inch/second peak particle velocity (PPV) and human annoyance criterion of 0.4 inch/second PPV in accordance with Caltrans guidance.

Appendix C modeled typical construction equipment vibration levels and shows that at 86 feet (the closest distance to off-site structures) the vibration velocities from construction equipment would reach approximately 0.033 inch/second PPV, which is below the FTA's 0.20 inch/second PPV threshold for building damage and Caltrans' 0.4 inch/second PPV threshold for human annoyance. Once operational, the Project would not include vibration-generating uses or operations. Therefore, vibration impacts associated with the Project would be less than significant.

Air Quality

The South Coast Air Quality Management District (SCAQMD) is the regulatory agency responsible for improving air quality for large areas of Los Angeles, Orange, Riverside, and San Bernardino counties. The SCAQMD CEQA Air Quality Handbook provides significance thresholds for volatile organic compounds (VOC), including reactive organic gases (ROG), nitrogen oxides (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter 10 microns or less in diameter (PM₁₀), and particulate matter 2.5 microns or less in diameter (PM_{2.5}). The thresholds apply to both Project construction and operation within the SCAQMD jurisdictional boundaries. If the SCAQMD thresholds are exceeded, a potentially significant impact could result.

Construction Impacts

Construction results in temporary generation of emissions during demolition; site grading; road paving; motor vehicle exhaust associated with construction equipment and worker trips; and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities, as well as weather conditions and the appropriate application of water.

The Project site has been previously disturbed and developed with an existing multi-tenant building and

surface parking lot. The Project proposes the demolition of the existing building and construction of a 4,180-square-foot McDonald’s drive-through restaurant and parking lot. Construction is estimated to last approximately eight months. As shown in **Table 1: Project Construction Emissions**, construction-generated emissions associated with the Project would not exceed SCAQMD thresholds.

Table 1: Project Construction Emissions

Construction Year	Maximum Pounds Per Day					
	ROG	NO _x	CO	SO ₂	PM _{2.5}	PM ₁₀
2026	2.49	21.66	24.88	0.04	3.84	2.19
2027	2.38	5.18	8.26	0.01	0.36	0.21
<i>Maximum Emissions</i>	<i>2.49</i>	<i>21.66</i>	<i>24.88</i>	<i>0.04</i>	<i>3.84</i>	<i>2.19</i>
SCAQMD Threshold	75	100	550	150	55	150
<i>Exceed SCAQMD Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Notes:						
1. Emissions were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1, as recommended by the SCAQMD. Worst-case seasonal maximum daily emissions are reported.						
2. SCAQMD Rule 403 Fugitive Dust applied. The Rule 403 reduction/credits include the following: properly maintain mobile and other construction equipment; water exposed surfaces three times daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.						
3. Due to rounding, total emissions may be marginally different from CalEEMod output.						
Source: CalEEd version 2022.1. Refer to Appendix D for model outputs						

The Project is subject to SCAQMD rules 402, 403, and 1113, which prohibit nuisances, require dust mitigation, and limit VOC content in paints, respectively. It has been assumed that these rules will be followed through watering the site and using low VOC paints during construction. The results of the Air Quality and Greenhouse Gas Analysis (**Appendix D**) have determined that construction criteria pollutant emissions would remain below the applicable thresholds and construction impacts on short-term air quality would be less than significant.

Operational Impacts

Operational impacts are typically associated with mobile sources (i.e., motor vehicle use) and area sources (such as the use of landscape maintenance equipment, consumer products, and architectural coatings). Energy source emissions would be generated from electricity and natural gas (non-hearth) usage. Based on the Project-specific Traffic Memo (**Appendix A**), the Project would generate approximately 987 daily vehicle trips.⁹ As shown in **Table 2: Project Operational Emissions**, the Project’s emissions would not exceed SCAQMD thresholds. Therefore, regional operations emissions would result in a less than significant long-term regional air quality impact.

⁹ The mobile air emissions in the Air Quality and Greenhouse Gas Analysis (**Appendix D**) represent a maximum daily trip generation of 987 vehicles. These 987 daily trips represent a conservative estimate as it does not take credit for the existing trips generated by the existing use on site, as described in **Appendix A**. Therefore, the mobile emissions and total daily operational emissions presented are conservative and encompass the current Project trip generation numbers.

Table 2: Project Operational Emissions

Source	Maximum Pounds Per Day ¹					
	ROG	NO _x	CO	SO ₂	PM _{2.5}	PM ₁₀
Area Source Emissions	0.14	<0.01	0.18	<0.01	<0.01	<0.01
Energy Emissions	0.01	0.13	0.11	<0.01	0.01	0.01
Mobile Emissions	3.78	3.51	30.65	0.08	6.97	1.81
On-Site Drive Through ²	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Total Emissions	3.93	3.64	30.95	0.08	6.98	1.82
SCAQMD Threshold	55	55	550	150	150	155
<i>Exceed SCAQMD Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Notes: 1. Emissions were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1, as recommended by the SCAQMD. Worst-case seasonal maximum daily emissions are report. 2. On-site drive-through idling emissions were calculated with emissions factors from EMFAC2021. 3. Due to rounding, total emissions may be marginally different from CalEEMod output. Source: CalEEMod version 2022.1. Refer to Appendix D for model outputs.						

Water Quality

With respect to construction-related water quality, the Project would be subject to compliance with the City’s National Pollutant Discharge Elimination System (NPDES) permit program. Compliance with the NPDES permit involves the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for construction-related activities. The SWPPP is required to specify the Best Management Practices (BMPs) that the Project would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the site.

With respect to long-term operations, the Project Applicant would be required to implement a site-specific Water Quality Management Plan (WQMP), pursuant to the requirements of the applicable NPDES permit. A Preliminary WQMP has already been prepared for the Project and is included in the entitlement package for the Project. The WQMP prescribes the implementation of structural and non-structural BMPs to manage and treat stormwater and other runoff from the Project site prior to discharge, thus ensuring no exceedances of the allowed discharge concentrations of pollutants occur.

As the Project site is presently developed with an existing restaurant use and the Project proposes the development of a restaurant use, similar conditions would exist after Project implementation. Additionally, mandatory preparation and implementation of both the SWPPP for short-term impacts and a WQMP for long-term impacts, Project impacts to water quality would be less than significant.

As such, the Project is consistent with Section 15332(d).

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

As previously discussed, the Project site is presently developed with an existing restaurant that is fully served by all utilities and public services. As the Project proposes a similar use, there would be no substantial change in the required utility demand. Further, the Project would coordinate with and meet all conditions of approval related to utilities and their furnishing. It is anticipated that all required utilities and public services will adequately serve the Project. As such, the Project is consistent with Section 15332(e).

Conclusion

Based on the above analysis, the Project is consistent with State CEQA Guidelines Section 15332 and qualifies to be categorically exempt from CEQA as a Class 32 – In-fill Development Exemption.

Appendix A – LOS and VMT Memorandum

Project Scoping Form

This scoping form shall be submitted to the Lead Agency to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

Project Identification:

Case Number:	
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	
Project Address:	
Project Opening Year:	
Project Description:	

	Consultant:	Developer:
Name:		
Address:		
Telephone:		
Email:		

Trip Generation Information:

Trip Generation Data Source: _____

Current General Plan Land Use:

Proposed General Plan Land Use:

Current Zoning:

Proposed Zoning:

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips						
PM Trips						

****SEE ATTACHMENT B FOR PASS-BY TRIP RATES****

Trip Internalization: Yes No (_____% Trip Discount)

Pass-By Allowance: Yes No (_____% Trip Discount)

Potential Screening Checks

Is your project screened from specific analyses (see Page 3 of the guidelines related to LOS assessment and Pages 22-23 for VMT screening criteria).

Is the project screened from LOS assessment? Yes No

LOS screening justification (see Page 3 of the guidelines): _____

Is the project screened from VMT assessment? Yes No

VMT screening justification (see Pages 22-23 of the guidelines): _____

Level of Service Scoping

- Proposed Trip Distribution (Attach Graphic for Detailed Distribution):

North	South	East	West
%	%	%	%

Link level of service and data collection:

_____ will be required
 _____ will not be required

- Attach list of study intersections (and roadway segments if applicable)
- Attach site plan
- Other specific items to be addressed:
 - Site access
 - On-site circulation
 - Parking
 - Consistency with Plans supporting Bikes/Peds/Transit
 - ☒ Other _____
- Date of Traffic Counts _____
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- Attach proposed phasing approach (if the project is phased)

VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used _____
- Attach WRCOG Screening VMT Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)



July 14, 2025

Wei Sun
City of Moreno Valley – Public Works
14177 Frederick Street
Moreno Valley, CA 92553

RE: *Level of Service (LOS) and Vehicle Miles Traveled (VMT) Memorandum for the Proposed McDonald's Drive-Through Restaurant in the City of Moreno Valley*

Kimley-Horn and Associates, Inc. is pleased to submit this Level of Service (LOS) and the Vehicle Miles Traveled (VMT) Screening Memorandum for the proposed McDonald's Drive-Through Restaurant in the City of Moreno Valley. This memorandum is based on the standards outlined in the *City of Moreno Valley Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment* (June 2020).

PROJECT DESCRIPTION

The applicant proposes to demolish an existing 9,527 square-foot multi-tenant retail building and construct a 4,180 square-foot McDonald's Restaurant with a drive-through at 11875 Pigeon Pass Road in the City of Moreno Valley. The proposed project site is located in the southeast corner of Pigeon Pass Plaza within a shared parking lot with other commercial uses. The project site plan is shown on **Attachment A**.

Vehicular access to Pigeon Pass Plaza would be provided via two existing unsignalized driveways: one right-in only, full movement out driveway located along Ironwood Avenue and one full-movement driveway located along Pigeon Pass Road. Direct vehicular access to the proposed McDonald's Restaurant within Pigeon Pass Plaza will be provided via drive aisles located in the shared parking lot.

TRIP GENERATION

Vehicular trips for the existing multi-tenant retail building were calculated using trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021). Trip rates are based on the following land use (LU) category:

- LU 822 – Strip Retail Plaza (<40k)

The existing use generates approximately 519 trips daily with 22 trips (13 inbound, 9 outbound) in the morning peak hour and 62 trips (31 inbound, 31 outbound) in the evening peak hour. As the ITE Trip Generation Manual does not provide pass-by rates for Land Use Code 822, a 40% pass-by trip rate was obtained from Land Use Code 821 – Shopping Plaza (40-150k) as a conservative approach to calculating the total existing trips.

After applying the 40% pass-by trip rate to daily, AM and PM peak hour trips, the total trips generated by the existing use are approximately 311 trips daily with 13 trips (8 inbound, 5

outbound) in the morning peak hour and 38 trips (19 inbound, 19 outbound) in the evening peak hour.

The trips expected to be generated by the proposed McDonald's Drive-Through Restaurant project were calculated using trip generation rates published in the ITE Trip Generation Manual, 11th Edition. Trip rates are based on the following land use (LU) category:

- LU 934 – Fast-Food Restaurant w/ Drive-Thru

The proposed project is estimated to generate 1,954 trips on a daily basis with 186 trips (95 inbound, 91 outbound) in the morning peak hour and 138 trips (72 inbound, 66 outbound) in the evening peak hour. However, based on the ITE trip generation manual a pass-by trip rate of 49% in the AM peak hour and 50% PM peak hour was applied to the trips generated from the proposed McDonald's Drive-Through Restaurant. As the ITE Trip Generation Manual does not provide pass-by rates for daily trips, the daily pass-by trip percentage was assumed to be the average of the morning and evening peak periods (49.5%).

After subtracting the trips generated from the existing mixed used retail building and the pass-by trips, the project is estimated to generate a net 675 daily trips, with 82 morning peak hour trips and 31 evening peak hour trips. A summary of the project trip generation is shown on **Attachment B**.

LEVEL OF SERVICE (LOS) SCREENING

Based on City of Moreno Valley guidelines, certain types of projects are exempt from Traffic Impact Analysis (TIA) preparation based on their size, nature, or location. City guidelines present the following criteria:

“The following activities generally will not require a TIA that includes LOS analysis. This presumption is based on the activities associated with the project (e.g. they are local serving) or the limited trip generation of the project (e.g. projects that generate less than 100 peak hour trips as projects that generate 100 or less trips typically do not affect LOS significantly once distributed to the local roadway network).”

Based on the project trip generation provided in Attachment B, the proposed project will not exceed the 100-peak hour trip threshold established by the City. Therefore, the project would be exempt from LOS analysis.

VMT Screening

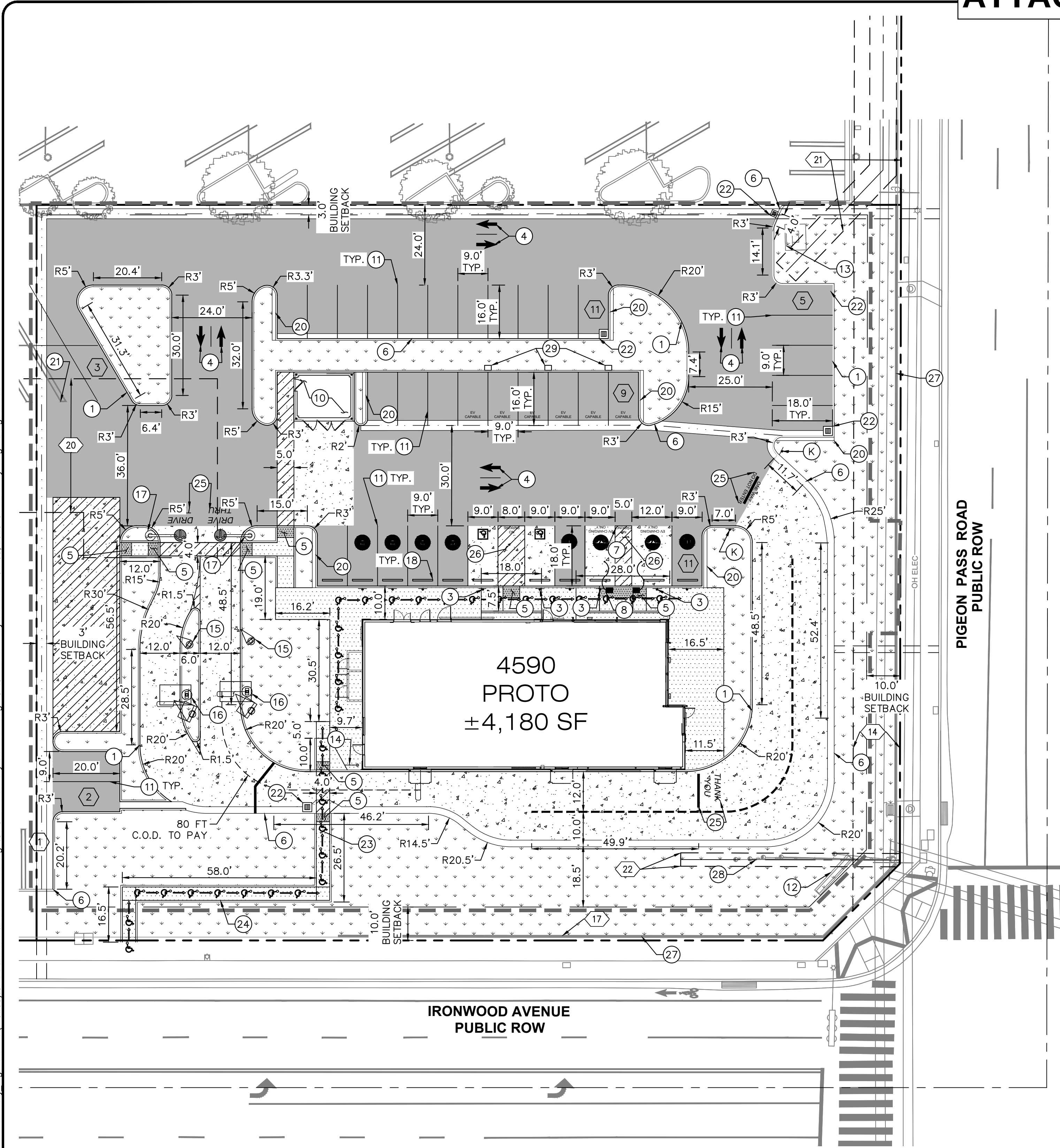
As the proposed McDonald's Drive-Through Restaurant is a locally-serving retail development with a building area of 4,180 square-feet, based on City of Moreno Valley *Transportation Impact*

Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment (July 2020), the project will not require a further VMT Analysis.

FINDINGS AND CONCLUSION

Based on the guidelines mentioned in the *City of Moreno Valley Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment (June 2020)* and the analysis provided in this memorandum, the proposed McDonald's Drive-Through Restaurant project would be screened out of further LOS and VMT analysis.

ATTACHMENT A



LEGEND:

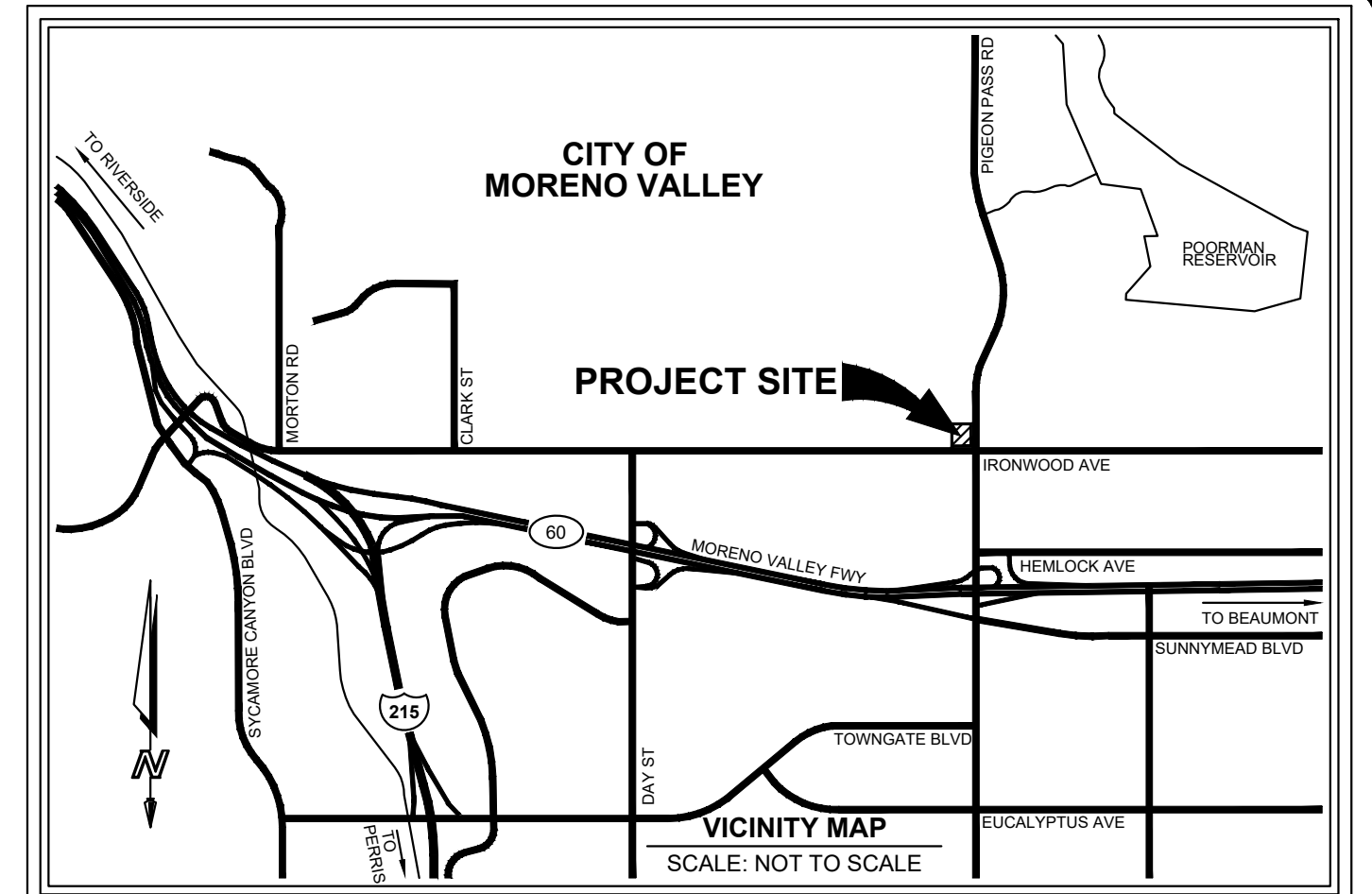
- CENTER LINE
- PROPERTY LINE
- - - RIGHT-OF-WAY LINE / LEASE LINE
- - - EASEMENT LINE / SETBACK LINE
- - - APPROXIMATE LIMIT OF WORK LINE
- [Pattern] STANDARD DUTY CONCRETE PAVEMENT
- [Pattern] HEAVY DUTY CONCRETE PAVEMENT
- [Pattern] LANDSCAPE/PLANTER AREA
- [Pattern] HEAVY DUTY ASPHALT PAVEMENT
- [Pattern] DETECTABLE WARNING SYSTEM
- [Symbol] ACCESSIBLE ROUTE (LOCATION PURPOSES ONLY, DO NOT PAINT)
- [Symbol] SIGN POST
- [Symbol] ACCESSIBLE PARKING SPACE
- [Symbol] NUMBER OF PARKING SPACES

LEGAL DESCRIPTION

THE LAND REFERRED TO IS SITUATED IN THE COUNTY OF RIVERSIDE, CITY OF MORENO VALLEY, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:
 PARCEL 2 OF PARCEL MAP NO. 23013, AS SHOWN BY MAP ON FILE IN BOOK 152 PAGES 79 AND 80, OF PARCEL MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

SIGN INFORMATION

(K) CMUTCD SIGN R5-1 - "DO NOT ENTER"



SITE DATA

PROJECT DESCRIPTION: DEMOLITION OF EXISTING PARKING LOT AND BUILDING. NEW CONSTRUCTION OF A MCDONALD'S DRIVE THRU RESTAURANT AND PARKING LOT.
ADDRESS: 11875 PIGEON PASS RD, MORENO VALLEY, CA 92557
APN: 264-030-025
ZONING DISTRICT: CC-GENERAL COMMERCIAL
ADJACENT ZONING DISTRICTS:
 N: R20 - MULTI-FAMILY
 W: R5 - SUBURBAN RESIDENTIAL
 S: RS10 - SUBURBAN RESIDENTIAL
 E: R5 - SUBURBAN RESIDENTIAL
LAND USE: COMMERCIAL
ADJACENT LAND USE:
 N: RESIDENTIAL
 W: RESIDENTIAL
 S: RESIDENTIAL
 E: RESIDENTIAL
GENERAL PLAN DISTRICT: CC - GENERAL COMMERCIAL
SPECIFIC PLAN: NONE
FLOOD ZONE: ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 0.02% ANNUAL CHANCE FLOODPLAIN.

TOTAL DISTURBED AREA:	50,968 S.F.	(1.17 AC)	
TOTAL PAD AREA:	4,180 S.F.	(0.10 AC)	
TOTAL LEASE AREA:	56,529 S.F.	(1.30 AC)	
TOTAL COMMERCIAL CENTER AREA:	433,881 S.F.	(9.96 AC)	
LOT COVERAGE			
TOTAL LEASE AREA:	56,529 S.F.	(1.30 AC)	100%
BUILDING AREA:	4,180 S.F.	(0.10 AC)	7.4%
IMPERVIOUS AREA:	34,682 S.F.	(0.80 AC)	61.4%
LANDSCAPE AREA:	17,667 S.F.	(0.41 AC)	31.2%

PARKING/LANDSCAPE BUFFER	
FRONT:	3.0'
REAR:	10.0'
SIDE (W):	10.0'
SIDE (E):	3.0'

PARKING SUMMARY: MCDONALD'S: 4,180 S.F. (1 STALL/100 S.F.) = 42 STALLS REQUIRED PER CITY CODE
 • ADA PARKING FOR 26-50 PARKING STALLS = 2 ADA PARKING STALLS REQUIRED, PER 2022 CBC.
 • EV FOR 26-50 PARKING STALLS = 8 EV CAPABLE STALLS REQUIRED PER 2022 CALGREEN WITH 2 STALLS HAVING EV CHARGERS INSTALLED.
 - 1 EV STALL MUST BE VAN ACCESSIBLE
 - 1 EV STALL MUST BE STANDARD ACCESSIBLE.
TOTAL NUMBER OF PARKING SPACES PROVIDED = 42

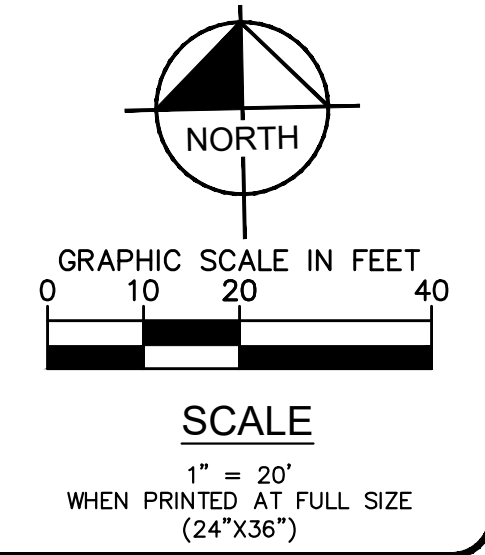
PARKING TABLE:	MCDONALD'S REQUIRED	PROVIDED
STANDARD	32	30
EV CAPABLE	6	6
EV CHARGING	2	2
ACCESSIBLE TOTAL:	2	4
	42	42

CONSTRUCTION NOTES:

- 1 CONCRETE CURB
- 2 CONCRETE CURB AND GUTTER
- 3 ACCESSIBLE PARKING STALL SIGN
- 4 DIRECTIONAL MARKING PER PLAN
- 5 ACCESSIBLE RAMP WITH DETECTABLE WARNING (TRUNCATED DOMES)
- 6 JOIN EXISTING CURB, CURB & GUTTER, SIDEWALK.
- 7 "EV CHARGING ONLY" IN 12" HIGH WHITE LETTERS AT THE END OF PARKING STALL
- 8 E/V CHARGING STATION. CONDUIT TO BE RAN FROM BUILDING SWITCHGEAR TO STALL FOR CONNECTION
- 9 ADA PATH OF TRAVEL SIGN
- 10 COVERED TRASH ENCLOSURE AND RECYCLING BIN STORAGE
- 11 STANDARD 90° PARKING STALL STRIPING.
- 12 EXISTING SIGN TO REMAIN
- 13 EXISTING TRANSFORMER TO REMAIN
- 14 SHORT TERM BIKE RACK
- 15 PREVIEW BOARD
- 16 ORDER BOARD
- 17 HEIGHT DETECTOR POLE
- 18 INSTALL WHEELSTOPS FOR PARKING SPACES ADJACENT TO WALKWAYS
- 19 ACCESSIBLE PATH OF TRAVEL STRIPING. ACCESSIBLE PATHS SHALL BE ENHANCED PAVING.
- 20 18" WALK-OFF CURB
- 21 STANDARD PARKING STALL TO REMAIN
- 22 24" X 24" JENSEN PRECAST DROP INLET WITH CATCH BASIN FILTER INSERT FOR TRASH CAPTURE.
- 23 ACCESSIBLE RAMP WITH HANDRAILS
- 24 INSTALL HANDRAILS
- 25 DRIVE-THRU PAVEMENT MARKING PER PLAN
- 26 ACCESSIBLE PARKING STALL STRIPING
- 27 EXISTING WALL TO REMAIN
- 28 EXISTING ELECTRICAL UTILITIES TO REMAIN
- 29 PROPOSED HANDHOLE. CONDUIT TO BE RUN FROM BUILDING SWITCHGEAR FOR FUTURE DUAL PORT EV CHARGER INSTALLATION

TITLE REPORT EXCEPTIONS

- 14 14' PUBLIC UTILITY EASEMENT TO SOCAL EDISON PER INST. NO. 18906
- 17 RELINQUISHMENT OF ABUTTERS RIGHTS PER PARCEL MAP NO. 23013
- 20 VARIABLE WIDTH WATER EASEMENT TO EASTERN MUNICIPAL WATER DISTRICT PER INST. NO. 88-317605
- 21 8' UTILITY EASEMENT TO SOCAL EDISON PER INST. NO. 88-336691
- 22 4' UTILITY EASEMENT TO SOCAL EDISON PER INST. NO. 88-383121



Kimley»Horn
 73700 DINAH SHORE DRIVE, UNIT 101 | PALM DESERT, CA 92211
 PHONE: (760) 565-5103 | www.kimley-horn.com

TITLE: PRELIMINARY SITE PLAN

PROJECT: MCDONALD'S 4-5290

LOCATION: MORENO VALLEY, CA

JOB NUMBER: 194015076
 SCALE: 1" = 20'
 DATE: 7/3/2025
 SHEET: C1.0 1 OF 1

THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC. COPYRIGHT KIMLEY-HORN AND ASSOCIATES, INC., 2020

ATTACHMENT B
SUMMARY OF PROJECT TRIP GENERATION COMPARISON
EXISTING: MULTI-TENANT RETAIL BUILDING / PROPOSED: MCDONALD'S DRIVE-THROUGH RESTAURANT

Land Use	ITE Code	Unit	Trip Generation Rates ¹						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Strip Retail Plaza (<40k)	822	KSF	54.450	1.416	0.944	2.360	3.295	3.295	6.590
Fast-Food Restaurant w/ Drive-thru	934	KSF	467.480	22.751	21.859	44.610	17.176	15.854	33.030
Trip Generation Estimates									
Land Use	Quantity	Unit	Trip Generation Estimates						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Existing Use									
Strip Retail Plaza (<40k)	9.527	KSF	519	13	9	22	31	31	62
<i>Pass-by Trips (40% AM, 40% PM) ^{2,3}</i>			-208	-5	-4	-9	-12	-12	-24
Total Existing Trips			311	8	5	13	19	19	38
Proposed Use									
Fast-Food Restaurant w/ Drive-thru	4.180	KSF	1,954	95	91	186	72	66	138
<i>Pass-by Trips (49% AM, 50% PM) ²</i>			-967	-47	-45	-91	-36	-33	-69
Total Proposed Project Trips			987	48	46	95	36	33	69
Net Difference (Proposed Minus Existing)			675	41	41	82	17	14	31

¹ Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition

² Note: The ITE Trip Generation Manual does not provide pass-by rates for daily trip generation. The daily pass-by trips shown are the average of the AM and the PM pass-by trips.

³ Note: The ITE Trip Generation Manual does not provide pass-by rates for Land Use Code 822. The pass-by trip rates shown were obtained from Land Use Code 821 as a conservative approach in calculation.

Appendix B – Queuing Analysis

July 21, 2025

Wei Sun
Principal Engineer
City of Moreno Valley
14177 Frederick Street
Moreno Valley, CA 92552

Subject: *Drive-Through Queuing Analysis for the Proposed McDonald's Restaurant in the City of Moreno Valley*

This memorandum has been prepared to evaluate the drive-through queuing capacity of the proposed McDonald's Restaurant project located at the northwest corner of Pigeon Pass Road and Ironwood Avenue in the City of Moreno Valley.

PROJECT DESCRIPTION

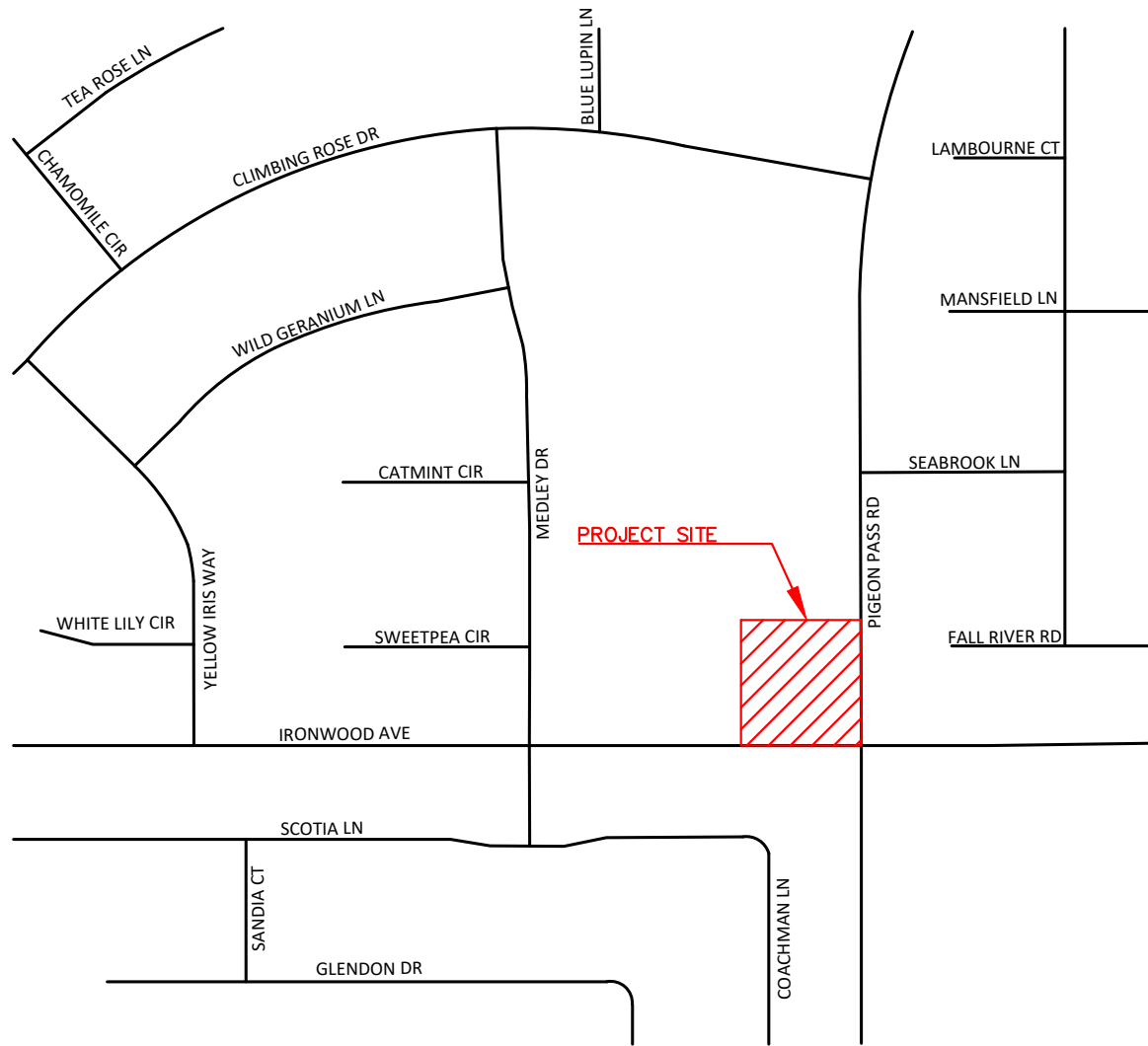
The applicant proposes to demolish an existing 9,527 square-foot multi-tenant retail building and develop a 4,180 square-foot McDonald's restaurant with drive-through. The project site is currently occupied and is bounded by Ironwood Avenue to the south, Pigeon Pass Road to the east, and commercial uses to the north and west. The project is shown in its regional setting on **Figure 1**. The proposed project site is shown on **Figure 2**. Access to the project site would be provided via two existing driveways; one right-in only, full movement out driveway located along Ironwood Avenue and one full-movement driveway located along Pigeon Pass Road. Direct vehicular access to the proposed McDonald's Restaurant within Pigeon Pass Plaza will be provided via drive aisles located in the shared parking lot.

DRIVE-THROUGH QUEUING ANALYSIS

The City has requested that a drive-through queuing analysis be conducted for the proposed project to evaluate the adequacy of the proposed drive-through lane queuing capacity. Furthermore, this memorandum will analyze any potential conflicts between queues at the proposed McDonalds restaurant and other vehicles circulating the site, as well as any conflicts with arriving and departing vehicles along the project driveway and on-site access aisles.



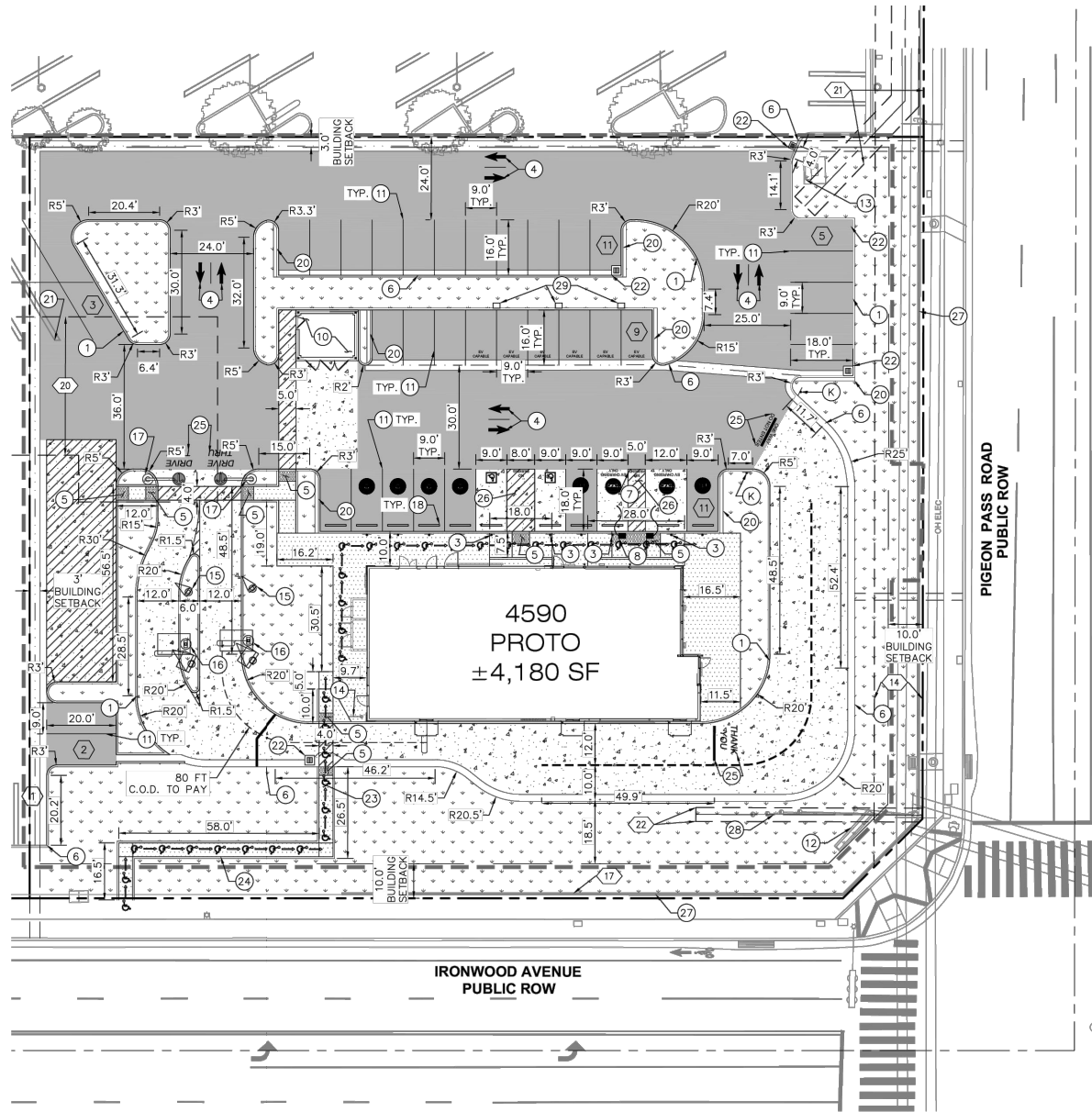
NOT TO SCALE



**FIGURE 1
VICINITY MAP**



NOT TO SCALE



**FIGURE 2
PROJECT SITE PLAN**

Proposed McDonald's Restaurant

The proposed McDonald's restaurant is located on the southern portion of the project site. The opening to the drive-through lane for the proposed McDonald's would be located northwest of the proposed building. The drive-through lane would circulate in a counterclockwise direction around the west, south, and east of the building.

The drive-through would provide two side-by-side entry lanes and two order boards, which would allow McDonald's to take orders from two customers at the same time. After the order boards, the two lanes would merge into a single pay and pick-up lane. There will be approximately 100 ft of total queuing lane capacity (approximately 50 ft per lane) from the opening of the two drive-through lanes to the two order boards. There will be approximately 70 ft of dual-lane queuing capacity (approximately 35 ft per lane), 55 ft of single-lane queuing capacity from order boards to payment window and approximately 70 ft of total queuing lane capacity from payment window to pick-up window. This would provide a total drive-through queue length of approximately 295 ft, for a drive-through queuing capacity of 14 vehicles, assuming 21 ft per vehicle from the beginning of the drive-through lanes to the pick-up window.

It should be noted a second queuing/egress lane is provided, beginning just before the pick-up window, and terminating at the drive-through exit. This lane is intended to provide additional queuing capacity for McDonald's customers who have paid but are waiting to receive their order, and is meant to service vehicles during peak times to ensure the drive-through queue does not exceed capacity. McDonald's staff would deliver food to the vehicles queued in this lane. The secondary lane provides approximately 180 ft of additional queuing capacity, equal to 8 vehicles. Accordingly, peak drive-through queuing capacity would be 475 feet, equal to 22 vehicles.

While regular customers who are familiar with the menu choices typically would complete the order part of the process in less than the average time, infrequent or new customers are more likely to dwell at the menu board before making their choices, slowing down the process for upstream vehicles. As a result, the order board is considered to be the most significant bottleneck in the drive-through process.

The side-by-side ordering configuration, as proposed by McDonald's, would provide two lanes with a separate order board for each lane. This will increase the number of customers processed through the order board portion of the drive-through, and "keep the line moving" even if one customer takes a longer-than-average time to make their menu selections, allowing the restaurant to continue to take and complete orders from the other order lane. The newest customer to arrive at the drive-through entrance will naturally choose the empty lane or the shorter line, so that one customer who takes a longer time to order at one order board can be bypassed, thereby not holding up the entire drive-through line.

With the added efficiency of having two order boards and the ability to by-pass customers taking a longer-than-average time to order at the other order board, the service rate would increase, compared to a single order board, as more orders can be processed. The kitchen staff would receive orders at a more efficient rate, which would allow them to continue preparing meals, rather than wait for the slower customer to finish ordering. Therefore, the efficiency at the pick-up window would increase, compared to a single drive-through lane, because the meals would be processed at a more efficient rate.

The proposed McDonald's restaurant would also utilize mobile ordering to improve efficiency of service. Customers would use the McDonald's mobile app to place and pay for their order prior to arriving at the restaurant. Once the customer has arrived, they would notify staff through the McDonald's app that they have parked in the designated mobile order parking stall, at which point staff would deliver the food to the customer's vehicle. The customer would also have the option to go into the store to pick up their order upon notification of their arrival through the app.

Customers utilizing mobile order pickup would not access the drive-through. Therefore, it is reasonable to assume that the use of mobile order pickup would reduce overall drive-through queueing demand, and may be a viable strategy to combat excessive drive-through queueing, should it exist. However, the data analysis within this memorandum will focus on anticipated drive-through demand independent of mobile ordering.

Queuing Data Collection

Drive-through queuing observations and counts were conducted at the following existing McDonald's restaurant with drive-through sites:

- City of Eastvale: 12508 Limonite Ave (~3950 SF; Drive-Through Capacity: 11 vehicles)
- City of Norco: 1511 Sixth St (~3900 SF; Drive-Through Capacity: 9 vehicles)
- City of Norco: 150 Hidden Valley Pkwy (~5030 SF; Drive-Through Capacity: 9 vehicles)

These sites were selected for queuing data collection because of the following site characteristics that are similar to the proposed project:

- A Fast-Food Restaurant w/ Drive-Through Lane adjacent to commercial uses
- Located in Riverside County
- Dual side-by-side drive-through lanes/dual order boards

Additionally, all three sites are adjacent to high-volume arterials and are located less than 0.40 miles from I-15. As such, drive-through queues at these locations are expected to be greater than those experienced for a restaurant along Ironwood Avenue, providing a conservative estimate of drive-through demand for comparison to the proposed project.

The drive-through activity was observed during a typical weekday morning peak period, from 7:00 AM to 9:00 AM, midday peak period, from 11:00 AM to 1:00 PM, and evening peak period, from 4:00 PM to 6:00 PM. The results of the observations are summarized on **Table 1**. The data was collected on Tuesday, September 10 when local schools were in session in order to account for typical local traffic patterns.

The data summarized on **Table 1** presents the number of vehicles in the drive-through lane, broken down into 15-minute periods, based on the observed average queue, and the peak queue for each of the data collection periods. A copy of the queuing data collection worksheets is provided in **Attachment A**.

The drive-through activity was also observed during a typical weekend morning peak period, from 7:00 AM to 9:00 AM, midday peak period, from 11:00 AM to 1:00 PM, and evening peak period, from 4:00 PM to 6:00 PM. The results of the observations are summarized on **Table 2**. The data was collected on Saturday, September 7 after the start of the local school year in order to account for typical local traffic patterns.

The data summarized on **Table 2** presents the number of vehicles in the drive-through lane, broken down into 15-minute periods, based on the observed average queue, and the peak queue for each of the data collection periods.

TABLE 1
SUMMARY OF DRIVE-THROUGH QUEUING DATA COLLECTION
TYPICAL WEEKDAY - MCDONALDS
AVERAGE AND PEAK QUEUES

Time Period	Number of Drive-through Vehicles in the Queue					
	Average Queue			Peak Queue		
	12508 Limonite Ave	1511 Sixth St	150 Hidden Valley Pkwy	12508 Limonite Ave	1511 Sixth St	150 Hidden Valley Pkwy
7:00 - 7:15 AM	3.5	1.8	3.3	7	3	4
7:15 - 7:30 AM	3.5	1.0	2.5	7	2	4
7:30 - 7:45 AM	4.8	3.8	2.8	6	6	5
7:45 - 8:00 AM	5.3	4.5	3.5	6	6	5
8:00 - 8:15 AM	7.0	5.3	3.5	10	7	5
8:15 - 8:30 AM	5.3	5.0	3.5	8	7	4
8:30 - 8:45 AM	5.0	4.5	4.0	6	7	6
8:45 - 9:00 AM	4.5	2.8	4.8	6	4	7
Highest Value	7.0	5.3	4.8	10	7	7
11:00 - 11:15 AM	4.0	2.3	2.8	5	3	5
11:15 - 11:30 AM	6.3	1.0	2.3	9	2	4
11:30 - 11:45 AM	5.5	2.5	1.5	6	4	4
11:45 - 12:00 PM	8.0	1.5	2.5	10	3	5
12:00 - 12:15 PM	6.8	1.8	5.3	9	2	10
12:15 - 12:30 PM	2.5	2.5	8.8	3	4	10
12:30 - 12:45 PM	2.3	1.3	7.8	3	3	9
12:45 - 1:00 PM	2.8	3.3	6.0	5	5	9
Highest Value	8.0	3.3	8.8	10	5	10
4:00 - 4:15 PM	6.8	2.0	3.3	9	3	6
4:15 - 4:30 PM	7.8	2.0	5.5	10	4	8
4:30 - 4:45 PM	4.5	1.5	2.3	8	2	4
4:45 - 5:00 PM	9.5	1.3	4.3	12	3	7
5:00 - 5:15 PM	7.8	1.8	3.0	9	3	5
5:15 - 5:30 PM	4.5	3.5	4.0	6	5	5
5:30 - 5:45 PM	3.5	2.8	2.3	6	4	4
5:45 - 6:00 PM	2.8	2.3	2.5	4	3	3
Highest Value	9.5	3.5	5.5	12	5	8

TABLE 2
SUMMARY OF DRIVE-THROUGH QUEUING DATA COLLECTION
TYPICAL WEEKEND - MCDONALDS
AVERAGE AND PEAK QUEUES

Time Period	Number of Drive-through Vehicles in the Queue					
	Average Queue			Peak Queue		
	12508 Limonite Ave	1511 Sixth St	150 Hidden Valley Pkwy	12508 Limonite Ave	1511 Sixth St	150 Hidden Valley Pkwy
7:00 - 7:15 AM	4.8	5.0	2.0	9	6	4
7:15 - 7:30 AM	4.5	6.3	2.0	6	8	3
7:30 - 7:45 AM	5.0	4.8	2.5	6	6	3
7:45 - 8:00 AM	5.8	5.3	1.5	6	6	3
8:00 - 8:15 AM	4.3	5.5	2.0	6	8	4
8:15 - 8:30 AM	8.5	7.5	1.3	11	10	3
8:30 - 8:45 AM	9.0	7.5	1.5	11	10	3
8:45 - 9:00 AM	8.3	3.5	1.0	11	5	2
Highest Value	9.0	7.5	2.5	11	10	4
11:00 - 11:15 AM	11.3	1.0	4.0	13	2	6
11:15 - 11:30 AM	10.8	4.3	2.8	15	6	4
11:30 - 11:45 AM	9.8	5.3	2.5	11	6	4
11:45 - 12:00 PM	9.3	5.3	2.5	10	7	3
12:00 - 12:15 PM	8.0	4.8	4.5	10	6	6
12:15 - 12:30 PM	10.0	5.3	8.5	12	6	11
12:30 - 12:45 PM	10.0	5.0	6.3	12	6	8
12:45 - 1:00 PM	10.0	4.5	6.5	12	5	8
Highest Value	11.3	5.3	8.5	15	7	11
4:00 - 4:15 PM	8.0	2.8	4.5	11	5	6
4:15 - 4:30 PM	5.8	1.8	4.3	11	3	6
4:30 - 4:45 PM	9.0	2.3	4.0	11	3	5
4:45 - 5:00 PM	7.0	0.8	3.8	9	2	7
5:00 - 5:15 PM	8.8	1.0	1.8	11	2	4
5:15 - 5:30 PM	6.8	1.8	2.5	11	3	4
5:30 - 5:45 PM	9.3	1.0	2.3	13	2	4
5:45 - 6:00 PM	11.5	1.0	1.5	13	3	2
Highest Value	11.5	2.8	4.5	13	5	7

Queuing Observations

The queuing activity was observed to vary with an ebb and flow pattern throughout the data collection periods. The following vehicle movement and queuing observations of the drive-through operations at the study locations were made:

12508 Limonite Ave Site

The following observations were made during a typical weekday:

- The peak 15 minutes during the weekday morning peak was from 8:00 AM to 8:15 AM with an approximate average queue of 7 vehicles and a peak queue of 10 vehicles.
- The peak 15 minutes during the weekday mid-day peak was from 11:45 AM to 12:00 PM with an approximate average queue of 8 vehicles and peak queue of 10 vehicles.
- The peak 15 minutes during the weekday evening peak was from 4:45 PM to 5:00 PM with an approximate average queue of 10 vehicles and peak queue of 12 vehicles.

The following observations were made during a typical weekend:

- The peak 15 minutes during the weekday morning peak was from 8:30 AM to 8:45 AM with an approximate average queue of 9 vehicles and a peak queue of 11 vehicles.
- The peak 15 minutes during the weekday mid-day peak was from 11:15 AM to 11:30 AM with an approximate average queue of 11 vehicles and peak queue of 15 vehicles.
- The peak 15 minutes during the weekday evening peak was from 5:45 PM to 6:00 PM with an approximate average queue of 12 vehicles and peak queue of 13 vehicles.

1511 Sixth St Site

The following observations were made during a typical weekday:

- The peak 15 minutes during the weekday morning peak was from 8:00 AM to 8:15 AM with an approximate average queue of 5 vehicles and a peak queue of 7 vehicles.
- The peak 15 minutes during the weekday mid-day peak was from 12:45 PM to 1:00 PM with an approximate average queue of 3 vehicles and peak queue of 5 vehicles.
- The peak 15 minutes during the weekday evening peak was from 5:15 PM to 5:30 PM with an approximate average queue of 4 vehicles and peak queue of 5 vehicles.

The following observations were made during a typical weekend:

- The peak 15 minutes during the weekday morning peak was from 8:15 AM to 8:30 AM with an approximate average queue of 8 vehicles and a peak queue of 10 vehicles.
- The peak 15 minutes during the weekday mid-day peak was from 11:45 AM to 12:00 PM with an approximate average queue of 5 vehicles and peak queue of 7 vehicles.
- The peak 15 minutes during the weekday evening peak was from 4:00 PM to 4:15 PM with an approximate average queue of 3 vehicles and peak queue of 5 vehicles.

150 Hidden Valley Pkwy Site

The following observations were made during a typical weekday:

- The peak 15 minutes during the weekday morning peak was from 8:45 AM to 9:00 AM with an approximate average queue of 5 vehicles and a peak queue of 7 vehicles.
- The peak 15 minutes during the weekday mid-day peak was from 12:15 PM to 12:30 PM with an approximate average queue of 9 vehicles and peak queue of 10 vehicles.
- The peak 15 minutes during the weekday evening peak was from 4:15 PM to 4:30 PM with an approximate average queue of 10 vehicles and peak queue of 8 vehicles.

The following observations were made during a typical weekend:

- The peak 15 minutes during the weekday morning peak was from 7:00 AM to 7:15 AM and 8:00 AM to 8:15 AM with an approximate average queue of 2 vehicles and a peak queue of 4 vehicles.
- The peak 15 minutes during the weekday mid-day peak was from 12:15 PM to 12:30 AM with an approximate average queue of 9 vehicles and peak queue of 11 vehicles.
- The peak 15 minutes during the weekday evening peak was from 4:45 PM to 5:00 PM with an approximate average queue of 4 vehicles and peak queue of 7 vehicles.

General Observations

- On occasion, spillover outside the drive-through lane was due to a delay at the order board, rather than a lack of capacity in the drive-through lane itself. A more-than-average delay at the order board (i.e., due to a large order, or indecisiveness on the part of the customer) would briefly hold up the movement of the queue, sometimes causing the remainder of the queue to extend beyond the drive-through lane opening. When the vehicle at the order board finished the ordering process and pulled forward, the remaining cars in the queue would once again move through the order and pick-up process at the normal pace, and the gap between the order board and the pick-up window would fill in.

- The proposed McDonald's fast-food restaurant has a drive-through capacity of approximately 14 vehicles under "regular" conditions and could accommodate up to 22 vehicles under peak conditions. It is anticipated that drive-through demand at the proposed McDonalds site would trend similarly to existing observations. Based on data collected at three similar existing McDonald's locations, the peak drive-through demand observed was 15 vehicles. Therefore, the proposed drive-through capacity of 22 vehicles under peak conditions would be expected to accommodate a similar demand.

CONCLUSIONS/RECOMMENDATIONS

The proposed McDonald's drive-through would provide queueing capacity for approximately 295 ft, equal to 14 vehicles under "regular" conditions and could accommodate up to 22 vehicles under peak conditions, assuming 21 feet per vehicle, from the pick-up window to the opening of the drive-through lane. The peak queue is estimated to be 15 vehicles. Based on the proposed drive-through queueing capacity and estimated peak drive-through queue demand, the McDonald's would provide sufficient queueing capacity to accommodate the peak observed queue. No conflicts are anticipated between McDonald's drive through users and other McDonald's trips to and from the restaurant. Additionally, no conflicts are anticipated between McDonald's ingress/egress and the adjacent commercial uses. Furthermore, the use of mobile ordering through the McDonald's app can be emphasized to combat future increases in drive through demand, particularly as more customers adopt mobile app usage.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

**ATTACHMENT A -
QUEUING DATA COLLECTION WORKSHEETS**

DRIVE THRU SURVEY

LOCATION: McDonalds, 12508 Limonite Aveunue
CITY: Eastvale, CA

DAY: Tuesday
DATE: 9/10/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
7:00	1	3	0	4
7:05	5	2	0	7
7:10	0	1	0	1
7:15	1	1	0	2
7:20	0	0	0	0
7:25	2	5	0	7
7:30	2	3	0	5
7:35	2	2	0	4
7:40	1	3	0	4
7:45	5	1	0	6
7:50	5	0	0	5
7:55	3	2	0	5
8:00	3	2	0	5
8:05	1	4	0	5
8:10	6	4	0	10
8:15	6	2	0	8
8:20	3	2	0	5
8:25	2	2	0	4
8:30	4	0	0	4
8:35	4	1	0	5
8:40	2	3	0	5
8:45	4	2	0	6
8:50	3	1	0	4
8:55	3	1	0	4
9:00	3	1	0	4

DRIVE THRU SURVEY

LOCATION: McDonalds, 12508 Limonite Aveunue
CITY: Eastvale, CA

DAY: Tuesday
DATE: 9/10/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
11:00	3	2	0	5
11:05	1	1	0	2
11:10	3	2	0	5
11:15	4	0	0	4
11:20	2	4	0	6
11:25	4	5	0	9
11:30	5	1	0	6
11:35	3	1	0	4
11:40	5	1	0	6
11:45	3	3	0	6
11:50	6	4	0	10
11:55	4	3	0	7
12:00	5	4	0	9
12:05	5	4	0	9
12:10	6	0	0	6
12:15	3	0	0	3
12:20	1	2	0	3
12:25	2	1	0	3
12:30	1	0	0	1
12:35	1	2	0	3
12:40	3	0	0	3
12:45	0	2	0	2
12:50	2	3	0	5
12:55	1	0	0	1
13:00	2	1	0	3

DRIVE THRU SURVEY

LOCATION: McDonalds, 12508 Limonite Aveunue
CITY: Eastvale, CA

DAY: Tuesday
DATE: 9/10/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
16:00	1	3	0	4
16:05	3	3	0	6
16:10	4	4	0	8
16:15	5	4	0	9
16:20	5	2	0	7
16:25	6	4	0	10
16:30	4	1	0	5
16:35	0	0	0	0
16:40	4	1	0	5
16:45	4	4	0	8
16:50	5	5	2	12
16:55	6	4	0	10
17:00	6	2	0	8
17:05	6	2	0	8
17:10	7	2	0	9
17:15	4	2	0	6
17:20	3	2	0	5
17:25	3	0	0	3
17:30	2	2	0	4
17:35	6	0	0	6
17:40	2	1	0	3
17:45	1	0	0	1
17:50	3	0	0	3
17:55	1	2	0	3
18:00	3	1	0	4

DRIVE THRU SURVEY

LOCATION: McDonalds, 12508 Limonite Aveunue
CITY: Eastvale, CA

DAY: Saturday
DATE: 9/7/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
7:00	6	3	0	9
7:05	4	1	0	5
7:10	0	0	0	0
7:15	3	2	0	5
7:20	1	4	0	5
7:25	2	0	0	2
7:30	4	2	0	6
7:35	4	0	0	4
7:40	1	3	0	4
7:45	3	3	0	6
7:50	4	1	0	5
7:55	5	1	0	6
8:00	5	1	0	6
8:05	4	0	0	4
8:10	3	0	0	3
8:15	3	1	0	4
8:20	4	4	0	8
8:25	5	6	0	11
8:30	6	5	0	11
8:35	6	3	0	9
8:40	5	2	0	7
8:45	6	3	0	9
8:50	2	3	0	5
8:55	3	5	0	8
9:00	5	6	0	11

DRIVE THRU SURVEY

LOCATION: McDonalds, 12508 Limonite Aveunue
CITY: Eastvale, CA

DAY: Saturday
DATE: 9/7/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
11:00	6	4	0	10
11:05	5	7	1	13
11:10	7	5	1	13
11:15	4	5	0	9
11:20	5	3	0	8
11:25	6	5	4	15
11:30	6	5	0	11
11:35	6	4	0	10
11:40	5	3	0	8
11:45	4	5	1	10
11:50	5	3	0	8
11:55	5	4	0	9
12:00	5	5	0	10
12:05	6	1	0	7
12:10	4	3	0	7
12:15	4	4	0	8
12:20	5	5	0	10
12:25	6	4	0	10
12:30	6	6	0	12
12:35	4	4	0	8
12:40	6	4	0	10
12:45	5	5	0	10
12:50	5	5	2	12
12:55	5	4	0	9
13:00	6	3	0	9

DRIVE THRU SURVEY

LOCATION: McDonalds, 12508 Limonite Aveunue
 CITY: Eastvale, CA

DAY: Saturday
 DATE: 9/7/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
16:00	6	5	0	11
16:05	5	5	0	10
16:10	6	1	0	7
16:15	3	1	0	4
16:20	2	1	0	3
16:25	5	0	0	5
16:30	6	5	0	11
16:35	6	3	0	9
16:40	6	2	0	8
16:45	4	4	0	8
16:50	4	2	0	6
16:55	4	4	1	9
17:00	4	1	0	5
17:05	6	2	0	8
17:10	7	4	0	11
17:15	7	4	0	11
17:20	6	1	0	7
17:25	5	0	0	5
17:30	1	3	0	4
17:35	4	5	0	9
17:40	6	4	1	11
17:45	6	6	1	13
17:50	6	5	0	11
17:55	6	3	0	9
18:00	6	5	2	13

DRIVE THRU SURVEY

LOCATION: McDonalds, 1511 Sixth Street
CITY: Norco CA

DAY: Tuesday
DATE: 9/10/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
7:00	0	1	0	1
7:05	1	2	0	3
7:10	1	2	0	3
7:15	0	0	0	0
7:20	1	1	0	2
7:25	0	0	0	0
7:30	2	0	0	2
7:35	2	2	0	4
7:40	0	3	0	3
7:45	3	3	0	6
7:50	3	1	0	4
7:55	2	2	0	4
8:00	2	2	0	4
8:05	2	4	1	7
8:10	1	4	1	6
8:15	2	2	0	4
8:20	2	2	0	4
8:25	1	4	0	5
8:30	1	4	2	7
8:35	3	3	0	6
8:40	3	2	0	5
8:45	0	0	0	0
8:50	2	2	0	4
8:55	1	2	0	3
9:00	2	2	0	4

DRIVE THRU SURVEY

LOCATION: McDonalds, 1511 Sixth Street
CITY: Norco, CA

DAY: Tuesday
DATE: 9/10/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
11:00	2	1	0	3
11:05	2	0	0	2
11:10	1	1	0	2
11:15	1	1	0	2
11:20	0	0	0	0
11:25	0	2	0	2
11:30	0	0	0	0
11:35	1	3	0	4
11:40	1	2	0	3
11:45	2	1	0	3
11:50	1	0	0	1
11:55	0	0	0	0
12:00	0	2	0	2
12:05	1	1	0	2
12:10	1	1	0	2
12:15	1	0	0	1
12:20	2	0	0	2
12:25	1	3	0	4
12:30	1	2	0	3
12:35	1	0	0	1
12:40	0	0	0	0
12:45	0	1	0	1
12:50	2	2	0	4
12:55	2	1	0	3
13:00	1	3	1	5

DRIVE THRU SURVEY

LOCATION: McDonalds, 1511 Sixth Street
CITY: Norco CA

DAY: Tuesday
DATE: 9/10/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
16:00	2	0	0	2
16:05	3	0	0	3
16:10	1	0	0	1
16:15	2	0	0	2
16:20	0	1	0	1
16:25	3	1	0	4
16:30	1	0	0	1
16:35	1	0	0	1
16:40	1	1	0	2
16:45	1	1	0	2
16:50	3	0	0	3
16:55	0	0	0	0
17:00	0	0	0	0
17:05	2	0	0	2
17:10	1	1	0	2
17:15	2	1	0	3
17:20	2	1	0	3
17:25	2	3	0	5
17:30	1	2	0	3
17:35	2	2	0	4
17:40	1	0	0	1
17:45	2	1	0	3
17:50	0	2	0	2
17:55	0	2	0	2
18:00	2	0	0	2

DRIVE THRU SURVEY

LOCATION: McDonalds, 1511 Sixth Street
CITY: Norco CA

DAY: Saturday
DATE: 9/7/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
7:00	1	3	0	4
7:05	3	2	0	5
7:10	1	4	0	5
7:15	2	3	1	6
7:20	2	3	0	5
7:25	3	4	1	8
7:30	2	3	1	6
7:35	1	3	0	4
7:40	1	2	0	3
7:45	2	3	1	6
7:50	2	4	0	6
7:55	1	3	1	5
8:00	2	2	0	4
8:05	1	3	0	4
8:10	1	4	1	6
8:15	1	4	3	8
8:20	2	3	0	5
8:25	3	3	1	7
8:30	2	4	4	10
8:35	2	4	3	9
8:40	2	4	1	7
8:45	1	3	0	4
8:50	1	4	0	5
8:55	1	2	0	3
9:00	0	2	0	2

DRIVE THRU SURVEY

LOCATION: McDonalds, 1511 Sixth Street
CITY: Norco, CA

DAY: Saturday
DATE: 9/7/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
11:00	0	1	0	1
11:05	0	0	0	0
11:10	1	0	0	1
11:15	1	1	0	2
11:20	1	3	0	4
11:25	1	3	1	5
11:30	2	4	0	6
11:35	1	3	1	5
11:40	1	3	1	5
11:45	2	3	0	5
11:50	3	3	1	7
11:55	0	2	1	3
12:00	2	4	0	6
12:05	2	1	0	3
12:10	1	4	0	5
12:15	2	3	0	5
12:20	1	4	1	6
12:25	1	3	0	4
12:30	2	3	1	6
12:35	0	3	2	5
12:40	1	3	0	4
12:45	2	3	0	5
12:50	1	3	1	5
12:55	1	3	1	5
13:00	1	2	0	3

DRIVE THRU SURVEY

LOCATION: McDonalds, 1511 Sixth Street
CITY: Norco CA

DAY: Saturday
DATE: 9/7/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
16:00	1	2	0	3
16:05	2	0	0	2
16:10	2	3	0	5
16:15	0	1	0	1
16:20	2	0	0	2
16:25	0	1	0	1
16:30	1	2	0	3
16:35	2	1	0	3
16:40	2	0	0	2
16:45	1	0	0	1
16:50	0	0	0	0
16:55	0	0	0	0
17:00	0	2	0	2
17:05	1	0	0	1
17:10	0	0	0	0
17:15	0	1	0	1
17:20	1	2	0	3
17:25	1	0	0	1
17:30	0	2	0	2
17:35	1	0	0	1
17:40	0	0	0	0
17:45	1	0	0	1
17:50	0	0	0	0
17:55	1	2	0	3
18:00	0	0	0	0

DRIVE THRU SURVEY

LOCATION: McDonalds, 150 Hidden Valley Parkway
CITY: Norco, CA

DAY: Tuesday
DATE: 9/10/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
7:00	3	0	0	3
7:05	2	1	0	3
7:10	0	1	2	3
7:15	3	1	0	4
7:20	1	1	0	2
7:25	4	0	0	4
7:30	0	0	0	0
7:35	0	2	0	2
7:40	4	1	0	5
7:45	4	0	0	4
7:50	2	2	0	4
7:55	1	0	0	1
8:00	3	2	0	5
8:05	2	1	0	3
8:10	2	0	0	2
8:15	1	2	1	4
8:20	1	1	0	2
8:25	2	2	0	4
8:30	4	0	0	4
8:35	1	2	1	4
8:40	3	2	1	6
8:45	0	2	0	2
8:50	3	1	0	4
8:55	6	1	0	7
9:00	5	1	0	6

DRIVE THRU SURVEY

LOCATION: McDonalds, 150 Hidden Valley Parkway
 CITY: Norco, CA

DAY: Tuesday
 DATE: 9/10/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
11:00	1	2	1	4
11:05	4	1	0	5
11:10	1	0	0	1
11:15	0	1	0	1
11:20	1	1	0	2
11:25	1	1	0	2
11:30	1	2	1	4
11:35	0	0	0	0
11:40	0	1	0	1
11:45	0	1	0	1
11:50	1	1	0	2
11:55	2	0	0	2
12:00	3	2	0	5
12:05	1	0	0	1
12:10	2	2	1	5
12:15	6	2	2	10
12:20	6	2	0	8
12:25	6	2	0	8
12:30	6	2	1	9
12:35	6	2	0	8
12:40	4	2	0	6
12:45	6	2	0	8
12:50	6	3	0	9
12:55	4	1	0	5
13:00	1	1	0	2

DRIVE THRU SURVEY

LOCATION: McDonalds, 150 Hidden Valley Parkway
CITY: Norco, CA

DAY: Tuesday
DATE: 9/10/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
16:00	3	0	0	3
16:05	1	0	0	1
16:10	3	0	0	3
16:15	6	0	0	6
16:20	6	2	0	8
16:25	4	1	0	5
16:30	3	0	0	3
16:35	1	0	0	1
16:40	0	1	0	1
16:45	2	1	1	4
16:50	1	0	0	1
16:55	4	2	1	7
17:00	4	1	0	5
17:05	3	0	0	3
17:10	1	0	0	1
17:15	3	0	0	3
17:20	4	1	0	5
17:25	2	2	0	4
17:30	2	2	0	4
17:35	2	0	0	2
17:40	0	0	0	0
17:45	2	1	0	3
17:50	1	1	0	2
17:55	2	0	0	2
18:00	3	0	0	3

DRIVE THRU SURVEY

LOCATION: McDonalds, 150 Hidden Valley Parkway
 CITY: Norco, CA

DAY: Saturday
 DATE: 9/7/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
7:00	1	0	0	1
7:05	1	1	2	4
7:10	0	1	0	1
7:15	1	1	0	2
7:20	1	0	0	1
7:25	3	0	0	3
7:30	1	1	0	2
7:35	1	1	0	2
7:40	1	2	0	3
7:45	2	1	0	3
7:50	0	0	0	0
7:55	1	1	0	2
8:00	1	0	0	1
8:05	1	1	0	2
8:10	2	2	0	4
8:15	1	0	0	1
8:20	0	0	0	0
8:25	1	0	0	1
8:30	3	0	0	3
8:35	1	0	0	1
8:40	1	1	0	2
8:45	0	0	0	0
8:50	2	0	0	2
8:55	1	0	0	1
9:00	1	0	0	1

DRIVE THRU SURVEY

LOCATION: McDonalds, 150 Hidden Valley Parkway
CITY: Norco, CA

DAY: Saturday
DATE: 9/7/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
11:00	1	2	0	3
11:05	2	1	0	3
11:10	4	2	0	6
11:15	4	0	0	4
11:20	1	1	0	2
11:25	1	2	0	3
11:30	0	2	0	2
11:35	1	2	1	1
11:40	3	1	0	4
11:45	2	1	0	3
11:50	2	1	0	3
11:55	2	0	0	2
12:00	2	0	0	2
12:05	2	2	1	5
12:10	3	2	0	5
12:15	4	2	0	6
12:20	8	2	1	11
12:25	6	2	1	9
12:30	6	2	0	8
12:35	3	0	0	3
12:40	3	2	1	6
12:45	6	2	0	8
12:50	5	1	0	6
12:55	5	1	0	6
13:00	4	2	0	6

DRIVE THRU SURVEY

LOCATION: McDonalds, 150 Hidden Valley Parkway
CITY: Norco, CA

DAY: Saturday
DATE: 9/7/2024

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance Overflow	TOTAL
16:00	1	2	0	3
16:05	3	1	0	4
16:10	4	2	0	6
16:15	3	2	0	5
16:20	6	0	0	6
16:25	1	0	0	1
16:30	3	1	1	5
16:35	3	2	0	5
16:40	4	1	0	5
16:45	0	1	0	1
16:50	5	2	0	7
16:55	4	1	0	5
17:00	1	1	0	2
17:05	1	0	0	1
17:10	0	0	0	0
17:15	4	0	0	4
17:20	1	1	1	3
17:25	2	0	0	2
17:30	1	0	0	1
17:35	2	2	0	4
17:40	3	0	0	3
17:45	0	1	0	1
17:50	2	0	0	2
17:55	1	1	0	2
18:00	1	0	0	1

Appendix C – Noise and Vibration Analysis Memorandum

MEMORANDUM

To: Hannah Luevano, P.E., Kimley-Horn and Associates, Inc.
From: Ryan Chiene and Jin Choi, Kimley-Horn and Associates, Inc.
Date: March 23, 2026
Subject: Moreno Valley McDonald's – Moreno Valley, CA – Noise and Vibration Analysis

PURPOSE

This memorandum has been prepared to evaluate the potential noise and vibration impacts associated with construction and operations of the Moreno Valley McDonald's Project (project), located in the City of Moreno Valley, California.

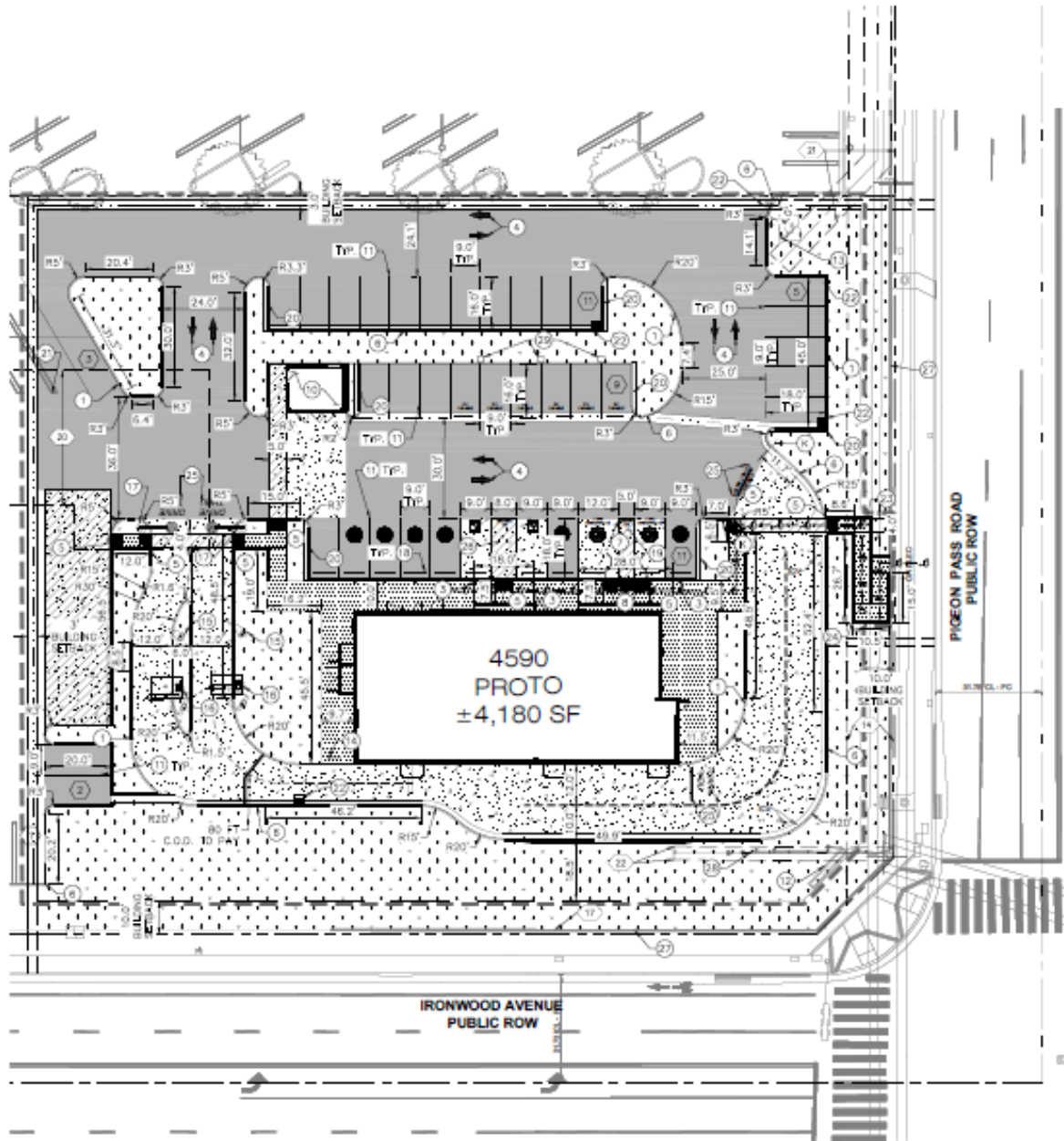
PROJECT LOCATION

The project site is located at the northwest corner of Ironwood Avenue and Pigeon Pass Road in the City of Moreno Valley, California (City). The site is surrounded by commercial shopping center to the north and west, single-family residential uses to the east, south, and west, and multi-family residential uses to the southeast. The site is currently occupied by an existing restaurant and a surface parking lot. The proposed project includes the demolition of the existing restaurant and the development of a 4,180 -square-foot fast-food restaurant with two drive-through lanes.

PROJECT DESCRIPTION

The site is currently occupied by an existing restaurant and a surface parking lot. McDonald's proposes to demolish the existing restaurant and develop a 4,180-square-foot fast-food restaurant with two drive-through lanes; see [Exhibit 1: Site Plan](#). Construction is anticipated to start in July 2026 and last for approximately seven months. The site is zoned Community Commercial per the City of Moreno Valley Code of Ordinance. Vehicular access to the proposed project would be provided via driveways internal to Pigeon Pass Plaza. No new driveways would be constructed off Ironwood Avenue or Pigeon Pass Road. Standard hours of operation are 24 hours, seven days/week.

Exhibit 1: Site Plan



Source: Kimley-Horn and Associates, Inc., 2025.

NOISE BACKGROUND

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of various distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise as well as the time of day when the noise occurs. For example, the equivalent continuous sound level (L_{eq}) is the average acoustic energy content of noise for a stated period of time; thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. The Day-Night Sound level (L_{dn}) is a 24-hour average L_{eq} with a 10 dBA “weighting” added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The Community Noise Equivalent Level (CNEL) is a 24-hour average L_{eq} with a 10-dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. and an additional 5 dBA weighting during the hours of 7:00 p.m. to 10:00 p.m. to account for noise sensitivity in the evening and nighttime.

REGULATORY SETTING

State of California Noise Standards

The State of California does not have standards for environmental noise, but the Governor’s Office of Planning and Research (OPR) has established general plan guidelines for evaluating the compatibility of various land uses as a function of community noise exposure.¹ The purpose of these guidelines is to maintain acceptable noise levels in a community setting for different land use types. Noise compatibility by different land use types is categorized into four general levels:

¹ State of California Governor’s Office of Planning and Research, *General Plan Guidelines*, Appendix D: Noise Element Guidelines, page 374, 2017, https://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf, accessed July, 2025.

“normally acceptable,” “conditionally acceptable,” “normally unacceptable,” and “clearly unacceptable.”

For instance, a noise environment ranging from 50 dBA CNEL to 65 dBA CNEL is considered to be “normally acceptable” for multi-family residential uses, while a noise environment of 75 dBA CNEL or above for multi-family residential uses is considered to be “clearly unacceptable. In addition, California Government Code Section 65302(f) requires each county and city in the State to prepare and adopt a comprehensive long-range general plan for its physical development, with California Government Code Section 65302(f) requiring a noise element to be included in the general plan. The noise element must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

LOCAL

City of Moreno Valley General Plan

The City of Moreno Valley 2040 General Plan Chapter 7: Noise contains goals and policies that seek to proactively address sources of noise in Moreno Valley, protect against excessive noise, and support the social and economic vitality of the community. Goals and policies that relate to noise impacts include the following:

- Goal PPS-1** **Design for a pleasant, healthy sound environment conducive to living and working.**
- Policy PPS.1-1** Protect occupants of existing and new buildings from exposure to excessive noise, particularly adjacent to freeways, major roadways, the railroad, and within areas of aircraft overflight.
- Policy PPS.1-3** Apply the community noise compatibility standards (Table N-1) to all new development and major redevelopment projects outside the noise and safety compatibility zones established in the March Air Reserve Base/Inland Port Airport Land Use Compatibility (ALUC) Plan in order to protect against the adverse effects of noise exposure. Projects within the noise and safety compatibility zones are subject to the standards contained in the ALUC Plan.
- Policy PPS.1-4** Require a noise study and/or mitigation measures if applicable for all projects that would expose people to noise levels greater than the “normally acceptable” standard and for any other projects that are likely to generate noise in excess of these standards.
- Policy PPS.1-5** Noise impacts should be controlled at the noise source where feasible, as opposed to at receptor end with measures to buffer, dampen, or actively cancel noise sources. Site design, building orientation, building design, hours

of operation, and other techniques, for new developments deemed to be noise generators shall be used to control noise sources.

Policy PPS.1-7 Developers shall reduce the noise impacts on new development through appropriate means (e.g. double-paned or soundproof windows, setbacks, berming, and screening). Noise attenuation methods should avoid the use of visible sound walls where possible.

Goal PPS-2 **Ensure that noise does not have a substantial, adverse effect on the quality of life in the community.**

Policy PPS.2-1 Use the development review process to proactively identify and address potential noise compatibility issues.

Policy PPS.2-2 Continue to work with community members and business owners to address noise complaints and ensure voluntary resolution of issues through the enforcement of Municipal Code provisions.

Policy PPS.2-3 Limit the potential noise impacts of construction activities on surrounding land uses through noise regulations in the Municipal Code that address allowed days and hours of construction, types of work, construction equipment, and sound attenuation devices.

The City of Moreno Valley 2006 General Plan provides objectives and policies intended to guide the City’s vision for physical, social, cultural, and economic development. Since the City of Moreno Valley General Plan 2040 is currently under review, objectives and policies from the 2006 General Plan are included below for informational purposes.

Objective 6.5 **Minimize noise impacts from significant noise generators such as, but not limited to, motor vehicles, trains, aircraft, commercial, industrial, construction, and other activities.**

Policy 6.5.1 New commercial and industrial activities (including the placement of mechanical equipment) shall be evaluated and designed to mitigate noise impacts on adjacent uses.

Policy 6.5.2 Construction activities shall be operated in a manner that limits noise impacts on surrounding uses.

Exhibit 2: Noise/Land Use Compatibility

	55	60	65	70	75	80
Residential - Low Density Single Family, Duplex, Mobile Homes	A			B	C	D
Residential - Multiple Family	A			B	C	D
Transient Lodging: Hotels and Motels	A			B	C	D
Schools, Libraries, Churches, Hospitals, Nursing Homes	A				C	D
Auditoriums, Concert Halls, Amphitheaters	B				C	
Sports Arena, Outdoor Spectator Sports	B				C	
Playground, Neighborhood Parks	A				B	C
Golf Courses, Riding Stables, Water Recreation, Cemeteries	A					C
Office Buildings, Businesses, Commercial and Professional	A				B	C
Industrial, Manufacturing, Utilities, Agricultural	A					B

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

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

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

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

Source: Moreno Valley 2040 Project – Section 7: Noise, Table N-1: Community Noise Compatibility Matrix

City of Moreno Valley Municipal Code

The Moreno Valley Municipal Code (MVMC) establishes the following noise provisions relative to the Project:

Section 11.80.030 - Prohibited Acts

B. Sound causing permanent hearing loss.

1. Sound level limits. Based on statistics from the Center for Disease Control and Prevention and the National Institute for Occupational Safety and Health, Table 1 and Table 1-A specify sound level limits which, if exceeded, will have a high probability of producing permanent hearing loss in anyone in the area where the sound levels are being exceeded. No sound shall be permitted within the city which exceeds the parameters set forth in Tables 11.80.030-1 and 11.80.030-1-A of this chapter:

Table 1: Maximum Continuous Sound Levels¹	
Duration per day	Sound Level (dBA)
Continuous Hours	
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25	115
Note: When the daily sound exposure is composed of two or more periods of sound exposure at different levels, the combined effect of all such periods shall constitute a violation of this section if the sum of the percent of allowed period of sound exposure at each level exceeds 100 percent	
Source: Moreno Valley Municipal Code Table 11.80.030-1	

Table 2: Maximum Impulsive Sound Levels	
Number of Repetitions per 24-Hour Period	Sound Level (dBA)
1	145
10	135
100	125
Source: Moreno Valley Municipal Code Table 11.80.030-1A.	

- C. Nonimpulsive Sound Decibel Limits. No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any nonimpulsive sound which exceeds the limits set forth for the source land use category (as defined in Section 11.80.020) in Table 11.80.030-2 (refer to Table 3: Maximum Sound Levels (in dBA) for Source Land Uses) when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance.

Table 3: Maximum Sound Levels (in dBA) for Source Land Uses			
Residential		Commercial	
Daytime	Nighttime	Daytime	Nighttime
60	55	65	60
Source: Moreno Valley Municipal Code Table 11.80.030-2			

- D. Specific Prohibitions. In addition to the general prohibitions set out in subsection A of this section, and unless otherwise exempted by this chapter, the following specific acts, or the causing or permitting thereof, are regulated as follows:
- 7. Construction and Demolition. No person shall operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee. This section shall not apply to the use of power tools as provided in subsection (D)(9) of this section.
 - 9. Power Tools. No person shall operate or permit the operation of any mechanically, electrically or gasoline motor-driven tool during nighttime hours so as to cause a noise disturbance across a residential real property boundary.

Section 9.10.170 Performance Standards - Vibration

No vibration shall be permitted which can be felt at or beyond the property line.

EXISTING SETTING

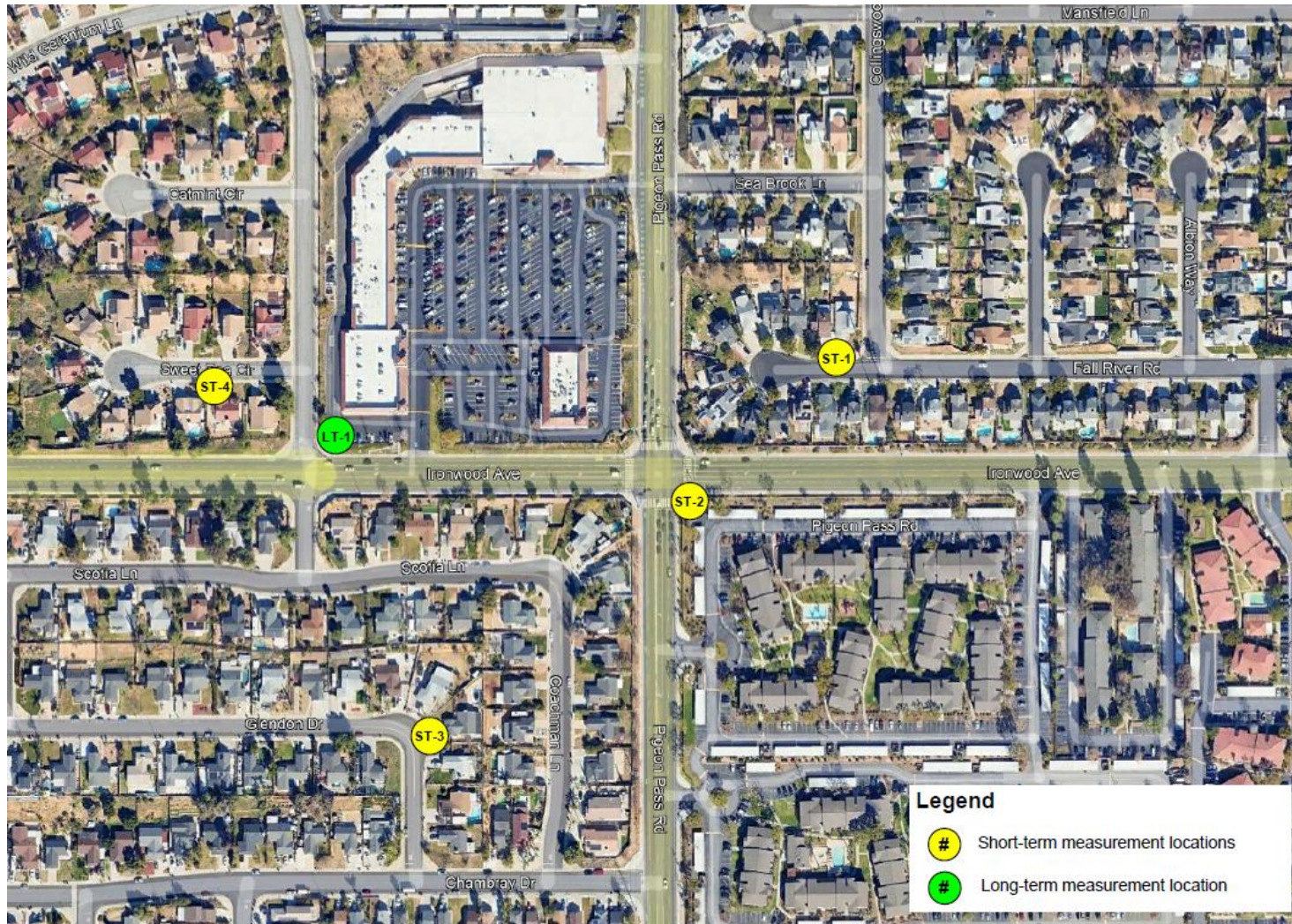
The project site is impacted by various noise sources. In general, vehicle traffic on roadways, construction activities, and outdoor activities are common noise sources throughout the City. Other noise sources include transportation, commercial and industrial centers, and property maintenance operations. The primary sources of stationary noise near the project site include parking lot noise at the commercial properties and other urban-related activities (e.g., idling cars, vehicles passing by, trucks, pedestrians, birds chirping, etc.). The noise associated with these sources may represent a single-event noise occurrence or short-term noise.

NOISE MEASUREMENTS

To quantify existing ambient noise levels in the project area, Kimley-Horn conducted four short-term (10-minute) measurements on July 16, 2025, and one long-term noise measurement (24 hours in duration) starting on July 16, 2025, and ending July 17, 2025; see [Appendix A: Noise Data](#). The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the project site. The 10-minute daytime measurements were taken between 10:08 a.m. and 11:27 a.m. Measurements of L_{eq} are considered representative of the noise levels throughout the day. The average noise levels and sources of noise measured at each location are listed in [Table 4: Existing Noise Measurements](#) and shown on [Exhibit 3: Noise Measurement Locations](#).

Table 4: Existing Noise Measurements					
Site	Location	Measurement Start Time/Period	Duration	Daytime Average L_{eq} (dBA) ¹	Nighttime Average L_{eq} (dBA) ¹
Short-Term Noise Measurements (10-minute measurements)					
ST-1	Adjacent to single-family residential uses to the east of the project site, along Fall River Road.	10:28 a.m., Wednesday, July 16, 2025	10 min	48.6	-
ST-2	Adjacent to multi-family residential uses southeast of the project site, along Ironwood Avenue and Pigeon Pass Road.	11:17 a.m., Wednesday, July 16, 2025	10 min	68.4	-
ST-3	Adjacent to single-family residential uses to the south of the project site, along Glendon Drive.	10:45 a.m., Wednesday, July 16, 2025	10 min	46.3	-
ST-4	Adjacent to single-family residential uses west of the project site, along Sweet Pea Circle.	10:08 a.m., Wednesday, July 16, 2025	10 min	47.3	-
Long-Term Noise Measurements (continuous 24-hour measurement)					
LT-1	Southwestern corner of commercial shopping center, to the west to the project site.	Wednesday, July 16, 2025, to Thursday, July 17, 2025	24 hr	67.8	64.1
			24-hr L_{eq}		66.8
Notes:					
1. Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m. The 15-hour daytime average (15-hour L_{eq}) and 9-hour nighttime average were calculated from 24-hour measurements taken at LT-1. The 10-minute L_{eq} is listed from short-term measurement data.					
Source: Noise measurements taken by Kimley-Horn and Associates, July 16 and July 17, 2025. See Appendix A for noise measurement results.					

Exhibit 3: Noise Measurement Locations



SENSITIVE RECEPTORS

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance. Sensitive receptors nearest to the project site are shown in [Table 5: Sensitive Receptors](#).

Receptor Description	Distance and Direction from the Project
Single-family Residential	87 feet to the south
Single-family Residential	94 feet to the east
Multi-family Residential	157 feet to the southeast
Single-family Residential	398 feet to the west
Multi-family Residential	532 feet to the north
Day Care Center	1,043 feet to the east
Honey Hollow Elementary School	1,734 feet to the northeast

Source: Google Earth, 2025.

NOISE IMPACTS

Construction Noise

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. During construction, exterior noise levels could affect the buildings near the construction site.

Construction activities would include demolition, site preparation, grading, infrastructure improvements, paving, building construction, and architectural coating. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. The site preparation and grading phases of project construction tend to be the shortest in duration and create the highest construction noise levels due to the operation of heavy equipment required to complete these activities. It should be noted that only a limited amount of equipment can operate near a given location at a particular time. Typical noise levels associated with individual construction equipment are listed in [Table 6: Typical Construction Noise Levels](#).

Table 6: Typical Construction Noise Levels		
Equipment	Typical Noise Level (dBA) at 50 feet from Source¹	Typical Noise Level (dBA) at 100 feet from Source¹
Air Compressor	80	74
Backhoe	80	74
Compactor	82	76
Concrete Mixer	85	79
Concrete Pump	82	76
Concrete Vibrator	76	70
Crane, Mobile	83	77
Dozer	85	79
Generator	82	76
Grader	85	79
Impact Wrench	85	79
Jack Hammer	88	82
Loader	80	74
Paver	85	79
Pile-driver (Impact) ²	101	95
Pile-driver (Sonic) ²	95	89
Pneumatic Tool	85	79
Pump	77	71
Roller	85	79
Saw	76	70
Scraper	85	79
Shovel	82	76
Truck	84	78
Notes: 1. Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1 + 20\log(d_1/d_2)$ Where: dBA_2 = estimated noise level at receptor; dBA_1 = reference noise level; d_1 = reference distance; d_2 = receptor location distance Source: Federal Transit Administration, <i>Transit Noise and Vibration Impact Assessment Manual</i> , September 2018.		

Construction activities would not take place between the hours of 8:00 p.m. and 7:00 a.m, to be in compliance with MVMC Section 11.80.030. The City’s permitted hours of construction are required in recognition that construction activities undertaken during daytime hours are a typical part of living in an urban environment and do not cause a significant impact. While the City establishes limits to the hours during which construction activity may take place, it does not identify specific noise level limits for construction noise levels. Thus, this analysis uses the FTA’s threshold of 80 dBA (8-hour L_{eq}) for residential uses.²

The FHWA Roadway Construction Noise Model (RCNM) was used to calculate the worst-case construction noise levels at nearby sensitive receptors and commercial uses surrounding the project site during construction. All construction equipment was assumed to operate

² Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, Table 7-2, Page 179, September 2018.

simultaneously at the property line of the project site to represent a worst-case noise scenario, as construction activities would routinely be spread throughout the construction site and would operate at different intervals. The modeled receptor locations represent the closest existing receiving land uses to project construction activities. Noise levels at other sensitive receptors surrounding the project site would be located further away and would experience lower construction noise levels than the closest receptors modeled. [Table 7: Project Construction Noise Levels](#) shows estimated exterior daytime noise levels for each construction phase at the closest receptors without accounting for attenuation from intervening barriers, structures, or topography.

Table 7: Project Construction Noise Levels						
Construction Phase	Receptor Location			Worst Case Modeled Exterior Noise Level (dBA Leq)	Noise Threshold (dBA Leq) ²	Exceeded?
	Land Use	Direction	Distance (feet) ¹			
Individuals Phases						
Demolition	Residential	East	87	77.4	80	No
	Residential	North	94	79.2	80	No
	Residential	Southeast	157	77.3	80	No
Site Preparation	Residential	East	87	73.3	80	No
	Residential	North	94	73.7	80	No
	Residential	Southeast	157	69.2	80	No
Grading	Residential	East	87	74.7	80	No
	Residential	North	94	75.0	80	No
	Residential	Southeast	157	71.0	80	No
Building Construction	Residential	East	87	74.2	80	No
	Residential	North	94	75.1	80	No
	Residential	Southeast	157	70.9	80	No
Paving	Residential	East	87	79.0	80	No
	Residential	North	94	78.4	80	No
	Residential	Southeast	157	74.2	80	No
Architectural Coating	Residential	East	87	64.0	80	No
	Residential	North	94	64.9	80	No
	Residential	Southeast	157	60.7	80	No
Infrastructure Improvements	Residential	East	87	77.2	80	No
	Residential	North	94	75.2	80	No
	Residential	Southeast	157	71.2	80	No
Overlapping Phases						
Site Preparation + Building Construction	Residential	East	87	76.8	80	No
	Residential	North	94	77.5	80	No
	Residential	Southeast	157	73.1	80	No
Grading + Building Construction	Residential	East	87	77.4	80	No
	Residential	North	94	78.1	80	No
	Residential	Southeast	157	73.9	80	No
Infrastructure Improvements + Building Construction	Residential	East	87	79.0	80	No
	Residential	North	94	78.2	80	No
	Residential	Southeast	157	74.0	80	No
Notes:						
1. Equipment was assumed to operate throughout the project site at staggered distances near the property line. The distances used in the RCNM modeling can be seen in Appendix A .						
3. Threshold from the FTA Transit Noise and Vibration Impact Assessment Manual, September 2018.						
Source: Federal Highway Administration, <i>Roadway Construction Noise Model</i> , 2006.						

As depicted in [Table 7](#), construction noise levels would range between 60.7 dBA L_{eq} and 79.2 dBA L_{eq} at the nearest properties surrounding the project site and would not exceed the FTA's construction noise thresholds for residential uses. Additionally, compliance with MVMC Section 11.80.030 would minimize potential impacts from construction noise, as construction would be limited to the hours between 7:00 a.m. and 8:00 p.m. Because project construction noise levels would not exceed any applicable standards and would be required to comply with the City's allowable construction hours, construction noise impacts would be less than significant.

OPERATIONAL NOISE

On-Site Operations

The project proposes a McDonald's restaurant with drive-thru access. The primary noise sources associated with the proposed McDonald's restaurant would consist of drive-thru operations (i.e., sound from the ordering intercom and vehicles idling/queuing in the drive-thru lanes), parking lot noise, mechanical equipment, and truck deliveries. A discussion of each of these project noise sources is provided below.

Drive-Thru Operations

Project noise sources from drive-thru operations include amplified speech from the speaker/intercom, idling vehicles, and vehicles circulating along the drive-thru lanes. The project would include two drive-thru menu boards and intercoms located to the west of the restaurant building, in the western portion of the project site along the drive-thru lane. The drive-thru speaker/intercom generates noise levels up to approximately 60 dBA at 32 feet.³ The measured noise level associated with active drive-thru vehicle idling/queuing is 64 dBA at 20 feet.⁴ It should be noted that the menu ordering board would utilize an automatic volume control (AVC) system for the evening and nighttime hours. The AVC system will lower the speaker board output volume based on the outdoor, ambient noise level. When ambient noise levels naturally decrease at night, the AVC will reduce the outbound volume on the system. The AVC system will ensure ordering board speaker volumes do not create a substantial noise level increase during the evening and nighttime hours when ambient noise conditions are lower.

Parking Lot Noise

Traffic associated with parking lots is typically not sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the one-hour L_{eq} and CNEL scales. The instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys range from 53 to 61 dBA⁵ and may be an annoyance to nearby noise-sensitive receptors. Conversations in parking areas may also be an annoyance to nearby sensitive

³ HME, *Engineering Department White Paper, Drive-Thru Sound Levels*, July 31, 2020.

⁴ Drive-thru noise sample collected at Raising Cane's restaurant by Kimley-Horn on August 17, 2018.

⁵ Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), 3-10, 1991.

receptors. Sound levels of speech typically range from 33 dBA at 50 feet for normal speech to 50 dBA at 50 feet for very loud speech.⁶ Parking lot noise would occur north of the restaurant building in the surface parking lot area.

Mechanical Equipment

The project would include HVAC units located on the rooftop of the restaurant building. Mechanical equipment (e.g., HVAC equipment) typically generates noise levels of approximately 52 dBA at 50 feet.⁷

Combined Exterior Noise Levels

Exterior noise levels associated with drive-thru operations, parking lot noise, and mechanical equipment were modeled with the SoundPLAN software. SoundPLAN allows computer simulations of noise situations, and creates noise contour maps using reference noise levels, topography, point and area noise sources, mobile noise sources, and intervening walls and structures. Inputs to the SoundPLAN model included ground topography and ground type, noise source locations and heights, receiver locations, and sound power level data. The SoundPLAN run for project operations conservatively assumes the simultaneous operation of all on-site noise sources.

Utilizing the input data described above, SoundPLAN was used to calculate noise levels at the nearest properties surrounding the project site. It should be noted that predicted noise levels are conservative estimates since it was assumed that all equipment and operational activity at the project site would occur in a constant, simultaneous manner. In reality, it is anticipated that these noise sources would occur intermittently throughout the day and night (except for rooftop HVAC which would operate in a steady-state manner). The modeled noise levels for the project are provided in [Table 8: On-Site Operational Noise Levels](#) and shown in [Exhibit 4: Operational Noise Contours - Daytime](#) and [Exhibit 5: Operational Noise Contours - Nighttime](#).

As shown in [Table 8](#), project-generated noise levels would range from 27.2 dBA L_{eq} to 49.7 dBA L_{eq} during the daytime hours, and between 27.1 dBA L_{eq} to 49.7 dBA L_{eq} during the nighttime hours at the surrounding residential uses near the project site. Project-generated operational levels would not exceed the City's most stringent daytime or nighttime exterior noise standards of 60 dBA and 55 dBA, respectively, for residential uses.

Noise levels at the nearest commercial uses would range from 42.3 dBA L_{eq} to 48.8 dBA L_{eq} during the daytime hours, and between 42.1 dBA L_{eq} to 48.7 dBA L_{eq} during the nighttime hours. Project-generated operational levels would comply with the City's Land Use Compatibility standards for commercial uses.

⁶ Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden. *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, June 26, 2015.

⁷ Ibid.

Table 8: On-Site Operational Noise Levels

Receptor No. ¹	Land Use	Modeled Noise Level – Daytime (dBA L _{eq})	Modeled Noise Level –Nighttime (dBA L _{eq})
1	Commercial (northwest)	43.2	42.9
2	Commercial (northwest)	43.0	42.8
3	Commercial (northwest)	42.3	42.1
4	Commercial (northwest)	43.0	42.8
5	Commercial (northwest)	45.0	44.8
6	Commercial (northwest)	48.8	48.7
7	Residential (West)	36.7	36.7
8	Residential (West)	37.5	37.4
9	Residential (West)	35.9	35.8
10	Residential (West)	37.7	37.7
11	Residential (West)	37.3	37.3
12	Residential (West)	36.8	36.7
13	Residential (West)	38.1	38.1
14	Residential (West)	39.9	39.9
15	Residential (West)	37.6	37.6
16	Residential (West)	40.6	40.6
17	Residential (West)	27.0	26.4
18	Residential (West)	25.1	24.7
19	Residential (South)	43.5	43.4
20	Residential (South)	45.3	45.2
21	Residential (South)	46.1	46.1
22	Residential (South)	48.2	48.2
23	Residential (South)	48.8	48.7
24	Residential (South)	49.7	49.7
25	Residential (South)	48.9	48.9
26	Residential (South)	42.3	42.3
27	Residential (South)	28.0	28.0
28	Residential (Southeast)	41.8	41.7
29	Residential (Southeast)	42.9	42.8
30	Residential (Southeast)	43.4	43.3
31	Residential (Southeast)	41.5	41.4
32	Residential (Southeast)	40.2	40.1
33	Residential (Southeast)	38.6	38.5
34	Residential (east)	27.2	27.1
35	Residential (east)	31.7	31.5
36	Residential (east)	45.8	45.8
37	Residential (east)	47.4	47.3
38	Residential (east)	48.5	48.4
39	Residential (east)	45.6	45.4
40	Residential (east)	31.2	30.9
41	Residential (east)	41.8	41.7
42	Residential (east)	40.0	39.9
43	Residential (east)	38.0	37.8
44	Residential (east)	35.0	34.6
45	Residential (northeast)	43.9	43.7

Receptor No.¹	Land Use	Modeled Noise Level – Daytime (dBA L_{eq})	Modeled Noise Level –Nighttime (dBA L_{eq})
46	Residential (northeast)	43.7	43.5
47	Residential (northeast)	40.6	40.4
48	Residential (northeast)	41.0	40.8

Notes:
 1. Receptor locations are provided in [Appendix A](#).
 Source: SoundPLAN version 5.1. See [Appendix A](#) for noise modeling data and results.

As shown in [Table 9: Composite Project On-Site Operational Noise](#), the project would result in an increase in ambient daytime or nighttime noise levels at the surrounding residential and commercial uses during operations. The maximum noise increase at the nearest commercial uses would be 0.1 dBA during the daytime and nighttime hours. The maximum noise increase at the surrounding residential uses would be 0.8 dBA during the daytime and 0.2 dBA during the nighttime hours. Therefore, the proposed project would result in a less than barely perceptible (or imperceptible) noise increase at the nearest commercial and residential uses.⁸ A less than significant impact would occur in this regard.

⁸ According to the California Department of Transportation (Caltrans) *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), a noise level increase of 3 dBA is generally regarded as barely perceivable and a 5 dBA is readily noticeable.

Exhibit 4: Operational Noise Contours – Daytime

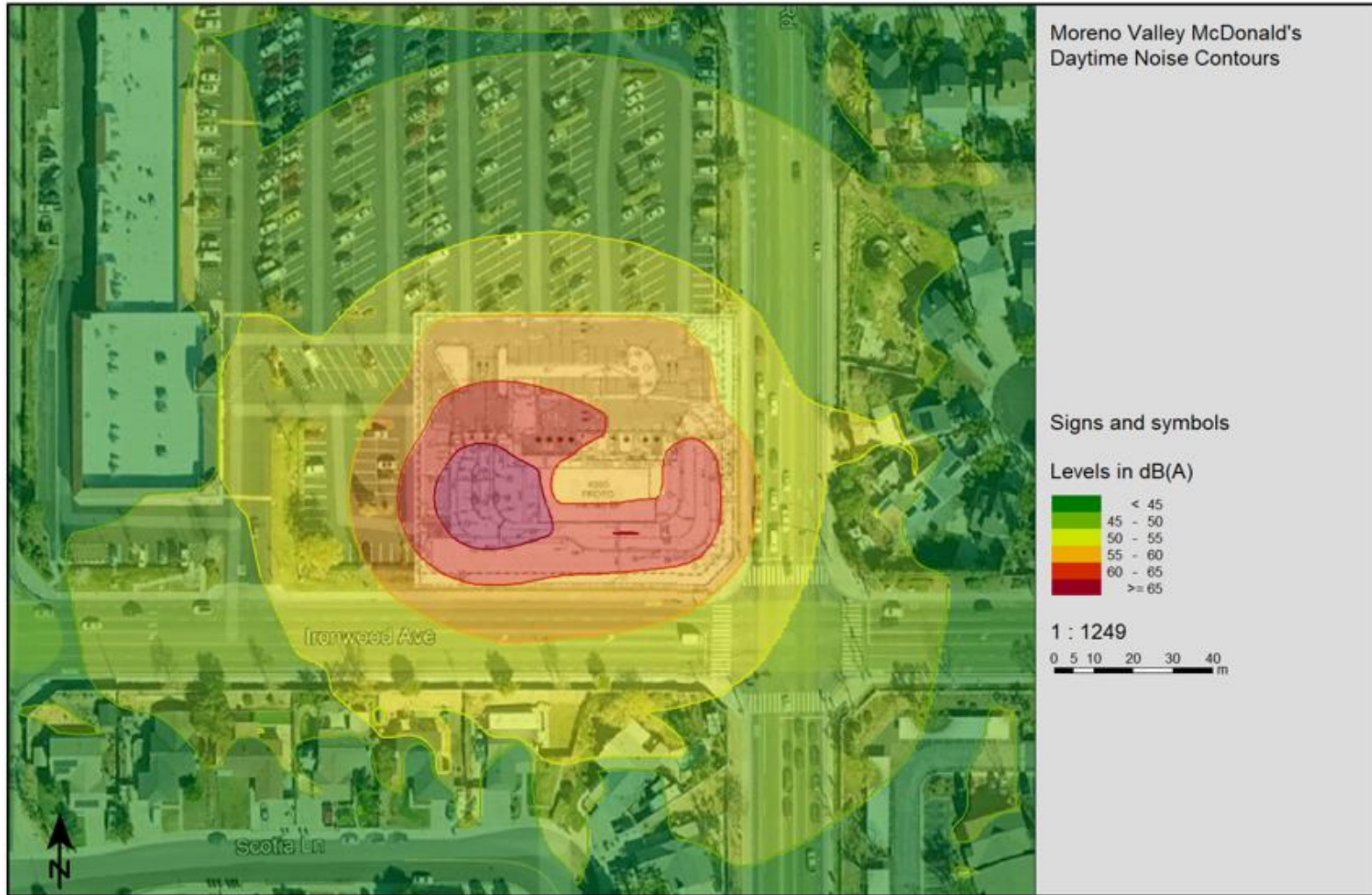
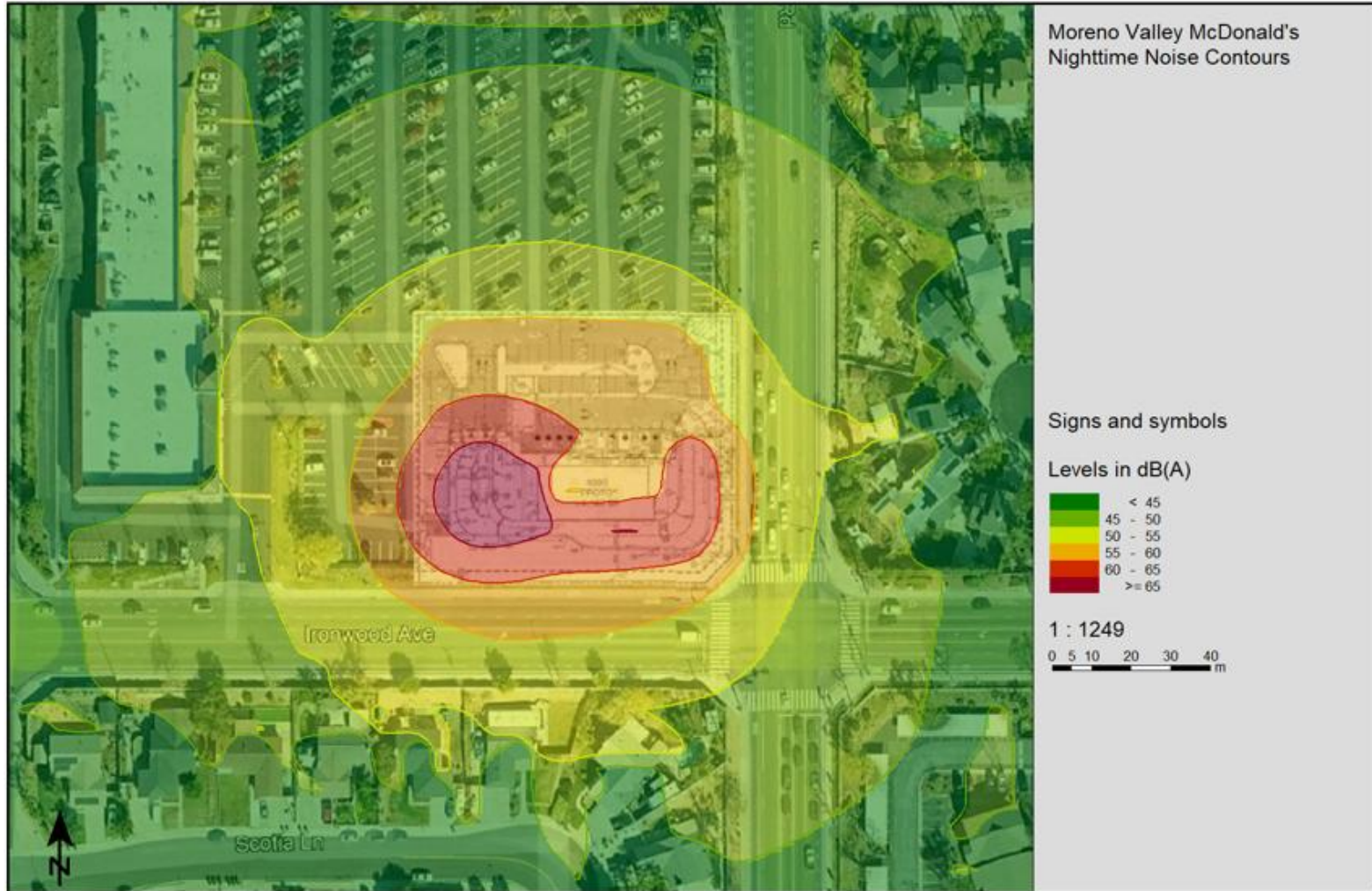


Exhibit 5: Operational Noise Contours – Nighttime



Receptor No. ¹	Land Use	Daytime					Nighttime				
		Ambient Noise Level (dBA L _{eq}) ^{2,3}	Composite Project Operations	Ambient + Project (dBA L _{eq})	Increase Over Ambient (dBA L _{eq})	Significant?	Ambient Noise Level (dBA L _{eq}) ¹	Composite Project Operations	Ambient + Project (dBA L _{eq})	Increase Over Ambient (dBA L _{eq})	Significant?
1	Commercial (northwest)	67.8	43.2	67.8	0.0	No	64.1	42.9	64.1	0.0	No
2	Commercial (northwest)	67.8	43.0	67.8	0.0	No	64.1	42.8	64.1	0.0	No
3	Commercial (northwest)	67.8	42.3	67.8	0.0	No	64.1	42.1	64.1	0.0	No
4	Commercial (northwest)	67.8	43.0	67.8	0.0	No	64.1	42.8	64.1	0.0	No
5	Commercial (northwest)	67.8	45.0	67.8	0.0	No	64.1	44.8	64.2	0.1	No
6	Commercial (northwest)	67.8	48.8	67.9	0.1	No	64.1	48.7	64.2	0.1	No
7	Residential (west)	47.3	36.7	47.7	0.4	No	64.1	36.7	64.1	0.0	No
8	Residential (west)	47.3	37.5	47.7	0.4	No	64.1	37.4	64.1	0.0	No
9	Residential (west)	47.3	35.9	47.6	0.3	No	64.1	35.8	64.1	0.0	No
10	Residential (west)	47.3	37.7	47.8	0.5	No	64.1	37.7	64.1	0.0	No
11	Residential (west)	47.3	37.3	47.7	0.4	No	64.1	37.3	64.1	0.0	No
12	Residential (west)	47.3	36.8	47.7	0.4	No	64.1	36.7	64.1	0.0	No
13	Residential (west)	47.3	38.1	47.8	0.5	No	64.1	38.1	64.1	0.0	No
14	Residential (west)	47.3	39.9	48.0	0.7	No	64.1	39.9	64.1	0.0	No
15	Residential (west)	47.3	37.6	47.7	0.4	No	64.1	37.6	64.1	0.0	No
16	Residential (west)	47.3	40.6	48.1	0.8	No	64.1	40.6	64.1	0.0	No
17	Residential (west)	47.3	27.0	47.3	0.0	No	64.1	26.4	64.1	0.0	No
18	Residential (west)	47.3	25.1	47.3	0.0	No	64.1	24.7	64.1	0.0	No
19	Residential (south)	67.8	43.5	67.8	0.0	No	64.1	43.4	64.1	0.0	No
20	Residential (south)	67.8	45.3	67.8	0.0	No	64.1	45.2	64.2	0.1	No
21	Residential (south)	67.8	46.1	67.8	0.0	No	64.1	46.1	64.2	0.1	No
22	Residential (south)	67.8	48.2	67.8	0.0	No	64.1	48.2	64.2	0.1	No
23	Residential (south)	63.4	48.8	63.5	0.1	No	64.1	48.7	64.2	0.1	No
24	Residential (south)	63.4	49.7	63.6	0.2	No	64.1	49.7	64.3	0.2	No
25	Residential (south)	63.4	48.9	63.6	0.2	No	64.1	48.9	64.2	0.1	No
26	Residential (south)	63.4	42.3	63.4	0.0	No	64.1	42.3	64.1	0.0	No
27	Residential (south)	63.4	28.0	63.4	0.0	No	64.1	28.0	64.1	0.0	No
28	Residential (southeast)	63.4	41.8	63.4	0.0	No	64.1	41.7	64.1	0.0	No
29	Residential (southeast)	63.4	42.9	63.4	0.0	No	64.1	42.8	64.1	0.0	No
30	Residential (southeast)	63.4	43.4	63.4	0.0	No	64.1	43.3	64.1	0.0	No
31	Residential (southeast)	63.4	41.5	63.4	0.0	No	64.1	41.4	64.1	0.0	No
32	Residential (southeast)	63.4	40.2	63.4	0.0	No	64.1	40.1	64.1	0.0	No
33	Residential (southeast)	63.4	38.6	63.4	0.0	No	64.1	38.5	64.1	0.0	No
34	Residential (east)	63.4	27.2	63.4	0.0	No	64.1	27.1	64.1	0.0	No
35	Residential (east)	63.4	31.7	63.4	0.0	No	64.1	31.5	64.1	0.0	No
36	Residential (east)	63.4	45.8	63.5	0.1	No	64.1	45.8	64.2	0.1	No
37	Residential (east)	63.4	47.4	63.5	0.1	No	64.1	47.3	64.2	0.1	No
38	Residential (east)	63.4	48.5	63.5	0.1	No	64.1	48.4	64.2	0.1	No
39	Residential (east)	63.4	45.6	63.5	0.1	No	64.1	45.4	64.2	0.1	No
40	Residential (east)	63.4	31.2	63.4	0.0	No	64.1	30.9	64.1	0.0	No

Receptor No. ¹	Land Use	Daytime					Nighttime				
		Ambient Noise Level (dBA L _{eq}) ^{2,3}	Composite Project Operations	Ambient + Project (dBA L _{eq})	Increase Over Ambient (dBA L _{eq})	Significant?	Ambient Noise Level (dBA L _{eq}) ¹	Composite Project Operations	Ambient + Project (dBA L _{eq})	Increase Over Ambient (dBA L _{eq})	Significant?
41	Residential (east)	48.6	41.8	49.4	0.8	No	64.1	41.7	64.1	0.0	No
42	Residential (east)	48.6	40.0	49.2	0.6	No	64.1	39.9	64.1	0.0	No
43	Residential (east)	48.6	38.0	49.0	0.4	No	64.1	37.8	64.1	0.0	No
44	Residential (east)	48.6	35.0	48.8	0.2	No	64.1	34.6	64.1	0.0	No
45	Residential (northeast)	63.4	43.9	63.4	0.0	No	64.1	43.7	64.1	0.0	No
46	Residential (northeast)	63.4	43.7	63.4	0.0	No	64.1	43.5	64.1	0.0	No
47	Residential (northeast)	63.4	40.6	63.4	0.0	No	64.1	40.4	64.1	0.0	No
48	Residential (northeast)	63.4	41.0	63.4	0.0	No	64.1	40.8	64.1	0.0	No

Notes:

1. Receptor locations are provided in [Appendix A](#).
2. Each receptor was assigned to an ambient noise level based on proximity to the nearest noise measurement location and/or using the most appropriate acoustical conditions from the noise measurement data obtained by Kimley-Horn on July 16 and 17, 2025. Ambient noise levels for residential uses along Pigeon Pass Road and Ironwood Avenue were reduced by 5 dBA due to the presence of an existing wall.
3. See [Table 4](#) and [Exhibit 3](#) for noise measurement locations and data.

Source: SoundPLAN version 5.1. See [Appendix A](#) for noise modeling data and results.

Truck Deliveries

The project would also include infrequent truck deliveries to the restaurant for goods replenishment. Noise would be generated during loading and unloading activities by the trucks’ diesel engines, exhaust systems, and brakes during low gear shifting and braking activities; backing up toward the delivery area (known as back-up beepers); dropping down the truck ramps; and maneuvering away from the delivery area. The primary noise source during truck deliveries is back-up alarms which produce a typical volume of 97 dBA at approximately three feet from the source.⁹

Truck delivery noise was not included in the combined noise modeling and analysis above as truck deliveries would be infrequent and would generally occur in the daytime hours before the restaurant opens (i.e., 9:00 a.m.). Truck delivery noise was modeled separately in SoundPLAN, and the results are provided in Table 10: Truck Delivery Noise Levels and shown in Exhibit 6: Truck Delivery Noise Contours.

Receptor No. ¹	Land Use	Daytime Ambient Noise Level (dBA L _{eq}) ^{2,3}	Modeled Noise Level (dBA L _{eq})	Ambient + Project (dBA L _{eq})	Increase Over Daytime Ambient (dBA L _{eq})	Significant?
1	Commercial (northwest)	67.8	56.4	68.1	0.3	No
2	Commercial (northwest)	67.8	55.4	68.0	0.2	No
3	Commercial (northwest)	67.8	54.3	68.0	0.2	No
4	Commercial (northwest)	67.8	54.6	68.0	0.2	No
5	Commercial (northwest)	67.8	56.1	68.1	0.3	No
6	Commercial (northwest)	67.8	57.5	68.2	0.4	No
7	Residential (west)	47.3	47.7	50.5	3.2	No
8	Residential (west)	47.3	49.5	51.5	4.2	No
9	Residential (west)	47.3	47.9	50.6	3.3	No
10	Residential (west)	47.3	47.7	50.5	3.2	No
11	Residential (west)	47.3	48.1	50.7	3.4	No
12	Residential (west)	47.3	47.8	50.6	3.3	No
13	Residential (west)	47.3	45.6	49.5	2.2	No
14	Residential (west)	47.3	49.2	51.4	4.1	No
15	Residential (west)	47.3	45.2	49.4	2.1	No
16	Residential (west)	47.3	45.0	49.3	2.0	No
17	Residential (west)	47.3	45.1	49.3	2.0	No
18	Residential (west)	47.3	38.3	47.8	0.5	No
19	Residential (south)	67.8	40.8	67.8	0.0	No
20	Residential (south)	67.8	41.8	67.8	0.0	No
21	Residential (south)	67.8	42.1	67.8	0.0	No
22	Residential (south)	67.8	42.6	67.8	0.0	No
23	Residential (south)	63.4	42.4	63.4	0.0	No
24	Residential (south)	63.4	43.1	63.4	0.0	No

⁹ Environmental Health Perspectives, *Vehicle Motion Alarms: Necessity, Noise Pollution, or Both?* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3018517/>, accessed July 2025.

Table 10: Truck Delivery Noise Levels

Receptor No. ¹	Land Use	Daytime Ambient Noise Level (dBA L _{eq}) ^{2, 3}	Modeled Noise Level (dBA L _{eq})	Ambient + Project (dBA L _{eq})	Increase Over Daytime Ambient (dBA L _{eq})	Significant?
25	Residential (south)	63.4	43.5	63.4	0.0	No
26	Residential (south)	63.4	47.4	63.5	0.1	No
27	Residential (south)	63.4	34.0	63.4	0.0	No
28	Residential (southeast)	63.4	50.0	63.6	0.2	No
29	Residential (southeast)	63.4	51.5	63.7	0.3	No
30	Residential (southeast)	63.4	52.7	63.8	0.4	No
31	Residential (southeast)	63.4	51.6	63.7	0.3	No
32	Residential (southeast)	63.4	50.7	63.6	0.2	No
33	Residential (southeast)	63.4	49.6	63.6	0.2	No
34	Residential (east)	63.4	35.9	63.4	0.0	No
35	Residential (east)	63.4	44.0	63.4	0.0	No
36	Residential (east)	63.4	56.5	64.2	0.8	No
37	Residential (east)	63.4	60.1	65.1	1.7	No
38	Residential (east)	63.4	61.5	65.6	2.2	No
39	Residential (east)	63.4	59.1	64.8	1.4	No
40	Residential (east)	63.4	43.3	63.4	0.0	No
41	Residential (east)	48.6	54.6	55.6	7.0	No
42	Residential (east)	48.6	54.0	55.1	6.5	No
43	Residential (east)	48.6	53.1	54.4	5.8	No
44	Residential (east)	48.6	51.1	53.0	4.4	No
45	Residential (northeast)	63.4	56.7	64.2	0.8	No
46	Residential (northeast)	63.4	56.4	64.2	0.8	No
47	Residential (northeast)	63.4	53.0	63.8	0.4	No
48	Residential (northeast)	63.4	53.4	63.8	0.4	No

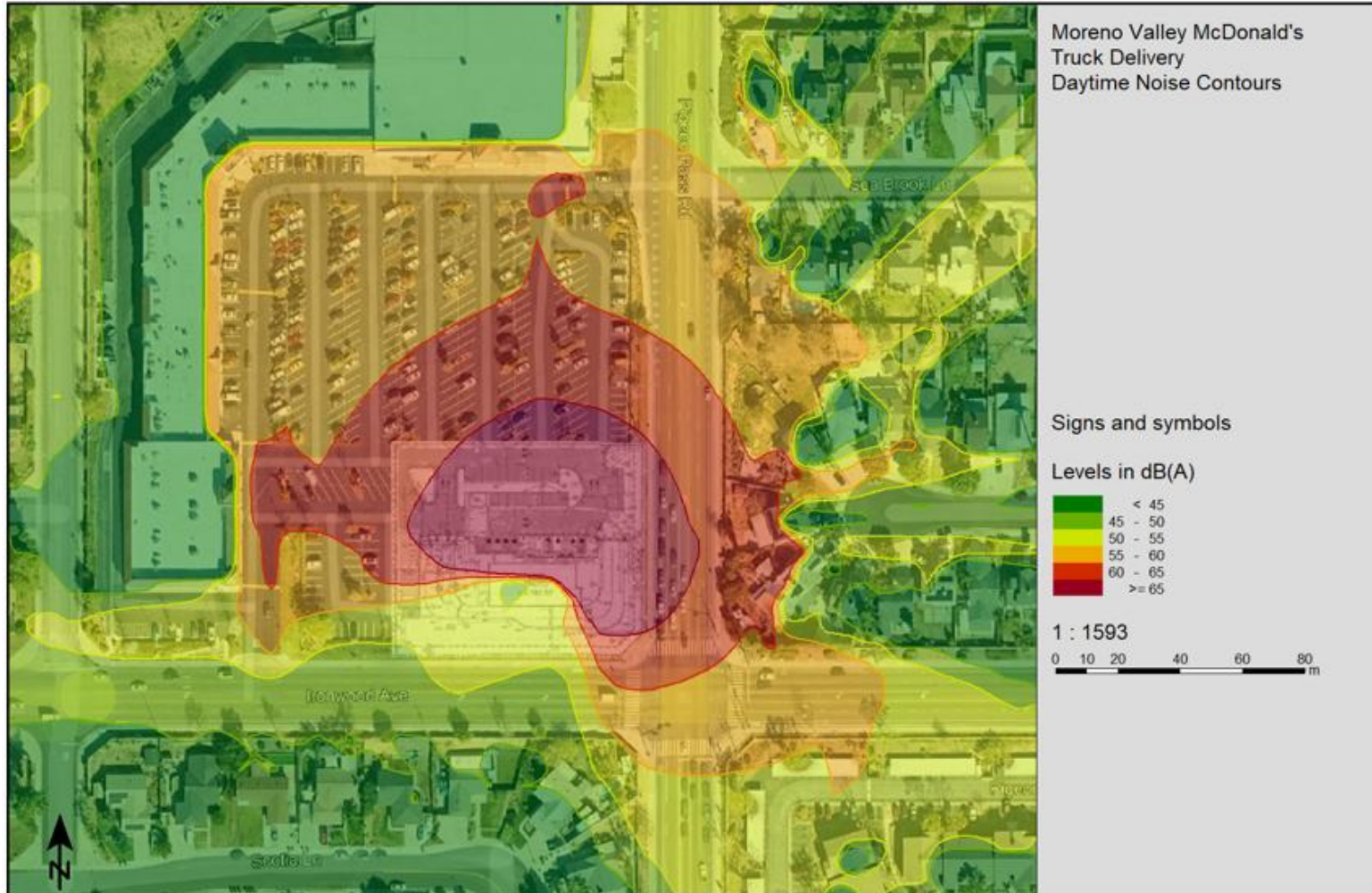
Notes:

1. Receptor locations are provided in [Appendix A](#).
2. Each receptor was assigned to an ambient noise level based on proximity to the nearest noise measurement location and/or using the most appropriate acoustical conditions from the noise measurement data obtained by Kimley-Horn on July 16 and 17, 2025. Ambient noise level for residential uses along Pigeon Pass Road and Ironwood Avenue were reduced by 5 dBA due to the presence of an existing wall.
3. See [Table 4](#) and [Exhibit 3](#) for noise measurement locations and data.

Source: SoundPLAN version 5.1. See [Appendix A](#) for noise modeling data and results.

As shown in [Table 10](#), truck delivery noise levels would range from approximately 54.3 dBA L_{eq} to 57.5 dBA L_{eq} at the nearest commercial uses and would comply with the City’s Land Use Compatibility Plan standards. Truck delivery noise levels at the nearest residential uses would range from 34.0 dBA L_{eq} to 61.5 dBA L_{eq} and would comply with the City’s Land Use Compatibility Plan standards. The maximum noise increase from truck deliveries would be 0.4 dBA at the nearest commercial uses and 7.0 dBA at the surrounding residential uses during the daytime. However, on-site truck movements and the use of backup beepers would be short in duration (ranging from approximately 30 seconds to one minute), and thus, the exposure of temporary noise levels would be limited, not exceeding the City’s noise sound level of 115 dBA for more than 15 minutes. Truck delivery activity currently occurs under existing conditions and would not be a new noise source. As such, project noise levels from truck delivery activity would result in a less than significant impact.

Exhibit 6: Truck Delivery Daytime Noise Contours



Off-Site Traffic Noise

In general, traffic volumes on project area roadways would have to approximately double for the resulting traffic noise levels to generate a 3-dBA increase.¹⁰ Ironwood Avenue and Pigeon Pass Road, which are the primary access roadways to the project site, experience approximately 11,870 and 15,066 average daily trips, respectively.¹¹ According to the project's Trip Generation Analysis (Kimley-Horn, 2025), the proposed restaurant would result in approximately 987 net daily vehicle trips, which would not double the existing traffic volumes on Ironwood Avenue and Pigeon Pass Road. Therefore, the project would not result in a noticeable increase in traffic noise and impacts would be less than significant.

VIBRATION

Increases in groundborne vibration levels attributable to the project would be primarily associated with construction-related activities. Construction on the Project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 in/sec) appears to be conservative. The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. For example, for a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.50 in/sec is considered safe and would not result in any construction vibration damage. This evaluation uses the FTA architectural damage

¹⁰ According to the California Department of Transportation, *Technical Noise Supplement to Traffic Noise Analysis Protocol* (September 2013), it takes a doubling of traffic to create a barely noticeable (i.e., 3 dBA) noise increase.

¹¹ ReplicaHQ, Annual Average Daily Traffic (AADT) 2024 for the City of Moreno Valley, <https://www.replicahq.com/>, accessed July 2025.

criterion for continuous vibrations at non-engineered timber and masonry buildings of 0.2 inch-per-second peak particle velocity (PPV) and human annoyance criterion of 0.4 inch-per-second PPV in accordance with Caltrans guidance.¹²

Table 11: Typical Construction Equipment Vibration Levels lists vibration levels at 25 and 87 feet for typical construction equipment. Groundborne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. As indicated in Table 11, based on FTA data, vibration velocities from typical heavy construction equipment operations that would be used during project construction range from 0.003 to 0.21 in/sec PPV at 25 feet and from less than 0.001 to 0.032 in/sec PPV at 86 feet.

Equipment	Peak Particle Velocity at 25 Feet (in/sec)	Peak Particle Velocity at 86 Feet (in/sec) ¹
Vibratory Roller	0.210	0.032
Large Bulldozer	0.089	0.014
Loaded Trucks	0.076	0.012
Small Bulldozer/Tractors	0.003	<0.001

Notes:
 1. Calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$, where: PPV_{equip} = the peak particle velocity in in/sec of the equipment adjusted for the distance; PPV_{ref} = the reference vibration level in in/sec from Table 7-4 of the Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018; D = the distance from the equipment to the receiver.

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

As shown in Table 11, at 86 feet (the closest distance to off-site structures that heavy construction equipment would be used during project construction) the vibration velocities from construction equipment would reach approximately 0.033 in/sec PPV, which is below the FTA’s 0.20 in/sec PPV threshold for building damage and Caltrans’ 0.4 in/sec PPV threshold for human annoyance. Once operational, the project would not include vibration-generating uses or operations. Therefore, vibration impacts associated with the project would be less than significant.

CONCLUSION

Project implementation would result in less than significant short- and long-term noise and vibration impacts. No mitigation measures would be required.

¹² California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, Table 20, September 2013.

Appendix A

Noise Data

Noise Measurement Field Data

Project:	Moreno Valley McDonald's	Job Number:	194015076
Site No.:	ST-1	Date:	7/16/2025
Analyst:	Jin Choi	Time:	10:28-10:38 a.m.
Location:	Adjacent to single-family residential use along Fall River Road		

Noise Sources: Vehicle pass-bys, birds chirping, a child talking

Comments:

Results (dBA):

	Leq:	Lmin:	Lmax:	Peak:
	48.6	41.4	57.0	80.6

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	75
Wind (mph):	3
Sky:	Clear
Bar. Pressure:	29.9
Humidity:	49%

Photo:



Measurement Report

Report Summary

Meter's File Name	ST-1.159.s	Computer's File Name	LxTse_0007061-20250716 102810-ST-1.159.ldbin		
Meter	LxT SE 0007061	Firmware	2.404		
User		Location			
Job Description					
Note					
Start Time	2025-07-16 10:28:10	Duration	0:10:00.0		
End Time	2025-07-16 10:38:10	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-07-11 10:35:45	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA _{eq}	48.6 dB		
LAE	76.4 dB	SEA	--- dB
EA	4.8 μPa²h		
LA _{peak}	80.6 dB		2025-07-16 10:28:48
LAS _{max}	57.0 dB		2025-07-16 10:31:20
LAS _{min}	41.4 dB		2025-07-16 10:29:23
LA _{eq}	48.6 dB		
LC _{eq}	62.4 dB	LC _{eq} - LA _{eq}	13.8 dB
LAI _{eq}	51.1 dB	LAI _{eq} - LA _{eq}	2.5 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LAPeak > 135.0 dB	0	0:00:00.0
LAPeak > 137.0 dB	0	0:00:00.0
LAPeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
48.6 dB	48.6 dB	0.0 dB	
LDEN	LDay	LEve	LNight
48.6 dB	48.6 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	48.6 dB		62.4 dB		--- dB	
LS _(max)	57.0 dB	2025-07-16 10:31:20	--- dB	None	--- dB	None
LS _(min)	41.4 dB	2025-07-16 10:29:23	--- dB	None	--- dB	None
L _{Peak(max)}	80.6 dB	2025-07-16 10:28:48	--- dB	None	--- dB	None

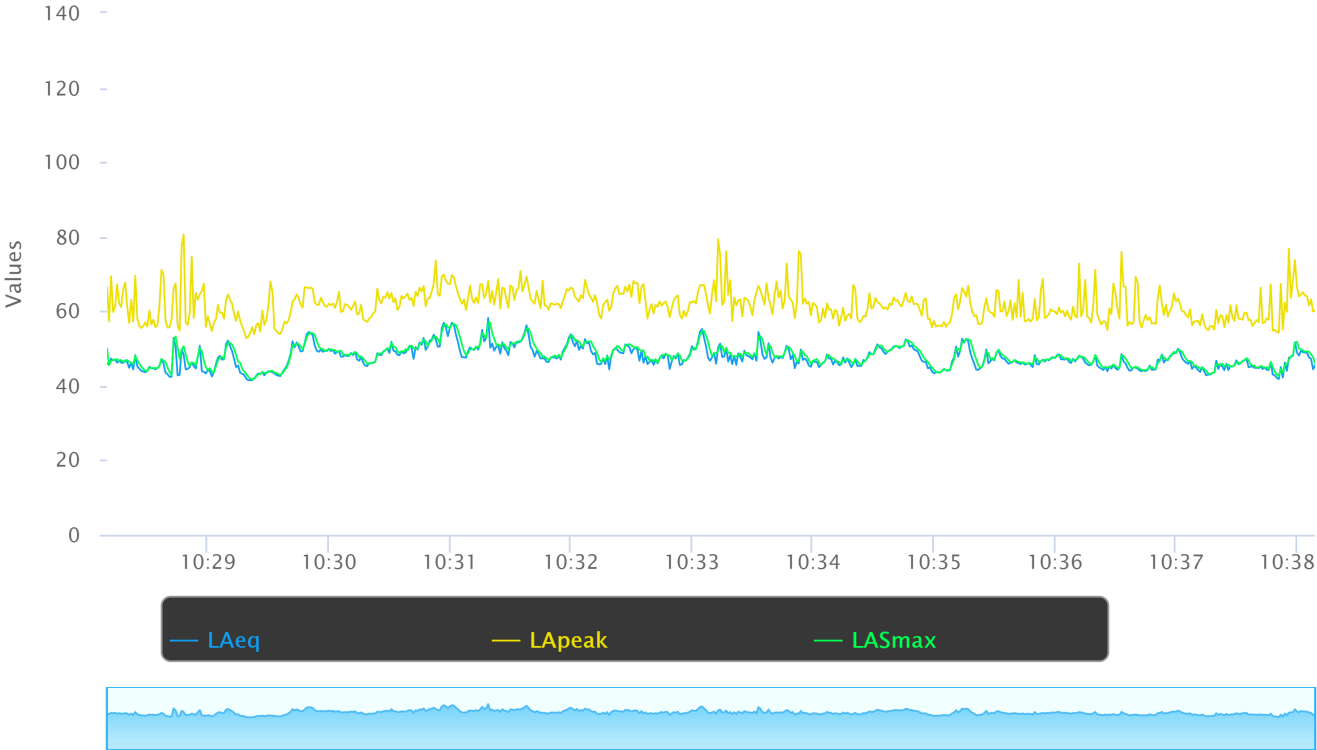
Overloads



Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	52.5 dB
LAS 10.0	51.2 dB
LAS 33.3	48.6 dB
LAS 50.0	47.3 dB
LAS 66.6	46.3 dB
LAS 90.0	44.4 dB

Time History



Noise Measurement Field Data			
Project:	Moreno Valley McDonald's	Job Number:	194015076
Site No.:	ST-2	Date:	7/16/2025
Analyst:	Jin Choi	Time:	11:17-11:27 a.m.
Location:	Adjacent to multi-family residential use along Ironwood Avenue and Pigeon Pass Road.		
Noise Sources:	Vehicle and truck pass-bys with engine and idling noise, door slamming, residents talking in the apartment complex		
Comments:			
Results (dBA):			
	Leq:	Lmin:	Lmax:
	68.4	52.8	80.5
			Peak:
			93.7
Equipment		Weather	
Sound Level Meter:	LD SoundExpert LxT	Temp. (degrees F):	79
Calibrator:	CAL200	Wind (mph):	4
Response Time:	Slow	Sky:	Clear
Weighting:	A	Bar. Pressure:	29.89
Microphone Height:	5 feet	Humidity:	42%
Photo:			
			

Measurement Report

Report Summary

Meter's File Name	ST-1.162.s	Computer's File Name	LxTse_0007061-20250716 111743-ST-1.162.ldbin		
Meter	LxT SE 0007061	Firmware	2.404		
User		Location			
Job Description					
Note					
Start Time	2025-07-16 11:17:43	Duration	0:10:00.0		
End Time	2025-07-16 11:27:43	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-07-11 10:35:45	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA _{eq}	68.4 dB		
LAE	96.2 dB	SEA	--- dB
EA	461.2 µPa²h		
LA _{peak}	93.7 dB		2025-07-16 11:26:07
LAS _{max}	80.5 dB		2025-07-16 11:24:16
LAS _{min}	52.8 dB		2025-07-16 11:18:59
LA _{eq}	68.4 dB		
LC _{eq}	79.6 dB	LC _{eq} - LA _{eq}	11.2 dB
LAI _{eq}	69.9 dB	LAI _{eq} - LA _{eq}	1.5 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LAPeak > 135.0 dB	0	0:00:00.0
LAPeak > 137.0 dB	0	0:00:00.0
LAPeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
68.4 dB	68.4 dB	0.0 dB	
LDEN	LDay	LEve	LNight
68.4 dB	68.4 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	68.4 dB		79.6 dB		--- dB	
LS _(max)	80.5 dB	2025-07-16 11:24:16	--- dB	None	--- dB	None
LS _(min)	52.8 dB	2025-07-16 11:18:59	--- dB	None	--- dB	None
L _{Peak(max)}	93.7 dB	2025-07-16 11:26:07	--- dB	None	--- dB	None

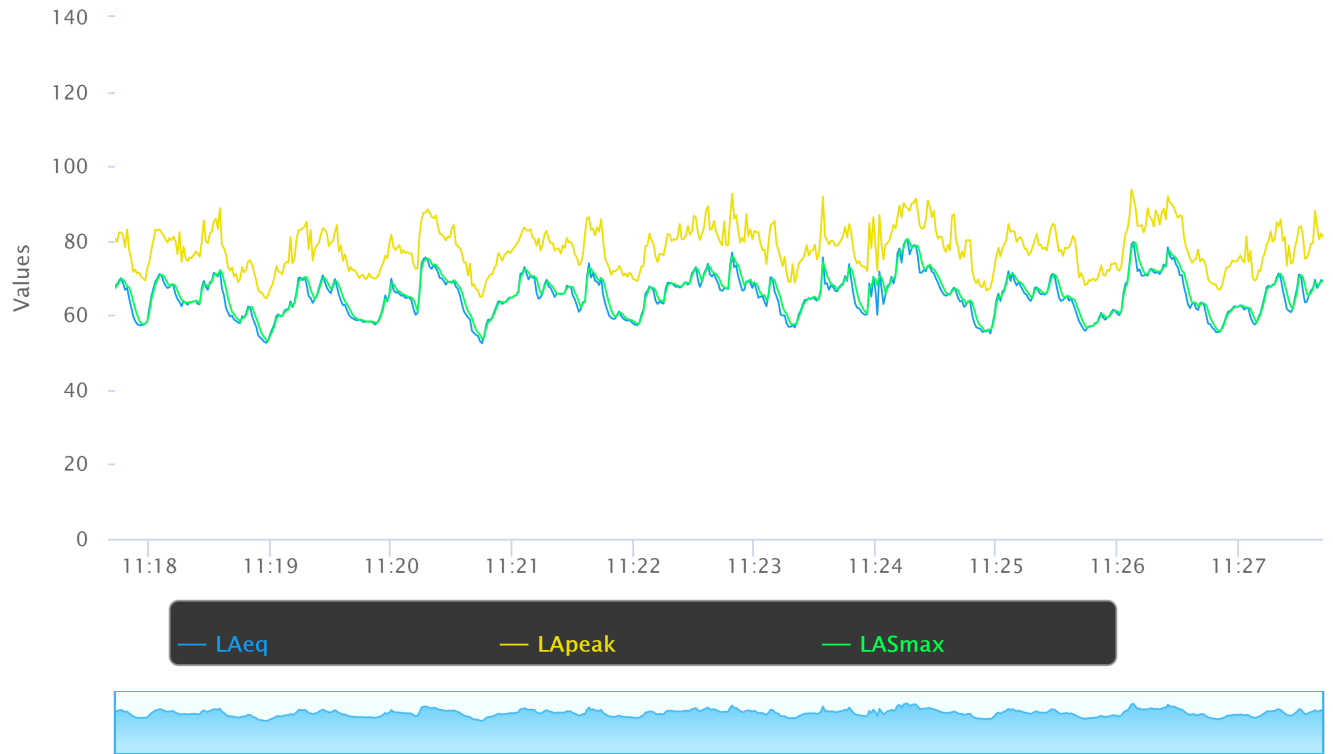
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	73.5 dB
LAS 10.0	71.6 dB
LAS 33.3	67.9 dB
LAS 50.0	65.6 dB
LAS 66.6	63.2 dB
LAS 90.0	58.1 dB

Time History



Noise Measurement Field Data

Project:	Moreno Valley McDonald's	Job Number:	194015076
Site No.:	ST-3	Date:	7/16/2025
Analyst:	Jin Choi	Time:	10:45-10:55 a.m.
Location:	Adjacent to single-family residential use along the corner of Glendon Drive		

Noise Sources: Birds chirping, vehicle pass-by, plane flying in a far distance

Comments:

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
46.3	39.4	59.0	88.4

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	75
Wind (mph):	4
Sky:	Clear
Bar. Pressure:	29.9
Humidity:	46%

Photo:



Measurement Report

Report Summary

Meter's File Name	ST-1.160.s	Computer's File Name	LxTse_0007061-20250716 104551-ST-1.160.ldbin		
Meter	LxT SE 0007061	Firmware	2.404		
User		Location			
Job Description					
Note					
Start Time	2025-07-16 10:45:51	Duration	0:10:00.0		
End Time	2025-07-16 10:55:51	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-07-11 10:35:45	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA _{eq}	46.3 dB		
LAE	74.1 dB	SEA	--- dB
EA	2.8 µPa²h		
LA _{peak}	88.4 dB		2025-07-16 10:45:54
LAS _{max}	59.0 dB		2025-07-16 10:55:30
LAS _{min}	39.4 dB		2025-07-16 10:51:19
LA _{eq}	46.3 dB		
LC _{eq}	62.6 dB	LC _{eq} - LA _{eq}	16.3 dB
LAI _{eq}	49.6 dB	LAI _{eq} - LA _{eq}	3.3 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LAp _{peak} > 135.0 dB	0	0:00:00.0
LAp _{peak} > 137.0 dB	0	0:00:00.0
LAp _{peak} > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
46.3 dB	46.3 dB	0.0 dB	
LDEN	LDay	LEve	LNight
46.3 dB	46.3 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	46.3 dB		62.6 dB		--- dB	
LS _(max)	59.0 dB	2025-07-16 10:55:30	--- dB	None	--- dB	None
LS _(min)	39.4 dB	2025-07-16 10:51:19	--- dB	None	--- dB	None
L _{Peak(max)}	88.4 dB	2025-07-16 10:45:54	--- dB	None	--- dB	None

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	50.7 dB
LAS 10.0	49.6 dB
LAS 33.3	45.8 dB
LAS 50.0	43.2 dB
LAS 66.6	42.4 dB
LAS 90.0	40.8 dB

Time History



Noise Measurement Field Data

Project:	Moreno Valley McDonald's	Job Number:	194015076
Site No.:	ST-4	Date:	7/16/2025
Analyst:	Jin Choi	Time:	10:08-10:18 a.m.
Location:	Adjacent to single-family residential use along Sweet Pea Circle.		

Noise Sources: Vehicles pass-by, pedestrians talking and walking by, birds chirping

Comments:

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
47.3	40.7	55.3	73.7

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	74
Wind (mph):	4
Sky:	Clear
Bar. Pressure:	29.91
Humidity:	53%

Photo:



Measurement Report

Report Summary

Meter's File Name	ST-1.158.s	Computer's File Name	LxTse_0007061-20250716 100851-ST-1.158.ldbin		
Meter	LxT SE 0007061	Firmware	2.404		
User		Location			
Job Description					
Note					
Start Time	2025-07-16 10:08:51	Duration	0:10:00.0		
End Time	2025-07-16 10:18:51	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-07-11 10:35:45	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA _{eq}	47.3 dB		
LAE	75.1 dB	SEA	--- dB
EA	3.6 µPa²h		
LA _{peak}	73.7 dB		2025-07-16 10:09:07
LAS _{max}	55.3 dB		2025-07-16 10:08:51
LAS _{min}	40.7 dB		2025-07-16 10:18:07
LA _{eq}	47.3 dB		
LC _{eq}	61.3 dB	LC _{eq} - LA _{eq}	14.0 dB
LAI _{eq}	48.6 dB	LAI _{eq} - LA _{eq}	1.3 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LAPeak > 135.0 dB	0	0:00:00.0
LAPeak > 137.0 dB	0	0:00:00.0
LAPeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
47.3 dB	47.3 dB	0.0 dB	
LDEN	LDay	LEve	LNight
47.3 dB	47.3 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	47.3 dB		61.3 dB		--- dB	
LS _(max)	55.3 dB	2025-07-16 10:08:51	--- dB	None	--- dB	None
LS _(min)	40.7 dB	2025-07-16 10:18:07	--- dB	None	--- dB	None
L _{Peak(max)}	73.7 dB	2025-07-16 10:09:07	--- dB	None	--- dB	None

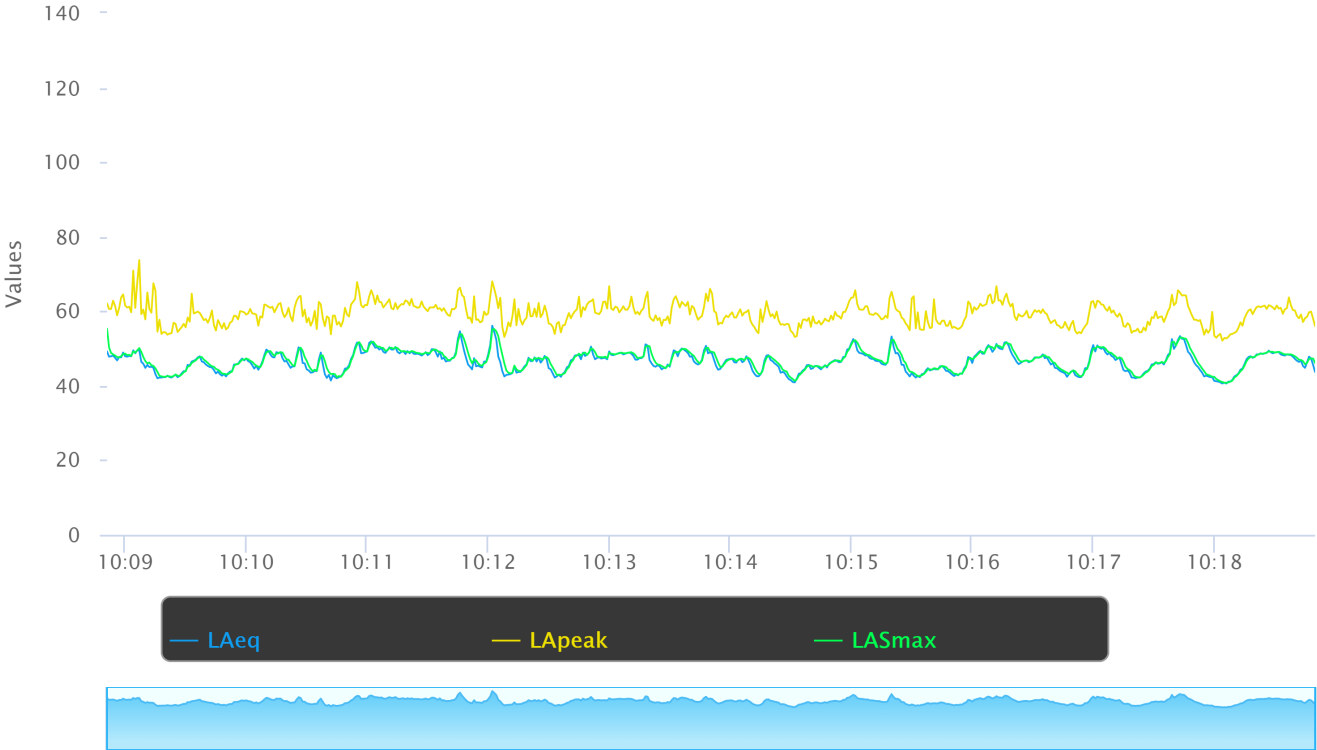
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	50.6 dB
LAS 10.0	49.8 dB
LAS 33.3	47.9 dB
LAS 50.0	46.7 dB
LAS 66.6	45.3 dB
LAS 90.0	42.8 dB

Time History



Noise Measurement Field Data

Project:	Moreno Valley McDonald's	Job Number:	194015076
Site No.:	LT-1	Date:	7/16/2025-7/17/2025
Analyst:	Jin Choi	Time:	
Location:	At the west to the project site.		

Noise Sources:

Comments:

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
66.8	37.1	98.8	109.8

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	~5 feet

Weather	
Temp. (degrees F):	
Wind (mph):	
Sky:	
Bar. Pressure:	
Humidity:	

Photo:



Measurement Report

Report Summary

Meter's File Name	LT_1.027.s	Computer's File Name	LxTse_0007061-20250716 115507-LT_1.027.ldbin		
Meter	LxT SE 0007061	Firmware	2.404		
User		Location			
Job Description					
Note					
Start Time	2025-07-16 11:55:07	Duration	24:38:11.3		
End Time	2025-07-17 12:33:18	Run Time	24:38:11.3	Pause Time	0:00:00.0
Pre-Calibration	2025-07-16 11:46:37	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA _{eq}	66.8 dB		
LAE	116.3 dB	SEA	--- dB
EA	47.2 mPa²h		
LA _{peak}	109.8 dB		2025-07-16 23:46:32
LAS _{max}	98.8 dB		2025-07-16 16:10:39
LAS _{min}	37.1 dB		2025-07-17 03:00:31
LA _{eq}	66.8 dB		
LC _{eq}	74.7 dB	LC _{eq} - LA _{eq}	7.9 dB
LAI _{eq}	68.7 dB	LAI _{eq} - LA _{eq}	1.9 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	31	0:01:45.7
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
71.3 dB	67.8 dB	0.0 dB	
LDEN	LDay	LEve	LNight
71.6 dB	68.2 dB	66.1 dB	64.1 dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	66.8 dB		74.7 dB		--- dB	
LS _(max)	98.8 dB	2025-07-16 16:10:39	--- dB	None	--- dB	None
LS _(min)	37.1 dB	2025-07-17 03:00:31	--- dB	None	--- dB	None
L _{Peak(max)}	109.8 dB	2025-07-16 23:46:32	--- dB	None	--- dB	None

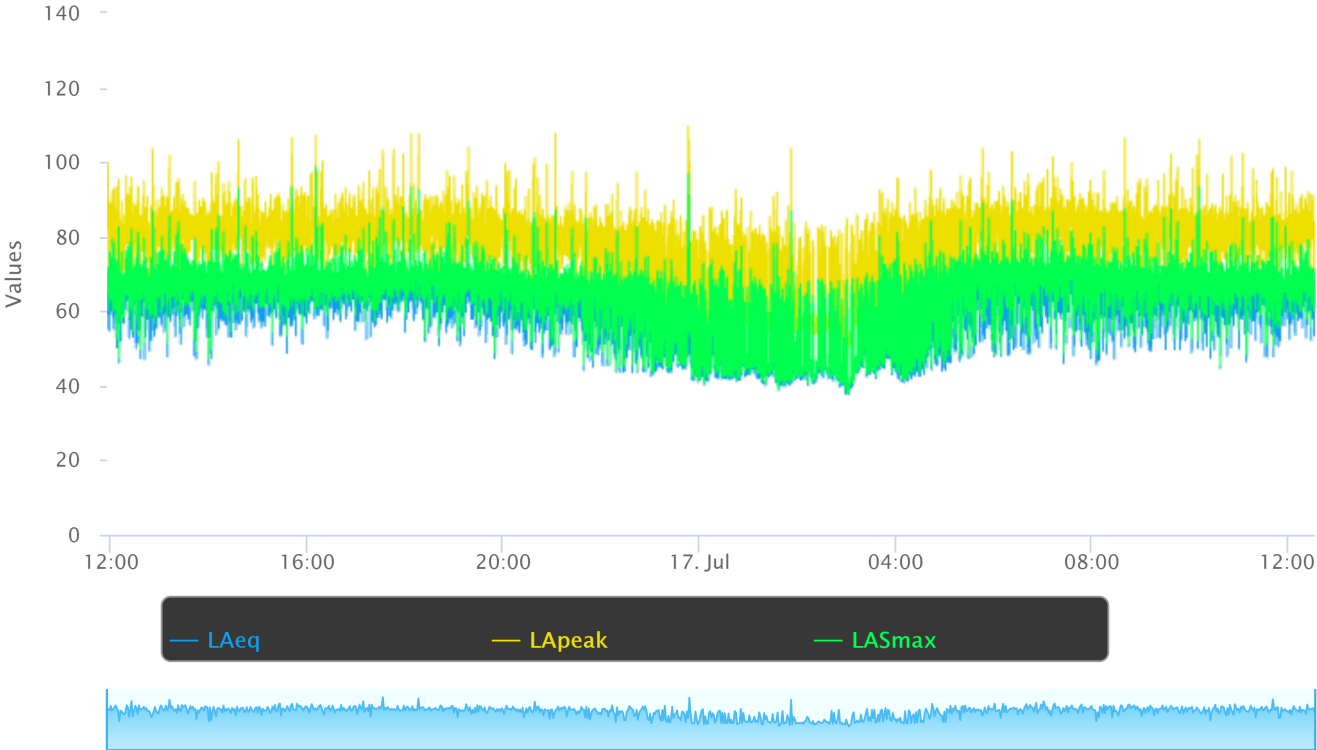
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	71.2 dB
LAS 10.0	69.4 dB
LAS 33.3	64.9 dB
LAS 50.0	61.9 dB
LAS 66.6	57.5 dB
LAS 90.0	44.7 dB

Time History



Project: **Moreno Valley McDonald's**
 Construction Noise Impact on Sensitive Receptors

Parameters		
Construction Hours:	Daytime hours (7 am to 7 pm)	8
	Evening hours (7 pm to 10 pm)	0
	Nighttime hours (10 pm to 7 am)	0
Leq to L10 factor		3

Receptor (Land Use)	Average Distance (feet)	Distance to Property Line (feet)	Shielding	Direction
1 Single-family Residential	1	87	0	East
2 Single-family Residential	2	94	0	North
3 Multi-family Residential	3	157	0	East/south

Construction Noise Levels by Phase (Leq)							
Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Infrastructure Improvement	Maximum Construction
77.4	73.3	74.7	74.2	79.0	64.0	77.2	79.0
79.2	73.7	75.0	75.1	78.4	64.9	75.2	79.2
77.3	69.2	71.0	70.9	74.2	60.7	71.2	77.3

Construction Phase	Equipment Type	No. of Equip.	Acoustical Usage Factor	Reference Noise Level at 50ft per Unit, Lmax
Demolition	Concrete Saw	1	20%	90
	Dozer	1	40%	82
	Tractor	3	40%	84
	Combined LEQ			
Site Preparation	Grader	1	40%	85
	Tractor	1	40%	84
	Dozer	1	40%	82
	Combined LEQ			
Grading	Grader	1	40%	85
	Dozer	1	40%	82
	Tractor	2	40%	84
	Combined LEQ			
Building Construction	Crane	1	16%	81
	Tractor	1	40%	84
	Generator	1	50%	81
	Welder/Torch	3	40%	74
	Forklifts	1	40%	80
	Combined LEQ			
Paving	Drum Mixer	1	50%	80
	Paver	1	50%	77
	Roller	1	20%	80
	Tractor	1	40%	84
	Pavement Scarifier	1	20%	90
	Combined LEQ			
Architectural Coating	Compressor (air)	1	40%	78
Combined LEQ				
Infrastructure Improvement	Slurry Trenching Machine	1	50%	80
	Paver	1	50%	77
	Roller	1	20%	80
	Dozer	1	40%	82
	Combined LEQ			
Overlapping Phases				
Site Preparation + Building Construction				
Grading + Building Construction				
Infrastructure Improvement + Building Construction				
Maximum Noise Level				

Source for Ref. Noise Levels: RCNM, 2005

RECEPTOR 1			RECEPTOR 2			RECEPTOR 3		
Distance (feet)	Noise Level at Receptor 1, Lmax	Noise Level at Receptor 1, Leq	Distance (feet)	Noise Level at Receptor 2, Lmax	Noise Level at Receptor 2, Leq	Distance (feet)	Noise Level at Receptor 3, Lmax	Noise Level at Receptor 3, Leq
158	79.6	72.6	128	81.4	74.4	159	79.6	72.6
158	71.7	67.7	128	73.5	69.6	159	71.7	67.7
158	78.8	74.8	128	80.6	76.6	159	78.7	74.7
		77.4			79.2			77.3
182	73.8	69.8	175	74.1	70.1	278	70.1	66.1
182	72.8	68.8	175	73.1	69.1	278	69.1	65.1
182	70.5	66.5	175.0	70.8	66.8	378	64.1	60.2
		73.3			73.7			69.2
182	73.8	69.8	175	74.1	70.1	278	70.1	66.1
182	70.5	66.5	175	70.8	66.8	278	66.8	62.8
182	75.8	71.8	175	76.1	72.1	278	72.1	68.1
		74.7			75.0			71.0
153	70.9	62.9	138	71.8	63.8	225	67.5	59.6
153	74.3	70.3	138	75.2	71.2	225	70.9	67.0
153	70.9	67.9	138	71.8	68.8	225	67.5	64.5
153	69.1	65.1	138	70.0	66.0	225	65.7	61.7
153	70.3	66.3	138	71.2	67.2	225	66.9	63.0
		74.2			75.1			70.9
109	73.2	70.2	116	72.7	69.7	189	68.5	65.4
109	70.4	67.4	116	69.9	66.9	189	65.7	62.6
109	73.2	66.2	116	72.7	65.7	189	68.5	61.5
109	77.2	73.3	116	76.7	72.7	189	72.5	68.5
109	82.7	75.7	116	82.2	75.2	189	78.0	71.0
		79.0			78.4			74.2
153	68.0	64.0	138	68.9	64.9	225	64.6	60.7
		64.0			64.9			60.7
87	75.6	72.6	110	73.6	70.5	175	69.5	66.5
87	72.4	69.4	110	70.4	67.3	175	66.3	63.3
87	75.2	68.2	110	73.2	66.2	175	69.1	62.1
87	76.9	72.9	110	74.9	70.9	175	70.8	66.8
		77.2			75.2			71.2
		76.8			77.5			73.1
		77.4			78.1			73.9
		79.0			78.2			74.0
		79.0			79.2			77.3



Moreno Valley McDonald's Receiver Locations

Signs and symbols

● Receiver at building

1 : 2029



Table A-1: Modeled On-Site Noise Levels at Receptors

No.	Receiver name	Building side	Floor	Limit		Level		Conflict	
				Day	Night	Day	Night	Day	Night
				dB(A)		dB(A)		dB	
1	1	South	1.FI	-	-	43.2	42.9	-	-
2	2	South	1.FI	-	-	43.0	42.8	-	-
3	3	South	1.FI	-	-	42.3	42.1	-	-
4	4	East	1.FI	-	-	43.0	42.8	-	-
5	5	East	1.FI	-	-	45.0	44.8	-	-
6	6	East	1.FI	-	-	48.8	48.7	-	-
7	7	South	1.FI	-	-	36.7	36.7	-	-
8	8	South	1.FI	-	-	36.5	36.4	-	-
			2.FI	-	-	37.5	37.4	-	-
9	9	South	1.FI	-	-	35.9	35.8	-	-
10	10	South	1.FI	-	-	37.7	37.7	-	-
11	11	South	1.FI	-	-	37.3	37.3	-	-
12	12	South	1.FI	-	-	36.8	36.7	-	-
13	13	South	1.FI	-	-	38.1	38.1	-	-
14	14	South	1.FI	-	-	38.1	38.0	-	-
			2.FI	-	-	39.9	39.9	-	-
15	15	South	1.FI	-	-	37.6	37.6	-	-
16	16	East	1.FI	-	-	40.6	40.6	-	-
17	17	North	1.FI	-	-	27.0	26.4	-	-
18	18	North	1.FI	-	-	25.1	24.7	-	-
19	19	North	1.FI	-	-	43.5	43.4	-	-
20	20	North	1.FI	-	-	45.3	45.2	-	-
21	21	North	1.FI	-	-	46.1	46.1	-	-
22	22	North	1.FI	-	-	48.2	48.2	-	-
23	23	North	1.FI	-	-	48.8	48.7	-	-
24	24	North	1.FI	-	-	49.7	49.7	-	-
25	25	North east	1.FI	-	-	48.9	48.9	-	-
26	26	East	1.FI	-	-	42.3	42.3	-	-
27	27	East	1.FI	-	-	28.0	28.0	-	-
28	28	West	1.FI	-	-	41.5	41.5	-	-
			2.FI	-	-	41.8	41.7	-	-
29	29	West	1.FI	-	-	42.5	42.5	-	-
			2.FI	-	-	42.9	42.8	-	-
30	30	North	1.FI	-	-	43.0	42.9	-	-
			2.FI	-	-	43.4	43.3	-	-
31	31	North	1.FI	-	-	41.1	41.1	-	-
			2.FI	-	-	41.5	41.4	-	-
32	32	North	1.FI	-	-	39.9	39.8	-	-
			2.FI	-	-	40.2	40.1	-	-
33	33	North	1.FI	-	-	38.3	38.3	-	-
			2.FI	-	-	38.6	38.5	-	-
34	34	South	1.FI	-	-	24.6	24.5	-	-
			2.FI	-	-	27.2	27.1	-	-
35	35	-	1.FI	-	-	31.7	31.5	-	-
36	36	South	1.FI	-	-	39.3	39.2	-	-
			2.FI	-	-	45.8	45.8	-	-
37	37	North west	1.FI	-	-	47.4	47.3	-	-
38	38	West	1.FI	-	-	48.1	48.0	-	-
			2.FI	-	-	48.5	48.4	-	-
39	39	South west	1.FI	-	-	45.3	45.1	-	-
			2.FI	-	-	45.6	45.4	-	-
40	40	South	1.FI	-	-	31.2	30.9	-	-
41	41	South	1.FI	-	-	41.1	41.1	-	-
			2.FI	-	-	41.8	41.7	-	-
42	42	South	1.FI	-	-	40.0	39.9	-	-
43	43	South	1.FI	-	-	35.2	34.9	-	-
			2.FI	-	-	38.0	37.8	-	-
44	44	South	1.FI	-	-	35.0	34.6	-	-
45	45	West	1.FI	-	-	43.9	43.7	-	-
46	46	West	1.FI	-	-	43.6	43.4	-	-
			2.FI	-	-	43.7	43.5	-	-
47	47	South	1.FI	-	-	40.1	39.9	-	-
			2.FI	-	-	40.6	40.4	-	-
48	48	South	1.FI	-	-	41.0	40.8	-	-

Table A-2: Modeled Truck Delivery Noise Levels at Receptors

No.	Receiver name	Building side	Floor	Limit		Level		Conflict	
				Day	Night	Day	Night	Day	Night
				dB(A)		dB(A)		dB	
1	1	South	1.FI	-	-	56.4	56.4	-	-
2	2	South	1.FI	-	-	55.4	55.4	-	-
3	3	South	1.FI	-	-	54.3	54.3	-	-
4	4	East	1.FI	-	-	54.6	54.6	-	-
5	5	East	1.FI	-	-	56.1	56.1	-	-
6	6	East	1.FI	-	-	57.5	57.5	-	-
7	7	South	1.FI	-	-	47.7	47.7	-	-
8	8	South	1.FI	-	-	47.9	47.9	-	-
			2.FI	-	-	49.5	49.5	-	-
9	9	South	1.FI	-	-	47.9	47.9	-	-
10	10	South	1.FI	-	-	47.7	47.7	-	-
11	11	South	1.FI	-	-	48.1	48.1	-	-
12	12	South	1.FI	-	-	47.8	47.8	-	-
13	13	South	1.FI	-	-	45.6	45.6	-	-
14	14	South	1.FI	-	-	46.1	46.1	-	-
			2.FI	-	-	49.2	49.2	-	-
15	15	South	1.FI	-	-	45.2	45.2	-	-
16	16	East	1.FI	-	-	45.0	45.0	-	-
17	17	North	1.FI	-	-	45.1	45.1	-	-
18	18	North	1.FI	-	-	38.3	38.3	-	-
19	19	North	1.FI	-	-	40.8	40.8	-	-
20	20	North	1.FI	-	-	41.8	41.8	-	-
21	21	North	1.FI	-	-	42.1	42.1	-	-
22	22	North	1.FI	-	-	42.6	42.6	-	-
23	23	North	1.FI	-	-	42.4	42.4	-	-
24	24	North	1.FI	-	-	43.1	43.1	-	-
25	25	North east	1.FI	-	-	43.5	43.5	-	-
26	26	East	1.FI	-	-	47.4	47.4	-	-
27	27	East	1.FI	-	-	34.0	34.0	-	-
28	28	West	1.FI	-	-	49.5	49.5	-	-
			2.FI	-	-	50.0	50.0	-	-
29	29	West	1.FI	-	-	50.9	50.9	-	-
			2.FI	-	-	51.5	51.5	-	-
30	30	North	1.FI	-	-	52.0	52.0	-	-
			2.FI	-	-	52.7	52.7	-	-
31	31	North	1.FI	-	-	51.1	51.1	-	-
			2.FI	-	-	51.6	51.6	-	-
32	32	North	1.FI	-	-	50.3	50.3	-	-
			2.FI	-	-	50.7	50.7	-	-
33	33	North	1.FI	-	-	49.2	49.2	-	-
			2.FI	-	-	49.6	49.6	-	-
34	34	South	1.FI	-	-	35.5	35.5	-	-
			2.FI	-	-	35.9	35.9	-	-
35	35	-	1.FI	-	-	44.0	44.0	-	-
36	36	South	1.FI	-	-	47.3	47.3	-	-
			2.FI	-	-	56.5	56.5	-	-
37	37	North west	1.FI	-	-	60.1	60.1	-	-
38	38	West	1.FI	-	-	60.6	60.6	-	-
			2.FI	-	-	61.5	61.5	-	-
39	39	South west	1.FI	-	-	58.4	58.4	-	-
			2.FI	-	-	59.1	59.1	-	-
40	40	South	1.FI	-	-	43.3	43.3	-	-
41	41	South	1.FI	-	-	53.8	53.8	-	-
			2.FI	-	-	54.6	54.6	-	-
42	42	South	1.FI	-	-	54.0	54.0	-	-
43	43	South	1.FI	-	-	52.7	52.7	-	-
			2.FI	-	-	53.1	53.1	-	-
44	44	South	1.FI	-	-	51.1	51.1	-	-
45	45	West	1.FI	-	-	56.7	56.7	-	-
46	46	West	1.FI	-	-	55.9	55.9	-	-
			2.FI	-	-	56.4	56.4	-	-
47	47	South	1.FI	-	-	51.1	51.1	-	-
			2.FI	-	-	53.0	53.0	-	-
48	48	South	1.FI	-	-	53.4	53.4	-	-

Appendix D – Air Quality and Greenhouse Gas Memorandum

MEMORANDUM

To: Hannah Luevano, P.E., Kimley-Horn and Associates, Inc.

From: Ryan Chiene and Jin Choi, Kimley-Horn and Associates, Inc.

Date: March 23, 2026

Subject: Moreno Valley McDonald's – Moreno Valley, CA – Air Quality and Greenhouse Gas Analysis

PURPOSE

This memorandum has been prepared to evaluate the potential air quality and greenhouse gas impacts associated with construction and operations of the Moreno Valley McDonald's Project (project), located in the City of Moreno Valley, California (City).

PROJECT LOCATION

The project site is located at the northwest corner of Ironwood Avenue and Pigeon Pass Road in the City of Moreno Valley, California (City). The site is surrounded by commercial shopping center to the north and west, single-family residential uses to the east, south, and west, and multi-family residential uses to the southeast. The site is currently occupied by an existing restaurant and a surface parking lot. The proposed project includes the demolition of the existing restaurant and the development of a 4,180-square-foot fast-food restaurant with two drive-through lanes.

PROJECT DESCRIPTION

The site is currently occupied by an existing restaurant and a surface parking lot. McDonald's proposes to demolish the existing restaurant and develop a 4,180-square-foot fast-food restaurant with two drive-through lanes; see [Exhibit 1: Site Plan](#). Construction is anticipated to start in July 2026 and last for approximately seven months. The site is zoned Community Commercial per the City of Moreno Valley Code of Ordinance. Vehicular access to the proposed project would be provided via driveways internal to Pigeon Pass Plaza. No new driveways would be constructed off Ironwood Avenue or Pigeon Pass Road. Standard hours of operation are 24 hours, seven days/week.

AIR QUALITY IMPACTS

South Coast Air Quality Management District Thresholds

The South Coast Air Quality Management District (SCAQMD) is the regulatory agency responsible for improving air quality for large areas of Los Angeles, Orange, Riverside, and San Bernardino Counties. The project site is located within the South Coast Air Basin, which is a distinct geographic subarea within SCAQMD’s jurisdiction. The SCAQMD CEQA Air Quality Handbook provides significance thresholds for volatile organic compounds (VOC) (also referred to as reactive organic gases [ROG]), nitrogen oxides (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter 10 microns or less in diameter (PM₁₀), and particulate matter 2.5 microns or less in diameter (PM_{2.5}). The thresholds apply to both project construction and operation within the SCAQMD jurisdictional boundaries. If the SCAQMD thresholds are exceeded, a potentially significant impact could result. However, ultimately the City, as the Lead Agency under CEQA, determines the thresholds of significance for impacts. If a project proposes development in excess of the established thresholds, as outlined in [Table 1: South Coast Air Quality Management District Significance Thresholds](#), a significant air quality impact may occur, and additional analysis is warranted to fully assess the significance of impacts.

Pollutant	Mass Daily Thresholds (pounds per day)	
	Construction	Operations
Nitrogen Oxides (NO _x)	100	55
Volatile Organic Compounds (VOC) ¹	75	55
Particulate Matter up to 10 Microns (PM ₁₀)	150	150
Particulate Matter up to 2.5 Microns (PM _{2.5})	55	55
Sulfur Oxides (SO _x)	150	150
Carbon Monoxide (CO)	550	550
Notes:		
1. VOCs and ROGs are subsets of organic gases that are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. Although they represent slightly different subsets of organic gases, they are used interchangeably for the purposes of this analysis.		
Source: South Coast Air Quality Management District, <i>South Coast AQMD Air Quality Significance Thresholds</i> , March 2023.		

Construction Impacts

Construction results in the temporary generation of emissions during demolition, site grading, road paving, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities, as well as weather conditions and the appropriate application of water.

As noted above, the project site is currently occupied by an existing restaurant and a surface parking lot. The project would demolish the existing restaurant building and construct a 4,180 square-foot McDonald’s drive-through restaurant. Construction is estimated to last approximately seven months. As the site is already developed, demolition, earthwork and grading would be required. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur.

Construction-generated emissions associated with the proposed project were calculated using the California Air Resources Board (CARB)-approved California Emissions Estimator Model version 2022.1 (CalEEMod) program, which is designed to model emissions for land use development projects, based on typical construction requirements. See [Appendix A: Air Quality and Greenhouse Gas Emissions Modeling Data](#) for more information regarding the construction assumptions used in this analysis. Predicted maximum daily construction-generated emissions for the proposed project are summarized in [Table 2: Project Construction Emissions](#). As indicated in [Table 2](#), pollutant emissions during project construction would not exceed the SCAQMD thresholds and impacts would be less than significant.

Table 2: Project Construction Emissions						
Construction Year	Maximum Pounds Per Day¹					
	ROG	NO_x	CO	SO₂	PM_{2.5}	PM₁₀
2026	2.49	21.66	24.88	0.04	3.84	2.19
2027	2.38	5.18	8.26	0.01	0.36	0.21
Maximum Emissions	2.49	21.66	24.88	0.04	3.84	2.19
<i>SCAQMD Threshold</i>	<i>75</i>	<i>100</i>	<i>550</i>	<i>150</i>	<i>55</i>	<i>150</i>
Exceed SCAQMD Threshold?	No	No	No	No	No	No
Notes:						
1. Emissions were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1, as recommended by the SCAQMD. Worst-case seasonal maximum daily emissions are reported.						
2. SCAQMD Rule 403 Fugitive Dust applied. The Rule 403 reduction/credits include the following: properly maintain mobile and other construction equipment; water exposed surfaces three times daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.						
3. Due to rounding, total emissions may be marginally different from CalEEMod output.						
Source: CalEEMod version 2022.1. Refer to Appendix A for model outputs.						

The project is subject to SCAQMD Rules 402, 403, and 1113, which prohibit nuisances, require dust mitigation, and limit VOC content in paints, respectively. It has been assumed that these rules will be followed using watering the site and low VOC paints during construction. The results of the emissions modeling, as summarized on [Table 2](#), show that construction criteria pollutant emissions would remain below the applicable thresholds, and construction impacts on short-term regional air quality would be less than significant.

Operational Impacts

Operational emissions are typically associated with mobile sources (i.e., motor vehicle use) and area sources (such as the use of landscape maintenance equipment, consumer products, and architectural coatings). Energy source emissions would be generated from electricity and natural gas usage. Based on the LOS and VMT Memorandum prepared by Kimley-Horn (2025), the proposed project would generate approximately 987 daily vehicle trips. [Table 3: Project Operational Emissions](#) summarizes the operational emissions attributable to the proposed project.

As shown in [Table 3](#), the project’s emissions would not exceed SCAQMD thresholds. Therefore, regional operations emissions would result in a less than significant long-term regional air quality impact.

Table 3: Project Operational Emissions						
Source	Maximum Pounds Per Day ¹					
	ROG	NO _x	CO	SO ₂	PM _{2.5}	PM ₁₀
Area Source Emissions	0.14	<0.01	0.18	<0.01	<0.01	<0.01
Energy Emissions	0.01	0.13	0.11	<0.01	0.01	0.01
Mobile Emissions	3.78	3.51	30.65	0.08	6.97	1.81
On-Site Drive Through ²	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Total Emissions	3.93	3.64	30.95	0.08	6.98	1.82
SCAQMD Threshold	55	55	550	150	150	55
<i>Exceeds Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Notes:						
1. Emissions were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1, as recommended by the SCAQMD. Worst-case seasonal maximum daily emissions are reported.						
2. On-site drive through idling emissions were calculated with emissions factors from EMFAC2021.						
3. Due to rounding, total emissions may be marginally different from CalEEMod output.						
Source: CalEEMod version 2022.1. Refer to Appendix A for model outputs.						

Localized Impacts

Localized Construction Significance Analysis

The nearest sensitive receptors to the project site are the single-family residences located approximately 87 feet (27 meters) to the south of the project site. To identify impacts to sensitive receptors, the SCAQMD recommends addressing Localized Significance Thresholds (LSTs) for construction. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific localized impacts.

Since CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment, [Table 4: Equipment-Specific Grading Rates](#) is used to determine the maximum daily disturbed acreage for comparison to LSTs. The appropriate source receptor area (SRA) for the project’s LSTs is the Perris Valley (SRA 24). LSTs apply to NO_x, CO, PM₁₀, and PM_{2.5}. The SCAQMD produced look-up tables for projects that disturb areas less than or equal to 5 acres in size. Based on the daily equipment modeled in CalEEMod, project construction is anticipated to disturb approximately 1 acre in a single day. Therefore, the LSTs for 1 acre were used for this analysis.

Table 4: Equipment-Specific Grading Rates					
Construction Phase	Equipment Type	Equipment Quantity	Acres Graded per 8-Hour Day	Operating Hours per Day	Acres Graded per Day
Grading	Graders	1	0.5	8	0.5
	Dozers	1	0.5	8	0.5
Total Acres Graded per Day					1
1. Total acres graded each day is based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment, not the total acreage of the project site.					
Source: CalEEMod version 2022.1. Refer to Appendix A for model outputs.					

The SCAQMD’s methodology states that “off-site mobile emissions from the project should not be included in the emissions compared to LSTs.” Therefore, for the construction LST analysis, only emissions included in the CalEEMod “on-site” emissions outputs were considered. As noted above, the nearest sensitive receptors to the project site are the single-family residences located approximately 87 feet (27 meters) to the south of the project site. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Therefore, as recommended by the SCAQMD, LSTs for receptors located at 27 meters were utilized in this analysis. [Table 5: Localized Significance of Construction Emissions](#) presents the results of localized emissions during project construction.

Table 5: Localized Significance of Construction Emissions				
Construction Activity	Maximum Pounds Per Day			
	NO _x	CO	PM ₁₀	PM _{2.5}
Individuals Phases				
Demolition 2026	12.94	14.62	1.97	0.69
Site Preparation 2026	11.04	11.72	2.95	1.64
Grading 2062	12.86	14.03	3.34	1.87
Building Construction 2026	8.57	9.96	0.29	0.27
Paving 2026	4.41	6.48	0.18	0.17
Paving 2027	4.30	6.49	0.17	0.16
Architectural Coating 2026	0.86	1.13	0.02	0.02
Architectural Coating 2027	0.83	1.13	0.02	0.02
Infrastructure Improvement 2026	11.98	11.53	0.53	0.49
Overlapping Phases				
Site Preparation + Building Construction	19.61	21.68	3.24	1.91

Grading + Building Construction	21.43	23.99	3.63	2.14
Infrastructure Improvement + Building Construction	20.55	21.49	0.82	0.76
Maximum Emissions	21.43	23.99	3.63	2.14
<i>SCAQMD Localized Screening Threshold (1 acre at 27 meters)</i>	120	625	5	3
Exceed SCAQMD Threshold?	No	No	No	No
Notes: 1. Due to rounding, total emissions may be marginally different from CalEEMod output. NO _x = Nitrogen Oxides; CO = Carbon Monoxide; PM ₁₀ = Particulate Matter 10 microns in diameter or less; PM _{2.5} = Particulate Matter 2.5 microns in diameter or less LST represented in this chart is based on the closest receptor distance of 27 meters. Source: CalEEMod version 2022.1. Refer to Appendix A for model outputs.				

Table 5 shows that the emissions of these pollutants on the peak day of project construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, the project would result in a less than significant impact concerning LSTs during construction activities.

Localized Operational Significance Analysis

LSTs for receptors located at 27 meters for SRA 24 were utilized in this analysis. As the project site is approximately 1 acre, the 1-acre LST threshold was used. The on-site operational emissions are compared to the LST thresholds in Table 6: Localized Significance of Operational Emissions. Table 6 shows that the maximum daily emissions of on-site pollutants during project operations would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, the project would result in a less than significant impact concerning LSTs during operational activities.

Activity	Maximum Pounds Per Day			
	NO _x	CO	PM ₁₀	PM _{2.5}
On-Site (Area and Energy Sources)	0.13	0.29	0.01	0.01
On-Site Drive Through	<0.01	0.01	<0.01	<0.01
Total Emissions	0.13	0.30	0.01	0.01
<i>SCAQMD Localized Screening Threshold (1 acre at 27 meters)</i>	120	625	1	1
Exceed SCAQMD Threshold?	No	No	No	No
Notes: 1. On-site drive through idling emissions were calculated with emissions factors from EMFAC2021. 2. Due to rounding, total emissions may be marginally different from CalEEMod output. NO _x = Nitrogen Oxides; CO = Carbon Monoxide; PM ₁₀ = Particulate Matter 10 microns in diameter or less; PM _{2.5} = Particulate Matter 2.5 microns in diameter or less LST represented in this chart is based on the closest receptor distance of 27 meters. Source: CalEEMod version 2022.1. Refer to Appendix A for model outputs.				

Carbon Monoxide Hotspots

An analysis of CO “hot spots” is needed to determine whether the change in the level of service of an intersection resulting from the project would have the potential to cause exceedances of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS). It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when vehicles are idling at intersections. Vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations have steadily declined. Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard.

The South Coast Air Basin (SCAB) was re-designated as attainment in 2007 and is no longer addressed in the SCAQMD’s Air Quality Management Plan (AQMP). The 2003 AQMP is the most recent version that addresses CO concentrations. As part of the SCAQMD CO Hotspot Analysis, the Wilshire Boulevard and Veteran Avenue intersection, one of the most congested intersections in Southern California with an average daily traffic (ADT) volume of approximately 100,000 vehicles per day, was modeled for CO concentrations. This modeling effort identified a CO concentration high of 4.6 ppm, which is well below the 35-ppm NAAQS. The project considered herein would not produce the volume of traffic required to generate a CO hot spot in the context of SCAQMD’s CO Hotspot Analysis. According to annual average daily traffic data, Pigeon Pass Road has an existing vehicle count of 15,066.¹ As the CO hotspots were not experienced at the Wilshire Boulevard and Veteran Avenue intersection even as it accommodates 100,000 vehicles daily, it can be reasonably inferred that CO hotspots would not be experienced at any intersections in the vicinity of the project site resulting from 987 daily vehicle trips attributable to the project. Therefore, impacts would be less than significant.

Air Quality Management Plan Consistency

As part of its enforcement responsibilities, the U.S. Environmental Protection Agency (U.S. EPA) requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act (CCAA) requires an air quality attainment plan to be prepared for areas designated as nonattainment regarding the federal and state ambient air quality standards. Air quality attainment plans outline

¹ ReplicaHQ, Annual Average Daily Traffic (AADT) 2024 for the City of Moreno Valley, <https://www.replicahq.com/>, accessed July 2025.

emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The project site is located within the SCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the Federal Clean Air Act (FCAA), to reduce emissions of criteria pollutants for which the SCAB is in nonattainment. To reduce such emissions, the SCAQMD drafted the 2016 AQMP and 2022 AQMPs. The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2022 AQMP builds upon measures already in place from previous AQMPs.² The primary purpose of the 2022 AQMP is to identify, develop, and implement strategies and control measures to meet the 2015 8-hour ozone NAAQS. Air quality management planning is a regional and multi-agency effort including the SCAQMD, the CARB, the Southern California Association of Governments (SCAG), and the U.S. EPA. The AQMPs' pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's growth projections and the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. The project is subject to the SCAQMD's 2016 and 2022 AQMPs.

- **Consistency Criterion No. 1:** The Project would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of the AQMP's air quality standards or the interim emissions reductions.
- **Consistency Criterion No. 2:** The Project would not exceed the AQMP's assumptions or increments based on the years of the Project build-out phase.

According to the SCAQMD's *CEQA Air Quality Handbook*, the purpose of the consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with CAAQS and NAAQS.³

The violations to which Consistency Criterion No. 1 refers are exceedances of the CAAQS and NAAQS. As shown in [Table 2](#) and [Table 3](#), the project would not exceed the SCAQMD's short-term construction or long-term operational thresholds. Therefore, the project would not result in an increase in frequency or severity of existing air quality violations, cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMPs. The project would be consistent with the first criterion.

² South Coast Air Quality Management District, *2022 Air Quality Management Plan*, page ES-2, December 2022, <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan>, accessed July 2025.

³ South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993.

Concerning Consistency Criterion No. 2, the 2022 AQMP contains air pollutant reduction strategies based on SCAG's growth forecasts included in the 2020-2024 RTP/SCS. SCAG's growth forecasts are made in consultation with local governments and with reference to local general plans. The proposed project is consistent with the existing regional commercial zoning designation and the Moreno Valley General Plan land use designation for the site. Therefore, the project would be consistent with growth projections accounted for in the AQMP. Additionally, the proposed project would not exceed the population or job growth projections used by the SCAQMD to develop the AQMP. Thus, no impact would occur, as the project is also consistent with the second criterion.

GREENHOUSE GAS EMISSIONS

Construction Greenhouse Gas Emissions

Project construction would result in direct greenhouse gas (GHG) emissions from construction equipment and the transport of materials and construction workers to and from the project site. The project’s construction GHG emissions were modeled using CalEEMod and forecasted based on the proposed construction schedule and applying the mobile-source and fugitive dust emissions factors derived from CalEEMod. The project’s construction is anticipated to occur over a duration of approximately seven months, beginning as early as July 2026. See [Appendix A](#) for more information regarding the construction assumptions used in this analysis.

[Table 7: Construction Greenhouse Gas Emissions](#) presents the total GHG emissions generated during project construction. In accordance with the SCAQMD’s guidance, GHG emissions from construction were amortized (i.e., averaged annually) over the lifetime of the project.⁴ As shown in [Table 7](#), the project construction would result in 244 metric tons of carbon dioxide equivalent (MTCO₂e) (approximately 8 MTCO₂e/year when amortized over 30 years).

Table 7: Construction Greenhouse Gas Emissions	
Construction	MTCO₂e per Year
2026	231
2027	13
Total Construction Emissions	244
Amortized over 30 Years	8
Notes:	
1. Due to rounding, total emissions may be marginally different from CalEEMod output.	
Source: CalEEMod version 2022.1. Refer to Appendix A for model data outputs.	

Operational GHG Emissions

Operational or long-term emissions occur over the life of the proposed project. GHG emissions would result from direct emissions such as project-generated vehicular traffic, on-site combustion of natural gas, and operation of any landscaping equipment. Operational GHG emissions would also result from indirect sources, such as off-site generation of electrical power over the life of the project, the energy required to convey water to, and wastewater from the project site, the emissions associated with solid waste generated from the project site, and any fugitive refrigerants from air conditioning or refrigerators. The total GHG emissions generated during operations are summarized in [Table 8: Total Project Greenhouse Gas Emissions](#).

As shown in [Table 8](#), the project would generate approximately 1,359 MTCO₂e/year. The project would not result in an increase in GHG emissions that exceed the SCAQMD’s screening threshold of 3,000 MTCO₂e/year. Therefore, project related GHG emissions would be less than significant.

⁴ The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #13, August 26, 2009).

Table 8: Total Project Greenhouse Gas Emissions	
Emissions Source	MTCO₂e per Year
Construction Amortized over 30 Years	8
Area Source	<1
Energy	56
Mobile	1,275
Drive Thru Idling	<1
Waste	15
Water	3
Refrigerants	1
Total Project Emissions	1,359
SCAQMD Project Threshold	3,000
Threshold Exceeded?	No
Notes:	
1. Due to rounding, total emissions may be marginally different from CalEEMod output.	
Source: CalEEMod version 2022.1. Refer to Appendix A for model data outputs.	

Greenhouse Gas Reduction Plan Consistency

Climate Action Plan

In 2021, the City approved and certified the *City of Moreno Valley Climate Action Plan (2021 CAP)*. The 2021 CAP serves as a roadmap to mitigate the impacts of climate change and outlines the City’s strategy for complying with AB 32, which requires the State to reduce GHG emissions to 1990 levels by 2020. However, since adoption of the CAP in 2021, the State has enacted several significant GHG reduction measures, including AB 1279. AB 1279 sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045. Therefore, the 2021 CAP cannot be relied upon as a qualified GHG reduction plan pursuant to CEQA Section 15183.5.

The City has since prepared the *Draft City of Moreno Valley Climate Action Plan (2025 CAP)* in July 2025. However, the 2025 CAP is currently under review and has not been adopted. According to Appendix E of the 2025 CAP, the Compliance Checklist Table is required to be submitted to the City for all projects and plans subject to CEQA, unless they are statutorily or categorically exempt.⁵ The project qualifies for a Class 32 Categorical Exemption under CEQA Guidelines Article 19, Section 15332 for Infill Development Projects. Thus, the project is not required to submit the Compliance Checklist Table. Therefore, the project’s significance is evaluated based on the *2024 – 2050 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal)* and *2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan)*, as analyzed below.

⁵ City of Moreno Valley, *Draft Climate Action Plan Appendix E*, July 2025.

Regional Transportation Plan/Sustainable Communities Strategy Consistency

The 2024 – 2050 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal) is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal embodies a collective vision for the region’s future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders in the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. Under SB 375, SCAG’s GHG emissions goal is to reduce GHG emissions in the region by eight percent below 2005 levels by 2020 and by 19 percent below 2005 levels by 2035. GHG emission targets for the years 2020 and 2035 are intended to help achieve significant GHG reductions from changes to land use patterns and improved transportation networks in support of the State's climate goals.

Connect SoCal is supported by a combination of transportation and land use strategies that help the region achieve State GHG emissions reduction goals and Federal Clean Air Act (FCAA) requirements, increased housing production, improved equity and resilience, the preservation of natural lands, improvement of public health, increased transportation safety, support for the region’s vital goods movement industries and more efficient use of resources. GHG emissions resulting from development-related mobile sources are the most potent source of GHG emissions, and therefore, project comparison to Connect SoCal is an appropriate indicator of whether the project would inhibit the post-2020 GHG reduction goals promulgated by the State. The project’s consistency with applicable Connect SoCal goals is provided in Table 9: 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy Consistency.

Compliance with applicable State standards would ensure consistency with State and regional GHG reduction planning efforts. As shown in Table 9, the proposed project would be consistent with the stated goals of Connect SoCal. Therefore, the proposed project would not result in any significant impacts or interfere with SCAG’s ability to achieve the region’s post-2020 mobile source GHG reduction targets.

Table 9: 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy Consistency	
SCAG Goals	Compliance
Mobility: Build and maintain an integrated multimodal transportation network.	
Support investments that are well-maintained and operated, coordinated, resilient and result in improved safety, improved air quality and minimized greenhouse gas emissions	N/A. This is not a project-specific policy and is therefore not applicable.
Ensure that reliable, accessible, affordable, and appealing travel options are readily available, while striving to enhance equity in the offerings in high-need communities	N/A. This is not a project-specific policy and is therefore not applicable.
Support planning for people of all ages, abilities, and backgrounds	N/A. This is not a project-specific policy and is therefore not applicable.

Table 9: 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy Consistency	
SCAG Goals	Compliance
Communities: Develop, connect, and sustain communities that are livable and thriving	
Create human-centered communities in urban, suburban, and rural settings to increase mobility options and reduce travel distances	Consistent. The project site is located in an urban area in proximity to existing community services. Additionally, the project site is located near Riverside Transit Agency (RTA) route 11 and 18, which operates along Pigeon Pass Road and Ironwood Avenue.
Produce and preserve diverse housing types in an effort to improve affordability, accessibility, and opportunities for all households	N/A. The project does not propose residential uses.
Environment: Create a healthy region for the people of today and tomorrow	
Develop communities that are resilient and can mitigate, adapt to, and respond to chronic and acute stresses and disruptions, such as climate change	Consistent. As discussed in the <i>Air Quality Impacts</i> section, the project would not exceed SCAQMD’s regional or localized thresholds. Based on the Friant Ranch decision, projects that do not exceed the SCAQMD’s localized significance thresholds (LSTs) would not violate any air quality standards or contribute substantially to an existing or projected air quality violation and result in no criterial pollutant health impacts. In addition, the project would comply with all applicable efficiency requirements. The project is located approximately 18 miles from the Pacific Ocean and would therefore not be subject to risks associated with sea level rise. Therefore, the project promotes GHG-reduction strategies and would not result in significant health impacts.
Integrate the region’s development pattern and transportation network to improve air quality, reduce greenhouse gas emissions and enable more sustainable use of energy and water	Consistent. Although the project does not include transportation improvements, the project site is located within a suburban area near public transit services. Also, as discussed in the <i>Air Quality Impacts</i> section, the project would not exceed SCAQMD’s regional air emissions thresholds. The project would not violate any air quality standards or contribute significantly to existing air quality. Additionally, the project would not exceed SCAQMD’s GHG emissions thresholds. The project would also promote more sustainable energy and water use by complying with Title 24 Energy Code and CALGreen standards.
Conserve the region’s resources	Consistent. The project site is located on developed land that is not designated for agricultural uses, natural resources, or conservation. Therefore, project development would not result in a loss of the region’s resources.
Economy: Support a sustainable, efficient, and productive regional economic environment that provides opportunities for all people in the region	
Improve access to jobs and educational resources	Consistent. The project proposes a fast-food restaurant development in an area with residential and commercial land uses. Therefore, the location of the project would improve access to job opportunities.
Advance a resilient and efficient goods movement system that supports the economic vitality of the	Consistent. This is not a project-specific policy and is therefore not applicable.

SCAG Goals	Compliance
region, attainment of clean air and quality of life for our communities	
N/A = Not Applicable Sources: Southern California Association of Governments, <i>Connect SoCal (2024 – 2050 Regional Transportation Plan/Sustainable Communities Strategy)</i> , 2024.	

California Air Resource Board Scoping Plan Consistency

CARB’s 2022 *Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan), adopted December 15, 2022, sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. To achieve the targets of AB 1279, the 2022 Scoping Plan relies on existing and emerging fossil fuel alternatives and clean technologies, as well as carbon capture and storage. Specifically, the 2022 Scoping Plan focuses on zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high Global Warming Potential (GWP); providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen. The key elements of the 2022 CARB Scoping Plan focus on transportation. Specifically, the 2022 Scoping Plan aims to rapidly move towards zero-emission transportation (i.e., electrifying cars, buses, trains, and trucks), which constitutes California’s single largest source of GHGs. The regulations that impact the transportation sector are adopted and enforced by CARB on vehicle manufacturers and are outside the jurisdiction and control of local governments. The 2022 Scoping Plan accelerates development of new regulations as well as amendments to strengthen regulations and programs already in place. As shown in [Table 10: Project Consistency with the CARB 2022 Scoping Plan](#), the project is consistent with applicable actions.

Action	Consistency
GHG Emissions Reductions Relative to the SB 32 Target	
40% Below 1990 levels by 2030.	Consistent. The project would comply with the Title 24, Part 6 building energy requirements along with other local and State initiatives that aim to achieve 40% below 1990 levels by 2030 goal. This would be ensured through the City’s existing development permitting process.
Smart Growth/Vehicle Miles Traveled VMT	

Table 10: Project Consistency with the CARB 2022 Scoping Plan	
Action	Consistency
<p>VMT per capita reduced 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045.</p>	<p>Consistent. The project site is located in a suburban area in proximity to residential and commercial development, RTA route 11 and 18, and State Route 60 (SR-60). Also, as noted in the LOS and VMT Memorandum prepared by Kimley-Horn (2025), the project would be a locally-servicing retail development which is anticipated to have approximately 50 percent pass-by trips. This would result in a trip on the roadway network becoming shorter, rather than a new trip being added to the roadway network, thereby shortening the distance that customers would otherwise travel. Therefore, the project would be consistent with SB 375 and its VMT reduction goals, as well as the GHG and transportation goals of the 2024-2050 RTP/SCS.</p>
Light-Duty Vehicle (LDV) Zero-Emission Vehicles (ZEVs)	
<p>100% of LDV sales are ZEV by 2035.</p>	<p>Consistent. The proposed project would be designed and constructed in accordance with the Title 24 Part 6 and Part 11 requirements, which include ZEV designated parking spaces and charging stations.</p>
Truck ZEVs	
<p>100% of medium-duty (MDV)/HDC sales are ZEV by 2040 (AB 74 University of California Institute of Transportation Studies [ITS] report).</p>	<p>Consistent. While the project would not generate substantial medium- and heavy-duty truck traffic, it would not impede the advancement of cleaner trucks over time.</p>
Electricity Generation	
<p>Sector GHG target of 38 million metric tons of carbon dioxide equivalent (MTCO_{2e}) in 2030 and 30 MTCO_{2e} in 2035. Retail sales load coverage 20 gigawatts (GW) of offshore wind by 2045. Meet increased demand for electrification without new fossil gas-fired resources.</p>	<p>Consistent. The project would comply with Title 24, Part 6 building requirements, including renewable energy generation requirements as well as improved insulation reducing energy consumption.</p>
Food Products	
<p>7.5% of energy demand electrified directly and/or indirectly by 2030; 75% by 2045</p>	<p>Consistent. The project would comply with Title 24, Part 6 building requirements, including electric-ready infrastructure to support future appliance electrification through the City's permitting.</p>
New Residential and Commercial Buildings	
<p>All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed statewide by 2030.</p>	<p>Consistent. The project would comply with the Title 24, Part 6 building energy requirements, including the expansion of the use of electric heat pumps for space conditioning and water heating, which would be verified through the City's existing development permitting process.</p>
Construction Equipment	

Table 10: Project Consistency with the CARB 2022 Scoping Plan	
Action	Consistency
25% of energy demand electrified by 2030 and 75% electrified by 2045.	Consistent. Through City permitting, the proposed project would be required to use construction equipment that are registered by CARB and meet CARB’s standards. CARB sets its standards in alignment with the State’s goal of reducing energy demand by 25% in 2030 and 75% in 2045.
High GWP Potential Emissions	
Low GWP refrigerants introduced as building electrification increases, mitigating HFC emissions.	Consistent. The project would comply with the Title 24, Part 6 building energy requirements, including use of low GWP refrigerants, which would be verified through the City’s existing development permitting process.
Source: California Air Resources Board (CARB), <i>2022 Scoping Plan for Achieving Carbon Neutrality</i> , (2022). Available at: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf , accessed July, 2025.	

CONCLUSION

Project implementation would result in less than significant air quality and GHG impacts. No mitigation measures would be required. Therefore, the proposed project would not result in any significant effects relating to air quality or GHGs pursuant to the CEQA Guidelines.

Appendix A

Air Quality and Greenhouse Gas Emissions Modeling Data

[Moreno Valley McDonald's] CalEEMod Assumptions

Land Use

Land Use	Size	Metric
Fast Food Restaurant with Drive Thru	4.18	KSF
Parking Lot	34.68	KSF
KSF = thousand square feet		

Construction

Schedule

Phase Name	Start Date	End Date	Workdays
Demolition	7/1/2026	8/3/2026	24
Site Preparation	8/4/2026	8/11/2026	6
Grading	8/12/2026	9/25/2026	33
Building Construction	8/16/2026	12/11/2026	85
Paving	12/16/2026	1/31/2027	33
Architectural Coating	12/17/2026	1/31/2027	32
Infrastructure Improvement	9/26/2026	12/15/2026	57

Equipment

Construction Phase	Equipment	Number per Day	Hours Per Day
Demolition	Concrete/Industrial Saws	1	8
	Rubber Tired Dozers	1	8
	Tractors/Loaders/Backhoes	3	8
Site Preparation	Graders	1	8
	Tractors/Loaders/Backhoes	1	8
	Rubber Tired Dozers	1	7
Grading	Graders	1	8
	Rubber Tired Dozers	1	8
	Tractors/Loaders/Backhoes	2	7
Building Construction	Cranes	1	6
	Forklifts	1	6
	Tractors/Loaders/Backhoes	1	6
	Generator Sets	1	8
	Welders	3	8
Paving	Cement and Mortar Mixers	1	6
	Pavers	1	6
	Rollers	1	7
	Tractors/Loaders/Backhoes	1	8
	Paving Equipment	1	8
Architectural Coating	Air Compressors	1	6
Infrastructure Improvement	Trenchers	1	8
	Pavers	1	8
	Rollers	1	8
	Rubber Tired Dozers	1	8

Grading/Earthwork

Phase	Import (CY)	Export (CY)	Haul Distance (mi)
Site Preparation	-	-	-
Grading	600	-	-

CY = cubic yards; mi = miles

Worker, Vendor, and Haul Trips

Trip Type	# One-Way Trips/Day	Trip Length (miles)
Demolition		
Worker	13	18.5
Vendor	-	10.2
Hauling	26	20
On-Site Truck	-	-
Site Preparation		
Worker	8	18.5
Vendor	-	10.2
Hauling	0	20
On-Site Truck	-	-
Grading		
Worker	10	18.5
Vendor	-	10.2
Hauling	2	20
On-Site Truck	-	-
Building Construction		
Worker	2	18.5
Vendor	1	10.2
Hauling	0	20
On-Site Truck	-	-
Paving		
Worker	13	18.5
Vendor	-	10.2
Hauling	0	20
On-Site Truck	-	-
Architectural Coating		
Worker	0	18.5
Vendor	-	10.2
Hauling	0	20
On-Site Truck	-	-
Infrastructure Improvement		
Worker	10	18.5
Vendor	-	10.2

Hauling	0	20
On-Site Truck	-	-

Demolition

Phase	Amount (Tons)
Demolition	2,538
9,257 sf of existing building material and 36,378 sf of pavement material are expected to be demolished.	

Operations

Vehicle Data

Land Use	Size	Metric	Trip Rate	Daily Trip Generation
Fast Food Restaurant with Drive Thru	4.18	KSF	236.12	987
Parking Lot	34.68	KSF	0	0
Total Net Daily Trips	-	-	-	987
KSF = thousand square feet; DU = dwelling unit				
100% primary trips; trip lengths and trip type distributions are CalEEMod defaults				

Trip Length

Land Use	Trip Length (miles)		
	Non-Res H-W / Res H-W	Non-Res W-O / Res H-S	Non-Res O-O / Res H-O
Fast Food Restaurant with Drive Thru	22.99	12.02	5.36
Parking Lot	22.99	12.02	5.36

Trip Purpose and Percent

Land Use	Trip Percent (%)			Trip Purpose (%)		
	Primary	Diverted	Pass-By	Non-Res H-W / Res H-W	Non-Res W-O / Res H-S	Non-Res O-O / Res H-O
Fast Food Restaurant with Drive Thru	100	0	0	23.62	5.60	70.78
Parking Lot	100	0	0	23.62	5.60	70.78

Fleet Mix

Land Use	HHD %	LDA %	LDT1 %	LDT2 %	LHD1 %	LHD2 %	MCY %	MDV %	MH %	MHD %	OBUS %	SBUS %	UBUS %
Fast Food Restaurant with Drive Thru	1.64	49.57	3.70	20.85	3.09	0.88	2.28	15.70	0.57	1.49	0.06	0.13	0.04
Parking Lot	1.64	49.57	3.70	20.85	3.09	0.88	2.28	15.70	0.57	1.49	0.06	0.13	0.04

The project would not include stationary sources.

SCAQMD Localized Significance Thresholds

SRA No.:	24	Perris Valley
Receptor Dist. 1 (meters):	25	
Receptor Dist. 2 (meters):	50	
Interpolated Distance:	27	
Acres:	1	

Acres Estimate

Equipment	Acres/8hr Day	Equipment Modeled	Disturbed Acres
Graders	0.5	1	0.5
Dozers	0.5	1	0.5
Scrapers	1	0	0
Total Acres			1

Distance 1 25 meters

Construction LST	NO _x	CO	PM ₁₀	PM _{2.5}
1 Acre	118	602	4	3
1.5 Acres	144	743	6	4
2 Acres	170	883	7	4
2.5 Acres	187	999	8	5
3 Acres	203	1,114	9	5
3.5 Acres	220	1,230	10	6
4 Acres	237	1,346	11	7
4.5 Acres	253	1,461	12	7
5 Acres	270	1,577	13	8

Operational LST	NO _x	CO	PM ₁₀	PM _{2.5}
1 Acres	118	602	1	1
1.5 Acres	144	743	2	1
2 Acres	170	883	2	1
2.5 Acres	187	999	2	1
3 Acres	203	1,114	3	1
3.5 Acres	220	1,230	3	2
4 Acres	237	1,346	3	2
4.5 Acres	253	1,461	4	2
5 Acres	270	1,577	4	2

Distance 2 50 meters

Construction LST	NO _x	CO	PM ₁₀	PM _{2.5}
1 Acres	148	887	12	4
1.5 Acres	174	1,075	16	5
2 Acres	200	1,262	20	6
2.5 Acres	217	1,415	23	7
3 Acres	234	1,567	27	7
3.5 Acres	251	1,720	30	8
4 Acres	268	1,873	33	9
4.5 Acres	285	2,025	37	9
5 Acres	302	2,178	40	10

Operational LST	NO _x	CO	PM ₁₀	PM _{2.5}
1 Acres	148	887	3	1
1.5 Acres	174	1,075	4	2
2 Acres	200	1,262	5	2
2.5 Acres	217	1,415	6	2
3 Acres	234	1,567	7	2
3.5 Acres	251	1,720	8	3
4 Acres	268	1,873	8	3
4.5 Acres	285	2,025	9	3
5 Acres	302	2,178	10	3

Interpolated Dist. 27 meters

Construction LST	NO _x	CO	PM ₁₀	PM _{2.5}
1 Acres	120	625	5	3
1.5 Acres	146	769	6	4
2 Acres	172	913	8	4
2.5 Acres	189	1,032	9	5
3 Acres	206	1,151	10	5
3.5 Acres	222	1,269	12	6
4 Acres	239	1,388	13	7
4.5 Acres	256	1,506	14	7
5 Acres	273	1,625	15	8

Operational LST	NO _x	CO	PM ₁₀	PM _{2.5}
1 Acres	120	625	1	1
1.5 Acres	146	769	2	1
2 Acres	172	913	2	1
2.5 Acres	189	1,032	3	1
3 Acres	206	1,151	3	1
3.5 Acres	222	1,269	3	2
4 Acres	239	1,388	4	2
4.5 Acres	256	1,506	4	2
5 Acres	273	1,625	4	2

Drive-Through On Site Emissions

Total Trips/Day	987
Drive-Through Trips	691
Minutes/Trip	5
Distance (miles/trip)	0.06

	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
EMFAC Emissions Rate (g/mi)	0.03	0.19	1.43	0.00	0.00	0.00
Pounds/Day	0.00	0.00	0.01	0.00	0.00	0.00
	CO ₂	CH ₄	N ₂ O	CO ₂ e		
EMFAC Emissions Rate (g/mi)	338.70	0.17	0.03	--		
MT/year	0.43	0.00	0.00	0.442535		

Source: EMFAC2021 (v1.0.2) Emission Rates, Riverside (SC) Sub-Area, Year 2027, Annual.

Notes

1. Drive-thru percent is assumed with 70%.
2. Drive -thru distances measured as 0.06 mile GoogleEarth.

ATTACHMENT B
SUMMARY OF PROJECT TRIP GENERATION COMPARISON
EXISTING: MULTI-TENANT RETAIL BUILDING / PROPOSED: MCDONALD'S DRIVE-THROUGH RESTAURANT

Land Use	ITE Code	Unit	Trip Generation Rates ¹						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Strip Retail Plaza (<40k)	822	KSF	54.450	1.416	0.944	2.360	3.295	3.295	6.590
Fast-Food Restaurant w/ Drive-thru	934	KSF	467.480	22.751	21.859	44.610	17.176	15.854	33.030
Trip Generation Estimates									
Land Use	Quantity	Unit	Trip Generation Estimates						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Existing Use									
Strip Retail Plaza (<40k)	9.527	KSF	519	13	9	22	31	31	62
<i>Pass-by Trips (40% AM, 40% PM) ^{2,3}</i>			-208	-5	-4	-9	-12	-12	-24
Total Existing Trips			311	8	5	13	19	19	38
Proposed Use									
Fast-Food Restaurant w/ Drive-thru	4.180	KSF	1,954	95	91	186	72	66	138
<i>Pass-by Trips (49% AM, 50% PM) ²</i>			-967	-47	-45	-91	-36	-33	-69
Total Proposed Project Trips			987	48	46	95	36	33	69
Net Difference (Proposed Minus Existing)			675	41	41	82	17	14	31

¹ Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition

² Note: The ITE Trip Generation Manual does not provide pass-by rates for daily trip generation. The daily pass-by trips shown are the average of the AM and the PM pass-by trips.

³ Note: The ITE Trip Generation Manual does not provide pass-by rates for Land Use Code 822. The pass-by trip rates shown were obtained from Land Use Code 821 as a conservative approach in calculation.

Moreno Valley McDonald's Detailed Report

Table of Contents

1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
2. Emissions Summary
 - 2.1. Construction Emissions Compared Against Thresholds
 - 2.2. Construction Emissions by Year, Unmitigated
 - 2.4. Operations Emissions Compared Against Thresholds
 - 2.5. Operations Emissions by Sector, Unmitigated
3. Construction Emissions Details
 - 3.1. Demolition (2026) - Unmitigated
 - 3.3. Site Preparation (2026) - Unmitigated
 - 3.5. Grading (2026) - Unmitigated
 - 3.7. Building Construction (2026) - Unmitigated
 - 3.9. Paving (2026) - Unmitigated

3.11. Paving (2027) - Unmitigated

3.13. Architectural Coating (2026) - Unmitigated

3.15. Architectural Coating (2027) - Unmitigated

3.17. Infrastructure Improvement (2026) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Moreno Valley McDonald's
Construction Start Date	7/1/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	10.0
Location	33.9473107361904, -117.26249065290091
County	Riverside-South Coast
City	Moreno Valley
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5598
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
------------------	------	------	-------------	-----------------------	------------------------	--------------------------------	------------	-------------

Fast Food Restaurant with Drive Thru	4.18	1000sqft	0.10	4,180	0.00	—	—	—
Parking Lot	34.7	1000sqft	1.20	0.00	17,667	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.98	2.49	21.7	24.9	0.04	0.87	2.96	3.84	0.81	1.38	2.19	—	4,593	4,593	0.18	0.31	4.25	4,618
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.90	2.43	20.6	22.1	0.04	0.83	0.17	0.98	0.76	0.04	0.80	—	4,014	4,014	0.16	0.04	0.02	4,030
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.92	0.78	6.40	7.06	0.01	0.25	0.48	0.73	0.23	0.18	0.41	—	1,384	1,384	0.05	0.03	0.21	1,396
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.17	0.14	1.17	1.29	< 0.005	0.05	0.09	0.13	0.04	0.03	0.08	—	229	229	0.01	0.01	0.03	231

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.98	2.49	21.7	24.9	0.04	0.87	2.96	3.84	0.81	1.38	2.19	—	4,593	4,593	0.18	0.31	4.25	4,618
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.90	2.43	20.6	22.1	0.04	0.83	0.17	0.98	0.76	0.04	0.80	—	4,014	4,014	0.16	0.04	0.02	4,030
2027	2.50	2.38	5.18	8.26	0.01	0.19	0.17	0.36	0.17	0.04	0.21	—	1,285	1,285	0.05	0.02	0.01	1,291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.92	0.78	6.40	7.06	0.01	0.25	0.48	0.73	0.23	0.18	0.41	—	1,384	1,384	0.05	0.03	0.21	1,396
2027	0.15	0.14	0.31	0.50	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	78.1	78.1	< 0.005	< 0.005	0.01	78.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.17	0.14	1.17	1.29	< 0.005	0.05	0.09	0.13	0.04	0.03	0.08	—	229	229	0.01	0.01	0.03	231
2027	0.03	0.03	0.06	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	< 0.005	13.0

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.26	3.93	3.41	30.9	0.08	0.07	6.92	6.98	0.06	1.76	1.82	28.4	8,333	8,361	3.19	0.36	31.7	8,580
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.99	3.66	3.64	26.0	0.07	0.07	6.92	6.98	0.06	1.76	1.82	28.4	7,850	7,878	3.20	0.37	7.19	8,076
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.98	3.65	3.70	27.1	0.07	0.07	6.87	6.94	0.06	1.74	1.81	28.4	7,920	7,948	3.20	0.38	17.4	8,158

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.73	0.67	0.68	4.94	0.01	0.01	1.25	1.27	0.01	0.32	0.33	4.70	1,311	1,316	0.53	0.06	2.88	1,351

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.10	3.78	3.28	30.6	0.08	0.06	6.92	6.97	0.05	1.76	1.81	—	7,987	7,987	0.31	0.35	25.2	8,125
Area	0.14	0.14	< 0.005	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.75	0.75	< 0.005	< 0.005	—	0.75
Energy	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	336	336	0.03	< 0.005	—	337
Water	—	—	—	—	—	—	—	—	—	—	—	2.43	9.60	12.0	0.25	0.01	—	20.1
Waste	—	—	—	—	—	—	—	—	—	—	—	25.9	0.00	25.9	2.59	0.00	—	90.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.53	6.53
Total	4.26	3.93	3.41	30.9	0.08	0.07	6.92	6.98	0.06	1.76	1.82	28.4	8,333	8,361	3.19	0.36	31.7	8,580
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.86	3.54	3.51	25.9	0.07	0.06	6.92	6.97	0.05	1.76	1.81	—	7,504	7,504	0.33	0.36	0.65	7,622
Area	0.11	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	336	336	0.03	< 0.005	—	337
Water	—	—	—	—	—	—	—	—	—	—	—	2.43	9.60	12.0	0.25	0.01	—	20.1
Waste	—	—	—	—	—	—	—	—	—	—	—	25.9	0.00	25.9	2.59	0.00	—	90.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.53	6.53
Total	3.99	3.66	3.64	26.0	0.07	0.07	6.92	6.98	0.06	1.76	1.82	28.4	7,850	7,878	3.20	0.37	7.19	8,076
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.83	3.51	3.57	26.8	0.07	0.06	6.87	6.93	0.05	1.74	1.80	—	7,574	7,574	0.33	0.37	10.9	7,703

Area	0.13	0.13	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.51	0.51	< 0.005	< 0.005	—	0.51
Energy	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	336	336	0.03	< 0.005	—	337
Water	—	—	—	—	—	—	—	—	—	—	—	2.43	9.60	12.0	0.25	0.01	—	20.1
Waste	—	—	—	—	—	—	—	—	—	—	—	25.9	0.00	25.9	2.59	0.00	—	90.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.53	6.53
Total	3.98	3.65	3.70	27.1	0.07	0.07	6.87	6.94	0.06	1.74	1.81	28.4	7,920	7,948	3.20	0.38	17.4	8,158
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.70	0.64	0.65	4.90	0.01	0.01	1.25	1.26	0.01	0.32	0.33	—	1,254	1,254	0.05	0.06	1.80	1,275
Area	0.02	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.08	0.08	< 0.005	< 0.005	—	0.09
Energy	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	55.5	55.5	0.01	< 0.005	—	55.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.40	1.59	1.99	0.04	< 0.005	—	3.33
Waste	—	—	—	—	—	—	—	—	—	—	—	4.30	0.00	4.30	0.43	0.00	—	15.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.08	1.08
Total	0.73	0.67	0.68	4.94	0.01	0.01	1.25	1.27	0.01	0.32	0.33	4.70	1,311	1,316	0.53	0.06	2.88	1,351

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.66	1.39	12.9	14.6	0.02	0.51	—	0.51	0.47	—	0.47	—	2,494	2,494	0.10	0.02	—	2,503
Demolition	—	—	—	—	—	—	1.46	1.46	—	0.22	0.22	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.85	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	164	164	0.01	< 0.005	—	165	
Demolition	—	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.1	27.1	< 0.005	< 0.005	—	27.2	
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.90	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	172	172	0.01	0.01	0.58	175	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.03	1.97	0.48	0.01	0.03	0.48	0.51	0.03	0.13	0.17	—	1,792	1,792	0.03	0.29	3.67	1,881	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.02	10.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.14	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	118	118	< 0.005	0.02	0.10	124
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.75	1.75	< 0.005	< 0.005	< 0.005	1.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.5	19.5	< 0.005	< 0.005	0.02	20.5

3.3. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.47	1.24	11.0	11.7	0.02	0.51	—	0.51	0.47	—	0.47	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.02	0.02	0.18	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	33.9	33.9	< 0.005	< 0.005	—	34.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.62	5.62	< 0.005	< 0.005	—	5.64
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.54	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.35	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.58	1.58	< 0.005	< 0.005	< 0.005	1.60
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.42	12.9	14.0	0.02	0.58	—	0.58	0.53	—	0.53	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.16	1.27	< 0.005	0.05	—	0.05	0.05	—	0.05	—	222	222	0.01	< 0.005	—	223
Dust From Material Movement	—	—	—	—	—	—	0.25	0.25	—	0.12	0.12	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.7	36.7	< 0.005	< 0.005	—	36.9	
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.05	0.04	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	138	138	0.01	< 0.005	0.47	140	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	154	154	< 0.005	0.02	0.32	162	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.6	11.6	< 0.005	< 0.005	0.02	11.8	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.01	14.6	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.92	1.92	< 0.005	< 0.005	< 0.005	1.95	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.42	

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	0.24	2.00	2.32	< 0.005	0.07	—	0.07	0.06	—	0.06	—	419	419	0.02	< 0.005	—	421
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	69.4	69.4	< 0.005	< 0.005	—	69.7

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.2	24.2	< 0.005	< 0.005	0.08	24.6	
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.6	20.6	< 0.005	< 0.005	0.06	21.6	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.3	22.3	< 0.005	< 0.005	< 0.005	22.5	
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.6	20.6	< 0.005	< 0.005	< 0.005	21.6	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.25	5.25	< 0.005	< 0.005	0.01	5.32	
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	5.03	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.88	
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.83	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.41	6.48	0.01	0.18	—	0.18	0.17	—	0.17	—	991	991	0.04	0.01	—	995
Paving	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.0	31.0	< 0.005	< 0.005	—	31.1
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.14	5.14	< 0.005	< 0.005	—	5.16
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.68	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	159	159	< 0.005	0.01	0.02	160
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.03	5.03	< 0.005	< 0.005	0.01	5.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.46	4.30	6.49	0.01	0.17	—	0.17	0.16	—	0.16	—	992	992	0.04	0.01	—	995
Paving	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.26	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	60.2	60.2	< 0.005	< 0.005	—	60.4	
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.96	9.96	< 0.005	< 0.005	—	9.99	
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.05	0.05	0.05	0.63	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	156	156	< 0.005	0.01	0.01	157	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.56	9.56	< 0.005	< 0.005	0.01	9.68	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.58	1.58	< 0.005	< 0.005	< 0.005	1.60
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.67	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.92	3.92	< 0.005	< 0.005	—	3.93
Architectural Coatings	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	—	0.65	0.65	< 0.005	< 0.005	—	0.65
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	—	4.45	4.45	< 0.005	< 0.005	< 0.005	4.51
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.67	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.10	8.10	< 0.005	< 0.005	—	8.13
Architectural Coatings	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.34	1.34	< 0.005	< 0.005	—	1.35
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.37	4.37	< 0.005	< 0.005	< 0.005	4.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Infrastructure Improvement (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.62	1.36	12.0	11.5	0.02	0.53	—	0.53	0.49	—	0.49	—	2,043	2,043	0.08	0.02	—	2,050
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.62	1.36	12.0	11.5	0.02	0.53	—	0.53	0.49	—	0.49	—	2,043	2,043	0.08	0.02	—	2,050
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.87	1.80	< 0.005	0.08	—	0.08	0.08	—	0.08	—	319	319	0.01	< 0.005	—	320
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.34	0.33	< 0.005	0.02	—	0.02	0.01	—	0.01	—	52.8	52.8	< 0.005	< 0.005	—	53.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	138	138	0.01	< 0.005	0.47	140
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.54	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	127	127	< 0.005	< 0.005	0.01	128
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.1	20.1	< 0.005	< 0.005	0.03	20.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.32	3.32	< 0.005	< 0.005	0.01	3.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	4.10	3.78	3.28	30.6	0.08	0.06	6.92	6.97	0.05	1.76	1.81	—	7,987	7,987	0.31	0.35	25.2	8,125
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.10	3.78	3.28	30.6	0.08	0.06	6.92	6.97	0.05	1.76	1.81	—	7,987	7,987	0.31	0.35	25.2	8,125
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	3.86	3.54	3.51	25.9	0.07	0.06	6.92	6.97	0.05	1.76	1.81	—	7,504	7,504	0.33	0.36	0.65	7,622
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.86	3.54	3.51	25.9	0.07	0.06	6.92	6.97	0.05	1.76	1.81	—	7,504	7,504	0.33	0.36	0.65	7,622
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	0.70	0.64	0.65	4.90	0.01	0.01	1.25	1.26	0.01	0.32	0.33	—	1,254	1,254	0.05	0.06	1.80	1,275
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.70	0.64	0.65	4.90	0.01	0.01	1.25	1.26	0.01	0.32	0.33	—	1,254	1,254	0.05	0.06	1.80	1,275

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	139	139	0.01	< 0.005	—	140
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	43.5	43.5	< 0.005	< 0.005	—	43.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	183	183	0.02	< 0.005	—	184
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	139	139	0.01	< 0.005	—	140
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	43.5	43.5	< 0.005	< 0.005	—	43.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	183	183	0.02	< 0.005	—	184
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	23.0	23.0	< 0.005	< 0.005	—	23.2

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	7.20	7.20	< 0.005	< 0.005	—	7.24
Total	—	—	—	—	—	—	—	—	—	—	—	—	30.3	30.3	< 0.005	< 0.005	—	30.4

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	153
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	153
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	153
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	153
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Fast Food Restaurant with Drive Thru	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.3	25.3	< 0.005	< 0.005	—	25.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.3	25.3	< 0.005	< 0.005	—	25.4

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	0.03	< 0.005	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.75	0.75	< 0.005	< 0.005	—	0.75
Total	0.14	0.14	< 0.005	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.75	0.75	< 0.005	< 0.005	—	0.75
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Product	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.11	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.08	0.08	< 0.005	< 0.005	—	0.09
Total	0.02	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.08	0.08	< 0.005	< 0.005	—	0.09

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.43	8.19	10.6	0.25	0.01	—	18.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	1.41	1.41	< 0.005	< 0.005	—	1.42
Total	—	—	—	—	—	—	—	—	—	—	—	2.43	9.60	12.0	0.25	0.01	—	20.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.43	8.19	10.6	0.25	0.01	—	18.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	1.41	1.41	< 0.005	< 0.005	—	1.42
Total	—	—	—	—	—	—	—	—	—	—	—	2.43	9.60	12.0	0.25	0.01	—	20.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	0.40	1.36	1.76	0.04	< 0.005	—	3.09
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.23	0.23	< 0.005	< 0.005	—	0.23
Total	—	—	—	—	—	—	—	—	—	—	—	0.40	1.59	1.99	0.04	< 0.005	—	3.33

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	25.9	0.00	25.9	2.59	0.00	—	90.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	25.9	0.00	25.9	2.59	0.00	—	90.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	25.9	0.00	25.9	2.59	0.00	—	90.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	25.9	0.00	25.9	2.59	0.00	—	90.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	4.30	0.00	4.30	0.43	0.00	—	15.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.30	0.00	4.30	0.43	0.00	—	15.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.53	6.53
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.53	6.53
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.53	6.53
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.53	6.53
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.08	1.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.08	1.08

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetati on	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	7/1/2026	8/3/2026	5.00	24.0	—
Site Preparation	Site Preparation	8/4/2026	8/11/2026	5.00	6.00	—
Grading	Grading	8/12/2026	9/25/2026	5.00	33.0	—
Building Construction	Building Construction	8/16/2026	12/11/2026	5.00	85.0	—
Paving	Paving	12/16/2026	1/31/2027	5.00	33.0	—
Architectural Coating	Architectural Coating	12/17/2026	1/31/2027	5.00	32.0	—
Infrastructure Improvement	Trenching	9/26/2026	12/15/2026	5.00	57.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Back hoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29

Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Infrastructure Improvement	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
Infrastructure Improvement	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Infrastructure Improvement	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Infrastructure Improvement	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	26.5	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT

Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	2.27	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1.76	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.69	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.35	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Infrastructure Improvement	—	—	—	—
Infrastructure Improvement	Worker	10.0	18.5	LDA,LDT1,LDT2
Infrastructure Improvement	Vendor	—	10.2	HHDT,MHDT

Infrastructure Improvement	Hauling	0.00	20.0	HHDT
Infrastructure Improvement	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	6,270	2,090	3,142

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	2,538	—
Site Preparation	—	—	5.63	0.00	—
Grading	600	—	22.5	0.00	—
Paving	0.00	0.00	0.00	0.00	1.20

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

Water Demolished Area	2	36%	36%
-----------------------	---	-----	-----

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Fast Food Restaurant with Drive Thru	0.00	0%
Parking Lot	1.20	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	346	0.03	< 0.005
2027	0.00	346	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Fast Food Restaurant with Drive Thru	987	987	987	360,255	9,768	9,768	9,768	3,565,376
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	6,270	2,090	3,142

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Fast Food Restaurant with Drive Thru	146,780	346	0.0330	0.0040	476,766
Parking Lot	45,867	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Fast Food Restaurant with Drive Thru	1,268,771	0.00
Parking Lot	0.00	280,123

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Fast Food Restaurant with Drive Thru	48.1	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
----------------	-----------	-------------	----------------	---------------	------------	-------------

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
----------------	-----------	----------------	---------------	----------------	------------	-------------

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
----------------	-----------	--------	--------------------------	------------------------------	------------------------------

5.17. User Defined

Equipment Type	Fuel Type
----------------	-----------

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
--------------------------	----------------------	---------------	-------------

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
--------------------	---------------	-------------

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
-----------	--------	------------------------------	------------------------------

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	26.8	annual days of extreme heat
Extreme Precipitation	2.95	annual days with precipitation above 20 mm

Sea Level Rise	—	meters of inundation depth
Wildfire	16.0	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	98.7
AQ-PM	69.4
AQ-DPM	63.5
Drinking Water	10.2
Lead Risk Housing	24.5
Pesticides	0.00
Toxic Releases	62.9
Traffic	87.3
Effect Indicators	—

CleanUp Sites	61.4
Groundwater	30.9
Haz Waste Facilities/Generators	57.5
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	61.4
Cardio-vascular	76.8
Low Birth Weights	41.5
Socioeconomic Factor Indicators	—
Education	46.2
Housing	55.5
Linguistic	36.5
Poverty	51.7
Unemployment	53.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	48.54356474
Employed	21.69896061
Median HI	46.41344797
Education	—
Bachelor's or higher	31.86192737
High school enrollment	100
Preschool enrollment	11.90812267
Transportation	—

Auto Access	91.71050943
Active commuting	8.058514051
Social	—
2-parent households	54.56178622
Voting	20.67239831
Neighborhood	—
Alcohol availability	69.85756448
Park access	44.42448351
Retail density	35.12126267
Supermarket access	55.60118055
Tree canopy	2.130116771
Housing	—
Homeownership	56.88438342
Housing habitability	50.81483383
Low-inc homeowner severe housing cost burden	65.66149108
Low-inc renter severe housing cost burden	18.00333633
Uncrowded housing	38.58591043
Health Outcomes	—
Insured adults	26.99858848
Arthritis	48.2
Asthma ER Admissions	38.9
High Blood Pressure	37.6
Cancer (excluding skin)	66.1
Asthma	25.7
Coronary Heart Disease	69.4
Chronic Obstructive Pulmonary Disease	42.5
Diagnosed Diabetes	48.6
Life Expectancy at Birth	41.7

Cognitively Disabled	24.2
Physically Disabled	50.9
Heart Attack ER Admissions	40.6
Mental Health Not Good	33.4
Chronic Kidney Disease	64.9
Obesity	21.1
Pedestrian Injuries	19.6
Physical Health Not Good	39.9
Stroke	51.7
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	28.0
No Leisure Time for Physical Activity	37.2
Climate Change Exposures	—
Wildfire Risk	1.0
SLR Inundation Area	0.0
Children	44.4
Elderly	90.4
English Speaking	56.2
Foreign-born	51.8
Outdoor Workers	44.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	71.3
Traffic Density	90.3
Traffic Access	61.3
Other Indices	—
Hardship	52.1
Other Decision Support	—

2016 Voting	31.3
-------------	------

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	60.0
Healthy Places Index Score for Project Location (b)	33.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Based on the construction questionnaire.
Construction: Off-Road Equipment	Infrastructure improvement equipment based on assumption.
Operations: Vehicle Data	Pass-by trips are accounted in the trip rate.
Land Use	Land use based on the stie plan.
Construction: Dust From Material Movement	Based on construction questionnaire