CLASS 32 ♦ CATEGORICAL EXEMPTION REPORT

4335-4345 El Camino Real Residential Project

PREPARED BY

City of Palo Alto
Planning & Development Services Department
250 Hamilton Avenue
Palo Alto, California 94301
Contact: Emily Kallas, AICP, Planner

PREPARED WITH THE ASSISTANCE OF

Rincon Consultants, Inc.
66 Franklin Street, Suite 300
Oakland, California 94607

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1 INTRODUCTION

This report serves as the technical documentation of an environmental analysis for the 4335-4345 El Camino Real Residential Project in the City of Palo Alto. The intent of the analysis is to document whether the project is eligible for a Class 32 Categorical Exemption (CE). The report provides an introduction, project description, and evaluation of the project's consistency with the requirements for a Class 32 exemption. The report concludes that the project is eligible for a Class 32 CE.

The State of California's *CEQA Guidelines* Section 15332 states that a CE is allowed when:

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 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[1], noise, air quality, or water quality.
e. The site can be adequately served by all required utilities and public services.

Additionally, *CEQA Guidelines* Section 15300.2 outlines exceptions to the applicability of a Categorical Exemption, including cumulative impacts, significant effects due to unusual circumstances, scenic highways, hazardous waste sites, and historical resources. A full listing of these exceptions and an assessment of their applicability to the proposed project is provided in this report.

The City, in coordination with Rincon Consultants, Inc., evaluated the project's consistency with the above requirements, including its potential impacts in the areas of biological resources, traffic, noise, air quality, and water quality to confirm the project's eligibility for the Class 32 exemption.

[1] Impacts related to parking are not discussed in this report, as such impacts are generally not considered as a physical effect on the environment under CEQA.

2 PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND SETTING

The project site encompasses two Assessor's parcels (APNs 148-09-010 and 148-09-011). The site addresses are 4335 and 4345 El Camino Real; the site is on the northeast side of El Camino Real between Del Medio Avenue and Monroe Drive in Palo Alto. The site is bisected by Cesano Court, a private road; the full site size is 1.35 acres, while the developable areas (with the Cesano Court right of way excluded) is 45,218 square feet, or 1.04 acres. The project site has a Palo Alto Comprehensive Plan land use designation of Service Commercial and is also zoned Service Commercial (CS). Palo Alto's boundary with the City of Mountain View forms the southeastern border of the site, and its boundary with the City of Los Altos is along El Camino Real to the southwest. The project site is bounded by El Camino Real and the City of Los Altos to the southwest, multifamily residential development to the southeast (in Mountain View) and northeast, and a hotel to the northwest. Figure 1 shows the regional location of the project site and Figure 2 shows the project site in its immediate context.

The smaller existing parcel, 4335 El Camino Real (APN 148-09-010), is developed with two two-story commercial buildings totaling approximately 6,000 square feet and surface parking accessed from Cesano Court. The larger existing parcel, 4345 El Camino Real (APN 148-09-011), is developed with an approximately 11,000 square-foot L-shaped one- and two-story motel building with an outdoor pool and surface parking accessed from driveways on both El Camino Real and Cesano Court. The project site is generally flat and includes landscaped areas throughout the site, particularly the larger, southern portion of the site, generally characterized by shrubs and mature landscape trees. The landscape trees are non-native, with the exception of two coast live oaks and one valley oak. A number of trees, including these oak trees, are "protected trees" under the Palo Alto Municipal Code (PAMC). Photos of existing site conditions are shown on Figure 3a and Figure 3b.

2.2 PROJECT CHARACTERISTICS

The proposed project would involve demolition of the existing buildings, parking areas and landscaping and construction of 29 townhome-style residential units in five separate three-story buildings. Units would have either three or four bedrooms and a two-car attached garage. The proposed site plan is shown on Figure 4.

Proposed buildings 1 and 2, which would have four units each, would be on the smaller (northern) parcel (APN 148-09-010) and would be accessed from a private street via a driveway from Cesano Court. Proposed Building 3 would have 5 units, and proposed buildings 4 and 5 would have eight units each; these buildings would be on the larger (southern) parcel (APN 148-09-011). These units would also be accessed from Cesano Court, via two private streets, one of which would have a fire truck turnaround area. Two guest parking spaces would also be on this parcel.

Figure 1 Regional Location

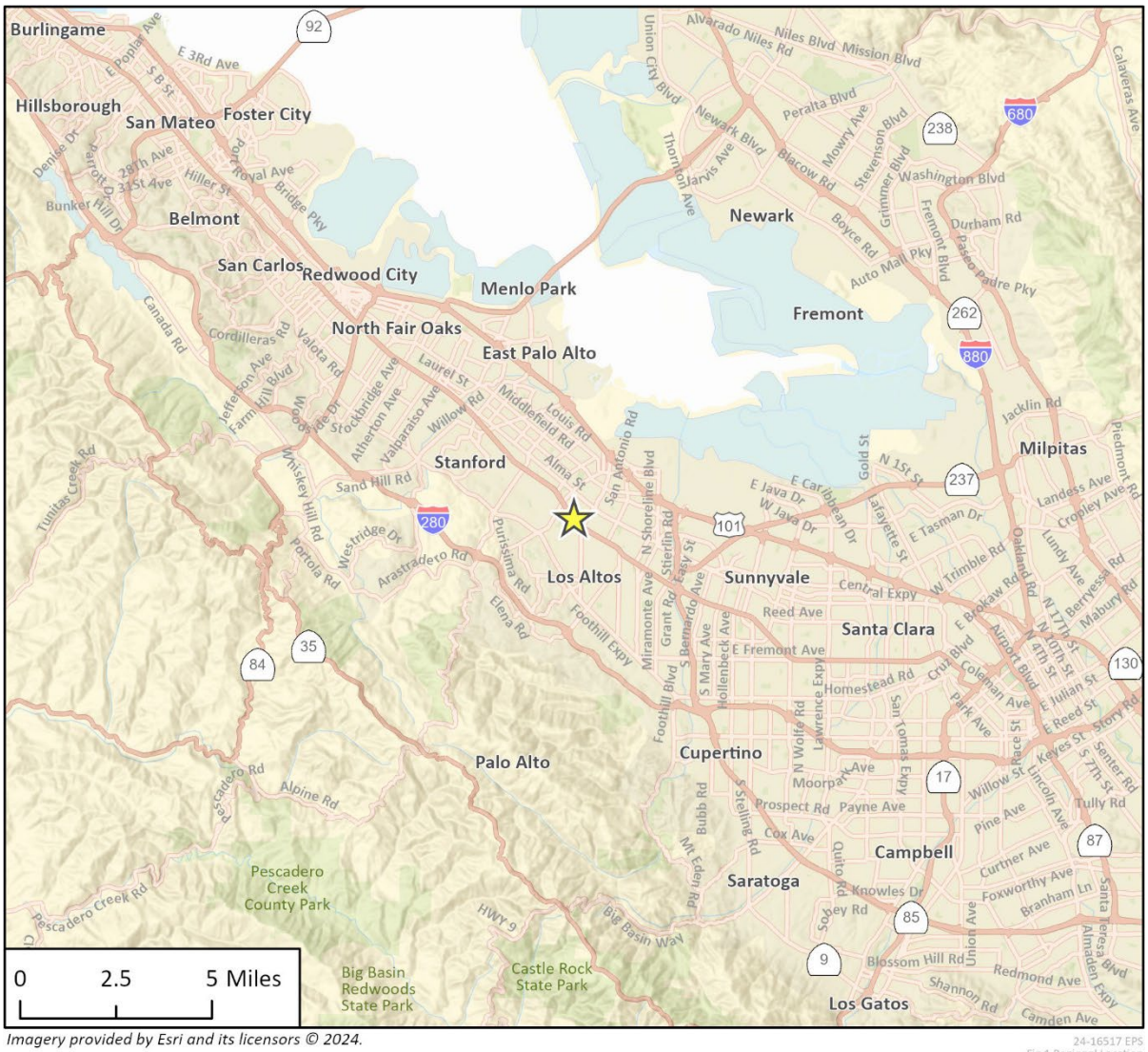

Figure 2 Project Site Location

Imagery provided by Microsoft Bing and its licensors © 2024.

24-16517 EPS
Fig X Project Location

Figure 3a Existing Conditions

Photo 1: Buildings on the smaller (northern) parcel (APN 148-09-010), viewed looking northeast from El Camino Real.

Photo 2: Rear of buildings on the smaller (northern) parcel (APN 148-09-010)and surface parking lot, viewed looking northwest from Cesano Court.

Figure 3b Existing Conditions

Photo 3: Existing building on the larger (southern) parcel (APN 148-09-011) and surface parking lot, viewed looking west from the interior of the site.

Photo 4: Landscaped area in parking lot of the larger (southern) parcel (APN 148-09-010), looking west.

Figure 4 Proposed Site Plan

Four of the 29 units would be offered at below-market rates, and the applicant would pay an in-lieu fee for an additional fractional unit, thus making the project eligible for a density bonus pursuant to the State Density Bonus Law and PAMC Chapter 18.15. The applicant has requested waivers, concessions, and incentives in accordance with these regulations to allow for the following modifications to PAMC standards:

- Concession: To provide no retail or retail-like uses on the site where approximately 9,000 square feet would be required based on development standards for the preservation of retail and retail-like uses

Parcel 1

- Waiver 1: To waive the 30% "build-to" development standard along Cesano Court.
- Waiver 2: To reduce the number of street trees required along the project frontage, 7 proposed where 8 are required.

Parcel 3

- Waiver 1a: To reduce the side yard setback adjacent to the condominium common use parcel from 10 feet to 4’ 8”.
- Waiver 1b: To reduce the rear setback adjacent to the condominium common use parcel from 10 feet to 0 feet.
- Waiver 2: To waive the 30% “build-to” development standard along Cesano Court.
- Waiver 3: To waive the maximum site coverage standard to allow 55.1% lot coverage where 50% is allowed.
- Waiver 4: To reduce the minimum requirements for the dimensions and quantity of Useable Open Space from 150 sf per unit to 116 sf per unit.
- Waiver 5: To reduce the number of street trees required along the project frontage, 8 proposed where 12 are required.
- Waiver 6: Waive the screening landscaping requirement along the southeast property line (adjacent to 2700 W El Camino Real).
- Waiver 7: Reduce restrictions on windows and balconies adjacent to residential buildings (adjacent to 2700 W El Camino Real).

The project would comply with all other development standards required in the CS zone. Selected CS standards are summarized in Table 1.

Table 1 Proposed Project Characteristics

Project Characteristic	Required	Proposed	
		Parcel 1	Parcel 3
Address	–	4335 El Camino Real	4345 El Camino Real
Assessor's Parcel No.	–	148-09-010	148-09-011
Gross/Net Lot Area[1]	N/A	17,406 sf gross 14,614 sf net	41,370 sf gross 30,744 net
Lot Coverage	29,388 sf (50%)	48.2%	55.1% (waiver requested)
Floor Area[1]	1.25:1	0.939:1	1.176:1
Front Yard Setback	15 ft	15 ft	15 ft, 6 inches
Interior Side Yard Setback	5 ft	5 ft	10 ft
Interior Rear Yard Setback	10 ft	27 ft	Varies 0-5 ft (waiver requested)
Height	50 ft	36 ft, 2 inches	37 ft, 2 inches
Residential Units	30 units per acre	23.8 units per acre	29.8 units per acre
Vehicle Parking	1.5 spaces per 3-bedroom unit, 2.5 spaces per 4-bedroom unit[2]	16 spaces	42 spaces
Bicycle Parking	Long Term: 1 space/unit (29 spaces total) Short Term: 1 space/ 10 units (3 spaces total)	8 in-unit for residents,6 short-term outdoor for guests	21 in-unit for residents, 6 short-term outdoor for guests

[1] The total gross floor area is calculated pursuant to Palo Alto Municipal Code §18.04.030. "Gross floor area" means the total area of all floors of a building measured to the outside surfaces of exterior walls. Net lot area is the area of a lot measured horizontally between bounding lot lines, but excluding any portion of a flag lot providing access to a street and lying between a front lot line and the street, and excluding any portion of a lot within the lines of any natural watercourse, river, stream, creek, waterway, channel, or flood control or drainage easement and excluding any portion of a lot within a public or private street right-of-way whether acquired in fee, easement, or otherwise.

ft = feet or foot; sf = square feet

[2] Parking requirements per CA Gov. Code §65915(p).

LANDSCAPING AND OPEN SPACE

The proposed project would require removal of 32 trees and would include planting 54 replacement trees, and 5,286 square feet of usable open space in the form of common and private open space is proposed. Open space would generally be around the perimeter of each parcel and on balconies. An existing 6-foot-tall wooden fence along the southeastern property line would be replaced or upgraded to also function as a sound barrier.

SITE ACCESS AND CIRCULATION

Vehicle access to the site is currently provided by three driveways (two on Cesano Court and one on El Camino Real). The proposed project would result in the elimination of these three existing driveways and construction of two new driveways on either side of Cesano Court approximately 90 feet west of El Camino Real. Both driveways would provide full

access, as shown on Figure 4. The project would provide 58 parking spaces for residents and two guest spaces. The removal of the driveway on El Camino Real would also create the opportunity for one or two additional on-street parking spaces.

UTILITIES AND STORMWATER MANAGEMENT

City of Palo Alto Utilities (CPAU) provides electricity, natural gas, water, and wastewater services to the city. The City is currently contracted with GreenWaste of Palo Alto for collection of garbage, recycling, and composting services. Domestic water service would connect to an existing public water main in Cesano Court with individual public meters for each unit. Wastewater service would connect to an existing public sewer main in Cesano Court. Stormwater would be treated on site via bioretention areas and other treatment measures before being discharged to the existing public storm drain that currently serves the site. Surface runoff for 100-year storm events would be primarily directed towards Cesano Court.

CONSTRUCTION

Construction is expected to occur over approximately 16 months. The project would include demolition of the existing buildings on site as well as grading and site preparation for the new construction. Pile drivers would not be used in building construction. The project has committed to using construction equipment with U.S. EPA Tier 4 emission standards for particulate matter.

3 CONSISTENCY ANALYSIS

3.1 CRITERION (A)

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

The project site has a Comprehensive Plan land use designation of Service Commercial and is zoned Service Commercial (CS). Pursuant to the Comprehensive Plan, "higher density multi-family housing may be allowed in specific locations" in the Service Commercial designation. Specifically, these uses are encouraged in locations within close proximity to transit. The project is located along El Camino Real, which meets the definition of a high-quality transit corridor. Therefore, the proposed use in this location is consistent with this land use designation.

The project is also consistent with applicable 2030 Comprehensive Plan policies as well as with applicable zoning designations and regulations, except where waivers and concessions are requested in accordance with State density bonus law. As described above in the Project Description, the project would comply with zoning ordinance requirements set forth in the Palo Alto Municipal Code (PAMC) related to use, density, building height, FAR, site coverage, usable open space, setbacks and other standards with density bonus concessions and waivers as required under State Density Bonus Law and PAMC Chapter 18.15.

Applicable 2030 Comprehensive Plan policies include:

Goal L-2 Promote an enhanced sense of "community" with development designed to foster public life, meet citywide needs and embrace the principles of sustainability.

Policy L-2.3 As a key component of a diverse, inclusive community, allow and encourage a mix of housing types and sizes integrated into neighborhoods and designed for greater affordability, particularly smaller housing types, such as studios, co-housing, cottages, clustered housing, accessory dwelling units and senior housing.

Policy L-2.5 Support the creation of affordable housing units for middle to lower income level earners, such as City and school district employees, as feasible.

Policy L-2.11 Encourage new development and redevelopment to incorporate greenery and natural features such as green rooftops, pocket parks, plazas and rain gardens.

Goal L-3 Safe, attractive residential neighborhoods, each with its own distinct character and within walking distance of shopping, services, schools, and/or other public gathering places.

Policy L-3.1 Ensure that new or remodeled structures are compatible with the neighborhood and adjacent structures.

Policy L-3.4 Ensure that new multi-family buildings, entries and outdoor spaces are designed and arranged so that each development has a clear relationship to a public street.

Consistent with these policies, the project would involve multi-family development, including affordable units, in a neighborhood with mixed residential types and densities; would include landscaping and trees; would be within walking distance of key services including grocery stores (Safeway, Trader Joe's) and a Walmart within 0.5-mile; and would have front doors directly on El Camino Real, creating a relationship with the public street.

The project would be consistent with the site's Comprehensive Plan land use designation, Comprehensive Plan policies, zoning designation, and zoning regulations. Therefore, the project would meet the requirements of *criterion (a)*.

3.2 CRITERION (B)

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

The project is located on an approximately 1.35 gross-acre site within a developed urban neighborhood in the City of Palo Alto. It is immediately surrounded by urban uses on all sides. Therefore, the project would be consistent with *criterion (b)*.

3.3 CRITERION (C)

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

The project site is located within a developed urban area that lacks suitable habitat for sensitive animal or plant species. The project site is currently developed with buildings and paving with limited, generally non-native landscaping and does not contain suitable habitat for sensitive species.

The project would include the removal of trees on the property. The trees to be removed are in areas of high human activity and presence, and isolated from forestlands, water bodies, and other foraging habitat; they do not provide structure or habitat for substantial numbers of special status birds. The project would also include planting new trees.

A search on the U.S. Fish and Wildlife Services (USFWS) National Wetlands Inventory for the project site and surrounding area for the occurrences of wetlands concluded that there are no wetlands on the project site (USFWS 2024a). The closest mapped wetland is a riverine wetland associated with Adobe Creek located approximately 600 feet to the north of the site. Additionally, according to the USFWS Threatened & Endangered Species Critical Habitat map, the project site does not contain and is not adjacent to critical habitat for special status species (USFWS 2024b). The project site has no value as habitat for endangered, rare, or threatened species, and the project would meet the requirements under *criterion (c)*.

3.4 CRITERION (D)

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

The following discussion provides an analysis of the project's potential effects with respect to traffic, noise, air quality, and water quality.

A. TRAFFIC

This analysis is based primarily on a Trip Generation Study and Vehicle Miles Traveled (VMT) Analysis prepared by Hexagon Transportation Consultants, Inc. for the project in November 2024. This report is included in Appendix A.

PROJECT TRIP GENERATION

Vehicle trip generation rates were based on estimates from the Institute of Transportation Engineers' (ITE) Trip Generation Manual online database, which are based on a compilation of empirical trip generation surveys at locations throughout the country to forecast the number of trips that would be generated by the project. Driveway counts collected on January 16, 2024, were used to estimate the trips generated by the existing retail and hotel uses. The average trip rates for "Single Family Attached Housing" (Land Use 215) were applied to the proposed project. As shown in Table 2, the project is expected to generate a gross total of 209 daily trips, 14 morning (a.m.) peak hour trips, and seven afternoon (p.m.) peak hour trips from the proposed residential use. After subtracting the trips generated by the existing on-site uses, which would be demolished, the project is estimated to result in a net increase of 76 daily trips, with no net new trips occurring during the morning peak hour and one net new trip during the afternoon peak hour (Table 2).

Table 2 Project Operation Trip Generation

				A.M. Peak Hour Trips			P.M. Peak Hour Trips		
Land Use	**ITE Code**	**Size**	**Daily Trips**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Existing Land Use									
Retail and Hotel (Driveway counts and ITE estimates)	822, driveway counts	24,626 square feet	(133)	(9)	(6)	(15)	(10)	(7)	(17)
Proposed Land Use									
Single Family Attached Housing	215	29 du	209	3	11	14	4	3	7
Net New Vehicle Trips (Proposed Land Use minus Existing Land Use)			**76**	**(6)**	**5**	**(1)**	**2**	**(1)**	**1**

du = Dwelling Unit, ( ) denotes subtraction

All rates are from Institute of Transportation Engineers, 2024. Average rates used.

Source: Hexagon 2024 (Appendix A)

VEHICLE MILES TRAVELED (VMT)

The City of Palo Alto has adopted thresholds of significance related to VMT in 2020 pursuant to Senate Bill (SB) 743 and the Governor's Office of Planning and Research (OPR) guidelines. The Palo Alto VMT criteria indicates that residential projects located in areas where the baseline VMT is 15 percent or more below the existing county average VMT per resident would be considered as a low-VMT area and therefore presumed to have a less than significant VMT impact.

According to the Santa Clara Countywide VMT Evaluation Tool (Version 2), the countywide VMT per capita is 13.33 miles. Using the Palo Alto VMT criteria, a project generating a VMT of 11.33 miles per capita (15 percent or more below existing county average) or less would have a less than significant impact on VMT. As shown in Appendix A, the project is located in a Transportation Analysis Zone (TAZ) where the daily VMT per resident is 9.85, which is below the threshold of 11.33. Therefore, the project would have less-than-significant VMT impact. Impacts related to VMT would be less than significant.

SITE ACCESS

Access to the site was evaluated by W-Trans Transportation Consultants in January 2025 (also in Appendix A) based on the proposed site plan to determine the adequacy of the project driveways with regard to sight distance and emergency vehicle access. As mentioned above under *Project Characteristics*, three existing driveways would be eliminated, and two new driveways would be constructed on either side of Cesano Court approximately 90 feet west of El Camino Real. Both driveways would provide full access.

SIGHT DISTANCE

At unsignalized intersections and driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time should be provided for the waiting vehicle to either cross, turn left, or turn right without requiring through-traffic to radically alter speed.

Sight distances along Cesano Court at the proposed project driveway locations were evaluated based on sight distance criteria contained in the Highway Design Manual published by Caltrans. Although sight distance requirements are not applicable to urban driveways, the stopping sight distance criterion was applied for evaluation purposes and as a safety matter where feasible. The posted speed limits on the street approaches were used as the basis for determining the recommended sight distance. Additionally, the stopping sight distance needed for a following driver to stop if there is a vehicle waiting to turn into a side street or driveway was evaluated.

Cesano Court has a speed limit of 25 miles per hour (mph). For speeds of 25 mph, the minimum stopping sight distance needed is 150 feet. A review of aerial photographs determined that sight distances at both proposed project driveways would exceed 150 feet in every direction. Therefore, the sight lines at both driveways would be adequate.

Although adequate sight distance is available at the project driveways for all turning movements entering and exiting the site, and impacts would therefore be less than significant, W-Trans recommended that to further enhance site distance the City should consider restricting on-street parking for 20 feet on both sides of each project driveway on Cesano Court, and that existing or planned vegetation along the project frontages on Cesano Court be trimmed and maintained to ensure continued adequate visibility.

EMERGENCY VEHICLE ACCESS

The project's driveways and internal parking lot circulation network are required to be designed to meet current City standards and so would accommodate the access requirements for passenger vehicles. Vehicle access would be provided within the internal parking lot via a pair of 26-foot-wide drive aisles. These internal aisles would have sufficient width to accommodate two-way traffic operations for circulating vehicles, as well as parking maneuvers to/from various parking spaces.

All buildings would be accessible by fire apparatus since each exterior wall would be within 150 feet of either Cesano Court or El Camino Real, thereby satisfying the conditions specified by the California Fire Code (CFC), Section 503.1.1, which states that "Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45,720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility." (The Santa Clara County Fire Department has sole responsibility for determining the suitability of the project site for adequate fire apparatus vehicle access.)

Since all roadway users must by law yield the right-of-way to emergency vehicles when using their sirens and lights, the added project-generated traffic would not materially impact access or response times for emergency vehicles.

PEDESTRIAN, BICYCLE, AND TRANSIT ANALYSIS

The Comprehensive Plan *Transportation Element* contains the following applicable goals and policies to encourage the use of non-automobile transportation modes, including walking and bicycling, to achieve Palo Alto's mobility goals.

Goal T-1 Create a sustainable transportation system, complemented by a mix of land uses, that emphasizes walking, bicycling, use of public transportation and other methods to reduce GHG emissions and the use of single-occupancy motor vehicles.

Policy T-1.16 Promote personal transportation vehicles as an alternative to cars (e.g., bicycles, skateboards, roller blades) to get to work, school, shopping, recreational facilities and transit stops.

Policy T-1.17 Require new office, commercial and multi-family residential developments to provide improvements that improve bicycle and pedestrian connectivity as called for in the 2012 Palo Alto Bicycle + Pedestrian Transportation Plan.

PEDESTRIAN FACILITIES

Given the proximity of the site to surrounding residential and retail uses as well as the presence of various nearby transit options, it is reasonable to assume that some residents would choose to walk to destinations near the site and use the existing sidewalk network. Sidewalk connectivity is continuous throughout the surrounding neighborhood. The project would result in changes to the existing pedestrian network, including sidewalks that would be constructed along the perimeter of the project site that would connect to the existing pedestrian network as well as to the entrances and exits to each project building. Internal pedestrian access within the site would be provided via a network of sidewalks and curb ramps. All pedestrian facilities would be required to be built to satisfy the current City of Palo Alto Public Works Department standards. Existing and proposed pedestrian facilities serving the project site would be adequate, and the project would not conflict with policies for pedestrian access. Although impacts would be less than significant, W-Trans recommended that Americans with Disabilities Act (ADA)-compliant curb ramps should be provided within the project site.

BICYCLE FACILITIES

According to the City of Palo Alto Bicycle and Pedestrian Transportation Plan (City of Palo Alto 2012), bikeways are classified into four categories:

- **Class I Bikeways/Multi-Use Paths:** A completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lanes:** A striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Routes:** Signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- **Bicycle Boulevards:** Bicycle boulevards are signed, shared roadways with especially low motor vehicle volumes such that motorists passing bicyclists can use the full width of the roadway. Bicycle boulevards prioritize convenient and safe bicycle travel through traffic calming strategies, wayfinding, and other measures.

Table 3 summarizes bicycle facilities in the project vicinity which are currently existing and planned as described in the City of Palo Alto Bicycle and Pedestrian Transportation Plan.

Table 3 Bicycle Facilities Summary

Bicycle Facility	Type	Length (miles)	Begin Point	End Point
Existing				
Arastradero Road and Charleston Road	II	2.4	Foothill Expressway	Fabian Way
Maybell Avenue	Bike Blvd	0.6	El Camino Real	Donald Drive
Planned				
Cesano Court	Bike Blvd	0.1	Terminus	El Camino Real
Miller Avenue	Bike Blvd	0.2	Del Medio Avenue	Monroe Drive
Monroe Drive	Bike Blvd	0.1	Monroe Drive	Miller Avenue
Wilkie Way	Bike Blvd	0.7	South Terminus	Maclane Street

Sources: W-Trans 2024, City of Palo Alto 2012

Existing bicycle facilities together with shared use of minor streets provide adequate access for bicyclists within the vicinity of the project site. Planned bicycle facilities, as documented in the Bicycle & Pedestrian Transportation Plan (City of Palo Alto 2012), would further improve access for bicyclists. Bicycle facilities serving the project site would be adequate, the project would not conflict with policies for bicycle access, and this impact would be less than significant.

TRANSIT SERVICES

Development sites which are located within a one-half mile walk of a transit stop are generally considered to be adequately served by transit.

SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

VTA provides fixed-route bus service and light-rail train service in Santa Clara County. Two to three bicycles can be carried on most VTA buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on VTA buses at the discretion of the driver.

Within one-half mile of the project site are bus stops for Routes 22, 21, 40, and Rapid 522. The combined service areas of these routes provide access between the project site and a variety of destinations in Santa Clara County. Bus service for these routes is generally available daily during typical travel times, with some available 24 hours, at 15- to 30-minute headways.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. VTA ACCESS Paratransit is designed to serve the needs of individuals with disabilities within Palo Alto and greater Santa Clara County.

STANFORD TRANSPORTATION SHUTTLES

Stanford Transportation provides Shopping Express shuttle service that runs between the Palo Alto Transit Center, Stanford campus, and the San Antonio Shopping Center. This route

runs Friday to Sunday with one-hour headways between 3:00 p.m. and 10:00 p.m. The nearest shuttle stops for these services are located approximately 0.35 miles away from the proposed project site at the intersection of El Camino Real/San Antonio Road. Although initially intended to transport students and staff, these free shuttles are available for use by the public.

CALTRAIN

Operated by the Peninsula Corridor Joint Powers Board, Caltrain provides commuter rail service along the San Francisco Peninsula and the Santa Clara Valley. It connects Palo Alto with San Francisco to the north and San Jose and Gilroy to the south. The San Antonio Caltrain Station is located at 190 Showers Drive in Mountain View which is approximately 0.9 miles from the project site. Daily train service is provided at this station for northbound and southbound trains at approximately 15- to 30-minute headways from roughly 5:00 a.m. to 1:30 a.m. Both bicycle racks and lockers are provided at the train station. Bicycle racks are available on a first-come, first-served basis, while lockers must be reserved.

ON-DEMAND TRANSPORTATION SERVICES

On-demand private vehicle services (e.g., taxi, Uber, Lyft, etc.) are available in Palo Alto 24 hours a day. These vehicles can be used for trips both locally and regionally.

If (as a conservative example) 20 percent of the project's peak hour trips were made by transit, there would be approximately three additional transit riders during each peak hour, spread out over multiple buses and times. The volume of riders expected to be generated by the project would therefore be unlikely to exceed the carrying capacity of the existing transit services near the project site, especially when spread over multiple buses and service times. Transit facilities serving the project site would be adequate, and the project would not conflict with policies related to transit service. Impacts would be less than significant.

CONCLUSION

Impacts related to traffic would be less than significant. VMT per capita from the project would be below the Palo Alto VMT significance criteria resulting in less than significant VMT impacts. There would be no significant access, on-site circulation or safety impacts. The project would not have an adverse effect on the existing transit, pedestrian, or bicycle facilities in the area. Therefore, the project would meet the requirements for Traffic under *criterion (d)*.

B. NOISE

This analysis is based primarily on an Environmental Noise Assessment prepared by Salter, Inc., for the project in December 2024 and peer reviewed by Rincon Consultants, Inc. This report is included in Appendix B.

NOISE CHARACTERISTICS AND MEASUREMENT

Noise is defined as unwanted sound that disturbs human activity. A noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

One of the most frequently used noise metrics that considers duration as well as sound power level is the equivalent noise level (L_{eq}). The L_{eq} is a steady A-weighted noise level that is equivalent to the amount of energy contained in the actual varying levels over a period of time (essentially, L_{eq} is the average sound level). The maximum instantaneous sound level measured during a measurement period is defined as L_{max}. Community noise is usually measured using Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.)

NOISE STANDARDS

The City's Comprehensive Plan Natural Environment Element includes goals and policies related to noise. This element establishes land use compatibility categories for community noise exposure (see Table 4). For residential uses, noise levels up to 60 dBA Ldn are identified as normally acceptable and noise levels between 60 and 75 dBA Ldn are identified as conditionally acceptable.

Table 4 Palo Alto Land Use Compatibility for Community Noise Environments

	Exterior Noise Exposure Ldn or CNEL or dB		
Land Use Category	**Normally Acceptable**	**Conditionally Acceptable**	**Unacceptable**
Residential, Hotel and Motels	50-60	60-75	75+
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	50-65	65-80	80+
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches	50-60	60-75	75+
Office Buildings, Business Commercial, and Professional	50-70	70-80	80+
Auditoriums, Concert Halls, and Amphitheaters	N/A	50-75	75+
Industrial, Manufacturing, Utilities, and Agriculture	50-70	75+	N/A

Source: City of Palo Alto 2017

The Palo Alto Municipal Code (PAMC) regulates noise primarily through the Noise Ordinance, which comprises Chapter 9.10 of the Code, under Title 9, Public Peace, Morals and Safety. Section 9.10.060 of the PAMC restricts construction activities to the hours of 8:00 a.m. to 6:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturday. Construction is prohibited on Sundays and holidays. Construction, demolition, or repair activities during construction hours must meet the following standards:

- No individual piece of equipment shall produce a noise level exceeding 110 dBA at a distance of 25 feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible.
- The noise level at any point outside of the property plane of the project shall not exceed 110 dBA.
- The holder of a valid construction permit for a construction project in a non-residential zone shall post a sign at all entrances to the construction site upon commencement of construction, for the purpose of informing all contractors and subcontractors, their employees, agents, materialmen, and all other persons at the construction site, of the basic requirements of this chapter.

Project operational impacts from traffic and stationary sources (e.g., HVAC equipment) noise would be significant if operation of the project results in the exposure of sensitive receptors to a perceptible increase in noise levels. Roughly a doubling of traffic volume would be necessary to generate a perceptible increase in roadway noise levels of 3 dBA or more.

EXISTING AMBIENT NOISE LEVELS

The primary source of noise in the vicinity of the project site is motor vehicle traffic, including automobiles, trucks, buses, and motorcycles. Among area roadways, El Camino Real produce noise from vehicles adjacent to the project site. Secondary sources of noise include but are not limited to garbage trucks and other delivery trucks, pedestrian activity and conversations.

To determine existing ambient noise levels on the project site, Salter, Inc., conducted two long-term measurements from August 23 through August 27, 2024. Measurements were taken at two locations (LT-1 and LT-2) northeast of the project site on Cesano Court, as shown in Figure 1 of the Environmental Noise Assessment (Appendix B). Noise levels reported by the Environmental Noise Assessment were the lowest measured 6-minute period during the five-day measurement period of 42 dBA for LT-1 and 39 dBA for LT-2.

CONSTRUCTION NOISE

As discussed above, PAMC Section 9.10.060 regulates temporary construction noise. Construction of the project would generate temporary noise that would be audible at the nearest adjacent receivers which include multi-family residential buildings to the northeast and southeast, and a hotel to the northwest of the project site. Noise associated with construction is a function of the type of construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of the construction activities. While all phases of construction would generate noise, the site preparation and grading phases would typically generate the highest noise levels.

Reference noise levels for construction equipment are shown in Table 5 at varying distances, including as close as 12 feet, that the Environmental Noise Assessment identified as the closest sensitive receiver distance. As shown in the table, construction noise could be as high as 97 dBA L_{max} during construction. Construction noise levels would be below the City's standard of 110 dBA L_{max} at any point outside the property line during allowable construction hours (PAMC Section 9.10.060). Therefore, impacts related to construction noise would be less than significant.

Table 5 Construction Equipment Reference Noise Levels[1]

	Estimated Maximum Instantaneous Lmax (in dBA)		
Equipment	**At 50 Feet**	**At 25 Feet**	**At 12 Feet**
Aerial Lift	83	89	95
Air Compressors	81	87	93
Cement and Mortar Mixers	85	91	97
Concrete/Industrial Saws	76	82	88
Excavators	73	79	85
Forklifts	83	89	95
Generator Sets	81	87	93
Graders	76	82	88
Paving Equipment	75	81	87
Rollers	74	80	86
Tractors/Loaders/Backhoes	84	90	96
Welders	73	79	85

[1]Equipment noise levels for paving equipment, excavators, and graders were provided by the construction contractors on 4 November 2024. All other equipment noise levels are derived from Section 9, Federal Highway Administration Highway Traffic Noise Construction Noise Handbook (August 2006) and Table 12-2, Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006.

Source: Appendix B

CONSTRUCTION VIBRATION

The City of Palo Alto does not have vibration-specific thresholds for construction activities. Therefore, this analysis uses the structural damage vibration limit recommendations of 0.3 inches per second peak particle velocity (in/sec PPV) for older structures (Caltrans 2020). vibration level exceedances at close distances to nearby structures (vibratory rollers and hydraulic breakers). The Environmental Noise Assessment recommended a construction best management practice that would be adhered to by the applicant and would require that vibratory rollers and hydraulic breakers are not permitted to operate closer than 14 feet to the southeastern property line. Vibration levels from the proposed project with these construction best management practices to nearby structures are shown in Table 6.

Table 6 Construction Equipment Reference Noice Levels[1]

Equipment	PPV at 50 Feet (in/sec)	PPV at 25 feet (in/sec)	PPV at 12 feet (in/sec)
Vibratory Roller	0.098	0.21	-[2]
Hydraulic Breaker	0.042 to 0.11	0.089 to 0.24	-[2]
Large Bulldozer	0.042	0.089	0.20
Loaded Trucks	0.036	0.076	0.17
Excavator	0.042	0.089	0.20
Jackhammer	0.016	0.035	0.08
Small Bulldozer	0.001	0.003	0.007

[1] Table 12-2, Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006

[2] As a construction best management practice, this equipment would not be operated within 14 feet.

Source: Appendix B

Based on the vibration levels shown in Table 6, construction equipment would not exceed the Caltrans vibration standard of 0.3 in/sec PPV at older residential structures. Therefore, impacts would be less than significant.

OPERATIONAL NOISE

STATIONARY SOURCES

The primary on-site operational noise source from the project would be from HVAC units that are anticipated to be located at grade and adjacent to the proposed residences. For a conservative approach, this analysis assumed three HVAC units would operate simultaneously at Building 4 which is the closest building to the adjacent noise-sensitive receivers. An existing six-foot tall wooden fence along the southeastern property line would be replaced or upgraded to also function as a sound barrier as part of project design. Therefore; this was included in the noise modeling.

With the inclusion of the upgraded sound wall and assuming HVAC units could conservatively run 24 hours a day, project operational noise would equate to 45 dBA L_{dn} (Appendix B). PAMC Section 9.10.020 (Definitions) states that the local ambient cannot be determined to be less than 40 dBA in all areas outdoors. Therefore, the lowest measured ambient noise level applicable at neighboring property lines can conservatively be surmised to be 40 dBA. Assuming residential zoning and applying the +6 dBA noise threshold indicated in PAMC Section 9.10.030.a, the HVAC units are to be limited to 46 dBA at adjacent property planes. Therefore, noise generated by HVAC equipment would not produce a noise level that exceeds the noise limit of 46 dBA. Therefore, impacts would be less than significant.

OFF-SITE TRAFFIC NOISE

The project would generate traffic noise from vehicles traveling to and from the project site. The project would generate 76 daily trips. Based on the existing peak-hour traffic volume along El Camino Real of 1,362 vehicles (Appendix B), the project would result in a net increase in overall traffic noise of less than 1 dBA L_{dn} (Appendix B), which is generally not noticeable. Therefore, traffic noise impacts would be less than significant.

CONCLUSION

The project would result in less than significant impacts from construction noise and vibration and from operational noise. The project would meet the requirements for Noise under *criterion (d)*.

C. AIR QUALITY

This analysis is primarily informed by the Air Quality Assessment performed by Illingworth & Rodkin, Inc. from December 2024 (Appendix C) and peer reviewed by Rincon Consultants, Inc. A significant adverse air quality impact may occur when a project individually or cumulatively interferes with progress toward the attainment of the ozone standard by releasing emissions that equal or exceed the established long term quantitative thresholds for pollutants or causes an exceedance of a state or federal ambient air quality standard for any criteria pollutant. Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere. Primary criteria pollutants include reactive organic gases (ROG), nitric oxides (NO_x), carbon monoxide (CO), sulfur oxides (SO_X), and particulate matter (PM_{10} and $PM_{2.5}$). PM_{10} is particulate matter measuring no more than 10 microns in diameter, while $PM_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. The project site is located within the San Francisco Bay Area Basin and falls under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The BAAQMD has adopted guidelines for quantifying and determining the significance of air quality emissions in its *California Environmental Quality Act Air Quality Guidelines* (BAAQMD 2022). BAAQMD recommends that lead agencies determine appropriate air quality emissions thresholds of significance based on substantial evidence in the record. BAAQMD's significance thresholds in the updated guidelines are the most appropriate thresholds for use in determining air quality impacts of the project.

This air quality analysis conforms to the methodologies recommended by *BAAQMD's California Environmental Quality Act Air Quality Guidelines* (BAAQMD 2022). Table 7 shows the significance thresholds that have been recommended by BAAQMD for project operations and construction in the San Francisco Bay Area Air Basin.

Table 7 Air Quality Thresholds of Significance

	Construction-Related Thresholds	Operation-Related Thresholds	
Pollutant/ Precursor	Average Daily Emissions (pounds per day)	Maximum Annual Emissions (tpy)	Average Daily Emissions (lbs/day)
ROG	54	10	54
NO_X	54	10	54
PM_{10}	82 (exhaust)	15	82
$PM_{2.5}$	54 (exhaust)	10	54

Notes: tpy = tons per year; lbs/day = pounds per day; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; tpy = tons per year.

Source: BAAQMD 2022, Table 3-1

In addition, BAAQMD provides a preliminary screening methodology to conservatively determine whether a project would exceed CO thresholds at the local level. If the following criteria are met, a project would result in a less than significant impact related to local CO concentrations:

1. Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

METHODOLOGY

Because the project would involve demolition of the existing structure on the project site, none of the screening criteria would apply (BAAQMD 2022). Air pollutant emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2022. CalEEMod uses project-specific information, including the project's land uses, construction inputs, traffic information, location and other inputs to model a project's construction and operational emissions. This information is provided in Appendix C.

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the AERMOD dispersion model for the construction health risk assessment (HRA), which is included as Appendix D. Potential health risks to nearby sensitive receptors from the emission of TACs during construction were analyzed in accordance with the BAAQMD CEQA Air Quality Guidelines (2022). Where available, modeling assumptions and model inputs were made consistent with the project-specific details in the Appendix C. Results from the construction health risk assessment were then combined with the operational and cumulative risk

results from the Appendix C to determine whether the project would exceed BAAQMD's individual project and cumulative-source thresholds. The analysis reflects the construction and operation of the project as described under *Project Description*. Results of the construction HRA are provided in Appendix D.

CONSTRUCTION EMISSIONS

Construction emissions modeled for this analysis include emissions generated by construction equipment and emissions generated by vehicle trips associated with construction, such as worker, vendor trips and haul trips based on exported demolition material. For information regarding CalEEMod estimation inputs and methodology, please refer to Appendix C. Construction would occur over approximately 16 months. This analysis assumes that the project would comply with all applicable regulatory standards. In particular, the project would comply with BAAQMD Regulation 8 Rule 3 for architectural coatings and BAAQMD Regulation 6 Rule 3 for wood-burning devices. In addition, pursuant to Policy N-5.5 of the Palo Alto 2030 Comprehensive Plan (City of Palo Alto 2017), the project would also comply with the Basic Best Management Practices for Construction-Related Fugitive Dust Emissions (BAAQMD 2022):

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
- Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.

OPERATIONAL EMISSIONS

Operational emissions modeled include mobile sources (i.e., vehicle emissions), energy emissions, and area source emissions from project land uses. The project land uses were input into CalEEMod based on the construction period modeling parameters. Emissions were calculated using CalEEMod, considering the earliest year of full operation as 2028, with higher emission rates for earlier years due to assumed phased-in emission control technologies over time. The project-specific daily trip generation rate, provided by the traffic consultant, was entered into CalEEMod, including default trip lengths and types. Energy use was modeled using CalEEMod defaults, incorporating the 2019 Title 24 Building Standards (a CalEEMod default) and the City of Palo Alto Utilities Department's 2021 emissions rate for electricity. The number of wood-burning devices was set to zero in CalEEMod, as these are prohibited by BAAQMD Regulation 6, Rule 3, and the project would not include natural gas infrastructure. Default model assumptions for solid waste emissions were used, and wastewater treatment was modeled under 100-percent aerobic conditions to reflect city services. For further information please refer to Appendix C.

PROJECT EMISSIONS

This section analyzes the potential construction and operational emissions associated with the project.

CONSTRUCTION EMISSIONS

Project construction would involve demolition, site preparation, grading, and building construction that have the potential to generate air pollutant emissions. Table 3 of Appendix C summarizes the estimated maximum daily emissions of ROG, NO_X, CO, PM_{10} exhaust, and $PM_{2.5}$ exhaust during project construction. As shown in the table, project construction emissions for criteria pollutants would be below the BAAQMD average daily thresholds of significance, and therefore impacts would be less than significant.

OPERATIONAL EMISSIONS

Operational emissions are those associated with the general use of the project after construction. Table 4 of Appendix C summarizes the project's net operational daily emissions and compares them to BAAQMD thresholds. As shown in Table 4 of Appendix C, project operational emissions for all criteria pollutants would be below the BAAQMD average daily thresholds of significance and therefore would be less than significant.

PROJECT CONSISTENCY WITH THE 2017 CLEAN AIR PLAN

The California Clean Air Act requires that air districts create a Clean Air Plan that describes how the jurisdiction will meet air quality standards. The most recently adopted air quality plan is the Bay Area Air Quality Management District Final 2017 Clean Air Plan (2017 Plan). The 2017 Plan focuses on two paramount goals, both consistent with the mission of BAAQMD:

- Protect air quality and health at the regional and local scale by attaining all national and state air quality standards and eliminating disparities among Bay Area communities in cancer health risk from TACs
- Protect the climate by reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050

Under BAAQMD's methodology, a determination of consistency with the 2017 Plan should demonstrate that a project:

- Supports the primary goals of the air quality plan
- Includes applicable control measures from the air quality plan
- Does not disrupt or hinder implementation of any air quality plan control measures

A project that would not support the 2017 Plan's goals would not be considered consistent with the 2017 Plan. On an individual project basis, consistency with BAAQMD quantitative thresholds is interpreted as demonstrating support with the 2017 Plan's goals. The project would not result in exceedances of BAAQMD thresholds for criteria air pollutants and thus would not conflict with the 2017 Plan's goal to attain air quality standards.

The 2017 Plan includes goals and measures to promote building decarbonization, conservation of water, use of on-site renewable energy, and energy efficiency. The project would be supplied electricity by City of Palo Alto Power, which has provided 100% carbon neutral power since 2013.

The project is a small residential development that would not introduce any substantial sources of air pollutants or sources permitted by BAAMQD. The project site is identified as a housing inventory site in the City's Housing Element, suitable for residential development at the proposed density. Additionally, the project would have construction and operational emissions below the BAAQMD thresholds (see below), would be considered urban infill, and would be located near transit with regional connections. The project would also comply with Mitigation Measures AIR-2a through AIR-2c of the Comprehensive Plan Update EIR (refer to Appendix C). Therefore, the project is consistent with the Comprehensive Plan Update EIR and would not conflict with the latest Clean Air planning efforts, impacts would be less than significant.

CO EMISSIONS

According to BAAQMD, a project would have less than significant CO impacts if project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. The San Francisco Bay Area Air Basin has been designated attainment for both federal and State standards for CO since 1998 (BAAQMD 2017). Furthermore, the project would use construction equipment with engines meeting U.S. EPA Tier 4 standards. The project would also implement BAAQMD basic BMPs, per the Comprehensive Plan Update EIR Mitigation Measures AIR-2a and Comprehensive Plan Policy N-5.5. As discussed in the Traffic section, after subtracting the trips generated by the existing on-site uses, which would be demolished, the project is estimated to result in a net

increase of 76 daily trips, with no net new trips occurring during the morning peak hour and one net new trip during the afternoon peak hour (Table 2, above). The project would not result in a significant CO impact and impacts related to CO emissions would be less than significant.

TOXIC AIR CONTAMINANTS

Certain population groups such as children, the elderly, and people with health issues are particularly sensitive to air pollution. The majority of sensitive receptor locations are schools, residences and hospitals. The closest existing sensitive receptors to the project site are located in the adjacent multi-family residences to the southeast. There are additional sensitive receptors located at further distances to the north and south of the site. This project would introduce new sensitive receptors (i.e., residents) to the area. The following subsections discuss the project's potential to result in impacts related to TAC emissions during construction and operation.

CONSTRUCTION

The primary health risks associated with construction projects are cancer risks from diesel exhaust (DPM) and exposure to high concentrations of particulate fugitive dust ($PM_{2.5}$). These pose potential health and nuisance impacts to nearby sensitive receptors, including existing residences adjacent to and surrounding the site (see Appendix C for details).

Sensitive receptors closest to and downwind of the project site, particularly the multi-family residences southeast of the construction site, would experience the greatest risks. Weather data from Moffett Federal Airfield indicates winds primarily flow from the northwest. The CalEEMod model estimated total uncontrolled annual PM_{10} exhaust emissions (assumed to be DPM) at 0.02 tons (31 pounds) and fugitive dust emissions ($PM_{2.5}$) at 0.01 tons (12 pounds). The project would use construction equipment meeting U.S. EPA Tier 4 emission standards, reducing DPM emissions by approximately 67% or more, significantly decreasing health risk impacts on nearby sensitive receptors (see Appendix C for details).

Construction is expected to last approximately 16 months. The dose to which receptors are exposed is the primary factor in determining health risk, with longer exposure periods resulting in higher risks (BAAQMD 2022). The 16-month construction period is only about 5% of the 30-year exposure period used for health risk calculations. The Maximally Exposed Individual (MEI) near the project site would be exposed to a 30-year excess cancer risk of approximately 5.97 in one million, which does not exceed BAAQMD's recommended cancer risk criteria of ten excess cases of cancer in one million individuals. The maximum chronic health risk is approximately 0.044, and the maximum $PM_{2.5}$ annual average is approximately 0.06 µg/m³, both below BAAQMD thresholds (See Appendix D for details).

The project would comply with CARB regulations limiting diesel equipment idling and the In-Use Off-Road Diesel Vehicle Regulation, further minimizing TAC emissions during construction. All off-road diesel-powered construction equipment would be equipped with Tier 4 engines, reducing DPM emissions by 81-96% compared to Tier 2 standards.

Furthermore, cumulative health risk impacts would remain below the BAAQMD significance thresholds (Appendix C Table 5). Therefore, project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

OPERATION

Sources of operational TACs include, but are not limited to, land uses such as freeways and high-volume roadways, truck distribution centers, ports, rail yards, refineries, chrome plating facilities, dry cleaners using perchloroethylene, and gasoline dispensing facilities. The project would not involve stationary sources of TACs, such as diesel-powered emergency generators. The primary concern for local traffic-generated TAC impacts for the project would diesel-powered vehicles. The Air Quality Assessment conservatively assumed that the project would generate approximately 264 daily trips (See Appendix C for details). Project-generated traffic would be distributed across the roadway system, with most trips being from light-duty vehicles, such as passenger automobiles. Additionally, projects that would potentially increase cancer risk from traffic typically involve high numbers of diesel-powered on-road trucks or the use of off-road diesel equipment on-site, such as warehouse distribution centers, quarries, or manufacturing facilities. These types of projects may expose existing or future planned receptors to significant cancer risk levels and/or health hazards. However, the project is not a concern for mobile sources due to the low number and type of trips generated. Furthermore, the newly sited residential receptors would not be exposed to significant health risk impacts (Appendix C Table 6). Therefore, project operation would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

ODORS

BAAQMD's 2022 CEQA Air Quality Guidelines identifies land uses that have the potential to generate substantial odor complaints. The uses in the table include wastewater treatment plants, landfills or transfer stations, refineries, composting facilities, confined animal facilities, food manufacturing, smelting plants, and chemical plants (BAAQMD 2022). Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills.

The project does not involve, nor would locate, new sensitive receptors in proximity to odor-emitting uses as identified in BAAQMD's 2022 CEQA Air Quality Guidelines. The project would not substantially cause new sources of odors or significantly expose sensitive receptors to existing or new odors. Emissions of ROG, NOx, and PM from the project would primarily originate from automobiles driven by future residents. During construction, traffic-related emissions would result from worker trips and truck traffic, and haul trips for demolition material, soil, concrete, and asphalt. These mobile emissions would be minimal and dispersed over a broad geographical area, blending with surrounding emissions. Therefore, the project would not substantially cause new sources of odors and would not significantly expose sensitive receptors to existing or new odors, and impacts would be less than significant.

CONCLUSION

The project would not generate significant air quality impacts or health risk impacts, or require analysis for CO hotspots based on BAAQMD criteria. Therefore, the project would meet the requirements for Air Quality under *criterion (d)*.

D. WATER QUALITY

The project site is currently developed with structures, surface parking and limited landscaping. It does not contain ponds, a creek, or other surface water, although it does include a concrete swimming pool. The closest watercourse is the Adobe Creek approximately 600 feet north of the project site. Construction of the proposed project would not alter the course of a stream or river.

The project site is connected to an existing stormwater drainage system managed and maintained by the city of Palo Alto. Currently the project site is mostly covered in impervious structures and paving. The project would replace the impervious surface with new imperious paving, landscaping, and new buildings.

Pursuant to PAMC Chapter 16.11, the project is considered a "significant redevelopment project" because it would result in the replacement of 10,000 square feet or more of impervious surface. Significant redevelopment projects must treat, either through capture, flow-through filtration, or a combination of capture and flow-through filtration, the volume of stormwater specified in the PAMC. Stormwater would be treated with bioretention areas and other low-impact development treatment measures before being discharged to an existing public storm drain; stormwater runoff would generally continue to flow toward Cesano Court. The proposed project would not substantially increase stormwater runoff from the site.

Stormwater leaving the project site would enter the City's existing stormwater conveyance system via storm drains on site. The City applies standard conditions of approval that require that capacity is assessed at Building Permit stage and implementation of any needed upgrades. In addition, the project would adhere to all Bay Area Municipal Regional Stormwater Permit requirements and comply with specifications regarding installation and maintenance for C.3 features as described in the Santa Clara Valley Urban Runoff Pollution Prevention Program C.3 Handbook.

Because the project would not substantially increase stormwater runoff and would comply with City requirements to control and filter runoff, development of the proposed project would not significantly degrade the quality of stormwater runoff from the site. Impacts related to water quality would be less than significant.

CONCLUSION

The proposed project would not introduce new surface water discharges, would not increase runoff volumes, result in substantial erosion or siltation, or result in flooding on- or off-site. Additionally, the project would not substantially alter the existing drainage pattern

of the site. Therefore, the project would meet the requirements for Hydrology and Water Quality under *criterion (d)*.

3.5 CRITERION (E)

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

The project site is in an existing urban area served by existing public utilities and services. The proposed project is relatively small with 29 units and would not result in a substantial increase in demand for services or utilities. The City of Palo Alto, City of Palo Alto Power and City of Palo Alto Waste-Gas-Water provide police, fire, electricity, water, sewer, and solid waste collection (through GreenWaste of Palo Alto) services to the existing commercial and motel uses as well as neighboring residences and commercials buildings. The existing infrastructure would continue to provide these services for the proposed project.

CONCLUSION

The proposed project involves infill development on a project site in an urban area that is already served by existing utilities and public services. As discussed under *criterion (a)*, the project is within the allowed density for the site and is consistent with the 2030 Comprehensive Plan land use designation for the site. The project would not change the site's use or increase the intensity of use such that existing utility and public service providers would not be able to serve the project site. Therefore, the project would meet the requirements for utilities and public services Systems under *criterion e*.

4 EXCEPTIONS TO THE EXEMPTION

CEQA Guidelines Section 15300.2 outlines exceptions to the applicability of a Categorical Exemption, including cumulative impacts, significant effects due to unusual circumstances, scenic highways, hazardous waste sites, and historical resources. These exceptions are discussed below. As shown, none of the exceptions would apply.

4.1 CUMULATIVE IMPACTS CRITERION

CEQA Guidelines Section 15300.2 states that "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." Based on a search of buildingeye, a citizen-facing mapping interface provided by the City of Palo Alto and available online at https://paloalto.buildingeye.com/planning and verified with City planning staff (City of Palo Alto 2024), and a review of pending projects lists available from the website of the cities of Los Altos and Mountain View (City of Mountain View 2024, City of Los Altos, 2024), there are no major planned or pending projects within a 500-foot-radius of the project site (there are several small projects such as signage and façade improvements). There are no successive projects of the same type in the same place that would result in significant cumulative impacts to which the project could make a significant cumulative contribution.

4.2 SIGNIFICANT EFFECTS DUE TO UNUSUAL CIRCUMSTANCES CRITERION

State CEQA Guidelines Section 15300.2 states that "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." As discussed under *Project Location and Setting* above, the project site is currently developed with buildings and surface parking. The project site is generally level and does not possess characteristics which would qualify as unusual circumstances under Section State CEQA Guidelines Section 15300.2. Therefore, no known circumstances at the project site or related to project operations would result in a reasonable possibility of significant effects to the environment. This exception would not apply to the project.

4.3 SCENIC HIGHWAYS CRITERION

State CEQA Guidelines Section 15300.2 states that 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." There are no designated State Scenic Highways in the vicinity of the project site. The closest scenic highway is I-280, which has been recognized as eligible for designation as a State Scenic Highway, located approximately 2 miles southwest of the project site (Caltrans 2018). Due to distance and intervening structures, the project site is not visible from 1-280. Therefore, the project would not damage scenic resources within a highway officially designated as a state scenic highway. This exception would not apply to the project.

4.4 HAZARDOUS WASTE SITES CRITERION

State CEQA Guidelines Section 15300.2 states that 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." A search of the EnviroStor environmental database, the California Department of Toxic Substances Control Hazardous Waste and Substances Sites (Cortese) List, and the State Water Resources Control Board's (SWRCB) Geotracker Database was conducted in September 2024. The records review indicated that this project is not located on a site included on any list compiled pursuant to Section 65962.5 of the Government Code (Department of Toxic Substances Control 2024, State Water Resources Control Board 2024). Therefore, this exception does not apply to the project.

4.5 HISTORIC RESOURCES CRITERION

State CEQA Guidelines Section 15300.2 states that a categorical exemption "shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource." In 2024, Douglas Bright of Urban Programmers recorded the two existing buildings located within the project site on California Department of Parks and Recreation (DPR) Form 523 forms and evaluated both for historical resources eligibility (Appendix E). As detailed in that documentation, the buildings were constructed in 1950s and 1960s respectively and found ineligible for listing in in the National Register of Historic Places, California Register of Historical Resources, or local designation under any eligibility criteria due to a lack of historical or architectural significance. In accordance with the Historic Resources & Permit Review Requirements of the City of Palo Alto, the buildings are therefore not considered historical resources for the purposes of CEQA and demolition would not result in the substantial adverse change in the significance of a historical resource.

Additionally, Rincon Consultants, Inc. conducted a search of the files at the California Historical Resources Information System (CHRIS) - Northwest Information Center (NWIC) in October 2024 (Appendix E). The records search did not identify previously recorded historical resources, or archaeological resources which have the potential to qualify as historical resources, within or adjacent to the project site.

Based on the results of the historical resource evaluations and records search, the project does not have the potential to impact historical resources, and this exception does not apply to the proposed project. Nevertheless, the project would be subject to the following City of Palo Alto Standard COA related to unanticipated discovery of archaeological resources.

STANDARD CONDITION OF APPROVAL – UNANTICIPATED DISCOVERY OF BURIED ARCHAEOLOGICAL, PALEONTOLOGICAL, AND TRIBAL CULTURAL RESOURCES

No known archeological or paleontological resources are present on or within the immediate vicinity of the site. However, in the unlikely event that an archeological

resource or paleontological resource is unearthed during ground disturbing activities, work in the immediate area must be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is Native American in origin, then a Native American representative must also be contacted to participate in the evaluation of the find. The qualified archaeologist, and, if applicable, the Native American representative, shall examine the find and make recommendations regarding additional work necessary to evaluate the significance of the find and the appropriate treatment of the resource. Recommendations could include, but are not limited to, invasive or non-invasive testing, sampling, laboratory analysis, preservation in place, or data recovery. A report of findings documenting any data recovered during monitoring shall be prepared by a qualified archaeologist and submitted to the Director of Planning prior to final planning inspection.

5 SUMMARY

Based on the analysis in this report, the proposed 4335-4345 El Camino Real Residential Project meets all criteria for a Class 32 Categorical Exemption pursuant to Section 15332 of the State CEQA Guidelines. Further, none of the exceptions to the Categorical Exemption listed in CEQA Guidelines Section 15300.2 apply to the proposed project.

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Appendix A

Trip Generation Study and VMT Analysis and Site Access Evaluation

Hexagon Transportation Consultants, Inc.

Memorandum

Date: November 27, 2024

To: Jared Brotman, SummerHill Homes

From: Gary K. Black, Nivedha Baskarapandian

Subject: Trip Generation Study and VMT Analysis for a Proposed Residential Development at 4335 & 4345 El Camino Real in Palo Alto, California

Hexagon Transportation Consultants, Inc. has completed a trip generation study and vehicle miles traveled (VMT) analysis for the proposed residential development at 4335 and 4345 El Camino Real in Palo Alto, California. The project proposes to demolish the existing retail stores and inn and construct 29 dwelling units.

VMT Analysis

The evaluation of VMT for this project is based on the City's VMT Policy adopted in June 2020. The Palo Alto VMT Policy establishes screening criteria for projects that are expected to cause a less-than-significant transportation impact under CEQA based on the land use and/or location. Projects that meet the screening criteria are not required to prepare further VMT analysis. For a project that does not meet the screening criteria, a project's VMT impact is determined by comparing the project VMT to the appropriate thresholds of significance based on the type of development. The City's VMT Policy screening criteria state that the following types of projects may be presumed to have a less than significant VMT impact:

- projects near major transit (i.e., within a ½ mile walkshed of the El Camino Real),
- affordable housing,
- small projects (i.e., fewer than 110 trips per day),
- neighborhood serving retail projects (e.g., dry cleaners, coffee shop)

Projects in proximity to major transit stops have additional criteria that all need to be met to be exempt from a VMT analysis.

- high density (minimum floor area ratio of 0.75)
- does not exceed parking requirements
- consistent with *Plan Bay Area 2040*
- does not replace affordable units with smaller numbers of moderate- or above moderate-income units.

The project would not meet the minimum floor area ratio criterion for projects near major transit. Therefore, a VMT analysis was conducted using the Santa Clara Countywide VMT Evaluation Tool that evaluates the project's impact on VMT and is described below.

According to the City TIA Guidelines, the impact threshold for the residential project component is 15 percent below the existing average VMT per resident for the City of Palo Alto. The City average

daily VMT for residential uses is 13.33 per resident. Therefore, the impact threshold for residential uses is 11.33 (13.33 x 0.85) daily VMT per resident.

The project is located in a TAZ (Transportation Analysis Zone) where the daily VMT per resident is 9.85, which is below the threshold of 11.33. Therefore, the project would have less-than-significant VMT impact for the residential component. The Santa Clara Countywide VMT Tool report is attached as Appendix A.

Trip Generation

Through empirical research, data have been collected that quantifies the amount of traffic produced by many types of land uses. The research is compiled in the Institute of Transportation Engineers' (ITE) Trip Generation Manual online database. The standard trip generation rates can be applied to help predict the future traffic increases that would result from a new development. The rates published for "Single-Family Attached Housing" (ITE Land Use 215) were used to estimate the trips generated by the proposed project. Driveway counts collected on January 16, 2024, were used to estimate the trips generated by the existing retail and inn. The definition of single-family attached housing land use is housing units that share a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space. After applying the ITE trip rates and trip credits to the proposed project, it is estimated that the project would generate 76 net new daily vehicle trips with no net new trips occurring during the AM peak hour and one net new trip during the PM peak hour (see Table 1).

Table 1
Trip Generation Summary

			Daily		AM Peak-Hour Trips				PM Peak-Hour Trips			
Land Use	**Size**	**Units**	**Rate**	**Trips**	**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
Proposed												
Single-Family Attached Housing [1]	29	du	7.2	209	0.48	3	11	14	0.57	10	7	17
Existing												
Retail and Inn [2]	24,626	s.f.		133		9	6	15		8	8	16
Net New Vehicle Trips				**76**		**(6)**	**5**	**(1)**		**2**	**(1)**	**1**

Notes:
du = dwelling unit
s.f. = square feet

[1] Single-family housing trip generation is based on the rates published in the ITE Trip Generation online database for Single-Family Attached Housing (Land Use Code 215).

[2] Existing retail and inn trip generation is based on driveway counts collected January 16, 2024. Daily trips were estimated using the ratio of PM peak-hour and daily trip rates published in the ITE Trip Generation online database for Strip Retail Plaza (<40k) (Land Use 822) and applying it to the existing PM peak-hour total trips.

Conclusion

The results of the trip generation study for the project are summarized below.

- According to the Santa Clara Countywide VMT Tool, the project's VMT per resident is 9.85 which is lower than the VMT impact threshold of 11.33. Therefore, the project would have a less-than-significant VMT impact.
- The project would generate 76 net new daily vehicle trips with no net new trips occurring during the AM peak hour and one net new trip during the PM peak hour. Because of the small number of added trips, the project is not required to prepare a transportation analysis, according to Palo Alto guidelines.

Appendix A
SCC VMT Tool Report

Project Details

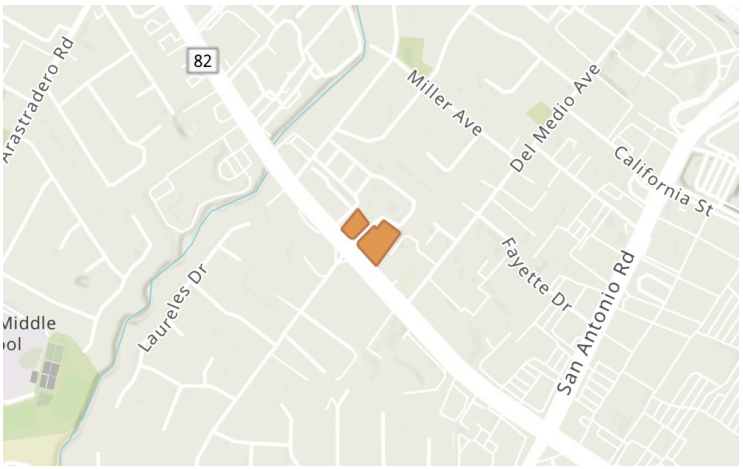
Timestamp of Analysis	September 16, 2024, 09:44:31 AM
Project Name	4335 & 4345 El Camino Real
Project Description	Project proposes to demolish the existing retail and inn and build 29 dwelling units.

Project Location Map

Jurisdiction:

Palo Alto

APN	TAZ
14809010	363
14809011	363



Analysis Details

Data Version	VTA Countywide Model December 2019
Analysis Methodology	TAZ
Baseline Year	2015

Project Land Use

Residential:

Single Family DU:	29
Multifamily DU:	
Total DUs:	29

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

Residential Affordability (percent of all units):

Extremely Low Income:	0 %
Very Low Income:	0 %
Low Income:	0 %

Parking:

Motor Vehicle Parking:

Bicycle Parking:

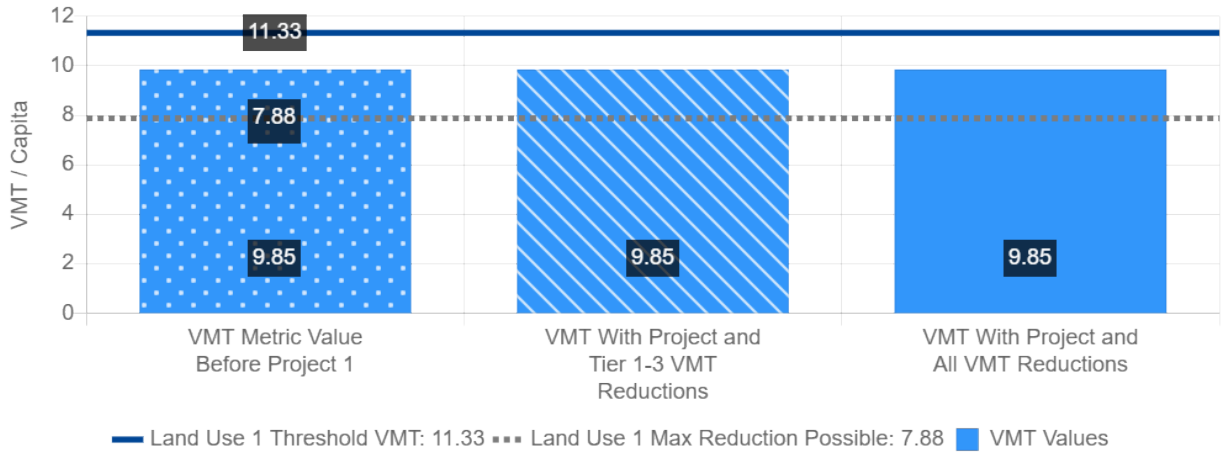
Proximity to Transit Screening

Inside a transit priority area? Yes (Pass)

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Metric 1:	Home-based VMT per Capita
VMT Baseline Description 1:	County Average
VMT Baseline Value 1:	13.33
VMT Threshold Description 1 / Threshold Value 1:	-15% / 11.33
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	9.85	9.85	9.85
Low VMT Screening Analysis	Yes (Pass)	Yes (Pass)	Yes (Pass)



January 10, 2025

Mr. Abe Leider
Rincon Consultants, Inc.
449 15th Street, Suite 150
Oakland, California 94612

DRAFT Site Access Evaluation for 4335-4345 El Camino Real

Dear Mr. Leider;

As requested, W-Trans has prepared a site access evaluation for the proposed residential development to be located at 4335-4345 El Camino Real in the City of Palo Alto. According to the City of Palo Alto's Local Transportation Analysis policy, a Level of Service operational analysis is not required since this project would generate fewer than 50 net-new a.m. or p.m. peak hour trips. Similarly, a detailed operational analysis is not required per the policies outlined in the Santa Clara Valley Transportation Agency's (VTA's) *Transportation Impact Analysis Guidelines* since fewer than 100 new a.m. or p.m. peak hour trips would be generated by the project.

Project Description

The project is located at 4335-4345 El Camino Real in the City of Palo Alto and entails the construction of 29 new townhome dwelling units. The site is currently occupied by a 27-room motel and approximately 6,500 square feet of retail use which would be demolished to make way for the proposed project. A total of 60 parking spaces would be provided comprised of two garage spaces for each dwelling unit plus two additional uncovered guest spaces. Storage for bicycles would be provided inside each garage.

Non-Automobile Modes

Pedestrian Facilities

Given the proximity of the site to surrounding residential and retail uses as well as the presence of various nearby transit options, it is reasonable to assume that some residents would choose to walk to destinations near the site and use the existing sidewalk network. Sidewalk connectivity is continuous throughout the surrounding neighborhood. The project would result in changes to the existing pedestrian network, including sidewalks that would be constructed along the perimeter of the project site that would connect to the existing pedestrian network as well as to the entrances and exits to each project building. While not indicated on the site plan, ADA-compliant curb ramps should be provided within the project site.

Project Summary – Internal pedestrian access within the site would be provided via a network of sidewalks and curb ramps. All pedestrian facilities would need to be built to satisfy the current City of Palo Alto Public Works Department standards.

Finding – Existing and proposed pedestrian facilities serving the project site would be adequate, and the project would not conflict with any policies for pedestrian access.

Recommendation – As part of the project, ADA-compliant curb ramps should be provided within the project site.

Bicycle Network

The *City of Palo Alto Bicycle & Pedestrian Transportation Plan*, 2012, classifies bikeways into four categories.

- **Class I Bikeways/Multi-Use Paths** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bikeways** – a striped and signed lane for one-way bike travel on a street or highway.

- **Class III Bikeways** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- **Bicycle Boulevards** – bicycle boulevards are signed, shared roadways with especially low motor vehicle volumes such that motorists passing bicyclists can use the full width of the roadway. Bicycle boulevards prioritize convenient and safe bicycle travel through traffic calming strategies, wayfinding, and other measures.

In the immediate project area, Class II bikeways exist on both Arastradero Road and Charleston Road. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the project study area. Table 2 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the *Bicycle & Pedestrian Transportation Plan*.

Table 1 – Bicycle Facility Summary

Status ***Facility***	Type	Length (miles)	Begin Point	End Point
Existing				
Arastradero Rd and Charleston Rd	II	2.4	Foothill Expy	Fabian Wy
Maybell Ave	Bike Blvd	0.6	El Camino Real	Donald Dr
Planned				
Cesano Ct	Bike Blvd	0.1	Terminus	El Camino Real
Miller Ave	Bike Blvd	0.2	Del Medio Ave	Monroe Dr
Monroe Dr	Bike Blvd	0.1	Monroe Dr	Miller Ave
Wilkie Wy	Bike Blvd	0.7	South Terminus	Maclane St

Source: *City of Palo Alto Bicycle & Pedestrian Transportation Plan*, Alta Planning & Design, 2012

Existing bicycle facilities, together with shared use of minor streets provide adequate access for bicyclists within the vicinity of the project site. Planned bicycle facilities, as documented in the *Bicycle & Pedestrian Transportation Plan*, would further improve access for bicyclists.

Finding – Bicycle facilities serving the project site would be adequate, and the project would not conflict with any policies for bicycle access.

Transit Facilities

Development sites which are located within a one-half mile walk of a transit stop are generally considered to be adequately served by transit.

Santa Clara Valley Transportation Authority (VTA)

VTA provides fixed-route bus service and light-rail train service in Santa Clara County. Two to three bicycles can be carried on most VTA buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on VTA buses at the discretion of the driver.

Within one-half mile of the project site are bus stops for Routes 22, 21, 40, and Rapid 522. The combined service areas of these routes provide access between the project site and a variety of destinations in Santa Clara County. Bus service for these routes is generally available daily during typical travel times, with some available 24 hours, at 15- to 30-minute headways.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. VTA ACCESS Paratransit is designed to serve the needs of individuals with disabilities within the City of Palo Alto and greater Santa Clara County.

Stanford Transportation Shuttles

Stanford Transportation provides Shopping Express shuttle service that runs between the Palo Alto Transit Center, Stanford campus, and the San Antonio Shopping Center. This route runs Friday to Sunday with one-hour headways between 3:00 p.m. and 10:00 p.m. The nearest shuttle stops for these services are located approximately 0.35 miles away from the proposed project site at the intersection of El Camino Real/San Antonio Road. Although initially intended to transport students and staff, these free shuttles are available for use by the public.

Caltrain

Operated by the Peninsula Corridor Joint Powers Board, Caltrain provides commuter rail service along the San Francisco Peninsula and the Santa Clara Valley. It connects Palo Alto with San Francisco to the north and San Jose and Gilroy to the south. The San Antonio Caltrain Station is located at 190 Showers Drive in Mountain View which is approximately 0.9 miles from the project site. Daily train service is provided at this station for northbound and southbound trains at approximately 15- to 30-minute headways from roughly 5:00 a.m. to 1:30 a.m. Both bicycle racks and lockers are provided at the train station. Bicycle racks are available on a first-come, first-served basis, while lockers must be reserved.

On-Demand Transportation Services

On-demand private vehicle services (e.g., taxi, Uber, Lyft, etc.) are available in Palo Alto 24 hours a day. These vehicles can be used for trips both locally and regionally.

Project Summary – If (as a conservative example) 20 percent of peak hour trips were made by transit, there would be approximately three additional transit riders during each peak hour, spread out over multiple buses and times. The volume of riders expected to be generated by the project would therefore be unlikely to exceed the carrying capacity of the existing transit services near the project site, especially when spread over multiple buses and service times.

Finding –Transit facilities serving the project site would be adequate, and the project would not conflict with any policies related to transit service.

Site Circulation and Access

Vehicular Site Access

Vehicle access to the site is currently provided by three driveways (two on Cesano Court and one on El Camino Real). The proposed project would result in the elimination of these three existing driveways and construction of two new driveways on either side of Cesano Court approximately 90 feet west of El Camino Real. Both driveways would provide full access, as shown in the enclosed site plan. The removal of the driveway on El Camino Real would also create the opportunity for one or two additional on-street parking spaces.

Sight Distance

At unsignalized intersections and driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time should be provided for the waiting vehicle to either cross, turn left, or turn right, without requiring through traffic to radically alter their speed.

Sight distances along Cesano Court at the proposed project driveway locations were evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. Although sight distance requirements are not applicable to urban driveways, the stopping sight distance criterion was applied for evaluation purposes and as a safety matter where feasible. The posted speed limits on the street approaches were used as the basis for determining the recommended sight distance. Additionally, the stopping sight distance needed for a following driver to stop if there is a vehicle waiting to turn into a side street or driveway was evaluated.

Cesano Court has a *prima facie* speed limit of 25 miles per hour (mph). For speeds of 25 mph, the minimum stopping sight distance needed is 150 feet. A review of aerial photographs determined that sight distances at both proposed project driveways would exceed 150 feet in every direction. Therefore, the sight lines at both driveways are adequate.

To maintain the sight distance at each driveway, it is suggested that in accordance with the Federal Highway Administration's guide on *Vegetation Control for Safety*, 2008, any vegetation planted near the project's driveways and within the driveway's sight distance triangle should be trimmed to an appropriate height of three feet or less and trees should be trimmed so that nothing hangs below a height of seven feet from the surface of the roadway. This provides a gap in vegetation for drivers to observe oncoming traffic and safely maneuver from a driveway. Additionally, it is recommended that on-street parking be restricted for 20 feet on both sides of each project driveway on Cesano Court, which is consistent with guidance from the American Association of State Highway and Transportation Officials' *A Policy on Geometric Design of Highways and Streets (Section 7.3.12.2)* and the National Association of City Transportation Officials' *Urban Street Design*. Doing so provides extra maneuvering space for turning traffic, eliminates the need for parking vehicles to back across the front of the driveway, and increases sight distances at the driveway.

Finding – Adequate sight distance is available at the project driveways for all turning movements entering and exiting the site.

Recommendation – To achieve a minimum sight distance of 150 feet at the driveway access points it is recommended that on-street parking be restricted for 20 feet on both sides of each project driveway on Cesano Court. Also, it is recommended that existing or planned vegetation along the project frontages on Cesano Court be trimmed and maintained to ensure continued adequate visibility.

Emergency Vehicle Access

The project's driveways and internal parking lot circulation network would need to be designed to meet current City standards and so can be expected to accommodate the access requirements for passenger vehicles. Vehicle access would be provided within the internal parking lot via a pair of 26-foot-wide drive aisles. These internal aisles would have sufficient width to accommodate two-way traffic operations for circulating vehicles, as well as parking maneuvers to/from various parking spaces.

All buildings are accessible by fire apparatus since each exterior wall is within 150 feet of either Cesano Court or El Camino Real thereby satisfying the conditions specified by the *California Fire Code (CFC), Section 503.1.1* which states that "Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45,720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility."

It is noted that the Santa Clara County Fire Department has sole responsibility for determining the suitability of the project site for adequate fire apparatus vehicle access.

Since all roadway users must yield the right-of-way to emergency vehicles when using their sirens and lights, the added project-generated traffic would not materially impact access or response times for emergency vehicles.

Parking Facilities

The project was analyzed to determine whether the proposed parking supply would be sufficient to satisfy *City of Palo Alto Municipal Code* requirements. The project site as proposed would contain a total of 60 parking spaces comprised of two garage spaces per dwelling unit plus two guest spaces located at the end of "C Street" on the site plan.

The City of Palo Alto parking supply requirements stipulate that 58 spaces are required for this project. This requirement is based on the *City of Palo Alto Municipal Code, Chapter 18.52.040; Off-Street Parking, Loading and Bicycle Facility,* which states that two spaces are required for each dwelling unit for single-family residential developments and at least one space per unit must be covered. The proposed parking supply of 60 spaces is greater than the number of required spaces by the City Code.

Finding – The number of parking spaces provided by the project would exceed the City's parking Code requirement.

Conclusions and Recommendations

- Pedestrian, bicycle, and transit facilities would be adequate to serve the project as proposed based on the comprehensive network of pedestrian, bicycle and transit facilities that exist within the study area. The project would not conflict with any plans or policies for these modes.

- Adequate sight lines are available at the proposed project driveway locations. To maintain these sight lines, it is recommended that parking be prohibited for at least 20 feet on either side of the proposed project driveways and vegetation, new monuments or signage along the project frontages should be designed and maintained to ensure that all features lie below three feet in height or above seven feet. With a maintenance program implemented the project would not introduce any hazards to the transportation network.

- Emergency access and circulation would function acceptably, and traffic from the proposed development would be expected to have a nominal impact on emergency response times.

- The proposed parking supply of 60 spaces would be greater than the minimum City requirement.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,

Kenneth Jeong, PE (Traffic)
Senior Traffic Engineer

Mark Spencer, PE (Traffic)
Senior Principal

MES/kbj/PAL031.L1

Enclosure: Site Plan

SITE KEY:

#	- UNIT NUMBER
BMR	- BELOW-MARKET RATE UNIT
	- UNIT 1
	- UNIT 2
	- UNIT 3
*	- UNIT 3 ADAPTABLE
	- UNIT 4
	- UNIT 5
	- WALKWAY
	- PUBLIC WALKWAY
	- VEHICLE CIRCULATION

NORTH

0 4' 8' 12' 16' 20' 40'

381.077

Cesano Court Townhomes

4335 & 4345 El Camino Real, Palo Alto, CA
July 29, 2024

CIRCULATION PLAN

A07

SUMMERHILL HOMES
COMMUNITIES OF DISTINCTION
777 California Ave, Palo Alto, Ca 94304

cbg CIVIL ENGINEERS SURVEYORS PLANNERS
SAN RAMON · ROSEVILLE

SDG Architects, Inc.
3361 Walnut Blvd. Suite 120
Brentwood, CA 94513
925.634.7000 | sdgarchitectsinc.com

January 29, 2025

Mr. Abe Leider
Rincon Consultants, Inc.
449 15th Street, Suite 150
Oakland, California 94612

Site Access Evaluation for 4335-4345 El Camino Real

Dear Mr. Leider;

As requested, W-Trans has prepared a site access evaluation for the proposed residential development to be located at 4335-4345 El Camino Real in the City of Palo Alto. According to the City of Palo Alto's Local Transportation Analysis policy, a Level of Service operational analysis is not required since this project would generate fewer than 50 net-new a.m. or p.m. peak hour trips. Similarly, a detailed operational analysis is not required per the policies outlined in the Santa Clara Valley Transportation Agency's (VTA's) *Transportation Impact Analysis Guidelines* since fewer than 100 new a.m. or p.m. peak hour trips would be generated by the project.

Project Description

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Non-Automobile Modes

Pedestrian Facilities

Given the proximity of the site to surrounding residential and retail uses as well as the presence of various nearby transit options, it is reasonable to assume that some residents would choose to walk to destinations near the site and use the existing sidewalk network. Sidewalk connectivity is continuous throughout the surrounding neighborhood. The project would result in changes to the existing pedestrian network, including sidewalks that would be constructed along the perimeter of the project site that would connect to the existing pedestrian network as well as to the entrances and exits to each project building. While not indicated on the site plan, ADA-compliant curb ramps should be provided within the project site.

Project Summary – Internal pedestrian access within the site would be provided via a network of sidewalks and curb ramps. All pedestrian facilities would need to be built to satisfy the current City of Palo Alto Public Works Department standards.

Finding – Existing and proposed pedestrian facilities serving the project site would be adequate, and the project would not conflict with any policies for pedestrian access.

Recommendation – As part of the project, ADA-compliant curb ramps should be provided within the project site.

Bicycle Network

The *City of Palo Alto Bicycle & Pedestrian Transportation Plan*, 2012, classifies bikeways into four categories.

- **Class I Bikeways/Multi-Use Paths** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
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- **Class III Bikeways** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- **Bicycle Boulevards** – bicycle boulevards are signed, shared roadways with especially low motor vehicle volumes such that motorists passing bicyclists can use the full width of the roadway. Bicycle boulevards prioritize convenient and safe bicycle travel through traffic calming strategies, wayfinding, and other measures.

In the immediate project area, Class II bikeways exist on both Arastradero Road and Charleston Road. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the project study area. Table 1 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the *Bicycle & Pedestrian Transportation Plan*.

Table 1 – Bicycle Facility Summary

Status ***Facility***	Type	Length (miles)	Begin Point	End Point
Existing				
Arastradero Rd and Charleston Rd	II	2.4	Foothill Expy	Fabian Wy
Maybell Ave	Bike Blvd	0.6	El Camino Real	Donald Dr
Planned				
Cesano Ct	Bike Blvd	0.1	Terminus	El Camino Real
Miller Ave	Bike Blvd	0.2	Del Medio Ave	Monroe Dr
Monroe Dr	Bike Blvd	0.1	Monroe Dr	Miller Ave
Wilkie Wy	Bike Blvd	0.7	South Terminus	Maclane St

Source: *City of Palo Alto Bicycle & Pedestrian Transportation Plan*, Alta Planning & Design, 2012

Existing bicycle facilities, together with shared use of minor streets provide adequate access for bicyclists within the vicinity of the project site. Planned bicycle facilities, as documented in the *Bicycle & Pedestrian Transportation Plan*, would further improve access for bicyclists.

Finding – Bicycle facilities serving the project site would be adequate, and the project would not conflict with any policies for bicycle access.

Transit Facilities

Development sites which are located within a one-half mile walk of a transit stop are generally considered to be adequately served by transit.

Santa Clara Valley Transportation Authority (VTA)

VTA provides fixed-route bus service and light-rail train service in Santa Clara County. Two to three bicycles can be carried on most VTA buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on VTA buses at the discretion of the driver.

Within one-half mile of the project site are bus stops for Routes 22, 21, 40, and Rapid 522. The combined service areas of these routes provide access between the project site and a variety of destinations in Santa Clara County. Bus service for these routes is generally available daily during typical travel times, with some available 24 hours, at 15- to 30-minute headways.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. VTA ACCESS Paratransit is designed to serve the needs of individuals with disabilities within the City of Palo Alto and greater Santa Clara County.

Stanford Transportation Shuttles

Stanford Transportation provides Shopping Express shuttle service that runs between the Palo Alto Transit Center, Stanford campus, and the San Antonio Shopping Center. This route runs Friday to Sunday with one-hour headways between 3:00 p.m. and 10:00 p.m. The nearest shuttle stops for these services are located approximately 0.35 miles away from the proposed project site at the intersection of El Camino Real/San Antonio Road. Although initially intended to transport students and staff, these free shuttles are available for use by the public.

Caltrain

Operated by the Peninsula Corridor Joint Powers Board, Caltrain provides commuter rail service along the San Francisco Peninsula and the Santa Clara Valley. It connects Palo Alto with San Francisco to the north and San Jose and Gilroy to the south. The San Antonio Caltrain Station is located at 190 Showers Drive in Mountain View which is approximately 0.9 miles from the project site. Daily train service is provided at this station for northbound and southbound trains at approximately 15- to 30-minute headways from roughly 5:00 a.m. to 1:30 a.m. Both bicycle racks and lockers are provided at the train station. Bicycle racks are available on a first-come, first-served basis, while lockers must be reserved.

On-Demand Transportation Services

On-demand private vehicle services (e.g., taxi, Uber, Lyft, etc.) are available in Palo Alto 24 hours a day. These vehicles can be used for trips both locally and regionally.

Project Summary – If (as a conservative example) 20 percent of peak hour trips were made by transit, there would be approximately three additional transit riders during each peak hour, spread out over multiple buses and times. The volume of riders expected to be generated by the project would therefore be unlikely to exceed the carrying capacity of the existing transit services near the project site, especially when spread over multiple buses and service times.

Finding –Transit facilities serving the project site would be adequate, and the project would not conflict with any policies related to transit service.

Site Circulation and Access

Vehicular Site Access

Vehicle access to the site is currently provided by three driveways (two on Cesano Court and one on El Camino Real). The proposed project would result in the elimination of these three existing driveways and construction of two new driveways on either side of Cesano Court approximately 90 feet west of El Camino Real. Both driveways would provide full access, as shown in the enclosed site plan. The removal of the driveway on El Camino Real would also create the opportunity for one or two additional on-street parking spaces.

Sight Distance

At unsignalized intersections and driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time should be provided for the waiting vehicle to either cross, turn left, or turn right, without requiring through traffic to radically alter their speed.

Sight distances along Cesano Court at the proposed project driveway locations were evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. Although sight distance requirements are not applicable to urban driveways, the stopping sight distance criterion was applied for evaluation purposes and as a safety matter where feasible. The posted speed limits on the street approaches were used as the basis for determining the recommended sight distance. Additionally, the stopping sight distance needed for a following driver to stop if there is a vehicle waiting to turn into a side street or driveway was evaluated.

Cesano Court has a *prima facie* speed limit of 25 miles per hour (mph). For speeds of 25 mph, the minimum stopping sight distance needed is 150 feet. A review of aerial photographs determined that sight distances at both proposed project driveways would exceed 150 feet in every direction. Therefore, the sight lines at both driveways are adequate.

To maintain the sight distance at each driveway, it is suggested that in accordance with the Federal Highway Administration's guide on *Vegetation Control for Safety*, 2008, any vegetation planted near the project's driveways and within the driveway's sight distance triangle should be trimmed to an appropriate height of three feet or less and trees should be trimmed so that nothing hangs below a height of seven feet from the surface of the roadway. This provides a gap in vegetation for drivers to observe oncoming traffic and safely maneuver from a driveway. Additionally, it is recommended that on-street parking be restricted for 20 feet on both sides of each project driveway on Cesano Court, which is consistent with guidance from the American Association of State Highway and Transportation Officials' *A Policy on Geometric Design of Highways and Streets (Section 7.3.12.2)* and the National Association of City Transportation Officials' *Urban Street Design*. Doing so provides extra maneuvering space for turning traffic, eliminates the need for parking vehicles to back across the front of the driveway, and increases sight distances at the driveway.

Finding – Adequate sight distance is available at the project driveways for all turning movements entering and exiting the site.

Recommendation – To achieve a minimum sight distance of 150 feet at the driveway access points it is recommended that on-street parking be restricted for 20 feet on both sides of each project driveway on Cesano Court. Also, it is recommended that existing or planned vegetation along the project frontages on Cesano Court be trimmed and maintained to ensure continued adequate visibility.

Emergency Vehicle Access

The project's driveways and internal parking lot circulation network would need to be designed to meet current City standards and so can be expected to accommodate the access requirements for passenger vehicles. Vehicle access would be provided within the internal parking lot via a pair of 26-foot-wide drive aisles. These internal aisles would have sufficient width to accommodate two-way traffic operations for circulating vehicles, as well as parking maneuvers to/from various parking spaces.

All buildings are accessible by fire apparatus since each exterior wall is within 150 feet of either Cesano Court or El Camino Real thereby satisfying the conditions specified by the *California Fire Code (CFC), Section 503.1.1* which states that "Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45,720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility."

It is noted that the Santa Clara County Fire Department has sole responsibility for determining the suitability of the project site for adequate fire apparatus vehicle access.

Since all roadway users must yield the right-of-way to emergency vehicles when using their sirens and lights, the added project-generated traffic would not materially impact access or response times for emergency vehicles.

Parking Facilities

The project was analyzed to determine whether the proposed parking supply would be sufficient to satisfy *City of Palo Alto Municipal Code* requirements. The project site as proposed would contain a total of 60 parking spaces comprised of two garage spaces per dwelling unit plus two guest spaces located at the end of "C Street" on the site plan.

The City of Palo Alto parking supply requirements stipulate that 58 spaces are required for this project. This requirement is based on the *City of Palo Alto Municipal Code, Chapter 18.52.040; Off-Street Parking, Loading and Bicycle Facility,* which states that two spaces are required for each dwelling unit for single-family residential developments and at least one space per unit must be covered. The proposed parking supply of 60 spaces is greater than the number of required spaces by the City Code.

Finding – The number of parking spaces provided by the project would exceed the City's parking Code requirement.

Conclusions and Recommendations

- Pedestrian, bicycle, and transit facilities would be adequate to serve the project as proposed based on the comprehensive network of pedestrian, bicycle and transit facilities that exist within the study area. The project would not conflict with any plans or policies for these modes.

- Adequate sight lines are available at the proposed project driveway locations. To maintain these sight lines, it is recommended that parking be prohibited for at least 20 feet on either side of the proposed project driveways and vegetation, new monuments or signage along the project frontages should be designed and maintained to ensure that all features lie below three feet in height or above seven feet. With a maintenance program implemented the project would not introduce any hazards to the transportation network.

- Emergency access and circulation would function acceptably, and traffic from the proposed development would be expected to have a nominal impact on emergency response times.

- The proposed parking supply of 60 spaces would be greater than the minimum City requirement.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,

Kenneth Jeong, PE (Traffic)
Senior Traffic Engineer

Mark Spencer, PE (Traffic)
Senior Principal

MES/kbj/PAL031.L1

Enclosure: Site Plan

SITE KEY:

#	- UNIT NUMBER
BMR	- BELOW-MARKET RATE UNIT
	- UNIT 1
	- UNIT 2
	- UNIT 3
*	- UNIT 3 ADAPTABLE
	- UNIT 4
	- UNIT 5
	- WALKWAY
	- PUBLIC WALKWAY
	- VEHICLE CIRCULATION

NORTH

0 4' 8' 12' 16' 20' 40'

381.077

Cesano Court Townhomes

4335 & 4345 El Camino Real, Palo Alto, CA
July 29, 2024

CIRCULATION PLAN

A07

SUMMERHILL HOMES
COMMUNITIES OF DISTINCTION
777 California Ave, Palo Alto, Ca 94304

cbg CIVIL ENGINEERS SURVEYORS PLANNERS
SAN RAMON · ROSEVILLE

SDG Architects, Inc.
3361 Walnut Blvd. Suite 120
Brentwood, CA 94513
925.634.7000 | sdgarchitectsinc.com

Appendix B

Environmental Noise Assessment

Cesano Court Townhomes

Palo Alto, California

ENVIRONMENTAL NOISE ASSESSMENT

9 December 2024

Prepared for: Austin Lin
SummerHill Homes
777 S. California Avenue
Palo Alto, CA 94304
alin@shhomes.com

Prepared by: Salter
Skyler Carrico – Consultant scarrico@salter-inc.com
Eric Mori, PE – Executive Vice President emori@salter-inc.com

Salter Project: 24-0357

1.0 INTRODUCTION

This report summarizes our analysis for the environmental noise assessment for the Cesano Court Townhomes project in Palo Alto, California. The project consists of approximately 29 townhome-style condominiums in five townhome buildings on a site at the intersection of El Camino Real and Cesano Court. There are apartment buildings and hotels surrounding the project site.

The purpose of this noise study is to address CEQA (California Environmental Quality Act) compliance and potential impact of the project and its operation on property-line noise levels.

The report is organized into the following sections:

- Section 1.0 – Introduction
- Section 2.0 – Summary
- Section 2.0 – Acoustical Criteria
- Section 3.0 – Existing Noise Environment
- Section 4.0 – Impact Assessment
- Appendix A – AC Unit Manufacturer Noise Data and Unit Locations
- Appendix B – Hexagon Transportation Consultants Reference Traffic Study
- Appendix C – Project Construction Equipment List

2.0 SUMMARY

- Project traffic is not expected to significantly increase environmental noise to the surrounding properties. The resulting noise impact will be less-than-significant.
- Noise impacts from mechanical equipment (e.g., condenser units) will be reduced to a less-than-significant impact.
- Noise and vibration impact from construction equipment will be reduced to a less-than-significant impact using the strategies outlined in this report.
- The project site is located more than two miles away from an airport. Therefore, the project does not require an Airport Land Use Compatibility (ALUC) study.

2.0 ACOUSTICAL CRITERIA

The City of Palo Alto has guidelines and policies designed to limit noise exposure at noise-sensitive land uses. In addition, CEQA provides guidelines used to determine whether a project will have a significant impact on the environment.

2.1 Palo Alto Municipal Code

We understand that the projects' current property zoning is "CS" (commercial). However, since the subject property zoning might eventually change to residential, we have conservatively accounted for residential zoning Code restrictions in our analysis. Chapter 9.10 (Noise) of the Palo Alto Municipal Code states the following (non-relevant passages omitted for brevity):

- Sec. 9.10.030 (Residential property noise limits):

  a) No person shall produce, suffer, or allow to be produced by any machine, animal or device, or any combination of same, on residential property, a noise level more than six dB above the local ambient[1] at any point outside of the property plane, except as modified in (c) below.

  b) No person shall produce, suffer, or allow to be produced by any machine, animal or device, or any combination of same, on multi-family residential property, a noise level more than six dB above the local ambient three feet from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located.

  c) Electrification equipment[2] shall be deemed to comply with Section 9.10.030 if the equipment complies with the maximum equipment sound level ratings with respect to the setbacks established in Table 1 (Setback Requirements)[3]. As an alternative to compliance with Table 1, a property owner may utilize the limits set forth in subsections (a) and (b) of this Section 9.10.030 if those provisions would be more permissive [note that the data in Table 1 that are outlined in red are the ones that would be applicable to this project].

1 Section 9.10.020 (Definitions) of the Palo Alto Municipal Code defines "local ambient" as the lowest sound level repeating itself during a six-minute period as measured with a precision sound level meter, using slow response and "A" weighting. The definition also states that the local ambient cannot be determined to be less than 40 dBA in all areas outdoors.

2 Electrification equipment is defined in Section 18.04.030 (Definitions) as one or more devices that use electric energy to serve a dwelling unit's needs for heating and cooling, water heating, cooking, and electric vehicle charging.

3 Per the HVAC equipment site plan markup included in Appendix A, project HVAC equipment will be located as close as approximately 13-feet to the southeastern property line, resulting in an overall sound level rating limit of 65 dBA for equipment belonging to projects east of Foothill Expressway.

Table 1 - Setback Requirements				
Equipment Sound Level (dBA) West of Foothill Expressway	Equipment Sound Level (dBA) East of Foothill Expressway	Equipment Sound Level (dBA) West of Foothill Expressway for Inverter Pumps	Equipment Sound Level (dBA) East of Foothill Expressway for Inverter Pumps	Minimum Setback from Receiving Property Line (ft.)
43	53	45	55	3
44	54	46	56	4
45	55	47	57	4
46	56	48	58	5
47	57	49	59	5
48	58	50	60	6
49	59	51	61	7
50	60	52	62	7
51	61	53	63	8
52	62	54	64	9
53	63	55	65	10
54	64	56	66	12
55	65	57	67	13
56	66	58	68	15
57	67	59	69	17
58	68	60	70	19
59	69	61	71	21
60	70	62	72	24
61	71	63	73	27
62	72	64	74	30
63	73	65	75	34

- Sec. 9.10.040 (Commercial and industrial property noise limits):

  a) No person shall produce, suffer, or allow to be produced by any machine, animal or device, or any combination of same, on residential property, a noise level more than eight dB above the local ambient at any point outside of the property plane.

- Sec. 9.10.060 (Special provisions):

  a) General Daytime Exception. Any noise source which does not produce a noise level exceeding 70 dBA at a distance of 25-feet under its most noisy condition of use shall be exempt from the provisions of Sections 9.10.030(a) between the hours of 8 AM and 8 PM Monday through Friday, 9 AM and 8 PM on Saturday, except Sundays and holidays, when the exemption herein shall apply between 10 AM and 6 PM.

  b) Construction. Except for construction on residential property as described in subsection (c) of this section, construction, alteration, and repair activities which are authorized by valid city building permit shall be prohibited on Sundays and holidays and shall be prohibited except between the

hours of 8 AM and 6 PM Monday through Friday, 9 AM and 6 PM on Saturday provided that the construction, demolition, or repair activities during those hours meet the following standards:

1) No individual piece of equipment shall produce a noise level exceeding 110 dBA at a distance of 25-feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to 25-feet from the equipment as possible.

2) The noise level at any point outside of the property plane of the project shall not exceed 110 dBA.

c) Construction on Residential Property. Construction, alteration, demolition, or repair activities conducted in a residential zone, authorized by valid city building permit, shall be prohibited on Sundays and holidays and is prohibited on all other days except during the hours of 8 AM and 6 PM Monday through Friday, 9 AM and 6 PM on Saturday, provided that the construction, demolition or repair activities during those hours meet the following standards:

1) No individual piece of equipment shall produce a noise level exceeding 110 dBA at a distance of 25-feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to 25-feet from the equipment as possible.

2) The noise level at any point outside of the property plane of the project shall not exceed 110 dBA.

3) The holder of a valid building permit for a construction project located within any residential zone shall post a sign at all entrances to the construction site upon commencement of construction, for the purpose of informing all contractors and subcontractors, their employees, agents, materialmen, and all other persons at the construction site, of the basic requirements of this chapter.[4]

2.2 California Department of Transportation Construction Vibration Criteria

The California Department of Transportation[5] (Caltrans) provides vibration design criteria for construction damage. Transient vibrations are classified as impulsive events that are short in duration (e.g., debris falling, blasting). Continuous vibrations are more sustained vibration events over longer periods of time (e.g., jackhammering, drilling).

4 Refer to the Code document for more information regarding what specifically is to be written on these signs.

5 Transportation and Construction Vibration Guidance Manual September 2013 (Caltrans Document)

Table 2 summarizes the Caltrans criteria related to the potential for building damage from ground vibration induced by construction equipment. Thresholds for continuous vibrations are lower (i.e., stricter) than those for transient vibrations. We understand that most-to-all construction will be "continuous" and have used that criterion.

We understand that while most nearby structures were built between 2014 and 2021, there are two adjacent properties with structures that were built in 1958 and 1981[6]. Therefore, we have applied the "older residential structures" criteria to those structures, while applying the "new residential structures" criteria to the rest. We have highlighted the relevant criteria in Table 2.

Table 2: Guideline Vibration Damage Potential Threshold Criteria[7]

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

2.3 State CEQA Guidelines and Impact Criteria

CEQA contains guidelines to evaluate the significance of noise attributable to a proposed project. This would include (but is not limited to) added traffic noise, mechanical equipment noise, and construction noise. CEQA asks the following applicable questions. Would the project result in:

- *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*
- *Generation of excessive groundborne vibration or groundborne noise levels?*
- *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public-use airport, would the project expose people residing or working in the project area to excessive noise levels?*

6 The Caltrans document does not define "older" vs. new residential structures. We have assumed 1958 and 1981 would be classified as older.

7 Table 19 of the Caltrans document

CEQA does not define the noise level increase that is considered substantial. Typically, the local general plan would establish limits with respect to allowable noise and vibration increases. However, the Palo Alto General Plan does not contain numerical standards of significance for noise increases. For the CEQA thresholds above, noise level increases of less than 3 dB are generally considered less-than-significant. Substantial adverse community response would be expected for increases of 5 dB or more.

3.0 EXISTING NOISE ENVIRONMENT

3.1 Project Site Description

Environmental noise at the project site is primarily due to traffic on El Camino Real. To quantify the existing noise environment, we conducted two long-term noise measurements around the site, between 23 and 27 August 2024. Table 3 summarizes measured "ambient" noise levels, as defined in the Ordinance (Section 9.10.020 – Definitions) outlined in Section 2.1 above. Figure 1 shows the approximate measurement locations.

Table 3: Lowest Measured 6-Minute Average Noise Levels [L_{eq}(6 min)][8]

Measurement Location	Ambient Noise Level
LT-1	42 dBA
LT-2	39 dBA

4.0 IMPACT ASSESSMENT

Overall changes to the noise environment, attributable to the project, include the following:

- Potential mechanical equipment noise
- Project-related traffic increases
- Short-term construction noise and vibration

The following summarizes the portion of the CEQA checklist pertaining to noise.

8 Measured noise levels expressed in terms of L_{eq}(6 min), per Palo Alto Municipal Code Section 9.10.020.d.

4.1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

4.1.A: Permanent Increase in Noise Levels due to Outdoor HVAC Equipment

It is understood that the proposed project residences will have air-conditioning (AC) units located at-grade, adjacent to the residences. Utilizing the annotated building site plan provided 21 August 2024, we based our analysis on the worst-case cluster of three AC units operating simultaneously in closest proximity to the southeastern property line (at Building 4), where the drawings indicate a minimum distance of approximately 11-feet.

Per Table 3, measured ambient noise levels were determined to be L_{eq}(6 min) 42 dBA and 39 dBA at LT-1 and LT-2, respectively. Section 9.10.020 (Definitions) states that the local ambient cannot be determined to be less than 40 dBA in all areas outdoors. Therefore, the lowest measured ambient noise level applicable at neighboring property lines can conservatively be surmised to be 40 dBA. Assuming residential zoning and applying the +6 dBA indicated in Section 9.10.030.a from the Palo Alto Municipal Code, the AC units are to be limited to 46 dBA at adjacent property planes.

There is a six-foot tall wooden fence along the southeastern property line. We understand that the entire fence will be upgraded to act as a sound fence, and similar fences will be constructed along the northeastern and northwestern property lines. As such, the surface density will be at least 3 psf, which will include adding wood planks on the project side of the fence (with staggered joints to cover the open slats between the planks).

With the upgraded fences, our calculations indicate that the proposed AC units will generate noise levels up to 45 dBA at worst-case receiver locations on the adjacent property (i.e., 2700 W El Camino Real), with lower levels at other property lines, thereby achieving the City's noise goal.

4.1.B: Permanent Increase in Noise Levels due to Project Traffic Volumes

The traffic consultant for the project provided a trip-generation study for a similar nearby project at 2700 El Camino Real[9] (relevant excerpts included in Appendix B). This study concluded that a net increase of as much as 30 trips in AM hours and 72 trips in PM hours would result from the project at some intersections. Based on the existing peak-hour traffic volume along El Camino Real of 1,362 vehicles, the project would result in a net increase in overall traffic noise of less than DNL[10] 1 dB, which is generally not

9 Dated 15 March 2017, by Hexagon Transportation Consultants

10 DNL (Day-Night Average Sound Level) – A descriptor for a 24-hour A-weighted average noise level. DNL accounts for the increased acoustical sensitivity of people to noise during the nighttime hours. DNL penalizes sound levels by 10 dB during the hours from 10 PM to 7 AM. For practical purposes, the DNL and CNEL are usually interchangeable. DNL is sometimes written as L_{dn}.

noticeable. Therefore, this would not result in a significant increase in noise levels at existing adjacent properties.

4.1.C: Temporary Increase in Noise Levels due to Construction

The nearest and most sensitive adjacent receivers include multi-family residential buildings to the northeast and southeast, and a hotel to the northwest.

Construction activities will include the use of heavy equipment for grading and other activities, through completion of buildings and landscaping. Heavy trucks would travel to, from, and within the site hauling soil, equipment, and building materials. Smaller equipment, such as jackhammers, pneumatic tools, and saws could also be used throughout the demolition and construction phases in various areas. The noise and vibration associated with these activities could be generated over the entire project site.

Per the construction phasing and equipment lists provided 27 August 2024 (included in Appendix C), our understanding of expected equipment is shown in Table 4.

Table 4: List of Scheduled Construction Equipment

Phase	Equipment
Site Preparation	Concrete/Industrial Saws, Graders, Rubber-Tired Dozers, Tractors/Loaders/Backhoes
Grading/Excavation	Excavators, Rubber-Tired Dozers, Tractors/Loaders/Backhoes
Building Exterior	Forklifts, Generator Sets, Tractors/Loaders/Backhoes
Building Interior/ Architectural Coating	Air Compressors
Paving/Landscaping/ Site Concrete	Cement and Mortar Mixers, Paving Equipment, Rollers, Tractors/Loaders/Backhoes

Per the project site plan, the perimeter of Building 4 is situated as close as 12-feet to the nearest property line (toward the southeast). Therefore, reference levels for the scheduled construction equipment are listed in Table 5 along with the calculated noise levels at 12-feet.

Table 5: Construction Equipment Reference Noise Levels[11]

Equipment	Estimated Maximum Instantaneous L_{max} (in dBA)		
	At 50 Feet	At 25 Feet	At 12 Feet
Aerial Lift	83	89	95
Air Compressors	81	87	93
Cement and Mortar Mixers	85	91	97
Concrete/Industrial Saws	76	82	88
Excavators	73	79	85
Forklifts	83	89	95
Generator Sets	81	87	93
Graders	76	82	88
Paving Equipment	75	81	87
Rollers	74	80	86
Tractors/Loaders/Backhoes	84	90	96
Welders	73	79	85

Within the permitted hours of construction[12], Section 9.10.060.c of the Palo Alto Municipal Code limits instantaneous construction equipment noise by requiring that the following parameters be met:

- No louder than 110 dBA at 25-feet from any single piece of equipment
- No louder than 110 dBA at any point outside the property plane

Per Table 5, no equipment planned for construction on this project is louder than 110 dBA at 25-feet. Therefore, all construction equipment is expected to meet the applicable City Code requirements.

To further reduce noise impact at neighboring properties, the contractor should comply with the following measures:

1. Consistent with the Palo Alto Municipal Code, construction will be limited to the hours of 8:00 a.m. to 6:00 p.m. on weekdays and 9:00 a.m. to 6:00 p.m. on Saturdays, or at such other hours as may be authorized by the permit.

11 Equipment noise levels for paving equipment, excavators, and graders were provided by the construction contractors on 4 November 2024. All other equipment noise levels are derived from Section 9, Federal Highway Administration Highway Traffic Noise Construction Noise Handbook (August 2006) and Table 12-2, Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006.

12 Per the Noise Ordinance, between the hours of 8 AM and 6 PM Monday through Friday and 9 AM and 6 PM on Saturday.

2. Contractors shall utilize “quiet” models of air compressors and other stationary noise sources where technology exists.
3. Internal combustion engine-driven equipment shall be equipped with mufflers which are in good condition and appropriate for the equipment.
4. Stationary noise-generating equipment, such as air compressors and portable power generators, shall be located as far away as possible from adjacent property lines.
5. Staging areas and construction material areas shall be located as far away as feasible from adjacent residences.
6. All unnecessary idling of internal combustion engines shall be prohibited.

In addition, the contractor will designate a “noise disturbance coordinator/superintendent” who will be responsible for tracking and responding to any complaints about construction noise. The noise disturbance coordinator/superintendent will determine the cause of the noise complaint (e.g. starting too early, bad muffler, etc.) and will require that reasonable measures are implemented to correct the problem. The telephone number for the noise disturbance coordinator/superintendent will be posted at the construction site and included in any construction notices sent to neighbors.

4.2: Would the project result in generation of excessive ground-borne vibration or ground-borne noise levels?

4.2.A: Permanent Increase in Vibration Levels due to Project-Generated Vibration

The planned use for the site, as residences, is not expected to generate significant amounts of ground-borne noise or vibration.

4.2.B: Temporary Increase in Vibration Levels due to Construction

The nearest and most sensitive adjacent receivers include older residential structures to the northeast at 4315 and 4321 Collins Court (built in 1958 and located approximately 70 and 85 feet away from the project site, respectively) and to the north at 440 Cesano Court (built in 1981 and approximately 60 feet away from the project site). Other structures adjacent to the project site are as close as 12-feet away (i.e., MV Apartments at 2700 W El Camino Real) and can be considered newer since they were built within the last 15 years.

Project construction might include activities such as the use of concrete saws, excavation and grading, and the use of rolling stock equipment (tracked vehicles, compactors, etc.). Typical construction vibration levels at 25-feet are listed in Table 6. Estimated levels at the nearest adjacent structures (old and new residential structures approximately 60 and 12-feet from the property line, respectively) are also shown.

As indicated in the Criteria section, the limit related to risk of damage to nearby structures is 0.30 PPV for older structures and 0.50 PPV for newer structures. Exceedances are highlighted in **bold**.

Table 6: Construction Equipment Reference Vibration Levels[13]

Equipment	PPV at 25 feet (in/sec)[14]	PPV at 60 feet (in/sec)	PPV at 12 feet (in/sec)
Vibratory Roller	0.21	0.057	0.632
Hydraulic Breaker	0.089 to 0.24	0.024 to 0.065	0.268 to 0.722
Large Bulldozer	0.089	0.024	0.268
Loaded Trucks	0.076	0.021	0.229
Excavator	0.089	0.024	0.268
Jackhammer	0.035	0.011	0.105
Small Bulldozer	0.003	0.0008	0.009
Crane, Forklift, Bobcat	No significant vibration		

Based on the vibration levels shown in Table 6, most construction equipment is expected to meet the structural damage criteria (see Table 2). For the two equipment types which might result in vibration level exceedances at close distances to nearby structures (vibratory rollers and hydraulic breakers), we have calculated the minimum distances to be maintained at all times while these equipment types are in use at the project site in Table 7.

Table 7: Minimum Permitted Distances from Property Line for Higher-Vibration Equipment

Equipment	Minimum Permitted Distance
Vibratory Roller	14 feet
Hydraulic Breaker	16 feet

The construction equipment above should not be permitted to operate closer to the southeastern property line than the distances indicated above. All other equipment types are expected to achieve the applicable vibration criteria at all other property lines without property line proximity limitations.

13 Table 12-2, Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006.

14 Using a value of n = 1.5 per FTA recommendation, where n is the attenuation rate through the ground.

4.3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project is not within two miles of any public airport.

Salter

San Francisco

San Jose

Los Angeles

Honolulu

Seattle

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CESANO COURT TOWNHOMES
NOISE MEASUREMENT LOCATIONS

FIGURE 1

Salter #	SJV/EBM
24-0357	08.XX.24

APPENDIX A: AC UNIT MANUFACTURER NOISE DATA AND UNIT LOCATIONS

38MURA: Product Data

Sound Pressure in Octave Bands

	Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
18K (208V)	Cooling dB(A)	43.1	43.5	46.2	48.6	47.0	42.8	37.8	32.9
	Heating dB(A)	37.8	42.8	43.7	46.9	48.3	45.5	41.4	34.6
18K (208V) High Heat	Cooling dB(A)	56.9	63.4	57.0	53.4	48.7	43.7	37.4	32.0
	Heating dB(A)	59.7	63.3	57.7	54.3	50.3	44.8	39.7	34.7
24K (208V)	Cooling dB(A)	47.2	50.1	50.0	51.1	51.7	47.5	41.6	34.4
	Heating dB(A)	44.0	48.6	49.7	51.4	53.2	49.1	44.4	37.6
24K (208V) High Heat	Cooling dB(A)	63.3	62.4	59.2	53.6	51.0	46.1	42.6	36.8
	Heating dB(A)	65.6	66.8	62.6	55.4	53.7	49.3	45.3	40.8
30K (208V)	Cooling dB(A)	42.9	47.3	54.1	54.2	56.2	54.4	49.6	41.8
	Heating dB(A)	44.0	50.5	51.9	52.9	53.5	50.9	47.7	40.4
30K (208V) High Heat	Cooling dB(A)	64.0	69.4	61.6	55.7	54.5	50.4	47.1	41.3
	Heating dB(A)	64.2	68.2	62.7	57.1	56.5	52.6	49.1	43.5
36K (208V)	Cooling dB(A)	45.5	56.1	55.8	56.4	56.8	53.3	50.6	42.9
	Heating dB(A)	43.6	51.0	52.4	52.9	55.7	52.9	49.5	41.7
36K (208V) High Heat	Cooling dB(A)	65.9	63.3	57.4	57.6	53.2	48.4	44.1	48.0
	Heating dB(A)	68.5	64.8	58.9	58.0	54.6	49.0	44.2	42.5
48K (208V)	Cooling dB(A)	51.6	51.6	50.4	54.8	55.9	54.6	46.8	41.0
	Heating dB(A)	48.4	50.0	49.9	55.3	56.0	52.3	47.3	43.9
48K (208V) High Heat	Cooling dB(A)	65.4	66.5	58.7	57.7	54.6	50.1	46.5	45.6
	Heating dB(A)	64.0	65.5	60.9	59.7	56.1	50.6	45.6	42.7
60K (208V)	Cooling dB(A)	49.1	52.1	53.7	57.0	58.2	55.1	47.8	41.1
	Heating dB(A)	45.5	50.9	53.3	56.7	56.7	52.3	46.5	42.2
60K (208V) High Heat	Cooling dB(A)	49.4	52.2	52.3	56.4	56.4	50.9	48.2	51.0
	Heating dB(A)	49.8	51.1	51.2	54.9	56.8	51.6	46.2	43.2

Outdoor Unit Sound Pressure Test Conditions

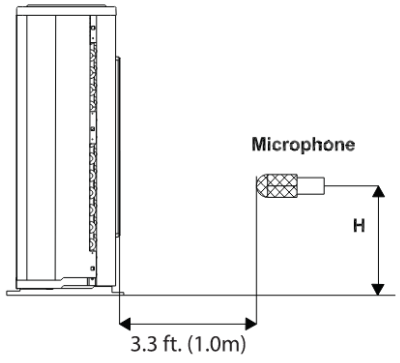

Fig. 5 —Outdoor Unit Sound Pressure Test

NOTE: H=0.5 x Height of outdoor unit

	INDOOR CONDITION		OUTDOOR CONDITION	
	DB	WB	DB	WB
Cooling	80.6°F (27°C)	66.2°F (19°C)	95°F (35°C)	75.2°F (24°C)
Heating	68°F (20°C)	59°F (15°C)	44.6°F (7°C)	42.8°F (6°C)


Proposed AC Unit Locations
BLDG 1
BLDG 2
BLDG 3
BLDG 4
BLDG 5
A STREET
B STREET
C STREET
CESANO COURT
EL CAMINO REAL

APPENDIX B: REFERENCE TRAFFIC STUDY[15]

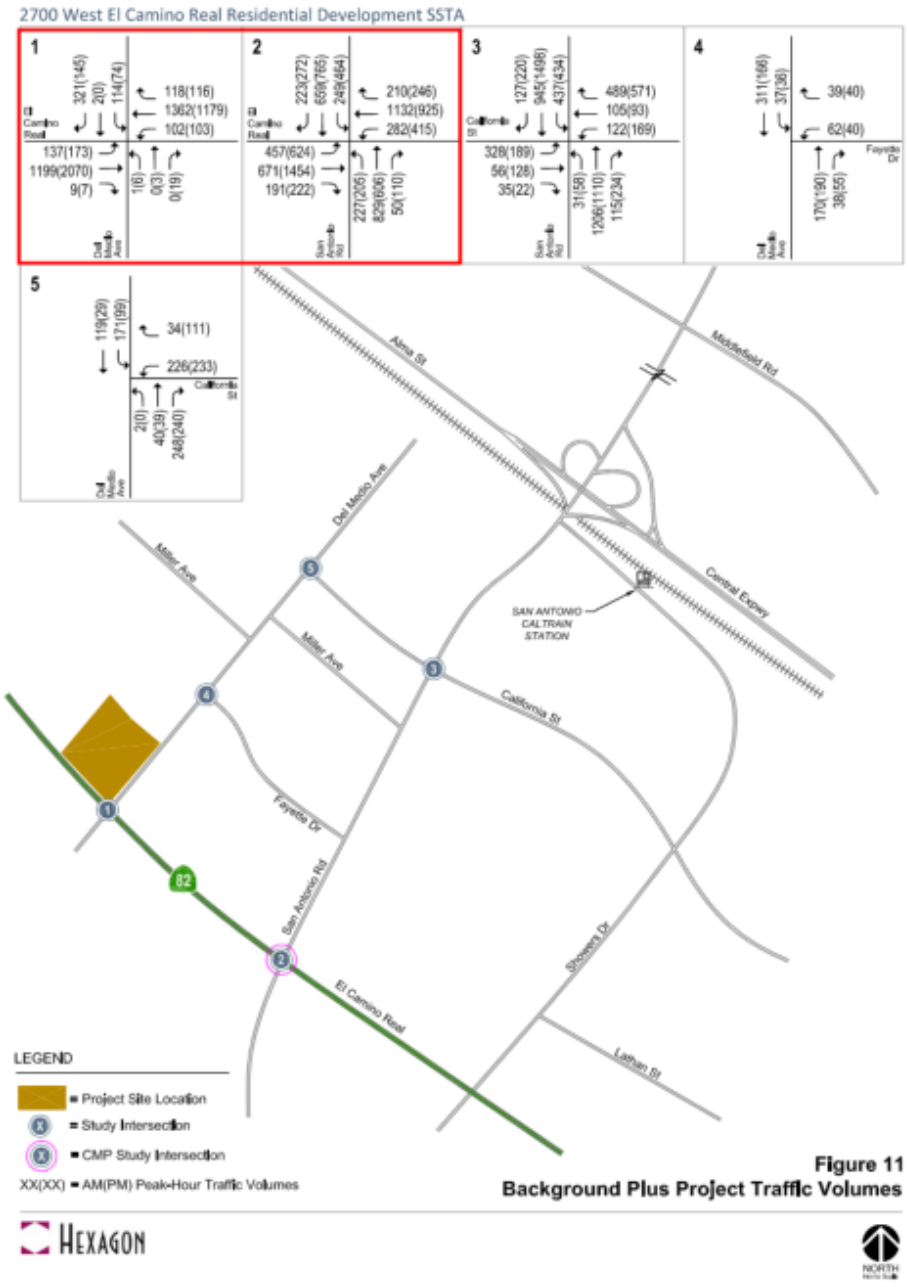

Figure 11
Background Plus Project Traffic Volumes

[15] "2300 West El Camino Real Apartment Project Transportation Analysis"; Hexagon Transportation Consultants, Inc.; 16 March 2017. This traffic study has been used as a reference for the current project, as it is expected to result in a comparable impact on El Camino Real traffic data.

APPENDIX C: PROJECT CONSTRUCTION EQUIPMENT LIST[16]

Air Quality/Noise Construction Information Data Request

Project Name: 4335 & 4345 El Camino Real, Palo Alto DEFAULTS

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size
29 Dwelling Units
1.35 total project acres disturbed
64,420 s.f. residential
s.f. retail
s.f. office/commercial
s.f. other, specify:
s.f. parking garage ____ spaces
s.f. parking lot ____ spaces

Construction Days (i.e, M-F) M-F (8AM-6PM) to Also Saturdays (9AM-6PM)

Construction Hours am to pm

Pile Driving? Y/N? No

Project include on-site GENERATOR OR FIRE PUMP during project OPERATION (not construction)? Y/N? No
IF YES (if BOTH separate values) -->
Kilowatts/Horsepower: ____
Fuel Type: ____
Location in project (Plans Desired if Available):

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP Annual Hours	Comments
	Demolition	Start Date:	4/1/2026	Total phase:	20			Overall Import/Export Volumes
		End Date:	4/29/2026					
1	Concrete/Industrial Saws	81	0.73	8	20	8	9461	**Demolition Volume**
	Excavators	158	0.38			0	0	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	8	20	8	15808	(*or* total tons to be hauled)
3	Tractors/Loaders/Backhoes	97	0.37	8	20	8	17227	24,693 square feet or
	Other Equipment?							? Hauling volume (tons)
								Any pavement demolished and hauled? 7 tons
	Site Preparation	Start Date:	6/1/2026	Total phase:	2			
		End Date:	6/3/2026					
1	Graders	187	0.41	8	2	8	1227	
1	Rubber Tired Dozers	247	0.4	7	2	7	1383	
1	Tractors/Loaders/Backhoes	97	0.37	8	2	8	574	
	Other Equipment?							
	Grading / Excavation	Start Date:	6/4/2026	Total phase:	4			
		End Date:	6/7/2026					**Soil Hauling Volume**
	Excavators	158	0.38			0	0	Export volume = 7 cubic yards?
1	Graders	187	0.41	8	4	8	2453	Import volume = 100 cubic yards?
1	Rubber Tired Dozers	247	0.4	8	4	8	3162	
	Concrete/Industrial Saws	81	0.73			0	0	
2	Tractors/Loaders/Backhoes	97	0.37	7	4	7	2010	
	Other Equipment?							
	Trenching/Foundation	Start Date:	11/1/2026	Total phase:	4			
		End Date:	11/4/2026					
1	Tractor/Loader/Backhoe	97	0.37	8	4	8	1148	
1	Excavators	158	0.38	8	4	8	1921	
	Other Equipment?							
	Building - Exterior	Start Date:	1/1/2027	Total phase:	200			**Cement Trucks?** 7 **Total Round-Trips**
		End Date:	7/20/2027					
0	Cranes	231	0.29	6	200	6	0	Electric? (Y/N) ___ Otherwise assumed diesel
1	Forklifts	89	0.2	6	200	6	21360	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	200	8	99456	Or temporary line power? (Y/N) ___
1	Tractors/Loaders/Backhoes	97	0.37	6	200	6	43068	
0	Welders	46	0.45	8	200	8	0	
	Stucco Gun			8	15	0.6		3 days per building. 5 total buildings for a total of 15 days for the stucco gun
	Other Equipment?							
Building - Interior/Architectural Coating		Start Date:	2/1/2027	Total phase:	10			
		End Date:	2/21/2027					
1	Air Compressors	78	0.48	6	10	6	2246	
	Aerial Lift	62	0.31			0	0	
	Other Equipment?							
	Paving	Start Date:	2/1/2027	Total phase:	10			
		Start Date:	2/11/2027					
1	Cement and Mortar Mixers	9	0.56	6	10	6	302	
1	Pavers	130	0.42	6	10	6	3276	Asphalt? ___ cubic yards or ____ round trips?
1	Paving Equipment	132	0.36	8	10	8	3802	
1	Rollers	80	0.38	7	10	7	2128	
1	Tractors/Loaders/Backhoes	97	0.37	8	10	8	2871	
	Other Equipment?							
	Additional Phases	Start Date:		Total phase:				
		Start Date:						
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

16 Provided via email on 27 August 2024.

Appendix C

Air Quality Assessment

4335 & 4345 EL CAMINO REAL AIR QUALITY ASSESSMENT

Palo Alto, California

September 13, 2024
Revised December 6, 2024

Prepared for:

Austin Lin, PE
Associate Development Manager
SummerHill Homes
777 S. California Avenue
Palo Alto, CA 94304

Prepared by:

Casey Divine
Jordyn Bauer

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality

429 East Cotati Avenue
Cotati, CA 94931
(707) 794-0400

I&R Project#: 24-124

Introduction

The purpose of this report is to address the potential air quality and health risk impacts associated with the proposed residential development project located at 4335 & 4345 El Camino Real in Palo Alto, California. Air quality impacts would be associated with the demolition of the existing land uses, construction of the new buildings and infrastructure, and operation of the project. Air pollutant emissions associated with construction and operation of the project were estimated using appropriate computer models. In addition, the potential project health risks and the impact of existing toxic air contaminant (TAC) sources affecting the nearby and proposed sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The 1.35-acre project site is currently developed with a commercial building, a motel, and an associated parking lot. The proposed project would demolish the existing uses and construct 29 three-story townhome-style condominiums in five buildings totaling 64,420 square feet (sf). Construction is expected to begin in April 2026 and be completed by approximately July 2027. The project has committed to using construction equipment with U.S. EPA Tier 4 emission standards for particulate matter.

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards except for ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone concentrations in the air basin are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form ozone concentrations. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ambient ozone concentrations. The highest ozone concentrations in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone concentrations aggravate respiratory and cardiovascular diseases, reduce lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant in the air basin. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter

[1] Bay Area Air Quality Management District, *2022 CEQA Guidelines*, April 2023.

concentrations aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality, often because they cause cancer. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure of TACs can result in adverse health effects, they are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about seventy percent of the cancer risk from TACs (based on the Bay Area average).[2] According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects from diesel exhaust exposure a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. Health risks from TACs are estimated using the Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines, which were published in February of 2015 and incorporated in BAAQMD's current CEQA guidance.[3]

$PM_{2.5}$ emissions can include TACs. Due to the adverse health effects caused by $PM_{2.5}$ exposure even at low concentrations, BAAQMD developed assessing methods and health risk thresholds to address exposure to increased concentrations caused by project $PM_{2.5}$ emissions.[4]

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, infants and small children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest existing sensitive receptors to the project site are located in the adjacent multi-family residences to the southeast. There are additional sensitive receptors located at further distances to the north and south of the site. This project would introduce new sensitive receptors (i.e., residents) to the area.

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[2] CARB, *Summary: Diesel Particulate Matter Health Impacts*, Web: https://ww2.arb.ca.gov/resources/summary-diesel-particulate-matter-health-impacts#footnote1_7yob8j5.

[3] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

[4] BAAQMD, 2022 CEQA Air Quality Guidelines, Appendix A, p40.

Regulatory Setting

The Federal and California Clean Air Acts have established ambient air quality standards for different pollutants. National ambient air quality standards (NAAQS) were established by the Federal Clean Air Act of 1970 (amended in 1977 and 1990) for six "criteria" pollutants. These criteria pollutants now include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), respirable particulate matter with a diameter less than 10 microns (PM_{10}), sulfur dioxide (SO_2), and lead (Pb). In 1997, The Environmental Protection Agency (EPA) added fine particulate matter ($PM_{2.5}$) as a criteria pollutant. The air pollutants for which standards have been established are considered the most prevalent air pollutants known to be hazardous to human health. California ambient air quality standards (CAAQS) include the NAAQS pollutants and also hydrogen sulfide, sulfates, vinyl chloride, and visibility reducing particles. These additional CAAQS pollutants tend to have unique sources and are not typically included in environmental air quality assessments. In addition, lead concentrations have decreased dramatically since it was removed from motor vehicle fuels.

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[5]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD), is currently required for use by all vehicles in the U.S.

[5] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

All of the above federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[6] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

[6] California Air Resources Board, 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[7] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program has been implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses has been used to develop emission reduction activities in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Seven areas have been identified by BAAQMD as impacted communities. They include Eastern San Francisco, Richmond/San Pablo, Western Alameda, San José, Vallejo, Concord, and Pittsburgh/Antioch. The project site is not located within any of the BAAQMD CARE areas.

Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[8] The BAAQMD has identified several overburdened areas within its boundaries. However, the project site is not within an overburdened area as the Project site is scored at the 14th percentile on CalEnviroScreen.[9]

Clean Air Plan

The BAAQMD is responsible for developing a Clean Air Plan which guides the region's air quality planning efforts to attain both the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). The BAAQMD's *2017 Clean Air Plan* is the current Clean Air Plan which contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO_X), particulate matter (PM_{10} and $PM_{2.5}$) and greenhouse gas (GHG) emissions.

[7] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program.
[8] See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en.
[9] OEHAA, CalEnviroScreen 4.0 Maps https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

BAAQMD CEQA Air Quality Guidelines

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. In 2023, the BAAQMD revised the *California Environmental Quality Act* (*CEQA) Air Quality Guidelines* that include significance thresholds to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The current BAAQMD guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They include assessment methodologies for criteria air pollutants, air toxics, odors, and GHG emissions as shown in Table 1.[10] Air quality impacts and health risks are considered potentially significant if they exceed these thresholds.

The BAAQMD recommends all projects include a "basic" set of best management practices (BMPs) to manage fugitive dust and consider impacts from dust (i.e., fugitive PM_{10} and $PM_{2.5}$) to be less than significant if BMPs are implemented (listed below). BAAQMD strongly encourages enhanced BMPs for construction sites near schools, residential areas, other sensitive land uses, or if air quality impacts were found to be significant.

Table 1. BAAQMD CEQA Significance Thresholds

Criteria Air Pollutant	Construction Thresholds		Operational Thresholds	
	Average Daily Emissions (lbs./day)		Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54		54	10
NO_X	54		54	10
PM_{10}	82 (Exhaust)		82	15
$PM_{2.5}$	54 (Exhaust)		54	10
CO	Not Applicable		9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices (BMPs)*		Not Applicable	
Health Risks and Hazards	**Single Sources/ Individual Project**		**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	>10 in a million	OR Compliance with Qualified Community Risk Reduction Plan	>100 in a million	OR Compliance with Qualified Community Risk Reduction Plan
Hazard Index	>1.0		>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m^3		>0.8 µg/m^3	

Note: ROG = reactive organic gases, NO_X = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less.

* BAAQMD strongly recommends implementing all feasible fugitive dust management practices especially when construction projects are located near sensitive communities, including schools, residential areas, or other sensitive land uses.

Source: Bay Area Air Quality Management District, 2022

[10] Bay Area Air Quality Management District, *2022 CEQA Guidelines*. April2023.

City of Palo Alto Comprehensive Plan 2030

Adopted in November 2017, the Comprehensive Plan 2030 for the City of Palo Alto is the primary tool for guiding preservation and development in Palo Alto.[11] Air quality policies are identified in the Natural Environmental Element and address environmental risks such as air pollution and climate change. The following goals and policies are applicable to this project:

GOAL N-5 Clean, healthful air for Palo Alto and the San Francisco Bay Area.

Policy N-5.1 Support regional, State, and federal programs that improve air quality in the Bay Area because of its critical importance to a healthy Palo Alto.

Program N5.1.2 Implement BAAQMD recommended standards for the design of buildings near heavily traveled roads, in order to minimize exposure to auto-related emissions.

Program N5.1.3 Explore adopting new standards that target the reduction of very fine particulate matter ($PM_{2.5}$), which is associated with increased impacts on health.

Policy N-5.2 Support behavior changes to reduce emissions of particulates from automobiles.

Program N5.2.1 Promote understanding of the impacts of extended idling on air quality, for residents, auto dependent businesses and schools.

Program N5.2.2 Consider adopting and enforcing penalties for drivers that idle for longer than 3-5 minutes.

Policy N-5.3 Reduce emissions of particulates from, manufacturing, dry cleaning, construction activity, grading, wood burning, landscape maintenance, including leaf blowers and other sources.

Policy N-5.4 All potential sources of odor and/or toxic air contaminants shall be adequately buffered, or mechanically or otherwise mitigated to avoid odor and toxic impacts that violate relevant human health standards.

Policy N-5.5 Support the BAAQMD in its efforts to achieve compliance with existing air quality regulations by continuing to require development applicants to comply with BAAQMD construction emissions control measures and health risk assessment requirements.

Policy N-5.6 Mitigate potential sources of toxic air contaminants through siting or other means to reduce human health risks and meet the BAAQMD's applicable threshold of

[11] City of Palo Alto, 2017. *City of Palo Alto Comprehensive Plan 2030*. November. Web: https://www.cityofpaloalto.org/Departments/Planning-Development-Services/Housing-Policies-Projects/2030-Comprehensive-Plan

significance. When siting new sensitive receptors such as schools, day care facilities, parks or playgrounds, medical facilities and residences within 1,000 feet of stationary sources of toxic air contaminants or roadways used by more than 10,000 vehicles per day, require projects to consider potential health risks and incorporate adequate precautions such as high-efficiency air filtration into project design.

City of Palo Alto Comprehensive Plan Update Environmental Impact Report (EIR)

Published February 2016, the Comprehensive Plan Update EIR for the City of Palo Alto evaluated potential impacts of future development under the plan. This EIR identified mitigation measures that would reduce impacts to less than significant. Chapter 4.2 in the document evaluated air quality impacts.[12] The following mitigation measures are applicable to this project:

Air Quality

Mitigation Measure AIR-2a: As part of the City's development approval process, the City shall require applicants for future development projects to comply with the current BAAQMD basic control measures for reducing construction emissions of PM_{10} (Table 8-2, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the BAAQMD CEQA Guidelines).

Mitigation Measure AIR-2b: Prior to issuance of construction permits, development project applicants that are subject to CEQA and have the potential to exceed the BAAQMD screening-criteria listed in the BAAQMD CEQA Guidelines shall prepare and submit to the City of Palo Alto a technical assessment evaluating potential project construction-related air quality impacts. The evaluation shall be prepared in conformance with BAAQMD methodology in assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines, the City of Palo Alto shall require that applicants for new development projects incorporate mitigation measures (Table 8-3, Additional Construction Mitigation Measures Recommended for Projects with Construction Emissions Above the Threshold, of the BAAQMD CEQA Guidelines or applicable construction mitigation measures subsequently approved by BAAQMD) to reduce air pollutant emissions during construction activities to below these thresholds. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Planning and Community Environment Department.

Mitigation Measure AIR-2c: Prior to issuance of construction permits, development project applicants that are subject to CEQA and have the potential to exceed the BAAQMD screening-criteria listed in the BAAQMD CEQA Guidelines shall prepare and submit to the City of Palo Alto a technical assessment evaluating potential project operation phase-related air quality impacts. The evaluation shall be prepared in conformance with

[12] Placeworks, 2016. *Comprehensive Plan Update Environmental Impact Report*. February. Web: https://www.cityofpaloalto.org/civicax/filebank/documents/63453

BAAQMD methodology in assessing air quality impacts. If operational-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in BAAQMD's CEQA Guidelines, the City of Palo Alto Planning and Community Environment Department shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities.

AIR QUALITY IMPACTS AND CONDITIONS OF APPROVAL

Impact AIR-1: Conflict with or obstruct implementation of the applicable air quality plan?

BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), implements specific plans to meet the applicable federal and State laws, regulations, and programs. The most recent and comprehensive plan is the *Bay Area 2017 Clean Air Plan*.[13] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also recently updated its CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

The Project is a small residential development that would not introduce any substantial sources of air pollutants or sources permitted by BAAMQD. The Project site is identified as a housing inventory site in the City's Housing Element, suitable for residential development at the proposed density. The Project would also comply with Mitigation Measures AIR-2a through AIR-2c of the Comprehensive Plan Update EIR (see analyses below). Therefore, the Project is consistent with the Comprehensive Plan Update EIR and would not conflict with the latest Clean Air planning efforts. Additionally, 1) the Project would have construction and operational emissions below the BAAQMD thresholds (see Impact 2 below), 2) the project would be considered urban infill, and 3) the project would be located near transit with regional connections.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the NAAQS and the CAAQS. The area is also considered non-attainment for PM_{10} under the CAAQS, but not the NAAQS. The area has attained both State and Federal ambient air quality standards for CO. As part of an effort to attain and maintain ambient air quality standards for ozone, $PM_{2.5}$ and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. The ozone precursor pollutant thresholds are for ROG and NOx, while PM_{10}, and $PM_{2.5}$ have specific thresholds. The thresholds apply to both construction period emissions and operational period emissions.

[13] Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan.*

This section of the assessment addresses Comprehensive Plan Update EIR Mitigation Measures AIR-2b and AIR-2c, which evaluates the construction- and operational-related criteria air pollutants for the proposed project. The project has committed to using construction equipment with engines meeting U.S. EPA Tier 4 standards; therefore, the unmitigated construction modeling scenarios included Tier 4 engines for construction equipment as well as implementation of the BAAQMD basic BMPs, per the Comprehensive Plan Update EIR Mitigation Measures AIR-2a and Comprehensive Plan Policy N-5.5.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2022 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size were input to CalEEMod. The CalEEMod model output along with construction inputs are included in *Attachment 1*.

CalEEMod Inputs

Land Uses

The proposed project land uses were entered into CalEEMod as described in Table 2.

Table 2. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet (sf)	Acreage
Condo/Townhouse	29	Dwelling Unit	64,420	1.35

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario for both phases, including equipment quantities, average hours per day, total number of workdays, and schedule, was based on a blend of information provided by the project applicant and defaults (included in *Attachment 1*). The construction schedule estimates a start date of April 2026, and the project would be built out over a period of approximately 16 months, or 408 construction workdays. The earliest full year of operation was assumed to be 2028.

Construction Traffic Emissions

Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on the demolition material to be exported, soil imported and/or exported to the site, and the estimated concrete and asphalt truck trips to and from the site. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. Daily haul trips for demolition and grading were developed by CalEEMod using the provided demolition and soil import/export volumes. The number of total concrete and asphalt round haul trips were estimated

for the project and converted to daily one-way trips, assuming two trips per delivery. These values are shown in the project construction equipment worksheet included in *Attachment 1.*

Summary of Computed Construction Period Emissions

In conformance with Mitigation Measure AIR-2b of the Comprehensive Plan Update EIR, average daily emissions were annualized for each year of construction by dividing the annual construction emissions by the number of active workdays during that year. Table 3 shows the annualized average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 3, predicted annualized project construction emissions would not exceed the BAAQMD significance thresholds during any year of construction.

Table 3. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Total (Tons)				
2026	0.01	0.17	0.002	0.002
2027	0.46	0.18	0.001	0.001
Average Daily Construction Emissions (pounds/day)				
2026 (236 construction workdays)	0.05	1.46	0.01	0.01
2027 (172 construction workdays)	5.40	2.08	0.01	0.01
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site deposit mud on local streets, which is an additional source of airborne dust after it dries. The BAAQMD recommends all projects include a "basic" set of BMPs to manage fugitive dust and considers impacts from dust (i.e., fugitive PM_{10} and $PM_{2.5}$) to be less-than-significant if BMPs are implemented to reduce these emissions. Mitigation Measure AIR-2a of the Comprehensive Plan Update EIR would implement the BAAQMD basic BMPs to control dust during construction.

Palo Alto Comprehensive Plan Update EIR Mitigation Measure AIR-2a: **BMPs for Construction Dust Suppression.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. The contractor shall implement the following BMPs required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.

7. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.

8. Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.

9. Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of Palo Alto Comprehensive Plan Update EIR Mitigation Measure AIR-2a

The measures above are consistent with BAAQMD-recommended basic BMPs for reducing fugitive dust contained in the BAAQMD CEQA Air Quality Guidelines. For this analysis, only the basic set of BMPs are required as the uncontrolled fugitive dust emissions from construction are below the BAAQMD single-source threshold. In compliance with the Comprehensive Plan Policy N-5.5, the City requires these basic best management practices to be implemented for all development projects.

Operational Period Emissions

ROG, NO_x, and Particulate Matter (PM) air pollutant emissions from the project would be generated primarily from autos driven by future residents. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are also typical ROG emission sources from these types of uses. The CalEEMod model was used to estimate emissions from operation of the proposed project assuming full build-out.

<u>CalEEMod Inputs</u>

Land Uses

The project land uses were input to CalEEMod as described above for the construction period

modeling.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest year of full operation would be 2028 if construction begins in 2026. Emissions associated with build-out later than 2028 would be lower.

Traffic Information

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate provided by the traffic consultant was entered into the model.[14] The project would produce approximately 264 daily trips. The daily trip generation was calculated by the Traffic Consultant using ITE trip generation rates and the size of the project land uses. The Saturday and Sunday trip rates were derived by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate with the project-specific daily weekday trip rate. The default trip lengths and trip types specified by CalEEMod were used.

Energy

CalEEMod defaults for energy use were used, which include the 2019[15] Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The model has a default rate of 0 pounds of CO_2 per megawatt of electricity produced, which is based on City of Palo Alto Utilities Department 2021 emissions rate.

The Project plans do not show any natural gas infrastructure, and the applicant has confirmed the building will be all electric. Therefore, natural gas use for the project land uses was set to zero and reassigned to electricity use in CalEEMod.

Wood-Burning Devices

CalEEMod default inputs assume new residential construction would include wood-burning fireplaces and stoves. The project would not include wood-burning devices, as these devices are prohibited by BAAQMD Regulation 6, Rule 3.[16] As discussed above, natural gas infrastructure is prohibited in new residential buildings. Therefore, the number of woodstoves and fireplaces in CalEEMod were set to zero.

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[14] Hexagon Transportation Consultants, Inc., *Trip Generation Study and VMT Analysis for a Proposed Residential Development at 4335 & 4345 El Camino Real in Palo Alto, California Memorandum*, January 19, 2024.

[15] The 2022 Title 2024 standards have not been incorporated into the current CalEEMod model, which uses Title 24 standards from 2019 (CalEEMod User Guide). The 2019 standards, and therefore the energy analysis, are more conservative.

[16] Bay Area Air Quality Management District, https://www.baaqmd.gov/~/media/dotgov/files/rules/regulation-6-rule-3/documents/20191120_r0603_final-pdf.pdf?la=en

Other Inputs

Default model assumptions for emissions associated with solid waste generation were used. Wastewater treatment was changed to 100-percent aerobic conditions to represent the use of city services (i.e., the project would not send wastewater to septic tanks or facultative lagoons).

Summary of Computed Operational Period Emissions

In conformance with Mitigation Measure AIR-2c of the Comprehensive Plan Update EIR, annual operational emissions were predicted using CalEEMod. The daily emissions were calculated assuming 365 days of operation. Table 4 shows average daily emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds.

Table 4. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2028 Project Operational Emissions (*tons/year*)	0.44	0.10	0.26	0.07
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased health risk can occur by generating emissions of TACs and air pollutants. This project would introduce new sources of TACs during construction (i.e., on-site construction and truck hauling emissions) and operation (i.e., mobile sources). Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would not include stationary sources of air pollutants or TACs. The project would generate some traffic consisting of mostly light-duty gasoline-powered vehicles, which would produce TAC and air pollutant emissions.

Project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of existing sources of TACs was assessed in terms of the cumulative risk which includes the project contribution, as well as the risk on the new sensitive receptors introduced by the project.

Health Risks from Project Construction

The primary health risk impact issues associated with construction projects are cancer risks associated with diesel exhaust (i.e., DPM), which is a known TAC, and exposure to high concentrations of dust (i.e., $PM_{2.5}$). Both pose a potential health and nuisance impact to nearby sensitive receptors. Receptors include locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the existing residences adjacent

to and surrounding the site as shown in Figure 1. The sensitive receptors that would experience the greatest risks and elevated $PM_{2.5}$ concentrations would be those closest and downwind of the project site. Weather conditions have been measured at Moffett Federal Airfield, which show winds flow primarily from the northwest. The project's temporary construction health risk impacts would likely be greatest at the adjacent multi-family residences that are southeast of the construction site.

The CalEEMod model provided total uncontrolled annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles. Total uncontrolled DPM emissions were estimated to be 0.02 tons (31 pounds) and fugitive dust emissions ($PM_{2.5}$) were estimated to be 0.01 tons (12 pounds). The project has committed to using construction equipment meeting U.S. EPA Tier 4 emission standards for particulate matter. CalEEMod modeling calculated that the inclusion of Tier 4 equipment would reduce the DPM emissions from temporary construction activities by approximately 67-percent or more, which would in turn greatly decrease the health risk impacts from the project's temporary construction activities on the nearby estimated MEI and sensitive receptors. Tier 4 engine requirements for all diesel-powered construction equipment were required since 2012,[17] so having a construction fleet meet this Tier 4 commitment would be manageable for the project. Therefore, considering the use of modern construction equipment that meets Tier 4 standards, the location of nearby sensitive receptors with respect to local meteorological data, and the temporary nature of these construction emissions, the project's temporary construction health risk impact would be below BAAQMD's single-source thresholds identified in Table 1.

Health Risks from Project Operation

The Project would not include stationary sources of TACs (i.e., diesel-powered emergency generators). Diesel powered vehicles are the primary concern with local traffic-generated TAC impacts. This project would generate approximately 264 daily trips. The project traffic would be dispersed on the roadway system with a majority of the trips being from light-duty vehicles (i.e., passenger automobiles). In addition, projects with the potential to cause or contribute to increased cancer risk from traffic include those that have high numbers of diesel-powered on road trucks or use off-road diesel equipment on site, such as a warehouse distribution center, a quarry, or a manufacturing facility, may potentially expose existing or future planned receptors to substantial cancer risk levels and/or health hazards. This is not a project of concern for mobile sources given the low trip quantity and type of trips generated by the project. Therefore, emissions from project traffic are considered negligible.

[17] CARB, https://ww2.arb.ca.gov/resources/documents/non-road-diesel-engine-certification-tier-chart

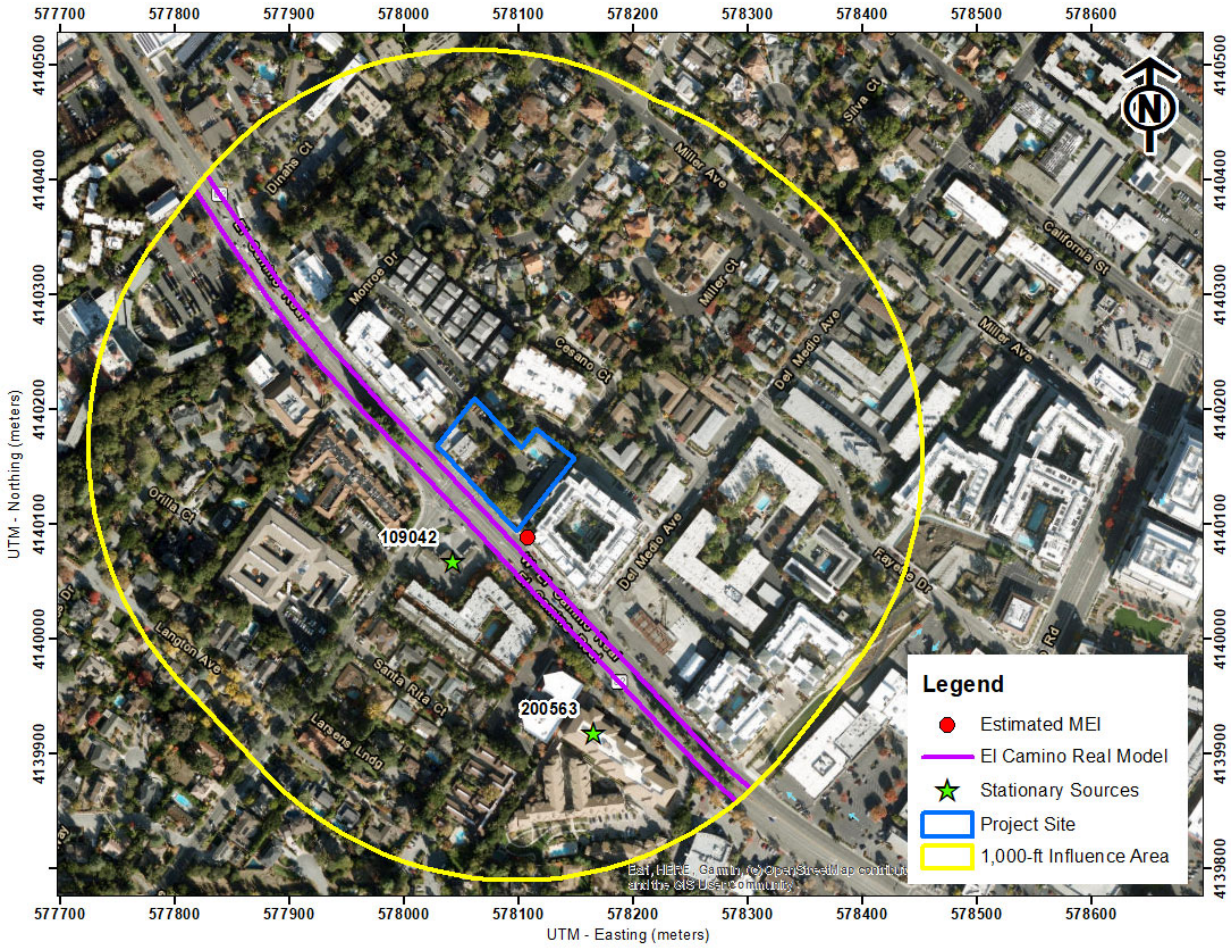
Figure 1. Location of Project Construction Sites, Off-Site Sensitive Receptors, Win, and Estimated Maximum TAC Impacts (MEI) – Moffett Airfield Wind Rose Included

Cumulative Health Risks of all TAC Sources at the Off-Site Project MEI

Cumulative health risk assessments look at all substantial sources of TACs located within 1,000 feet of a project site (i.e., influence area) that can affect sensitive receptors. These sources include rail lines, highways, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area using BAAQMD's geographic information systems (GIS) screening tools indicated that one roadway (El Camino Real) and two stationary sources within the 1,000-foot influence area could have cumulative health risk impacts at the MEI and project site. Figure 2 shows the locations of the sources affecting the MEI within the influence area. Health risk impacts from these sources upon the MEI are reported in Table 5. Details of the cumulative screening and health risk calculations are included in *Attachment 2.*

Figure 2. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Local Roadways – El Camino Real

A refined analysis of potential health impacts from vehicle traffic on El Camino Real was conducted since this roadway was identified by the screening tools to have potentially high TAC impact levels. The refined analysis involved prediction of emissions for the traffic volume and mix of vehicle types on the roadway near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated cancer risks are then computed based on the modeled exposures. The increased lifetime cancer risk for a pollutant is estimated as the product of a lifetime dose and the cancer potency factor derived by the OEHHA. Health risk impacts were also addressed by predicting the increase in annual $PM_{2.5}$ concentrations and computing the Hazard Index (HI) for non-cancer health risks.

Emissions Modeling

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for traffic on El Camino Real using the Caltrans version of the CARB EMFAC2021 emissions model, known as CT-EMFAC2021. CT-EMFAC2021 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for

DPM, $PM_{2.5}$ and total organic compounds (TOG), running evaporative losses for TOG, and tire and brake wear and fugitive road dust for $PM_{2.5}$. All $PM_{2.5}$ emissions from all vehicles were used, rather than just the $PM_{2.5}$ fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce $PM_{2.5}$. Additionally, $PM_{2.5}$ emissions from vehicle tire and brake wear from re-entrained roadway dust were included in these emissions. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2021 emissions data. Inputs to the model include region (Santa Clara County), type of road (major/collector), traffic mix assigned by CT-EMFAC2021 for the county, truck percentages from Caltrans for El Camino Real (3.2 percent),[18] year of analysis (2026 construction start year), and season (annual).

To estimate TAC and $PM_{2.5}$ emissions over the 30-year exposure period used for calculating the increased cancer risks for sensitive receptors at the MEI, the CT-EMFAC2021 model was used to develop vehicle emission factors for the year 2026 (construction start year). Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CT-EMFAC2021. Year 2026 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated since, as discussed above, overall vehicle emissions, and in particular diesel truck emissions, will decrease in the future.

The average daily traffic (ADT) of 41,600 vehicles per day for El Camino Real was calculated based on Caltrans data and includes about 3.2 percent trucks, of which 0.6 percent are considered diesel heavy duty trucks and 2.6 percent are medium duty trucks.[19] Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[20] which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for the roadway. For all hours of the day an average speed of 30 mph on the roadway was assumed for all vehicles based on 5 mph below the posted speed limit signs.

Hourly emissions rates were developed for DPM, organic TACs, and $PM_{2.5}$ along the applicable segments of the roadway within 1,000 feet of the project site. AERMOD was used to estimate the TAC and $PM_{2.5}$ concentrations at the MEI location. Maximum increased lifetime cancer risks and maximum annual $PM_{2.5}$ concentrations for the MEI receptor was then computed using modeled TAC and $PM_{2.5}$ concentrations and BAAQMD methods and exposure parameters contained in Appendix E of the BAAQMD CEQA Guidelines.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the AERMOD dispersion model, which is recommended by the BAAQMD for this type of analysis.[21] TAC and $PM_{2.5}$

[18] Caltrans. 2022. *2022 Annual Average Daily Truck Traffic on the California State Highway System.* Web: https://dot.ca.gov/programs/traffic-operations/census.
[19] Caltrans. 2022. *2022 Traffic Volumes on California State Highways.* Web: https://dot.ca.gov/programs/traffic-operations/census.
[20] The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2021 does not include Burden type output with hour-by-hour traffic volume information.
[21] BAAQMD, 2022 CEQA Air Quality Guidelines, Appendix E.

emissions from traffic on El Camino Real within about 1,000 feet of the project site were evaluated. Emissions from vehicle traffic travel on the roadways were modeled in AERMOD using a series of area sources along a line (line area sources), with line segments used for travel on the roadways in both opposing directions. The modeling used a five-year data set (2013 - 2017) of hourly meteorological data from the Moffett Federal Airfield was used with the AERMOD model. Other inputs to the model included road geometry, hourly traffic emissions, and receptor locations and heights. Annual TAC and $PM_{2.5}$ concentrations using 2026 emissions from traffic on the roadway were calculated using the model. Roadway concentrations were calculated at the nearby existing sensitive receptors. Receptor heights of 5 feet (1.5 meters) and 15 feet (4.5 meters) were used to represent the breathing heights on the first and second floors of the nearby single- and multi-family residences.[22]

Computed Cancer and Non-Cancer Health Impacts

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with BAAQMD CEQA guidance for age sensitivity factors and exposure parameters. Consistent with BAAQMD guidance, inhalation cancer risk potency factors identified in BAAQMD Rule 2, Regulation 5 were used to compute cancer risk. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Third trimester, infant, child, and adult exposures were assumed to occur at all residences during the entire construction period, while infant and child exposures were assumed at the daycare and preschool.

Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated. The maximum modeled annual $PM_{2.5}$ concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI value was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation DPM reference exposure level of 5 $\mu g/m^3$.

The cancer risk, $PM_{2.5}$ concentration, and HI impacts from El Camino Real at the off-site MEI are shown in Table 5. Figure 2 shows the roadway links modeled and receptor locations where concentrations were calculated. Details of the emission calculations, dispersion modeling, and cancer risk calculations for the receptors with the maximum cancer risk from traffic on the roadway are provided in *Attachment 2.*

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2022* GIS website,[23] which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for OEHHA guidance. Two sources were identified using this tool, one generator and one gasoline dispensing facility (GDF). The BAAQMD GIS website provided screening risk and hazards for the diesel generator. A stationary source information request was submitted to BAAQMD in order to estimate health risk impacts from the GDF.[24]

[22] BAAQMD, 2022 CEQA Air Quality Guidelines, Appendix E.
[23] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3
[24] Email correspondence with BAAQMD CEQA, August 15, 2024.

The screening risk and hazard levels provided by BAAQMD for the stationary sources were adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines* and *Gasoline Dispensing Facilities.* Health risk impacts from the stationary sources upon the MEI are reported in Table 5.

Summary of Cumulative Health Risk Impact at Project MEI

Table 5 reports both the project and cumulative health risk impacts at the sensitive receptors most affected by construction (i.e., the MEI). The applicant proposes to utilize construction equipment, where all diesel equipment meets U.S. EPA Tier 4 standards. With the implementation of this applicant proposed condition and *EIR Mitigation Measure Air 2a*, the construction risk and hazard levels would not exceed its respective BAAQMD single-source significance thresholds. The project also does not exceed any BAAQMD cumulative-source thresholds.

Table 5. Impacts from Combined Sources at Project MEI

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts			
Project Construction	<10.0	<0.3	<1.0
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	*No*	*No*	*No*
Cumulative Impacts			
El Camino Real, ADT 41,600	6.23	0.43	<0.01
Toyota Research Institute (Facility ID #200563, Generator), MEI at 480 feet.	4.03	0.01	<0.01
El Camino 76 Inc. (Facility ID #109042-1, Gas Dispensing Facility), MEI at 150 feet.	2.17	-	0.01
Cumulative Total	<22.43	<0.74	<1.03
BAAQMD Cumulative Source Threshold	***100***	***0.8***	***10.0***
Exceed Threshold?	*No*	*No*	*No*

On-Site Health Risk Assessment for TAC Sources - New Project Residences

The City's Comprehensive Plan Policy N-5.6 requires new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs to avoid significant risks to health and safety. Therefore, a health risk assessment was completed to assess the impact that nearby existing TAC sources would have on the new proposed sensitive receptors (residents) that the project would introduce. The same TAC sources identified above were used in this assessment.[25] BAAQMD's recommended thresholds for health risks and hazards, shown in Table 1, are used to evaluate on-site exposure. Figure 3 shows the on-site sensitive receptors in relation to the nearby TAC sources. Health risk results are listed in Table 6. *Attachment*

[25] We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473, which confirm that the impacts of the environment on a project are excluded from CEQA unless the project itself "exacerbates" such impacts.

2 includes the dispersion modeling and risk calculations for TAC source impacts upon the proposed on-site sensitive receptors.

Local Roadways – El Camino Real

The evaluation of roadway impacts on new project residents was conducted in the same manner as described above for Project impacts. However, the year 2028 (operational year) emission factors were conservatively assumed as being representative of future conditions, instead of 2026 (construction year). An analysis based on 2028 resulted in an increased ADT on El Camino Real of 42,400 vehicles.

Modeling receptors were placed in the center of each proposed dwelling unit. Roadway impacts were modeled at receptor heights of 5 feet (1.5 meters) and 15 feet (4.5 meters) representing sensitive receptors on the first and second floors of the proposed units. The portions of El Camino Real included in the modeling are shown in Figure 3 along with the project site and receptor locations where impacts were modeled.

Maximum increased cancer risks were calculated for the residents at the project site using the maximum modeled TAC concentrations. A 30-year exposure period was used in calculating cancer risks assuming the residents would include infants and adults were assumed to be in the new apartments for 24 hours per day for 350 days per year. The maximum impacts from El Camino Real occurred on the first floor (5 feet above the ground) in the units fronting and closest to El Camino Real. Cancer risks associated with the roadways are greatest closest to the roadway and decrease with distance from the road. The roadway impacts at the project site are shown in Table 6. Details of the emission calculations, dispersion modeling, and cancer risk calculations are contained in *Attachment 2.*

Stationary Sources

The stationary source screening analysis for the new project sensitive receptors was conducted in the same manner as described above for evaluating the off-site MEI. Table 6 shows the health risk screening assessment results from the stationary sources at the project site.

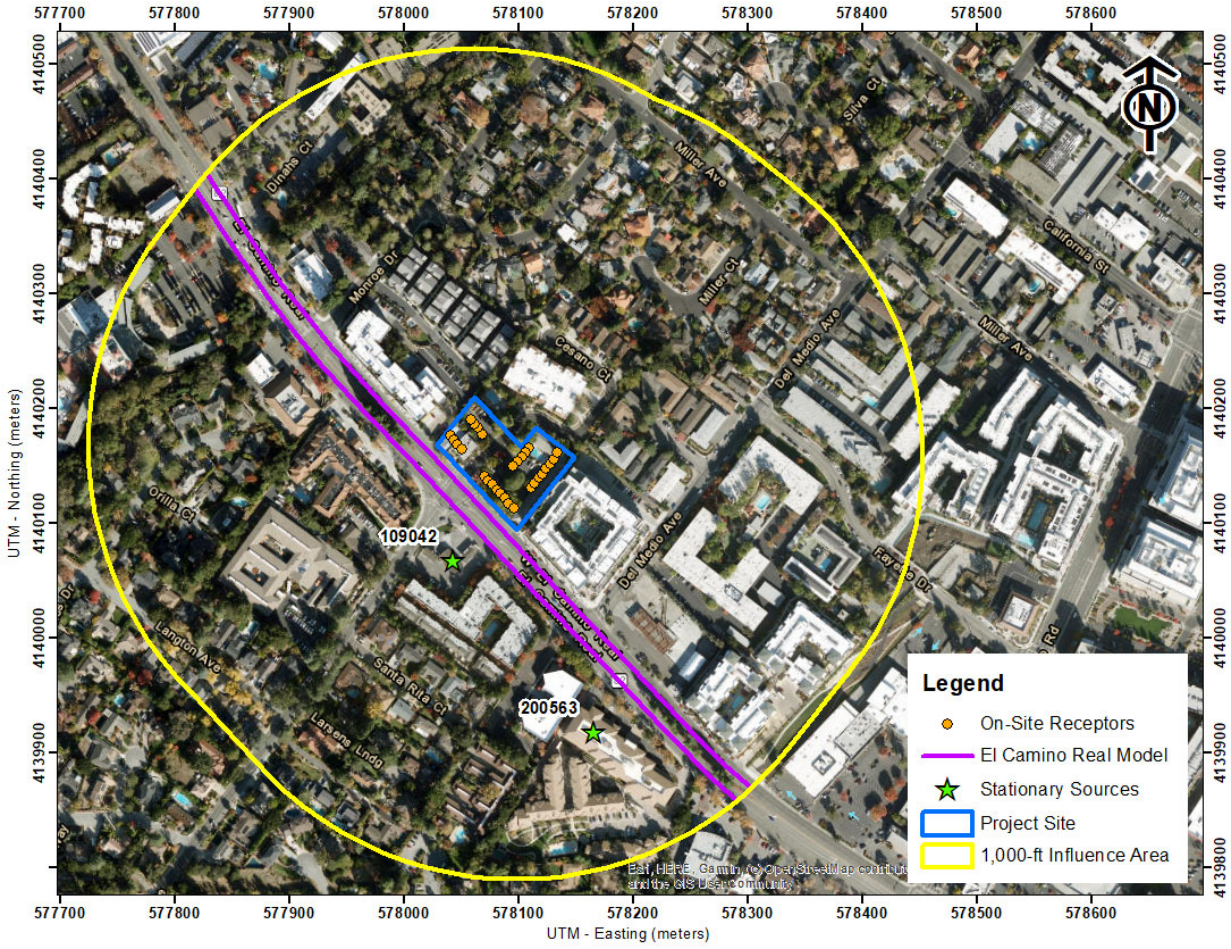
Summary of Cumulative Health Risks at the Project Site

Health risk impacts from the existing TAC sources upon the project site are reported in Table 6. The risks from the singular TAC sources are compared against the BAAQMD single-source threshold. The risks from all the sources are then combined and compared against the BAAQMD cumulative-source threshold. As shown, all of the sources are below the single-source and cumulative-source thresholds expect for traffic on El Camino Real, which only exceeds the annual $PM_{2.5}$ concentration single-source threshold.

Table 6. Impacts from Nearby Sources to Project Site Receptors

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
El Camino Real, ADT 42,400	4.23	**0.31**	<0.01
Toyota Research Institute (Facility ID #200563, Generator), Project Site at 540 feet.	2.88	<0.01	<0.01
El Camino 76 Inc. (Facility ID #109042-1, Gas Dispensing Facility), Project Site at 140 feet.	2.59	-	0.01
BAAQMD Single-Source Threshold	***10.0***	***0.3***	***1.0***
Exceed Threshold?	*No*	***Yes***	*No*
Cumulative Total	9.70	<0.32	<0.03
BAAQMD Cumulative Source Threshold	***100***	***0.8***	***10.0***
Exceed Threshold?	*No*	*No*	*No*

Figure 3. Locations of Project Site, Nearby Cumulative Sources, and On-Site Receptors



Recommended Design Features to Reduce Project Receptor Exposure

Filtration in ventilation systems at the project site would be recommended to reduce the level of harmful pollutants to acceptable levels. The significant exposure for new project receptors is judged by two effects: (1) increased cancer risk, and (2) annual $PM_{2.5}$ concentration. Project exposure to annual $PM_{2.5}$ concentrations from traffic is above the BAAQMD single-source significance thresholds at the units that front El Camino Real. The annual $PM_{2.5}$ concentration from El Camino Real is based on exposure to $PM_{2.5}$ resulting from emissions attributable to truck and auto exhaust, the wearing of brakes and tires and re-entrainment of roadway dust from vehicles traveling over pavement. Reducing particulate matter exposure would reduce both annual $PM_{2.5}$ exposures and cancer risk.

To minimize long-term increased annual $PM_{2.5}$ exposure for new project occupants, the Project should install air filtration for the units fronting and closest to El Camino Real. Air filtration devices shall be rated MERV13 or higher. To ensure adequate health protection to sensitive receptors (i.e., residents), this ventilation system, whether mechanical or passive, shall filter the fresh air that would be circulated into the dwelling units. As part of implementing this measure, an ongoing maintenance plan for the buildings' heating, ventilation, and air conditioning (HVAC) air filtration system should be required that includes regular filter replacement.

A properly installed and operated ventilation system with MERV13 would achieve an 80-percent reduction for small particulates.[26] The overall effectiveness calculations take into account the amount of time spent outdoors and away from home. Assuming that the filtration system is 80-percent effective and the individual is being exposed to 21 hours of indoor filtered air and three hours of outdoor unfiltered air, then the overall effectiveness of a MERV13 filtration system would be about 70-percent for $PM_{2.5}$ exposure. For El Camino Real, this would reduce annual $PM_{2.5}$ concentration to 0.09 $\mu g/m^3$. With this recommended design feature, impacts from El Camino Real would be below the BAAQMD single-source thresholds.

Supporting Documentation

Attachment 1 includes the CalEEMod outputs for project construction and operational criteria air pollutants. Also included are any modeling assumptions.

Attachment 2 includes the cumulative health risk screening, modeling results, and health risk calculations from sources affecting the project MEI and new project sensitive receptors. The AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

[26] Bay Area Air Quality Management District (2016). Appendix B: Best Practices to Reduce Exposure to Local Air Pollution, *Planning Healthy Places A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning* (p. 38). http://www.baaqmd.gov/~/media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en

Attachment 1: CalEEMod Input Assumptions and Outputs

Construction Criteria Air Pollutants							
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Year	Tons					MT	
Construction Equipment							
2026	0.01	0.17	0.002	0.002	0.01	64.27	
2027	0.46	0.18	0.001	0.001	0.005	69.08	
	Total Construction Emissions						
Tons	0.47	0.35	0.00	0.00		133.36	
Pounds/Workdays	*Average Daily Emissions*					Workdays	
2026	0.05	1.46	0.01	0.01			**236**
2027	5.40	2.08	0.01	0.01			**172**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			
	Total Construction Emissions						
Pounds	941.48	702.74	6.07	5.90		0.00	
Average	2.31	1.72	0.01	0.01		0.00	408.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			

Operational Criteria Air Pollutants				
Unmitigated	ROG	NOX	Total PM10	Total PM2.5
Year	Tons			
Total	0.44	0.10	0.26	0.07
	Net Annual Operational Emissions			
Tons/year	0.44	0.10	0.26	0.07
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**
	Average Daily Emissions			
Pounds Per Day	2.42	0.56	1.41	0.36
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**

Category	**CO2e**			
	Project	Existing		
Mobile	238.73			
Area	0.36			
Energy	0.00			
Water	0.65			
Waste	6.72			
Refrig.	0.08			
TOTAL	246.53	0.00	0.00	0.00
Net GHG Emissions		246.53		0.00

Number of Days Per Year					
2026	4/1/2026	12/31/26	275	236	
2027	1/1/27	7/20/2027	201	172	
			476	**408**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	4/1/2026	4/29/2026	6	25
Site Preparation	6/1/2026	6/3/2026	6	3
Grading	6/4/2026	6/7/2026	6	3
Building Construction	1/1/2027	7/20/2027	6	172
Paving	2/1/2027	2/11/2027	6	10
Architectural Coating	2/1/2027	2/21/2027	6	18
Trenching	11/1/2026	11/4/2026	6	3

Air Quality/Noise Construction Information Data Request

Project Name: 4335 & 4345 El Camino Real, Palo Alto DEFAULTS

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size
- 29 Dwelling Units
- 1.35 total project acres disturbed
- 64,420 s.f. residential
- s.f. retail
- s.f. office/commercial
- s.f. other, specify:
- s.f. parking garage ____ spaces
- s.f. parking lot ____ spaces

Construction Days (i.e, M-F) M-F (8AM-6PM) to Also Saturdays (9AM-6PM)

Construction Hours am to pm

Pile Driving? Y/N? No

Project include on-site GENERATOR OR FIRE PUMP during project OPERATION (not construction)? Y/N? No

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: _____

Fuel Type: _____

Location in project (Plans Desired if Available):

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP Annual Hours	Comments
	Demolition	**Start Date:**	**4/1/2026**	**Total phase:**	**20**			**Overall Import/Export Volumes**
		End Date:	**4/29/2026**					
1	Concrete/Industrial Saws	81	0.73	8	20	8	9461	**Demolition Volume**
	Excavators	158	0.38			0	0	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	8	20	8	15808	(*or* total tons to be hauled)
3	Tractors/Loaders/Backhoes	97	0.37	8	20	8	17227	**24,693** square feet *or*
	Other Equipment?							**?** Hauling volume (tons)
								Any pavement demolished and hauled? **23,000 SF**
	Site Preparation	**Start Date:**	**6/1/2026**	**Total phase:**	**2**			
		End Date:	**6/3/2026**					
1	Graders	187	0.41	8	2	8	1227	
1	Rubber Tired Dozers	247	0.4	7	2	7	1383	
1	Tractors/Loaders/Backhoes	97	0.37	8	2	8	574	
	Other Equipment?							
	Grading / Excavation	**Start Date:**	**6/4/2026**	**Total phase:**	**4**			
		End Date:	**6/7/2026**					**Soil Hauling Volume**
	Excavators	158	0.38			0	0	Export volume = **?** cubic yards?
1	Graders	187	0.41	8	4	8	2453	Import volume = **100** cubic yards?
1	Rubber Tired Dozers	247	0.4	8	4	8	3162	
	Concrete/Industrial Saws	81	0.73			0	0	
2	Tractors/Loaders/Backhoes	97	0.37	7	4	7	2010	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**11/1/2026**	**Total phase:**	**4**			
		End Date:	**11/4/2026**					
1	Tractor/Loader/Backhoe	97	0.37	8	4	8	1148	
1	Excavators	158	0.38	8	4	8	1921	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**1/1/2027**	**Total phase:**	**200**			**Cement Trucks? Est. 101 Total Round-Trips**
		End Date:	**7/20/2027**					
0	Cranes	231	0.29	0	0	0	0	Electric? (Y/N) ___ Otherwise assumed diesel
1	Forklifts	89	0.2	6	200	6	21360	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	200	8	99456	Or temporary line power? (Y/N) ___
1	Tractors/Loaders/Backhoes	97	0.37	6	200	6	43068	
0	Welders	46	0.45	0	0	0	0	
1	Stucco Gun	168	0.4	8	15	0.6	8064	3 days per building. 5 total buildings for a total of 15 days for the stucco gun
	Other Equipment?							
	Building - Interior/Architectural Coating	**Start Date:**	**2/1/2027**	**Total phase:**	**10**			
		End Date:	**2/21/2027**					
1	Air Compressors	78	0.48	6	10	6	2246	
	Aerial Lift	62	0.31			0	0	
	Other Equipment?							
	Paving	**Start Date:**	**2/1/2027**	**Total phase:**	**10**			
		Start Date:	**2/11/2027**					
1	Cement and Mortar Mixers	9	0.56	6	10	6	302	
1	Pavers	130	0.42	6	10	6	3276	**Asphalt? ___ cubic yards or _Est. 12___ round trips?**
1	Paving Equipment	132	0.36	8	10	8	3802	
1	Rollers	80	0.38	7	10	7	2128	
1	Tractors/Loaders/Backhoes	97	0.37	8	10	8	2871	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Traffic Consultant Trip Gen						CalEEMod Default		
Land Use		Size	Daily Trips	New Trips	Weekday Trip Gen	Weekday	Sat	Sun
Condo/Townhouse	DU	29	264	264	***9.10***	7.32	8.14	6.28
						Rev	***10.12***	***7.81***

Table 1
Trip Generation Summary

Land Use	Size	Units	Daily Trips	AM Peak-Hour Trips In	AM Peak-Hour Trips Out	AM Peak-Hour Trips Total	PM Peak-Hour Trips In	PM Peak-Hour Trips Out	PM Peak-Hour Trips Total
Proposed									
Single-Family Attached Housing [1]	28	du	264	5	15	20	9	7	16
Existing									
Retail and Inn [2]	24,626	s.f.	133	9	6	15	8	8	16
Net New Vehicle Trips			**131**	**-4**	**9**	**5**	**1**	**-1**	**0**

Notes:
du = dwelling unit
s.f. = square feet

[1] Single-family housing trip generation is based on the fitted curve equation for the AM peak-hour trips and rates for the PM peak-hour trips published in the ITE Trip Generation online database for Single-Family Attached Housing (Land Use Code 215).

[2] Existing retail and inn trip generation is based on driveway counts collected January 16, 2024.

24-124 4335 & 4345 El Camino Real, Palo Alto BMPs Unmit T4i 2028 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	24-124 4335 & 4345 El Camino Real, Palo Alto BMPs Unmit T4i 2028
Construction Start Date	4/1/2026
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	32.8
Location	4335 El Camino Real, Palo Alto, CA 94306, USA
County	Santa Clara
City	Palo Alto
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1719
EDFZ	1
Electric Utility	City of Palo Alto
Gas Utility	City of Palo Alto Ultilities
App Version	2022.1.1.26

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
Condo/Townhouse	29.0	Dwelling Unit	1.35	64,420	0.00	—	87.0	—

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.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.41	11.7	0.13	2.93	2.98	0.12	1.38	1.43	5,021
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	50.7	7.55	0.09	0.44	0.53	0.08	0.11	0.19	2,386
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	2.55	0.98	0.01	0.16	0.17	0.01	0.04	0.05	417
Annual (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.46	0.18	< 0.005	0.03	0.03	< 0.005	0.01	0.01	69.1

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—
2026	0.41	11.7	0.13	2.93	2.98	0.12	1.38	1.43	5,021
2027	0.12	1.68	0.01	0.21	0.22	0.01	0.05	0.06	796
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—
2026	0.08	2.29	0.04	0.04	0.08	0.03	0.01	0.04	473

2027	50.7	7.55	0.09	0.44	0.53	0.08	0.11	0.19	2,386
Average Daily	—	—	—	—	—	—	—	—	—
2026	0.03	0.94	0.01	0.16	0.17	0.01	0.04	0.05	388
2027	2.55	0.98	0.01	0.11	0.11	0.01	0.03	0.03	417
Annual	—	—	—	—	—	—	—	—	—
2026	0.01	0.17	< 0.005	0.03	0.03	< 0.005	0.01	0.01	64.3
2027	0.46	0.18	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	69.1

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.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	2.62	0.58	0.01	1.60	1.61	0.01	0.41	0.41	1,747
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	2.44	0.66	0.01	1.60	1.61	0.01	0.41	0.41	1,641
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	2.42	0.56	0.01	1.40	1.41	0.01	0.36	0.36	1,489
Annual (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.44	0.10	< 0.005	0.26	0.26	< 0.005	0.06	0.07	247

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Mobile	0.85	0.56	0.01	1.60	1.61	0.01	0.41	0.41	1,698

Area	1.77	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.41
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	3.90
Waste	—	—	—	—	—	—	—	—	40.6
Refrig.	—	—	—	—	—	—	—	—	0.46
Total	2.62	0.58	0.01	1.60	1.61	0.01	0.41	0.41	1,747
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Mobile	0.81	0.66	0.01	1.60	1.61	0.01	0.41	0.41	1,596
Area	1.63	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	3.90
Waste	—	—	—	—	—	—	—	—	40.6
Refrig.	—	—	—	—	—	—	—	—	0.46
Total	2.44	0.66	0.01	1.60	1.61	0.01	0.41	0.41	1,641
Average Daily	—	—	—	—	—	—	—	—	—
Mobile	0.72	0.56	0.01	1.40	1.41	0.01	0.36	0.36	1,442
Area	1.70	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.18
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	3.90
Waste	—	—	—	—	—	—	—	—	40.6
Refrig.	—	—	—	—	—	—	—	—	0.46
Total	2.42	0.56	0.01	1.40	1.41	0.01	0.36	0.36	1,489
Annual	—	—	—	—	—	—	—	—	—
Mobile	0.13	0.10	< 0.005	0.26	0.26	< 0.005	0.06	0.07	239
Area	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.36
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	0.65
Waste	—	—	—	—	—	—	—	—	6.72

Refrig.	—	—	—	—	—	—	—	—	0.08
Total	0.44	0.10	< 0.005	0.26	0.26	< 0.005	0.06	0.07	247

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	8.81	0.10	—	0.10	0.09	—	0.09	2,503
Demolition	—	—	—	0.99	0.99	—	0.15	0.15	—
Onsite truck	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	0.02	0.60	0.01	—	0.01	0.01	—	0.01	171
Demolition	—	—	—	0.07	0.07	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.11	< 0.005	—	< 0.005	< 0.005	—	< 0.005	28.4
Demolition	—	—	—	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
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Worker	0.04	0.03	0.00	0.10	0.10	0.00	0.02	0.02	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	2.82	0.03	0.61	0.63	0.03	0.17	0.19	2,412
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	6.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.20	< 0.005	0.04	0.04	< 0.005	0.01	0.01	165
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	27.3

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	6.40	0.04	—	0.04	0.04	—	0.04	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.05	< 0.005	—	< 0.005	< 0.005	—	< 0.005	17.0

Dust From Material Movement	—	—	—	0.02	0.02	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.82
Dust From Material Movement	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.06	0.06	0.00	0.01	0.01	64.0
Vendor	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.49
Vendor	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
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.08
Vendor	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

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	7.70	0.05	—	0.05	0.05	—	0.05	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.06	< 0.005	—	< 0.005	< 0.005	—	< 0.005	20.2
Dust From Material Movement	—	—	—	0.02	0.02	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.35
Dust From Material Movement	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.00	0.08	0.08	0.00	0.02	0.02	85.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.37	< 0.005	0.08	0.08	< 0.005	0.02	0.03	320
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.66
Vendor	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	2.63
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.11
Vendor	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	0.44

3.7. Building Construction (2027) - Unmitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.46	0.01	—	0.01	0.01	—	0.01	464
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.46	0.01	—	0.01	0.01	—	0.01	464
Onsite truck	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	0.69	< 0.005	—	< 0.005	< 0.005	—	< 0.005	218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.13	< 0.005	—	< 0.005	< 0.005	—	< 0.005	36.2

Onsite truck	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	0.04	0.00	0.17	0.17	0.00	0.04	0.04	175
Vendor	< 0.005	0.10	< 0.005	0.02	0.02	< 0.005	0.01	0.01	84.4
Hauling	< 0.005	0.08	< 0.005	0.02	0.02	< 0.005	0.01	0.01	72.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.00	0.17	0.17	0.00	0.04	0.04	162
Vendor	< 0.005	0.10	< 0.005	0.02	0.02	< 0.005	0.01	0.01	84.3
Hauling	< 0.005	0.09	< 0.005	0.02	0.02	< 0.005	0.01	0.01	72.7
Average Daily	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.00	0.08	0.08	0.00	0.02	0.02	77.2
Vendor	< 0.005	0.05	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	39.7
Hauling	< 0.005	0.04	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	34.3
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	12.8
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	6.58
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	5.68

3.9. Paving (2027) - Unmitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.14	4.32	0.04	—	0.04	0.04	—	0.04	995
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	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	0.12	< 0.005	—	< 0.005	< 0.005	—	< 0.005	27.3
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.51
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	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	0.03	0.03	0.00	0.10	0.10	0.00	0.02	0.02	96.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.42	< 0.005	0.09	0.09	< 0.005	0.02	0.03	346
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.69
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	9.47
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.44
Vendor	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	1.57

3.11. 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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	1.07	0.03	—	0.03	0.03	—	0.03	134
Architectural Coatings	50.4	—	—	—	—	—	—	—	—
Onsite truck	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	0.05	< 0.005	—	< 0.005	< 0.005	—	< 0.005	6.61
Architectural Coatings	2.49	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.09
Architectural Coatings	0.45	—	—	—	—	—	—	—	—
Onsite truck	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	0.01	0.01	0.00	0.03	0.03	0.00	0.01	0.01	32.4

Vendor	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
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.62
Vendor	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
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 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
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Trenching (2026) - Unmitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	2.28	0.04	—	0.04	0.03	—	0.03	433
Onsite truck	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	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.56
Onsite truck	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	—	< 0.005	< 0.005	—	< 0.005	0.59
Onsite truck	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	0.01	0.01	0.00	0.04	0.04	0.00	0.01	0.01	39.5
Vendor	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
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.33
Vendor	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
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 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
Hauling	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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.85	0.56	0.01	1.60	1.61	0.01	0.41	0.41	1,698
Total	0.85	0.56	0.01	1.60	1.61	0.01	0.41	0.41	1,698

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.81	0.66	0.01	1.60	1.61	0.01	0.41	0.41	1,596
Total	0.81	0.66	0.01	1.60	1.61	0.01	0.41	0.41	1,596
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.13	0.10	< 0.005	0.26	0.26	< 0.005	0.06	0.07	239
Total	0.13	0.10	< 0.005	0.26	0.26	< 0.005	0.06	0.07	239

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Consumer Products	1.38	—	—	—	—	—	—	—	—
Architectural Coatings	0.25	—	—	—	—	—	—	—	—
Landscape Equipment	0.14	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.41
Total	1.77	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.41

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Consumer Products	1.38	—	—	—	—	—	—	—	—
Architectural Coatings	0.25	—	—	—	—	—	—	—	—
Total	1.63	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Consumer Products	0.25	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.36
Total	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.36

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	3.90
Total	—	—	—	—	—	—	—	—	3.90
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	3.90

Total	—	—	—	—	—	—	—	—	3.90
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.65
Total	—	—	—	—	—	—	—	—	0.65

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	40.6
Total	—	—	—	—	—	—	—	—	40.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	40.6
Total	—	—	—	—	—	—	—	—	40.6
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	6.72
Total	—	—	—	—	—	—	—	—	6.72

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.46
Total	—	—	—	—	—	—	—	—	0.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.46
Total	—	—	—	—	—	—	—	—	0.46
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.08
Total	—	—	—	—	—	—	—	—	0.08

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)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	4/1/2026	4/29/2026	6.00	25.0	—

Site Preparation	Site Preparation	6/1/2026	6/3/2026	6.00	3.00	—
Grading	Grading	6/4/2026	6/7/2026	6.00	3.00	—
Building Construction	Building Construction	1/1/2027	7/20/2027	6.00	172	—
Paving	Paving	2/1/2027	2/11/2027	6.00	10.0	—
Architectural Coating	Architectural Coating	2/1/2027	2/21/2027	6.00	18.0	—
Trenching	Trenching	11/1/2026	11/4/2026	6.00	3.00	—

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	Tier 4 Interim	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	2.00	7.00	84.0	0.37
Building Construction	Forklifts	Diesel	Tier 4 Interim	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	6.00	84.0	0.37
Building Construction	Other Material Handling Equipment	Diesel	Tier 4 Interim	1.00	0.60	93.0	0.40

Paving	Cement and Mortar Mixers	Diesel	Tier 4 Interim	1.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Interim	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1.00	6.00	37.0	0.48
Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Trenching	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38

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	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	32.7	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT

Grading	Hauling	4.33	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	20.9	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	3.10	8.40	HHDT,MHDT
Building Construction	Hauling	1.01	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	4.80	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.18	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	5.00	11.7	LDA,LDT1,LDT2
Trenching	Vendor	—	8.40	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

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	130,451	43,484	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	24,693	—
Site Preparation	—	—	2.81	0.00	—
Grading	100	—	3.00	0.00	—
Paving	0.00	0.00	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%

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	0.00	0.00	0.00
2027	0.00	0.00	0.00	0.00

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
Condo/Townhouse	264	293	226	95,915	2,038	2,267	1,749	740,856

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
130450.5	43,484	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
Condo/Townhouse	372,342	0.00	0.0000	0.0000	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	1,051,726	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	21.5	—

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
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

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	12.7	annual days of extreme heat
Extreme Precipitation	4.40	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.55	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	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	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	13.6
AQ-PM	16.1
AQ-DPM	87.7
Drinking Water	61.4
Lead Risk Housing	39.0
Pesticides	0.00
Toxic Releases	29.6
Traffic	72.1
Effect Indicators	—
CleanUp Sites	62.0
Groundwater	35.0
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	1.61

Cardio-vascular	4.44
Low Birth Weights	22.6
Socioeconomic Factor Indicators	—
Education	33.9
Housing	24.9
Linguistic	64.4
Poverty	14.3
Unemployment	41.8

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	83.2157064
Employed	93.31451302
Median HI	75.45232901
Education	—
Bachelor's or higher	98.10085975
High school enrollment	100
Preschool enrollment	63.67252663
Transportation	—
Auto Access	26.17733864
Active commuting	85.82060824
Social	—
2-parent households	59.74592583
Voting	87.68125241
Neighborhood	—
Alcohol availability	11.77980239

Park access	10.40677531
Retail density	93.51982548
Supermarket access	94.25125112
Tree canopy	81.80418324
Housing	—
Homeownership	9.303220839
Housing habitability	42.89747209
Low-inc homeowner severe housing cost burden	75.68330553
Low-inc renter severe housing cost burden	80.52098037
Uncrowded housing	28.82073656
Health Outcomes	—
Insured adults	98.9734377
Arthritis	96.4
Asthma ER Admissions	99.2
High Blood Pressure	91.8
Cancer (excluding skin)	71.8
Asthma	95.7
Coronary Heart Disease	97.4
Chronic Obstructive Pulmonary Disease	98.5
Diagnosed Diabetes	96.0
Life Expectancy at Birth	88.2
Cognitively Disabled	66.4
Physically Disabled	93.4
Heart Attack ER Admissions	98.8
Mental Health Not Good	96.5
Chronic Kidney Disease	95.6
Obesity	93.1
Pedestrian Injuries	64.7

Physical Health Not Good	98.5
Stroke	97.8
Health Risk Behaviors	—
Binge Drinking	48.9
Current Smoker	96.9
No Leisure Time for Physical Activity	95.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	45.9
Elderly	73.9
English Speaking	28.2
Foreign-born	91.6
Outdoor Workers	62.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	20.0
Traffic Density	44.4
Traffic Access	87.4
Other Indices	—
Hardship	12.4
Other Decision Support	—
2016 Voting	89.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	14.0
Healthy Places Index Score for Project Location (b)	89.0
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
Land Use	Number of units, total lot acreage, and square footage from provided project plans/ filled out construction worksheet.
Construction: Construction Phases	Construction dates and phases provided by filled out construction worksheet.
Construction: Off-Road Equipment	Blend on defaults and information provided from filled out construction worksheet. Tier 4 Interim Engine Tier required by City,
Construction: Trips and VMT	Demolition = 23,000-sf of pavement demo'd and hauled (21.3 trips/day), Building Construction = Est. 101 concrete truck round trips (1.01 trips/day), Paving = Est. 12 asphalt truck round trips (4.8 trips/day).
Construction: On-Road Fugitive Dust	Air District BMPs 15 mph - required by Palo Alto.
Operations: Vehicle Data	Provided trip gen.
Operations: Hearths	No hearths.
Operations: Energy Use	Project design is all-electric. Confirmed no natural gas by applicant. Convert natural gas to electricity.
Operations: Water and Waste Water	Wastewater treatment 100% aerobic - no septic tanks or lagoons.

24-124 4335 & 4345 El Camino Real, Palo Alto BMPs HRA Defaults Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	24-124 4335 & 4345 El Camino Real, Palo Alto BMPs HRA Defaults
Construction Start Date	4/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	32.8
Location	4335 El Camino Real, Palo Alto, CA 94306, USA
County	Santa Clara
City	Palo Alto
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1719
EDFZ	1
Electric Utility	City of Palo Alto
Gas Utility	City of Palo Alto Ultilities
App Version	2022.1.1.28

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
Condo/Townhouse	29.0	Dwelling Unit	1.35	64,420	0.00	—	87.0	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

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.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	1.45	13.5	0.58	2.77	3.35	0.53	1.34	1.87	2,625
Mit.	0.38	9.33	0.10	2.77	2.81	0.09	1.34	1.38	2,625
% Reduced	74%	31%	83%	—	16%	82%	—	26%	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	51.3	7.38	0.26	0.02	0.28	0.24	< 0.005	0.25	1,640
Mit.	50.9	8.10	0.12	0.02	0.14	0.12	< 0.005	0.12	1,640
% Reduced	1%	-10%	53%	—	50%	52%	—	51%	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	2.64	1.18	0.04	0.11	0.16	0.04	0.03	0.07	264
Mit.	2.59	1.27	0.02	0.11	0.12	0.02	0.03	0.04	264
% Reduced	2%	-8%	52%	—	23%	52%	—	46%	—
Annual (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.48	0.21	0.01	0.02	0.03	0.01	0.01	0.01	43.6
Mit.	0.47	0.23	< 0.005	0.02	0.02	< 0.005	0.01	0.01	43.6
% Reduced	2%	-8%	52%	—	23%	52%	—	46%	—

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—
2026	1.45	13.5	0.58	2.77	3.35	0.53	1.34	1.87	2,625
2027	0.28	2.15	0.08	0.01	0.09	0.07	< 0.005	0.07	486
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—
2026	0.21	1.86	0.06	< 0.005	0.06	0.05	< 0.005	0.05	436
2027	51.3	7.38	0.26	0.02	0.28	0.24	< 0.005	0.25	1,640
Average Daily	—	—	—	—	—	—	—	—	—
2026	0.12	1.14	0.04	0.11	0.16	0.04	0.03	0.07	221
2027	2.64	1.18	0.04	< 0.005	0.05	0.04	< 0.005	0.04	264
Annual	—	—	—	—	—	—	—	—	—
2026	0.02	0.21	0.01	0.02	0.03	0.01	0.01	0.01	36.6
2027	0.48	0.21	0.01	< 0.005	0.01	0.01	< 0.005	0.01	43.6

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—
2026	0.38	9.33	0.10	2.77	2.81	0.09	1.34	1.38	2,625
2027	0.21	2.31	0.04	0.01	0.05	0.04	< 0.005	0.04	486
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—
2026	0.08	2.28	0.04	< 0.005	0.04	0.03	< 0.005	0.03	436
2027	50.9	8.10	0.12	0.02	0.14	0.12	< 0.005	0.12	1,640

Average Daily	—	—	—	—	—	—	—	—	—
2026	0.03	0.78	0.01	0.11	0.12	0.01	0.03	0.04	221
2027	2.59	1.27	0.02	< 0.005	0.03	0.02	< 0.005	0.02	264
Annual	—	—	—	—	—	—	—	—	—
2026	0.01	0.14	< 0.005	0.02	0.02	< 0.005	0.01	0.01	36.6
2027	0.47	0.23	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	43.6

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.39	12.9	0.51	—	0.51	0.47	—	0.47	2,503
Demolition	—	—	—	0.99	0.99	—	0.15	0.15	—
Onsite truck	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	0.10	0.89	0.03	—	0.03	0.03	—	0.03	171
Demolition	—	—	—	0.07	0.07	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.16	0.01	—	0.01	0.01	—	0.01	28.4
Demolition	—	—	—	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
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.03	0.01	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	6.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.52	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	115
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.92
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.31

3.2. Demolition (2026) - Mitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	8.81	0.10	—	0.10	0.09	—	0.09	2,503
Demolition	—	—	—	0.99	0.99	—	0.15	0.15	—
Onsite truck	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	0.02	0.60	0.01	—	0.01	0.01	—	0.01	171
Demolition	—	—	—	0.07	0.07	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.11	< 0.005	—	< 0.005	< 0.005	—	< 0.005	28.4
Demolition	—	—	—	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
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.03	0.01	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	6.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.52	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	115
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.92
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.31

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.24	11.0	0.51	—	0.51	0.47	—	0.47	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	< 0.005	—	< 0.005	< 0.005	—	< 0.005	17.0
Dust From Material Movement	—	—	—	0.02	0.02	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.82
Dust From Material Movement	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.11
Vendor	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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.03
Vendor	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
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01
Vendor	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

3.4. Site Preparation (2026) - Mitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	6.40	0.04	—	0.04	0.04	—	0.04	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.05	< 0.005	—	< 0.005	< 0.005	—	< 0.005	17.0
Dust From Material Movement	—	—	—	0.02	0.02	—	0.01	0.01	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.82
Dust From Material Movement	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.11
Vendor	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.03
Vendor	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
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01
Vendor	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

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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.42	12.9	0.58	—	0.58	0.53	—	0.53	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	< 0.005	—	< 0.005	< 0.005	—	< 0.005	20.2
Dust From Material Movement	—	—	—	0.02	0.02	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.35
Dust From Material Movement	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.03	0.01	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	5.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	15.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.04
Vendor	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	0.13
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01
Vendor	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	0.02

3.6. Grading (2026) - Mitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	7.70	0.05	—	0.05	0.05	—	0.05	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.06	< 0.005	—	< 0.005	< 0.005	—	< 0.005	20.2
Dust From Material Movement	—	—	—	0.02	0.02	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.35
Dust From Material Movement	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.03	0.01	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	5.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	15.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.04
Vendor	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	0.13
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01
Vendor	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	0.02

3.7. Building Construction (2027) - Unmitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.09	0.08	—	0.08	0.07	—	0.07	464

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.09	0.08	—	0.08	0.07	—	0.07	464
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.98	0.04	—	0.04	0.03	—	0.03	218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.01	—	0.01	0.01	—	0.01	36.2
Onsite truck	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	0.01	0.00	0.01	0.01	0.00	< 0.005	< 0.005	11.2
Vendor	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.16
Hauling	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.05	0.02	0.00	0.01	0.01	0.00	< 0.005	< 0.005	10.8
Vendor	< 0.005	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.22
Hauling	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.52
Average Daily	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	5.09
Vendor	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.86
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.65
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.84

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.64
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27

3.8. Building Construction (2027) - Mitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	2.24	0.04	—	0.04	0.04	—	0.04	464
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	2.24	0.04	—	0.04	0.04	—	0.04	464
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	1.06	0.02	—	0.02	0.02	—	0.02	218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.19	< 0.005	—	< 0.005	< 0.005	—	< 0.005	36.2
Onsite truck	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	0.01	0.00	0.01	0.01	0.00	< 0.005	< 0.005	11.2
Vendor	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.16
Hauling	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.50

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.05	0.02	0.00	0.01	0.01	0.00	< 0.005	< 0.005	10.8
Vendor	< 0.005	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.22
Hauling	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.52
Average Daily	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	5.09
Vendor	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.86
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.65
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.84
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.64
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27

3.9. Paving (2027) - Unmitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	4.30	0.17	—	0.17	0.16	—	0.16	995
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	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	0.12	< 0.005	—	< 0.005	< 0.005	—	< 0.005	27.3
Paving	0.00	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.51
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	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	0.03	0.01	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	6.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	16.7
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.18
Vendor	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	0.46
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.03
Vendor	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	0.08

3.10. Paving (2027) - Mitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	4.63	0.06	—	0.06	0.05	—	0.05	995
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	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	0.13	< 0.005	—	< 0.005	< 0.005	—	< 0.005	27.3
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.51
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	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	0.03	0.01	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	6.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	16.7
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.18
Vendor	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	0.46
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.03
Vendor	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	0.08

3.11. 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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	0.02	—	0.02	0.02	—	0.02	134
Architectural Coatings	50.4	—	—	—	—	—	—	—	—
Onsite truck	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	0.04	< 0.005	—	< 0.005	< 0.005	—	< 0.005	6.61
Architectural Coatings	2.49	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.09
Architectural Coatings	0.45	—	—	—	—	—	—	—	—
Onsite truck	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	0.01	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.16
Vendor	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
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.11
Vendor	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
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 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
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2027) - Mitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	1.07	0.03	—	0.03	0.03	—	0.03	134
Architectural Coatings	50.4	—	—	—	—	—	—	—	—
Onsite truck	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	0.05	< 0.005	—	< 0.005	< 0.005	—	< 0.005	6.61
Architectural Coatings	2.49	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.09
Architectural Coatings	0.45	—	—	—	—	—	—	—	—
Onsite truck	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	0.01	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.16
Vendor	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
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.11
Vendor	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
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 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
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Trenching (2026) - Unmitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.86	0.06	—	0.06	0.05	—	0.05	433
Onsite truck	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	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.56
Onsite truck	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	—	< 0.005	< 0.005	—	< 0.005	0.59
Onsite truck	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	0.01	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.67
Vendor	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
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 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
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005
Vendor	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

3.14. Trenching (2026) - Mitigated

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

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	2.28	0.04	—	0.04	0.03	—	0.03	433
Onsite truck	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	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.56
Onsite truck	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	—	< 0.005	< 0.005	—	< 0.005	0.59
Onsite truck	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	0.01	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.67
Vendor	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
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 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

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005
Vendor	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

4. Operations Emissions Details

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)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	4/1/2026	4/29/2026	6.00	25.0	—
Site Preparation	Site Preparation	6/1/2026	6/3/2026	6.00	3.00	—
Grading	Grading	6/4/2026	6/7/2026	6.00	3.00	—
Building Construction	Building Construction	1/1/2027	7/20/2027	6.00	172	—
Paving	Paving	2/1/2027	2/11/2027	6.00	10.0	—
Architectural Coating	Architectural Coating	2/1/2027	2/21/2027	6.00	18.0	—
Trenching	Trenching	11/1/2026	11/4/2026	6.00	3.00	—

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/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
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/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37

Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Other Material Handling Equipment	Diesel	Average	1.00	0.60	93.0	0.40
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	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Trenching	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Trenching	Excavators	Diesel	Average	1.00	8.00	36.0	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40

Grading	Tractors/Loaders/Back	Diesel	Tier 4 Interim	2.00	7.00	84.0	0.37
Building Construction	Forklifts	Diesel	Tier 4 Interim	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Tier 4 Interim	1.00	6.00	84.0	0.37
Building Construction	Other Material Handling Equipment	Diesel	Tier 4 Interim	1.00	0.60	93.0	0.40
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Interim	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Back hoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1.00	6.00	37.0	0.48
Trenching	Tractors/Loaders/Back hoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Trenching	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38

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	0.50	LDA,LDT1,LDT2
Demolition	Vendor	—	0.50	HHDT,MHDT
Demolition	Hauling	32.7	0.50	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	0.50	LDA,LDT1,LDT2

Site Preparation	Vendor	—	0.50	HHDT,MHDT
Site Preparation	Hauling	0.00	0.50	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	0.50	LDA,LDT1,LDT2
Grading	Vendor	—	0.50	HHDT,MHDT
Grading	Hauling	4.33	0.50	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	20.9	0.50	LDA,LDT1,LDT2
Building Construction	Vendor	3.10	0.50	HHDT,MHDT
Building Construction	Hauling	1.01	0.50	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	0.50	LDA,LDT1,LDT2
Paving	Vendor	—	0.50	HHDT,MHDT
Paving	Hauling	4.80	0.50	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.18	0.50	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	0.50	HHDT,MHDT
Architectural Coating	Hauling	0.00	0.50	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	5.00	0.50	LDA,LDT1,LDT2
Trenching	Vendor	—	0.50	HHDT,MHDT
Trenching	Hauling	0.00	0.50	HHDT
Trenching	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	0.50	LDA,LDT1,LDT2
Demolition	Vendor	—	0.50	HHDT,MHDT
Demolition	Hauling	32.7	0.50	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	0.50	LDA,LDT1,LDT2
Site Preparation	Vendor	—	0.50	HHDT,MHDT
Site Preparation	Hauling	0.00	0.50	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	0.50	LDA,LDT1,LDT2
Grading	Vendor	—	0.50	HHDT,MHDT
Grading	Hauling	4.33	0.50	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	20.9	0.50	LDA,LDT1,LDT2
Building Construction	Vendor	3.10	0.50	HHDT,MHDT
Building Construction	Hauling	1.01	0.50	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	0.50	LDA,LDT1,LDT2
Paving	Vendor	—	0.50	HHDT,MHDT
Paving	Hauling	4.80	0.50	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—

Architectural Coating	Worker	4.18	0.50	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	0.50	HHDT,MHDT
Architectural Coating	Hauling	0.00	0.50	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	5.00	0.50	LDA,LDT1,LDT2
Trenching	Vendor	—	0.50	HHDT,MHDT
Trenching	Hauling	0.00	0.50	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

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	130,451	43,484	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	24,693	—
Site Preparation	—	—	2.81	0.00	—
Grading	100	—	3.00	0.00	—
Paving	0.00	0.00	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%

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	0.00	0.00	0.00
2027	0.00	0.00	0.00	0.00

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	12.7	annual days of extreme heat
Extreme Precipitation	4.40	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.55	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	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	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	13.6
AQ-PM	16.1
AQ-DPM	87.7
Drinking Water	61.4
Lead Risk Housing	39.0
Pesticides	0.00
Toxic Releases	29.6
Traffic	72.1
Effect Indicators	—
CleanUp Sites	62.0
Groundwater	35.0
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	0.00
Solid Waste	0.00

Sensitive Population	—
Asthma	1.61
Cardio-vascular	4.44
Low Birth Weights	22.6
Socioeconomic Factor Indicators	—
Education	33.9
Housing	24.9
Linguistic	64.4
Poverty	14.3
Unemployment	41.8

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	83.2157064
Employed	93.31451302
Median HI	75.45232901
Education	—
Bachelor's or higher	98.10085975
High school enrollment	100
Preschool enrollment	63.67252663
Transportation	—
Auto Access	26.17733864
Active commuting	85.82060824
Social	—
2-parent households	59.74592583
Voting	87.68125241

Neighborhood	—
Alcohol availability	11.77980239
Park access	10.40677531
Retail density	93.51982548
Supermarket access	94.25125112
Tree canopy	81.80418324
Housing	—
Homeownership	9.303220839
Housing habitability	42.89747209
Low-inc homeowner severe housing cost burden	75.68330553
Low-inc renter severe housing cost burden	80.52098037
Uncrowded housing	28.82073656
Health Outcomes	—
Insured adults	98.9734377
Arthritis	96.4
Asthma ER Admissions	99.2
High Blood Pressure	91.8
Cancer (excluding skin)	71.8
Asthma	95.7
Coronary Heart Disease	97.4
Chronic Obstructive Pulmonary Disease	98.5
Diagnosed Diabetes	96.0
Life Expectancy at Birth	88.2
Cognitively Disabled	66.4
Physically Disabled	93.4
Heart Attack ER Admissions	98.8
Mental Health Not Good	96.5
Chronic Kidney Disease	95.6

Obesity	93.1
Pedestrian Injuries	64.7
Physical Health Not Good	98.5
Stroke	97.8
Health Risk Behaviors	—
Binge Drinking	48.9
Current Smoker	96.9
No Leisure Time for Physical Activity	95.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	45.9
Elderly	73.9
English Speaking	28.2
Foreign-born	91.6
Outdoor Workers	62.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	20.0
Traffic Density	44.4
Traffic Access	87.4
Other Indices	—
Hardship	12.4
Other Decision Support	—
2016 Voting	89.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	14.0

Healthy Places Index Score for Project Location (b)	89.0
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
Land Use	Number of units, total lot acreage, and square footage from provided project plans/ filled out construction worksheet.
Construction: Construction Phases	Construction dates and phases provided by filled out construction worksheet.
Construction: Off-Road Equipment	Blend on defaults and information provided from filled out construction worksheet.
Construction: Trips and VMT	Demolition = 23,000-sf of pavement demo'd and hauled (21.3 trips/day), Building Construction = Est. 101 concrete truck round trips (1.01 trips/day), Paving = Est. 12 asphalt truck round trips (4.8 trips/day). HRA = 0.5 mile trip length for localized emissions
Construction: On-Road Fugitive Dust	Air District BMPs 15 mph - required by Palo Alto.
Operations: Vehicle Data	Provided trip gen.
Operations: Hearths	No hearths.
Operations: Energy Use	Project design is all-electric. Confirmed no natural gas by applicant. Convert natural gas to electricity.
Operations: Water and Waste Water	Wastewater treatment 100% aerobic - no septic tanks or lagoons.

Attachment 2: Cumulative Screening and Health Risk Modeling from Existing TAC Sources

CT-EMFAC2021 Emissions Factors for Santa Clara County 2026

File Name: El Camino Real - 4335 ECR - Santa Clara (SF) - 2026 - Annual.EF
CT-EMFAC2021 Version: 1.0.2.0
Run Date: 8/28/2024 12:14
Area: Santa Clara (SF)
Analysis Year: 2026
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.026	0.416	0.563
Truck 2	0.006	0.904	0.045
Non-Truck	0.968	0.007	0.914

Road Type: Major/Collector
Silt Loading Factor: CARB 0.032 g/m2
Precipitation Correction: CARB P = 63 days N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph
PM2.5	0.008328	0.005452	0.003741	0.002698	0.002048	0.001632	0.001365	0.001201	0.001114
TOG	0.1214	0.078701	0.053276	0.038154	0.028923	0.023052	0.019257	0.016844	0.015426
Diesel PM	0.001051	0.000881	0.000702	0.000566	0.000471	0.000402	0.000353	0.000323	0.000311

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
TOG	0.986873

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002047

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph
PM2.5	0.003272	0.003817	0.00436	0.004899	0.005205	0.005305	0.005383	0.004927	0.003925

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.014055

==========END==========

El Camino Real 2026 Traffic Emissions and Health Risk Calculations

Analysis Year = ***2026***

Vehicle Type	2022 Caltrans Vehicles (veh/day)	2026 Vehicles (veh/day)
Truck 1 (MDT)	847	881
Truck 2 (HDT)	178	185
Non-Truck	38,975	40,534
Total	**40,000**	**41,600**

Increase From 2022	1.04
Vehicles/Direction	**20,800**
Avg Vehicles/Hour/Direction	867

Traffic Data Year = ***2022***

2022 Caltrans Traffic AADT Volumes and 2022 Caltrans Truck AADT (% trucks)	AADT Total	Total Truck	Trucks by Axle 2	3	4	5
Rte 82 - Chatleston Road, Palo Alto	40,000	1,024	847	107	18	53
Rte 82 - Embarcadero Road, Palo Alto			82.72%	10.42%	1.74%	5.12%
Percent of Total Vehicles		3.15%	2.61%	0.33%	0.06%	0.16%

Traffic Increase per Year (%) = *1.00%*

1,025	Trucks	100.00%
0.55%	HDT	
2.61%	MDT	
3.15%	Total	
96.8%	Other	

4335 & 4345 El Camino Real, Palo Alto, CA - Roadway Modeling Emissions
Roadway - El Camino Real
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2026

											Line Area					
Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
DPM_NB_ECR	El Camino Real Northbound	NB	3	718.1	0.45	17.0	55.7	3.4	30	20,800	12,188	131,192	3.543E-09	2.612E-09	6.8	3.16
DPM_SB_ECR	El Camino Real Southbound	SB	3	715.5	0.44	17.0	55.7	3.4	30	20,800	12,144	130,717	3.543E-09	2.612E-09	6.8	3.16
									Total	41,600						

Emission Factors - DPM

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.00040			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and DPM Emissions - DPM_NB_ECR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.98%	828	4.12E-05	9	6.44%	1340	6.67E-05	17	5.53%	1150	5.73E-05
2	2.67%	555	2.77E-05	10	7.40%	1539	7.67E-05	18	3.14%	653	3.25E-05
3	2.84%	591	2.94E-05	11	6.32%	1315	6.55E-05	19	2.35%	489	2.44E-05
4	3.30%	686	3.42E-05	12	6.88%	1431	7.13E-05	20	0.86%	179	8.91E-06
5	2.16%	449	2.24E-05	13	6.27%	1304	6.50E-05	21	3.08%	641	3.19E-05
6	3.30%	686	3.42E-05	14	6.21%	1292	6.44E-05	22	4.21%	876	4.36E-05
7	6.03%	1254	6.25E-05	15	5.13%	1067	5.32E-05	23	2.62%	545	2.72E-05
8	4.56%	948	4.73E-05	16	3.88%	807	4.02E-05	24	0.85%	177	8.81E-06
								Total		20,802	

2026 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SB_ECR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.98%	828	4.11E-05	9	6.44%	1340	6.65E-05	17	5.53%	1150	5.71E-05
2	2.67%	555	2.76E-05	10	7.40%	1539	7.64E-05	18	3.14%	653	3.24E-05
3	2.84%	591	2.93E-05	11	6.32%	1315	6.53E-05	19	2.35%	489	2.43E-05
4	3.30%	686	3.41E-05	12	6.88%	1431	7.10E-05	20	0.86%	179	8.88E-06
5	2.16%	449	2.23E-05	13	6.27%	1304	6.47E-05	21	3.08%	641	3.18E-05
6	3.30%	686	3.41E-05	14	6.21%	1292	6.41E-05	22	4.21%	876	4.35E-05
7	6.03%	1254	6.23E-05	15	5.13%	1067	5.30E-05	23	2.62%	545	2.71E-05
8	4.56%	948	4.71E-05	16	3.88%	807	4.01E-05	24	0.85%	177	8.78E-06
								Total		20,802	

4335 & 4345 El Camino Real, Palo Alto, CA - Roadway Modeling Emissions
Roadway - El Camino Real
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2026

											Line Area					
Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
PM25_NB_ECR	El Camino Real Northbound	NB	3	718.1	0.45	17.0	56	1.3	30	20,800	12,188	131,192	1.438E-08	1.061E-08	2.6	1.21
PM25_SB_ECR	El Camino Real Southbound	SB	3	715.5	0.44	17.0	56	1.3	30	20,800	12,144	130,717	1.438E-08	1.061E-08	2.6	1.21
									Total	41,600						

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.001632			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and PM2.5 Emissions - PM25_NB_ECR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	239	4.84E-05	9	7.11%	1479	2.99E-04	17	7.38%	1535	3.11E-04
2	0.42%	87	1.77E-05	10	4.39%	913	1.85E-04	18	8.18%	1701	3.44E-04
3	0.41%	85	1.73E-05	11	4.66%	969	1.96E-04	19	5.70%	1186	2.40E-04
4	0.26%	54	1.09E-05	12	5.89%	1225	2.48E-04	20	4.27%	888	1.80E-04
5	0.50%	104	2.10E-05	13	6.15%	1279	2.59E-04	21	3.26%	678	1.37E-04
6	0.90%	187	3.79E-05	14	6.04%	1256	2.54E-04	22	3.30%	686	1.39E-04
7	3.79%	788	1.59E-04	15	7.01%	1458	2.95E-04	23	2.46%	512	1.04E-04
8	7.76%	1614	3.26E-04	16	7.14%	1485	3.00E-04	24	1.87%	389	7.87E-05
								Total		20,800	

2026 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM25_SB_ECR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	239	4.82E-05	9	7.11%	1479	2.98E-04	17	7.38%	1535	3.09E-04
2	0.42%	87	1.76E-05	10	4.39%	913	1.84E-04	18	8.18%	1701	3.43E-04
3	0.41%	85	1.72E-05	11	4.66%	969	1.95E-04	19	5.70%	1186	2.39E-04
4	0.26%	54	1.09E-05	12	5.89%	1225	2.47E-04	20	4.27%	888	1.79E-04
5	0.50%	104	2.10E-05	13	6.15%	1279	2.58E-04	21	3.26%	678	1.37E-04
6	0.90%	187	3.77E-05	14	6.04%	1256	2.53E-04	22	3.30%	686	1.38E-04
7	3.79%	788	1.59E-04	15	7.01%	1458	2.94E-04	23	2.46%	512	1.03E-04
8	7.76%	1614	3.25E-04	16	7.14%	1485	2.99E-04	24	1.87%	389	7.84E-05
								Total		20,800	

4335 & 4345 El Camino Real, Palo Alto, CA - Roadway Modeling Emissions
Roadway - El Camino Real
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2026

											Line Area					
Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEXH_NB_ECR	El Camino Real Northbound	NB	3	718.1	0.45	17.0	56	1.3	30	20,800	12,188	131,192	2.032E-07	1.498E-07	2.6	1.21
TEXH_SB_ECR	El Camino Real Southbound	SB	3	715.5	0.44	17.0	56	1.3	30	20,800	12,144	130,717	2.032E-07	1.498E-07	2.6	1.21
									Total	41,600						

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.02305			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NB_ECR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	239	6.83E-04	9	7.11%	1479	4.23E-03	17	7.38%	1535	4.39E-03
2	0.42%	87	2.50E-04	10	4.39%	913	2.61E-03	18	8.18%	1701	4.86E-03
3	0.41%	85	2.44E-04	11	4.66%	969	2.77E-03	19	5.70%	1186	3.39E-03
4	0.26%	54	1.55E-04	12	5.89%	1225	3.50E-03	20	4.27%	888	2.54E-03
5	0.50%	104	2.97E-04	13	6.15%	1279	3.65E-03	21	3.26%	678	1.94E-03
6	0.90%	187	5.35E-04	14	6.04%	1256	3.59E-03	22	3.30%	686	1.96E-03
7	3.79%	788	2.25E-03	15	7.01%	1458	4.17E-03	23	2.46%	512	1.46E-03
8	7.76%	1614	4.61E-03	16	7.14%	1485	4.24E-03	24	1.87%	389	1.11E-03
								Total		20,800	

2026 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SB_ECR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	239	6.81E-04	9	7.11%	1479	4.21E-03	17	7.38%	1535	4.37E-03
2	0.42%	87	2.49E-04	10	4.39%	913	2.60E-03	18	8.18%	1701	4.84E-03
3	0.41%	85	2.43E-04	11	4.66%	969	2.76E-03	19	5.70%	1186	3.38E-03
4	0.26%	54	1.54E-04	12	5.89%	1225	3.49E-03	20	4.27%	888	2.53E-03
5	0.50%	104	2.96E-04	13	6.15%	1279	3.64E-03	21	3.26%	678	1.93E-03
6	0.90%	187	5.33E-04	14	6.04%	1256	3.58E-03	22	3.30%	686	1.95E-03
7	3.79%	788	2.24E-03	15	7.01%	1458	4.15E-03	23	2.46%	512	1.46E-03
8	7.76%	1614	4.60E-03	16	7.14%	1485	4.23E-03	24	1.87%	389	1.11E-03
								Total		20,800	

4335 & 4345 El Camino Real, Palo Alto, CA - Roadway Modeling Emissions
Roadway - El Camino Real
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2026

											Line Area					
Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEVAP_NB_ECR	El Camino Real Northbound	NB	3	718.1	0.45	17.0	56	1.3	30	20,800	12,188	131,192	2.899E-07	2.138E-07	2.6	1.21
TEVAP_SB_ECR	El Camino Real Southbound	SB	3	715.5	0.44	17.0	56	1.3	30	20,800	12,144	130,717	2.899E-07	2.138E-07	2.6	1.21
									Total	41,600						

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle per Hour (g/hour)	0.98687			
Emissions per Vehicle per Mile (g/VMT)	0.03290			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NB_ECR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	239	9.75E-04	9	7.11%	1479	6.03E-03	17	7.38%	1535	6.26E-03
2	0.42%	87	3.56E-04	10	4.39%	913	3.72E-03	18	8.18%	1701	6.94E-03
3	0.41%	85	3.48E-04	11	4.66%	969	3.95E-03	19	5.70%	1186	4.83E-03
4	0.26%	54	2.21E-04	12	5.89%	1225	5.00E-03	20	4.27%	888	3.62E-03
5	0.50%	104	4.24E-04	13	6.15%	1279	5.22E-03	21	3.26%	678	2.76E-03
6	0.90%	187	7.63E-04	14	6.04%	1256	5.12E-03	22	3.30%	686	2.80E-03
7	3.79%	788	3.21E-03	15	7.01%	1458	5.95E-03	23	2.46%	512	2.09E-03
8	7.76%	1614	6.58E-03	16	7.14%	1485	6.06E-03	24	1.87%	389	1.59E-03
								Total		20,800	

2026 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SB_ECR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	239	9.72E-04	9	7.11%	1479	6.01E-03	17	7.38%	1535	6.24E-03
2	0.42%	87	3.55E-04	10	4.39%	913	3.71E-03	18	8.18%	1701	6.91E-03
3	0.41%	85	3.46E-04	11	4.66%	969	3.94E-03	19	5.70%	1186	4.82E-03
4	0.26%	54	2.20E-04	12	5.89%	1225	4.98E-03	20	4.27%	888	3.61E-03
5	0.50%	104	4.23E-04	13	6.15%	1279	5.20E-03	21	3.26%	678	2.75E-03
6	0.90%	187	7.61E-04	14	6.04%	1256	5.10E-03	22	3.30%	686	2.79E-03
7	3.79%	788	3.20E-03	15	7.01%	1458	5.92E-03	23	2.46%	512	2.08E-03
8	7.76%	1614	6.56E-03	16	7.14%	1485	6.03E-03	24	1.87%	389	1.58E-03
								Total		20,800	

4335 & 4345 El Camino Real, Palo Alto, CA - Roadway Modeling Emissions
Roadway - El Camino Real
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2026

											Line Area					
Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
FUG_NB_ECR	El Camino Real Northbound	NB	3	718.1	0.45	17.0	56	1.3	30	20,800	12,188	131,192	1.887E-07	1.391E-07	2.6	1.21
FUG_SB_ECR	El Camino Real Southbound	SB	3	715.5	0.44	17.0	56	1.3	30	20,800	12,144	130,717	1.887E-07	1.391E-07	2.6	1.21
									Total	41,600						

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00205			
Brake Wear - Emissions per Vehicle (g/VMT)	0.00531			
Road Dust - Emissions per Vehicle (g/VMT)	0.01406			
Total Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.02141			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_NB_ECR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	239	6.35E-04	9	7.11%	1479	3.92E-03	17	7.38%	1535	4.07E-03
2	0.42%	87	2.32E-04	10	4.39%	913	2.42E-03	18	8.18%	1701	4.51E-03
3	0.41%	85	2.26E-04	11	4.66%	969	2.57E-03	19	5.70%	1186	3.15E-03
4	0.26%	54	1.43E-04	12	5.89%	1225	3.25E-03	20	4.27%	888	2.36E-03
5	0.50%	104	2.76E-04	13	6.15%	1279	3.39E-03	21	3.26%	678	1.80E-03
6	0.90%	187	4.97E-04	14	6.04%	1256	3.33E-03	22	3.30%	686	1.82E-03
7	3.79%	788	2.09E-03	15	7.01%	1458	3.87E-03	23	2.46%	512	1.36E-03
8	7.76%	1614	4.28E-03	16	7.14%	1485	3.94E-03	24	1.87%	389	1.03E-03
								Total		20,800	

2026 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_SB_ECR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	239	6.32E-04	9	7.11%	1479	3.91E-03	17	7.38%	1535	4.06E-03
2	0.42%	87	2.31E-04	10	4.39%	913	2.41E-03	18	8.18%	1701	4.50E-03
3	0.41%	85	2.25E-04	11	4.66%	969	2.56E-03	19	5.70%	1186	3.13E-03
4	0.26%	54	1.43E-04	12	5.89%	1225	3.24E-03	20	4.27%	888	2.35E-03
5	0.50%	104	2.75E-04	13	6.15%	1279	3.38E-03	21	3.26%	678	1.79E-03
6	0.90%	187	4.95E-04	14	6.04%	1256	3.32E-03	22	3.30%	686	1.81E-03
7	3.79%	788	2.08E-03	15	7.01%	1458	3.85E-03	23	2.46%	512	1.35E-03
8	7.76%	1614	4.27E-03	16	7.14%	1485	3.93E-03	24	1.87%	389	1.03E-03
								Total		20,800	

4335 & 4345 El Camino Real, Palo Alto, CA - El Camino Real Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
Off-Site 1st (1.5m) and 2nd (4.5m) Floor Receptor Heights

Emission Year	2026
Receptor Information	Maximum On-Site Receptor
Number of Receptors	242
Receptor Height	1st (1.5m) and 2nd (4.5m) Floors
Receptor Distances	7 meter grid spacing at existing residential receptors

Meteorological Conditions	
BAQMD Moffett Fed Airfield Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Off-Site Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)			
	DPM	Exhaust TOG	Evaporative TOG	
2013-2017	0.0057	0.4261	0.6080	1st Floor
2013-2017	0.0052	0.3121	0.4453	2nd Floor

Off-Site PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)			
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5	
2013-2017	0.4259	0.3957	0.0302	1st Floor
2013-2017	0.3119	0.2898	0.0221	2nd Floor

4335 & 4345 El Camino Real, Palo Alto, CA - El Camino Real Cancer Risk & PM2.5
Impacts at On-Site 1st Floor Receptors - 1.5m receptor heights
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	3rd Trimester	0 - 2	2 - 16	16 - 30
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL
0	0.25	-0.25 - 0*	2027	10	0.0057	0.4261	0.6080	0.078	0.033	0.0028	0.11
1	1	0 - 1	2027	10	0.0057	0.4261	0.6080	0.941	0.400	0.0336	1.37
2	1	1 - 2	2028	10	0.0057	0.4261	0.6080	0.941	0.400	0.0336	1.37
3	1	2 - 3	2029	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
4	1	3 - 4	2030	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
5	1	4 - 5	2031	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
6	1	5 - 6	2032	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
7	1	6 - 7	2033	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
8	1	7 - 8	2034	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
9	1	8 - 9	2035	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
10	1	9 - 10	2036	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
11	1	10 - 11	2037	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
12	1	11 - 12	2038	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
13	1	12 - 13	2039	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
14	1	13 - 14	2040	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
15	1	14 - 15	2041	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
16	1	15 - 16	2042	3	0.0057	0.4261	0.6080	0.148	0.063	0.0053	0.22
17	1	16-17	2043	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
18	1	17-18	2044	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
19	1	18-19	2045	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
20	1	19-20	2046	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
21	1	20-21	2047	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
22	1	21-22	2048	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
23	1	22-23	2049	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
24	1	23-24	2050	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
25	1	24-25	2051	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
26	1	25-26	2052	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
27	1	26-27	2053	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
28	1	27-28	2054	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
29	1	28-29	2055	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
30	1	29-30	2056	1	0.0057	0.4261	0.6080	0.016	0.007	0.0006	0.02
Total Increased Cancer Risk								4.26	1.811	0.152	**6.23**

* Third trimester of pregnancy

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.001	0.40	0.43

4335 & 4345 El Camino Real, Palo Alto, CA - El Camino Real Cancer Risk & PM2.5
Impacts at On-Site 2nd Floor Receptors - 4.5m receptor heights
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	3rd Trimester	0 - 2	2 - 16	16 - 30
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2027	10	0.0052	0.3121	0.4453	0.070	0.024	0.0020	0.10
1	1	0 - 1	2027	10	0.0052	0.3121	0.4453	0.851	0.293	0.0246	1.17
2	1	1 - 2	2028	10	0.0052	0.3121	0.4453	0.851	0.293	0.0246	1.17
3	1	2 - 3	2029	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
4	1	3 - 4	2030	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
5	1	4 - 5	2031	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
6	1	5 - 6	2032	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
7	1	6 - 7	2033	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
8	1	7 - 8	2034	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
9	1	8 - 9	2035	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
10	1	9 - 10	2036	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
11	1	10 - 11	2037	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
12	1	11 - 12	2038	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
13	1	12 - 13	2039	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
14	1	13 - 14	2040	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
15	1	14 - 15	2041	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
16	1	15 - 16	2042	3	0.0052	0.3121	0.4453	0.134	0.046	0.0039	0.18
17	1	16-17	2043	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
18	1	17-18	2044	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
19	1	18-19	2045	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
20	1	19-20	2046	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
21	1	20-21	2047	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
22	1	21-22	2048	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
23	1	22-23	2049	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
24	1	23-24	2050	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
25	1	24-25	2051	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
26	1	25-26	2052	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
27	1	26-27	2053	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
28	1	27-28	2054	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
29	1	28-29	2055	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
30	1	29-30	2056	1	0.0052	0.3121	0.4453	0.015	0.005	0.0004	0.02
Total Increased Cancer Risk								3.86	1.326	0.111	**5.29**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.001	0.29	0.31

* Third trimester of pregnancy

CT-EMFAC2021 Emissions Factors for Santa Clara County 2028

File Name: El Camino Real - 4335 ECR - Santa Clara (SF) - 2028 - Annual.EF
CT-EMFAC2021 Version: 1.0.2.0
Run Date: 8/28/2024 12:15
Area: Santa Clara (SF)
Analysis Year: 2028
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.026	0.409	0.541
Truck 2	0.006	0.886	0.044
Non-Truck	0.968	0.006	0.909

Road Type: Major/Collector
Silt Loading Factor: CARB 0.032 g/m2
Precipitation Correction: CARB P = 63 days N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph
PM2.5	0.007411	0.004847	0.003325	0.002399	0.001821	0.001452	0.001215	0.00107	0.000995
TOG	0.104852	0.067916	0.045938	0.032901	0.024953	0.019901	0.016633	0.014551	0.013322
Diesel PM	0.000878	0.000742	0.000597	0.000486	0.000406	0.000348	0.000308	0.000283	0.000274

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
TOG	0.945083

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002047

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph
PM2.5	0.003255	0.0038	0.004342	0.004882	0.005186	0.005284	0.005359	0.004903	0.003906

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.014111

==========END==========

El Camino Real 2028 Traffic Emissions and Health Risk Calculations

Analysis Year = ***2028***

Vehicle Type	2022 Caltrans Vehicles (veh/day)	2028 Vehicles (veh/day)
Truck 1 (MDT)	847	898
Truck 2 (HDT)	178	189
Non-Truck	38,975	41,314
Total	**40,000**	**42,400**

Increase From 2022	1.06
Vehicles/Direction	**21,200**
Avg Vehicles/Hour/Direction	883

Traffic Data Year = ***2022***

2022 Caltrans Traffic AADT Volumes and 2022 Caltrans Truck AADT (% trucks)	AADT Total	Total Truck	Trucks by Axle 2	3	4	5
Rte 82 - Chatleston Road, Palo Alto	40,000	1,024	847	107	18	53
Rte 82 - Embarcadero Road, Palo Alto			82.72%	10.42%	1.74%	5.12%
Percent of Total Vehicles		3.15%	2.61%	0.33%	0.06%	0.16%

Traffic Increase per Year (%) = *1.00%*

1,025	Trucks	100.00%
0.55%	HDT	
2.61%	MDT	
3.15%	Total	
96.8%	Other	

4335 & 4345 El Camino Real, Palo Alto, CA - Roadway Modeling Emissions
Roadway - El Camino Real
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2028

											Line Area					
Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
DPM_NB_ECR	El Camino Real Northbound	NB	3	718.1	0.45	17.0	55.7	3.4	30	21,200	12,188	131,192	3.126E-09	2.305E-09	6.8	3.16
DPM_SB_ECR	El Camino Real Southbound	SB	3	715.5	0.44	17.0	55.7	3.4	30	21,200	12,144	130,717	3.126E-09	2.305E-09	6.8	3.16
									Total	42,400						

Emission Factors - DPM

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.00035			

Emisson Factors from CT-EMFAC2021

2028 Hourly Traffic Volumes and DPM Emissions - DPM_NB_ECR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.96%	840	3.62E-05	9	6.46%	1370	5.91E-05	17	5.61%	1189	5.13E-05
2	2.66%	564	2.43E-05	10	7.36%	1560	6.73E-05	18	3.24%	687	2.96E-05
3	2.88%	611	2.63E-05	11	6.40%	1357	5.85E-05	19	2.22%	471	2.03E-05
4	3.28%	695	3.00E-05	12	6.97%	1478	6.37E-05	20	0.86%	182	7.86E-06
5	2.09%	443	1.91E-05	13	6.23%	1321	5.70E-05	21	3.06%	649	2.80E-05
6	3.34%	708	3.05E-05	14	6.17%	1308	5.64E-05	22	4.25%	901	3.89E-05
7	6.06%	1285	5.54E-05	15	5.10%	1081	4.66E-05	23	2.55%	541	2.33E-05
8	4.54%	962	4.15E-05	16	3.86%	818	3.53E-05	24	0.85%	180	7.77E-06
								Total		21,200	

2028 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SB_ECR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.96%	840	3.61E-05	9	6.46%	1370	5.89E-05	17	5.61%	1189	5.11E-05
2	2.66%	564	2.42E-05	10	7.36%	1560	6.71E-05	18	3.24%	687	2.95E-05
3	2.88%	611	2.62E-05	11	6.40%	1357	5.83E-05	19	2.22%	471	2.02E-05
4	3.28%	695	2.99E-05	12	6.97%	1478	6.35E-05	20	0.86%	182	7.84E-06
5	2.09%	443	1.90E-05	13	6.23%	1321	5.68E-05	21	3.06%	649	2.79E-05
6	3.34%	708	3.04E-05	14	6.17%	1308	5.62E-05	22	4.25%	901	3.87E-05
7	6.06%	1285	5.52E-05	15	5.10%	1081	4.65E-05	23	2.55%	541	2.32E-05
8	4.54%	962	4.14E-05	16	3.86%	818	3.52E-05	24	0.85%	180	7.74E-06
								Total		21,200	

4335 & 4345 El Camino Real, Palo Alto, CA - Roadway Modeling Emissions
Roadway - El Camino Real
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2028

											Line Area					
Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
PM25_NB_ECR	El Camino Real Northbound	NB	3	718.1	0.45	17.0	56	1.3	30	21,200	12,188	131,192	1.304E-08	9.617E-09	2.6	1.21
PM25_SB_ECR	El Camino Real Southbound	SB	3	715.5	0.44	17.0	56	1.3	30	21,200	12,144	130,717	1.304E-08	9.617E-09	2.6	1.21
									Total	42,400						

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.001452			

Emisson Factors from CT-EMFAC2021

2028 Hourly Traffic Volumes and PM2.5 Emissions - PM25_NB_ECR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	244	4.39E-05	9	7.11%	1507	2.71E-04	17	7.39%	1567	2.82E-04
2	0.42%	89	1.60E-05	10	4.39%	931	1.67E-04	18	8.18%	1734	3.12E-04
3	0.40%	85	1.53E-05	11	4.66%	988	1.78E-04	19	5.70%	1208	2.17E-04
4	0.26%	55	9.92E-06	12	5.89%	1249	2.25E-04	20	4.27%	905	1.63E-04
5	0.49%	104	1.87E-05	13	6.15%	1304	2.35E-04	21	3.25%	689	1.24E-04
6	0.90%	191	3.43E-05	14	6.04%	1280	2.30E-04	22	3.30%	700	1.26E-04
7	3.79%	803	1.45E-04	15	7.01%	1486	2.67E-04	23	2.46%	522	9.39E-05
8	7.76%	1645	2.96E-04	16	7.14%	1514	2.72E-04	24	1.87%	396	7.13E-05
								Total		21,196	

2028 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM25_SB_ECR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	244	4.37E-05	9	7.11%	1507	2.70E-04	17	7.39%	1567	2.81E-04
2	0.42%	89	1.60E-05	10	4.39%	931	1.67E-04	18	8.18%	1734	3.11E-04
3	0.40%	85	1.52E-05	11	4.66%	988	1.77E-04	19	5.70%	1208	2.17E-04
4	0.26%	55	9.88E-06	12	5.89%	1249	2.24E-04	20	4.27%	905	1.62E-04
5	0.49%	104	1.86E-05	13	6.15%	1304	2.34E-04	21	3.25%	689	1.24E-04
6	0.90%	191	3.42E-05	14	6.04%	1280	2.30E-04	22	3.30%	700	1.25E-04
7	3.79%	803	1.44E-04	15	7.01%	1486	2.66E-04	23	2.46%	522	9.35E-05
8	7.76%	1645	2.95E-04	16	7.14%	1514	2.71E-04	24	1.87%	396	7.11E-05
								Total		21,196	

4335 & 4345 El Camino Real, Palo Alto, CA - Roadway Modeling Emissions
Roadway - El Camino Real
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2028

											Line Area					
Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEXH_NB_ECR	El Camino Real Northbound	NB	3	718.1	0.45	17.0	56	1.3	30	21,200	12,188	131,192	1.788E-07	1.318E-07	2.6	1.21
TEXH_SB_ECR	El Camino Real Southbound	SB	3	715.5	0.44	17.0	56	1.3	30	21,200	12,144	130,717	1.788E-07	1.318E-07	2.6	1.21
									Total	42,400						

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.01990			

Emisson Factors from CT-EMFAC2021

2028 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NB_ECR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	244	6.01E-04	9	7.11%	1507	3.72E-03	17	7.39%	1567	3.86E-03
2	0.42%	89	2.20E-04	10	4.39%	931	2.30E-03	18	8.18%	1734	4.28E-03
3	0.40%	85	2.09E-04	11	4.66%	988	2.44E-03	19	5.70%	1208	2.98E-03
4	0.26%	55	1.36E-04	12	5.89%	1249	3.08E-03	20	4.27%	905	2.23E-03
5	0.49%	104	2.56E-04	13	6.15%	1304	3.22E-03	21	3.25%	689	1.70E-03
6	0.90%	191	4.71E-04	14	6.04%	1280	3.16E-03	22	3.30%	700	1.73E-03
7	3.79%	803	1.98E-03	15	7.01%	1486	3.67E-03	23	2.46%	522	1.29E-03
8	7.76%	1645	4.06E-03	16	7.14%	1514	3.73E-03	24	1.87%	396	9.78E-04
								Total		21,196	

2028 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SB_ECR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	244	5.99E-04	9	7.11%	1507	3.70E-03	17	7.39%	1567	3.85E-03
2	0.42%	89	2.19E-04	10	4.39%	931	2.29E-03	18	8.18%	1734	4.26E-03
3	0.40%	85	2.08E-04	11	4.66%	988	2.43E-03	19	5.70%	1208	2.97E-03
4	0.26%	55	1.35E-04	12	5.89%	1249	3.07E-03	20	4.27%	905	2.22E-03
5	0.49%	104	2.55E-04	13	6.15%	1304	3.20E-03	21	3.25%	689	1.69E-03
6	0.90%	191	4.69E-04	14	6.04%	1280	3.15E-03	22	3.30%	700	1.72E-03
7	3.79%	803	1.97E-03	15	7.01%	1486	3.65E-03	23	2.46%	522	1.28E-03
8	7.76%	1645	4.04E-03	16	7.14%	1514	3.72E-03	24	1.87%	396	9.74E-04
								Total		21,196	

4335 & 4345 El Camino Real, Palo Alto, CA - Roadway Modeling Emissions
Roadway - El Camino Real
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2028

											Line Area					
Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEVAP_NB_ECR	El Camino Real Northbound	NB	3	718.1	0.45	17.0	56	1.3	30	21,200	12,188	131,192	2.830E-07	2.087E-07	2.6	1.21
TEVAP_SB_ECR	El Camino Real Southbound	SB	3	715.5	0.44	17.0	56	1.3	30	21,200	12,144	130,717	2.830E-07	2.087E-07	2.6	1.21
									Total	42,400						

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle per Hour (g/hour)	0.94508			
Emissions per Vehicle per Mile (g/VMT)	0.03150			

Emisson Factors from CT-EMFAC2021

2028 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NB_ECR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	244	9.52E-04	9	7.11%	1507	5.89E-03	17	7.39%	1567	6.12E-03
2	0.42%	89	3.48E-04	10	4.39%	931	3.63E-03	18	8.18%	1734	6.77E-03
3	0.40%	85	3.31E-04	11	4.66%	988	3.86E-03	19	5.70%	1208	4.72E-03
4	0.26%	55	2.15E-04	12	5.89%	1249	4.88E-03	20	4.27%	905	3.53E-03
5	0.49%	104	4.06E-04	13	6.15%	1304	5.09E-03	21	3.25%	689	2.69E-03
6	0.90%	191	7.45E-04	14	6.04%	1280	5.00E-03	22	3.30%	700	2.73E-03
7	3.79%	803	3.14E-03	15	7.01%	1486	5.80E-03	23	2.46%	522	2.04E-03
8	7.76%	1645	6.42E-03	16	7.14%	1514	5.91E-03	24	1.87%	396	1.55E-03
								Total		21,196	

2028 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SB_ECR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	244	9.49E-04	9	7.11%	1507	5.86E-03	17	7.39%	1567	6.10E-03
2	0.42%	89	3.46E-04	10	4.39%	931	3.62E-03	18	8.18%	1734	6.75E-03
3	0.40%	85	3.30E-04	11	4.66%	988	3.84E-03	19	5.70%	1208	4.70E-03
4	0.26%	55	2.14E-04	12	5.89%	1249	4.86E-03	20	4.27%	905	3.52E-03
5	0.49%	104	4.04E-04	13	6.15%	1304	5.07E-03	21	3.25%	689	2.68E-03
6	0.90%	191	7.42E-04	14	6.04%	1280	4.98E-03	22	3.30%	700	2.72E-03
7	3.79%	803	3.13E-03	15	7.01%	1486	5.78E-03	23	2.46%	522	2.03E-03
8	7.76%	1645	6.40E-03	16	7.14%	1514	5.89E-03	24	1.87%	396	1.54E-03
								Total		21,196	

4335 & 4345 El Camino Real, Palo Alto, CA - Roadway Modeling Emissions
Roadway - El Camino Real
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2028

											Line Area					
Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
FUG_NB_ECR	El Camino Real Northbound	NB	3	718.1	0.45	17.0	56	1.3	30	21,200	12,188	131,192	1.926E-07	1.420E-07	2.6	1.21
FUG_SB_ECR	El Camino Real Southbound	SB	3	715.5	0.44	17.0	56	1.3	30	21,200	12,144	130,717	1.926E-07	1.420E-07	2.6	1.21
									Total	42,400						

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00205			
Brake Wear - Emissions per Vehicle (g/VMT)	0.00528			
Road Dust - Emissions per Vehicle (g/VMT)	0.01411			
Total Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.02144			

Emisson Factors from CT-EMFAC2021

2028 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_NB_ECR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	244	6.48E-04	9	7.11%	1507	4.01E-03	17	7.39%	1567	4.16E-03
2	0.42%	89	2.37E-04	10	4.39%	931	2.47E-03	18	8.18%	1734	4.61E-03
3	0.40%	85	2.25E-04	11	4.66%	988	2.63E-03	19	5.70%	1208	3.21E-03
4	0.26%	55	1.46E-04	12	5.89%	1249	3.32E-03	20	4.27%	905	2.41E-03
5	0.49%	104	2.76E-04	13	6.15%	1304	3.47E-03	21	3.25%	689	1.83E-03
6	0.90%	191	5.07E-04	14	6.04%	1280	3.40E-03	22	3.30%	700	1.86E-03
7	3.79%	803	2.14E-03	15	7.01%	1486	3.95E-03	23	2.46%	522	1.39E-03
8	7.76%	1645	4.37E-03	16	7.14%	1514	4.02E-03	24	1.87%	396	1.05E-03
								Total		21,196	

2028 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_SB_ECR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	244	6.46E-04	9	7.11%	1507	3.99E-03	17	7.39%	1567	4.15E-03
2	0.42%	89	2.36E-04	10	4.39%	931	2.46E-03	18	8.18%	1734	4.59E-03
3	0.40%	85	2.25E-04	11	4.66%	988	2.62E-03	19	5.70%	1208	3.20E-03
4	0.26%	55	1.46E-04	12	5.89%	1249	3.31E-03	20	4.27%	905	2.40E-03
5	0.49%	104	2.75E-04	13	6.15%	1304	3.45E-03	21	3.25%	689	1.82E-03
6	0.90%	191	5.05E-04	14	6.04%	1280	3.39E-03	22	3.30%	700	1.85E-03
7	3.79%	803	2.13E-03	15	7.01%	1486	3.94E-03	23	2.46%	522	1.38E-03
8	7.76%	1645	4.36E-03	16	7.14%	1514	4.01E-03	24	1.87%	396	1.05E-03
								Total		21,196	

4335 & 4345 El Camino Real, Palo Alto, CA - El Camino Real Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site 1st (1.5m) amd 2nd (4.5m) Floor Receptor Heights

Emission Year	2028
Receptor Information	Maximum On-Site Receptor
Number of Receptors	29
Receptor Height	1st (1.5m) and 2nd (4.5m) Floors
Receptor Distances	At each residential unit

Meteorological Conditions	
BAQMD Moffett Fed Airfield Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

On-Site Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)			
	DPM	Exhaust TOG	Evaporative TOG	
2013-2017	0.0040	0.2669	0.4224	1st Floor
2013-2017	0.0037	0.2172	0.3438	2nd Floor

On-Site PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)			
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5	
2013-2017	0.3069	0.2875	0.0195	1st Floor
2013-2017	0.2499	0.2340	0.0159	2nd Floor

4335 & 4345 El Camino Real, Palo Alto, CA - El Camino Real Cancer Risk & PM2.5
Impacts at On-Site 1st Floor Receptors - 1.5m receptor heights
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	3rd Trimester	0 - 2	2 - 16	16 - 30
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL
0	0.25	-0.25 - 0*	2027	10	0.0040	0.2669	0.4224	0.055	0.021	0.0019	0.08
1	1	0 - 1	2027	10	0.0040	0.2669	0.4224	0.660	0.250	0.0233	0.93
2	1	1 - 2	2028	10	0.0040	0.2669	0.4224	0.660	0.250	0.0233	0.93
3	1	2 - 3	2029	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
4	1	3 - 4	2030	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
5	1	4 - 5	2031	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
6	1	5 - 6	2032	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
7	1	6 - 7	2033	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
8	1	7 - 8	2034	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
9	1	8 - 9	2035	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
10	1	9 - 10	2036	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
11	1	10 - 11	2037	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
12	1	11 - 12	2038	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
13	1	12 - 13	2039	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
14	1	13 - 14	2040	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
15	1	14 - 15	2041	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
16	1	15 - 16	2042	3	0.0040	0.2669	0.4224	0.104	0.039	0.0037	0.15
17	1	16-17	2043	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
18	1	17-18	2044	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
19	1	18-19	2045	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
20	1	19-20	2046	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
21	1	20-21	2047	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
22	1	21-22	2048	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
23	1	22-23	2049	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
24	1	23-24	2050	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
25	1	24-25	2051	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
26	1	25-26	2052	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
27	1	26-27	2053	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
28	1	27-28	2054	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
29	1	28-29	2055	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
30	1	29-30	2056	1	0.0040	0.2669	0.4224	0.012	0.004	0.0004	0.02
Total Increased Cancer Risk								2.99	1.134	0.106	**4.23**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.001	0.29	0.31

* Third trimester of pregnancy

4335 & 4345 El Camino Real, Palo Alto, CA - El Camino Real Cancer Risk & PM2.5
Impacts at On-Site 2nd Floor Receptors - 4.5m receptor heights
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	3rd Trimester	0 - 2	2 - 16	16 - 30
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL
0	0.25	-0.25 - 0*	2027	10	0.0037	0.2172	0.3438	0.050	0.017	0.0016	0.07
1	1	0 - 1	2027	10	0.0037	0.2172	0.3438	0.606	0.204	0.0190	0.83
2	1	1 - 2	2028	10	0.0037	0.2172	0.3438	0.606	0.204	0.0190	0.83
3	1	2 - 3	2029	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
4	1	3 - 4	2030	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
5	1	4 - 5	2031	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
6	1	5 - 6	2032	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
7	1	6 - 7	2033	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
8	1	7 - 8	2034	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
9	1	8 - 9	2035	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
10	1	9 - 10	2036	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
11	1	10 - 11	2037	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
12	1	11 - 12	2038	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
13	1	12 - 13	2039	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
14	1	13 - 14	2040	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
15	1	14 - 15	2041	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
16	1	15 - 16	2042	3	0.0037	0.2172	0.3438	0.095	0.032	0.0030	0.13
17	1	16-17	2043	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
18	1	17-18	2044	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
19	1	18-19	2045	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
20	1	19-20	2046	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
21	1	20-21	2047	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
22	1	21-22	2048	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
23	1	22-23	2049	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
24	1	23-24	2050	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
25	1	24-25	2051	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
26	1	25-26	2052	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
27	1	26-27	2053	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
28	1	27-28	2054	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
29	1	28-29	2055	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
30	1	29-30	2056	1	0.0037	0.2172	0.3438	0.011	0.004	0.0003	0.01
Total Increased Cancer Risk								2.75	0.923	0.086	**3.76**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.001	0.23	0.25

* Third trimester of pregnancy

4335 & 4345 El Camino Real, Palo Alto, CA - El Camino Real Cancer Risk & PM2.5
Impacts at On-Site 1st Floor Receptors - 1.5m receptor heights - With MERV13 Filtration
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	3rd Trimester	0 - 2	2 - 16	16 - 30
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL
0	0.25	-0.25 - 0*	2027	10	0.0012	0.2669	0.4224	0.016	0.021	0.0019	0.04
1	1	0 - 1	2027	10	0.0012	0.2669	0.4224	0.198	0.250	0.0233	0.47
2	1	1 - 2	2028	10	0.0012	0.2669	0.4224	0.198	0.250	0.0233	0.47
3	1	2 - 3	2029	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
4	1	3 - 4	2030	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
5	1	4 - 5	2031	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
6	1	5 - 6	2032	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
7	1	6 - 7	2033	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
8	1	7 - 8	2034	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
9	1	8 - 9	2035	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
10	1	9 - 10	2036	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
11	1	10 - 11	2037	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
12	1	11 - 12	2038	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
13	1	12 - 13	2039	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
14	1	13 - 14	2040	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
15	1	14 - 15	2041	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
16	1	15 - 16	2042	3	0.0012	0.2669	0.4224	0.031	0.039	0.0037	0.07
17	1	16-17	2043	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
18	1	17-18	2044	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
19	1	18-19	2045	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
20	1	19-20	2046	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
21	1	20-21	2047	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
22	1	21-22	2048	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
23	1	22-23	2049	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
24	1	23-24	2050	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
25	1	24-25	2051	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
26	1	25-26	2052	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
27	1	26-27	2053	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
28	1	27-28	2054	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
29	1	28-29	2055	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
30	1	29-30	2056	1	0.0012	0.2669	0.4224	0.003	0.004	0.0004	0.01
Total Increased Cancer Risk								0.90	1.134	0.106	**2.14**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.000	0.09	0.09

* Third trimester of pregnancy

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**8/29/2024**
Contact Name	Jordyn Bauer
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x106
Email	jbauer@illingworthrodkin.com
Project Name	4335 & 4345 El Camino Real
Address	4335 & 4345 El Camino Real
City	Palo Alto
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Residential
Project Size (# of units or building square feet)	29

Comments:

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in **Table A** ncomplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in blue section only.

6. Note that a small percentage of the stationa ve Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name **Table B** ght). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Matthew Hanson at 415-749-8733, or mhanson@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	Plant No.	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
480	200563	Toyota Research Institute	4440 EL CAMINO REAL	28.76	0.01	0.04		Generator		2022 Dataset
150	109042	El Camino 76 Inc.	4350 El Camino Real	7.1	0.03	-		Gas Dispensing Facility		2022 Dataset

Estimated MEI

Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
0.14	4.03	0.001	0.01
0.31	2.17	0.01	#VALUE!

Project Site

Distance from Receptor (feet) or MEI[1]	FACID (Plant No.)	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
540	200563	0.10	2.88	0.001	0.004
140	112102	0.36	2.59	0.01	#VALUE!

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010.
    Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

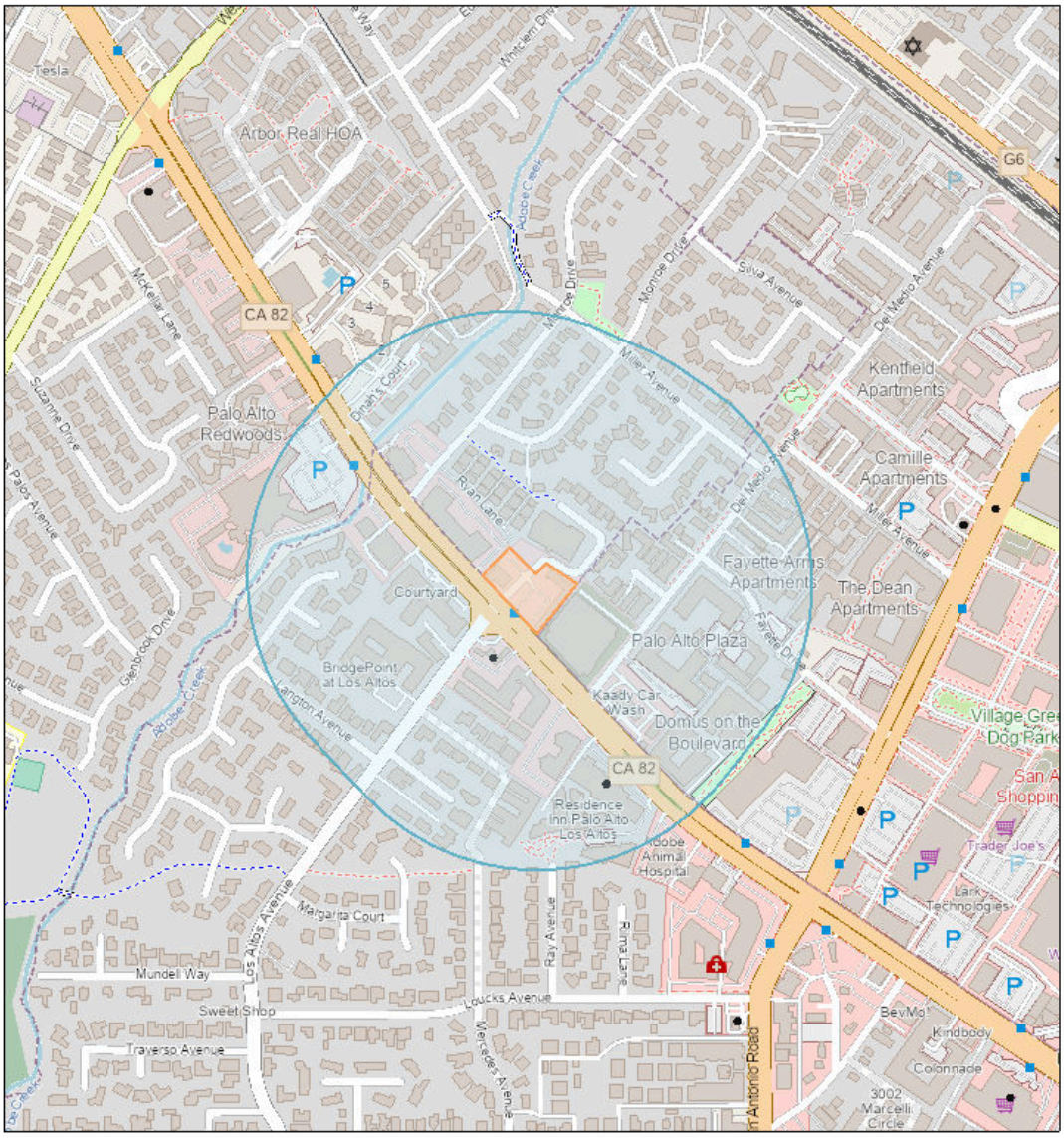
Date last updated:
03/13/2018

Screening Report

Area of Interest (AOI) Information

Area : 4,317,840.62 ft²

Aug 15 2024 16:32:26 Pacific Daylight Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	2	N/A	N/A

Permitted Stationary Sources

#	Address	Cancer_Ris	Chronic_Ha	City	County
1	4440 EL CAMINO REAL	28.76	0.01	Los Altos	Santa Clara
2	4350 El Camino Real	7.10	0.03	Los Altos	Santa Clara

#	Details	Facility_I	Facility_N	Latitude	Longitude
1	Generator	200563	Toyota Research Institute	37.40	-122.12
2	Gas Dispensing Facility	109042-1	El Camino 76 Inc.	37.40	-122.12

#	NAICS	NAICS_Indu	NAICS_Sect	NAICS_Subs	PM25
1	333999	All Other Miscellaneous General Purpose Machinery Manufacturing	Manufacturing	Machinery Manufacturing	0.04
2	447110	Gasoline Stations with Convenience Stores	Retail Trade	Gasoline Stations	0.00

#	State	Zip	Count
1	CA	94022	1
2	CA	94022	1

NOTE: A larger buffer than 1,000 may be warranted depending on proximity to significant sources.

Appendix D

Construction Health Risk Technical Report

Rincon Consultants, Inc.
66 Franklin Street, Suite 300
Oakland, California 94607
510-834-4455

January 9, 2025
Project No: 24-16517

Emily Kallas, AICP, Senior Planner
City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301

Subject: Construction Health Risk Technical Letter Report for the 4335 & 4345 El Camino Real Project, 4335 & 4345 El Camino Real, Palo Alto, California 94306

Dear Austin:

Rincon Consultants, Inc. (Rincon) has prepared this technical letter report to evaluate potential air quality impacts resulting from construction of the proposed 4335 & 4345 El Camino Real Project (herein referred to as "proposed project" or "project"), located in the City of Palo Alto, California. An Air Quality Assessment was prepared by Illingworth & Rodkin, Inc. in December 2024. The Air Quality Assessment included a refined health risk analysis for project operation; however, construction health risk was analyzed qualitatively. This technical letter report was prepared in order to conduct a refined construction health risk assessment to support the findings of the existing Air Quality Assessment.

Description of Project

The 1.35-acre project site is currently developed with a commercial building, a motel, and an associated parking lot. The proposed project would demolish the existing uses and construct 29 three-story townhome-style condominiums in five buildings totaling 64,420 square feet. Construction is expected to begin in April 2026 and be completed by approximately July 2027. The project has committed to using construction equipment with U.S. EPA Tier 4 emission standards for particulate matter.

Air Quality

Environmental Setting

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide (CO), volatile organic compounds (VOC)/reactive organic gases (ROG),[1] nitrogen oxides (NO_X), particulate matter with diameters of ten microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and

[1] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this analysis.

photochemical reactions primarily between VOC and NO_X. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.

- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

Toxic Air Contaminants

A TAC is an air pollutant that may cause or contribute to an increase in mortality or serious illness or which may pose a present or potential hazard to human health. TACs may result in long-term health effects such as cancer, birth defects, neurological damage, asthma, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation, runny nose, throat pain, and headaches. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure. For carcinogenic TACs, potential health impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

TACs include both organic and inorganic chemical substances. One of the main sources of TACs in California is diesel engines that emit exhaust containing solid material known as diesel particulate matter; however, TACs may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities.

Methodology

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the AERMOD dispersion model. To evaluate the potential impacts of TACs emitted during construction of the proposed project, a stand-alone spreadsheet was used to quantify risk from air dispersion modeling results. Potential health risks to nearby sensitive receptors from the emission of TACs during construction were analyzed in accordance with the BAAQMD *CEQA Air Quality Guidelines (2022)*. Where available, modeling assumptions and model inputs were made consistent with the project-specific Air Quality Assessment (Illingworth & Rodkin Inc. 2024). Results from the construction health risk assessment were then combined with the operational and cumulative risk results from the project-specific Air Quality

Assessment in order to determine whether the project would exceed BAAQMD's cumulative-source thresholds. Modeling assumptions and inputs are available in Attachment 1.

Construction

Emissions from each area of construction activity were calculated using values from the CalEEMod outputs provided in the project-specific Air Quality Assessment (Illingworth & Rodkin Inc. 2024). As detailed in that report, construction characteristics such as start and end dates for each phase, grading and paving area, and building square footage were provided by the project applicant. Per applicant provided information, all construction equipment would be equipped with Tier 4 engines. The proposed project would include export of demolished material from the existing structure. Therefore, material hauling would occur and construction haul routes were included in modeling.

AERMOD includes a variety of source types, including point, volume, and line volume sources. In order to accurately characterize the emissions generated by construction activities at the Project site, polygon area sources were used to represent stationary construction emissions sources. Haul routes were modeled in AERMOD as line volume sources. Construction emissions would occur during daytime hours. Therefore, the dispersion modeling allocates the emissions during the daytime construction hours.

Sensitive Receptors

The closest existing sensitive receptors to the project site are located in the adjacent multi-family residences to the southeast. There are additional sensitive receptors located at further distances to the north and south of the site. Sensitive receptors identified for modeling were placed at the location of residential land uses near the project site. Those sites not specifically modeled would result in risk that would be less than the risk modeled for those receptors included in the analysis due to increased dispersion of pollutants at distances greater than the 1,000-foot radius.

Meteorology and Topography

AERMOD requires meteorological and topographic data. Pre-processed meteorological data was obtained from the Moffet Federal Airfield approximately 3.8 miles east of the project site. The dataset was developed by BAAQMD for use in AERMOD and includes five years of meteorological data between 2013 and 2017. The NED 1/3-Degree topographic model from the project area was used. BAAQMD recommends the use of flagpole receptors at a height of 1.5 meters. Consistent with BAAQMD methodology, receptor heights of 5 feet (1.5 meters) and 15 feet (4.5 meters) were used to represent the breathing heights on the first and second floors of the nearby single- and multi-family residences.

Risk Analysis

Health risk impacts are assessed using the health risk calculation methodology that is consistent with Appendix E of BAAQMD's *CEQA Air Quality Guidelines* (2022). Health impacts address project DPM emissions and the effects on nearby sensitive uses. The incremental excess cancer risk is an estimate of the added risk a person exposed to a specific source of a TAC may have of developing cancer from that exposure, with all other conditions held constant. To provide a perspective on risk, the American Cancer Society (2018) reports that in the United States, men have about a 40 in 100 chance (0.40 probability) and women about a 38 in 100 chance (0.38) of developing cancer during a lifetime. Based on this background cancer risk level in the general population, application of a 1.0×10^{-5} excess risk limit means that the contribution from a toxic hazard should not cause the resultant cancer risk for the exposed population to exceed 0.40001 for men or 0.38001 for women.

Health impacts are evaluated using a dose-response assessment, which describes the relationship between the level of exposure to a substance (i.e., the dose) and the incidence or occurrence of injury (i.e., the response). In order to determine the total dose to off-site sensitive receptors, the applicable pathways of exposure should be identified. The applicable exposure pathways (e.g., inhalation) are identified for the emitted substances, and the receptor locations are identified. The applicable exposure pathways determine the exposure algorithms that are used to estimate dose. After the exposure pathways are identified, the applicable fate and transport algorithms are used to estimate concentrations in the applicable exposure media (e.g., air) and the exposure algorithms are used to determine the substance-specific dose. In accordance with the OEHHA Guidance, the inhalation pathway was evaluated for construction-related DPM. For the inhalation pathway, the dose is directly proportional to the breathing rate. As a conservative (i.e., health protective) approach, maximum breathing rates were used in this analysis.

Once dose is calculated, cancer risk is calculated by accounting for cancer potency of the specific pollutant, age sensitivity, exposure duration, averaging time for lifetime cancer risk, and fraction of time spent at home (sensitive receptor). The cancer potency factor (CPF) is specific for each pollutant and is determined through peer-reviewed scientific studies. For example, the Scientific Review Panel recommends a CPF for DPM of 3.0×10-4 $(\mu g/m^3)^{-1}$ and a slope factor of 1.1 $(ppm\text{-}day)^{-1}$. The ASFs account for greater susceptibility in early life as compared to adult exposure, starting from the third trimester of pregnancy to 16 years. The fraction of time at home (FAH) takes into account the time actually residing at the sensitive receptor location. FAH also takes into account time spent at home for various age groups. For example, newborns are expected to reside at home for longer periods of time compared to school-age children, and the elderly (retirees) are expected to spend more time at home compared to people of working age. Construction of the proposed project would occur over less than two years. Therefore, the third trimester age bin and birth to 2-year age bin were used.

Each age group has different exposure parameters which require cancer risk to be calculated separately for each age group. The estimation of cancer risk uses the following algorithms:

$$\text{Risk} = \text{Dose inhalation} \times \text{Inhalation CPF} \times \text{ASF} \qquad \text{(Equation 1)}$$

Where:

$$\text{Dose inhalation} = \text{CAIR} \times \text{DBR} \times \text{A} \times \text{EF} \times \text{ED} \times \text{FAH/AT} \qquad \text{(Equation 2)}$$

Inhalation CPF = inhalation cancer potency factor

ASF = age-sensitivity factor

Where:

CAIR = concentration of compound in air in micrograms per cubic meter ($\mu g/m^3$)

DBR = breathing rate in liter per kilogram of body weight per day (L/kg-body weight/day)

A = inhalation absorption factor (1 for DPM)

EF = exposure frequency in days per year (day/year)

ED = exposure duration in years (year)

FAH = fraction of time at home

AT = averaging time period over which exposure is averaged in days (day)

The OEHHA recommended values for the equations described, as well as the daily breathing rates (DBF) above were used in the HRA. Specific modeling details are included in Attachment 1.

The incremental increase in cancer risk is the result of multiplying the dose by the pollutant-specific CPF values. Cancer risk is calculated by multiplying the inhalation dose by the inhalation CPF to yield the potential inhalation excess cancer risk. Cancer risk was evaluated for sensitive receptors in the surrounding area. Only the risk from the maximally exposed receptor is reported/analyzed herein. Risk for all receptors is included as part of Attachment 1.

Toxic Air Contaminants

Construction

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (April 2005) recommends against siting sensitive receptors within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. While these siting distances are not particular to construction activities, the primary source of TAC emissions from both freeways and construction equipment is DPM. Therefore, for projects within 1,000 feet of sensitive receptors a refined health risk would be conducted.

Cumulative

Appendix E of BAAQMD's *CEQA Air Quality Guidelines* (2022) also recommends assessing cumulative impacts of a new source or sources in combination with existing sources located within 1,000 feet of the project site. Because health risk focuses on sensitive receptors, cumulative impacts to the maximally exposed individual (MEI), the residences adjacent to the southern boundary of the project site, were analyzed. The cumulative risk analysis includes the operation of the proposed project as well as all existing sources within a 1,000-foot radius of the MEI. Within 1,000 feet of the MEI, there are two stationary sources. Additionally, the cumulative analysis includes risk and $PM_{2.5}$ concentration associated with roadway traffic on El Camino Real. The average daily traffic for El Camino Real is 41,600 vehicles per day (Illingworth & Rodkin 2024). In addition to the proposed project, the following sources were analyzed as part of the cumulative analysis and are identified with their facility name, number, and distance from the MEI:

- Toyota Research Institute (200563; MEI at 480 feet);
- El Camino Real 76 Inc. (109042-1; MEI at 150 feet);
- El Camino Real (ADT 41,600)

Significance Thresholds

Toxic Air Containments

In the absence of a qualified Community Risk Reduction Plan, BAAQMD has established the following *Thresholds of Significance* for local community risks and hazards associated with TACs and $PM_{2.5}$ for assessing individual source impacts at a local level. Impacts would be significant if:

- The project would result in an increased cancer risk of > 10 in a million
- The project would result in an increased non-cancer (i.e., Chronic or Acute) risk of > 1.0 Hazard Index
- The project would result in an ambient $PM_{2.5}$ concentration increase of > 0.3 µg/m^3 annual average

A project would be considered to have a cumulatively considerable impact if the aggregate total of current and proposed TAC sources within a 1,000 feet radius of the project fence-line in addition to the project would exceed the *Cumulative Thresholds of Significance*. Impacts would be significant if:

- The project would result in an increased cancer risk of > 100 in a million
- The project would result in an increased non-cancer (i.e., Chronic) risk of > 10 Hazard Index
- The project would result in an ambient $PM_{2.5}$ concentration increase of > 0.8 µg/m^3 annual average

Excess cancer risks are defined as those occurring in excess of or above and beyond those risks that would normally be associated with a location or activity if toxic pollutants were not present. Non-carcinogenic health effects are expressed as a hazard index, which is the ratio of expected exposure levels to an acceptable reference exposure level.

Results

Construction Impacts

The project would involve the construction of 29 residential units in five buildings totaling 64,420 square feet.

The MEI is the modeled residential receptor experiencing the highest incremental excess cancer risk under 30-year residential exposure duration during construction. The MEI near the project site would be exposed to a 30-year excess cancer risk of approximately 5.97 in one million, which does not exceed BAAQMD's recommended cancer risk criteria of ten excess cases of cancer in one million individuals (BAAQMD 2022). The MEI is located nearest to the residences on El Camino Real, immediately southeast of the Project site boundary. The maximum Chronic health risk is approximately 0.044, which does not exceed BAAQMD's Hazard Index threshold of one. The maximum $PM_{2.5}$ annual average is approximately 0.06 µg/m^3, which does not exceed the BAAQMD threshold of 0.3.

In addition, the project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these requirements would minimize emissions of TACs during construction. All off-road diesel powered construction equipment would be equipped with Tier 4 engines. The Tier 4 standards reduce DPM emissions by approximately 81 to 96 percent as compared to equipment that meet the Tier 2 off-road emissions standards, depending on the specific horsepower rating of each piece of equipment. Construction health risk is quantified in Table 1; as shown in the table, potential health risk would be below BAAQMD significance thresholds. Therefore, project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

Table 1 Construction Health Risk Assessment

Scenario	Excess Cancer Risk (per million)	Hazard Index[1]	$PM_{2.5}$ µg/m^3 annual average
Project Construction	5.97	0.044	0.06
BAAQMD Significance Threshold	>10	>1	>0.3
Threshold Exceeded?	No	No	No

$PM_{2.5}$ = particulate matter less than 2.5 microns in size; µg/m^3 = micrograms per cubic meter

[1] Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

Source: BAAQMD 2022. For health risk calculations, see Attachment 1.

Cumulative Impacts

As discussed under *Methodology*, the operational and cumulative health risk associated with the project were analyzed in an Air Quality Assessment prepared by Illingworth & Rodkin (2024). Table 2 shows the cumulative health risk associated with both construction and operation in addition to nearby stationary sources and vehicular traffic on El Camino Real.

Table 2 Impacts from Combined Sources within 1,000 Feet of the MEI

Source	Excess Cancer Risk (per million)	Hazard Index[1]	$PM_{2.5}$ µg/m^3 annual average
Project Construction	5.97	0.044	0.06
BAAQMD Single-Source Threshold	>10.0	>1.0	>0.3
Threshold Exceeded?	No	No	No
El Camino Real, ADT 41,600	6.23	<0.01	0.43
Toyota Research Institute (Facility ID #200563, Generator), MEI at 480 feet	4.03	<0.01	0.01
El Camino 76 Inc. (Facility ID #109042-1, Gas Dispensing Facility), MEI at 150 feet	2.17	0.01	–
Cumulative Total	**18.4**	**<0.074**	**0.5**
BAAQMD Cumulative Source Threshold	>100	>10	>0.8
Threshold Exceeded?	No	No	No

$PM_{2.5}$ = particulate matter less than 2.5 microns in size; µg/m^3 = micrograms per cubic meter

[1] Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

Source: Illingworth & Rodkin 2024. For construction health risk calculations, see Attachment 1.

Conclusion

The refined construction health risk assessment conducted for the project found that the MEI near the project site would be exposed to a 30-year excess cancer risk of approximately 5.97 in one million, which does not exceed BAAQMD's recommended cancer risk criteria of ten excess cases of cancer in one million individuals (BAAQMD 2022). Additionally, project construction would not exceed BAAQMD's Hazard Index threshold or annual average $PM_{2.5}$ concentration threshold. Therefore, project construction would not expose sensitive receptors to substantial TAC concentrations.

The results for project construction were combined with health risk impacts from operation and other nearby sources to determine cumulative impacts. As shown in Table 2, cumulative impacts would be less than significant. This conclusion is consistent with the findings of the project-specific Air Quality Assessment prepared by Illingworth & Rodkin Inc.

Based on the findings of this technical letter report, the project would not result in health risk impacts associated with construction and operation of the project.

Sincerely,
Rincon Consultants, Inc.

Lucas Carneiro
Air Quality & GHG Specialist

Michael Stewart, PE
Senior Air Quality Specialist

Attachments

Attachment 1 Health Risk Calculations

References

American Cancer Society (ACS). 2018. Cancer Facts & Figures 2018. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2018/cancer-facts-and-figures-2018.pdf (accessed January 2025).

Bay Area Air Quality Management District (BAAQMD). 2022a. 2022 CEQA Air Quality Guidelines. April. https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines (accessed January 2025).

California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005. https://sfmohcd.org/sites/default/files/20%20-%20CARB%2C%20Air%20Quality%20and%20Land%20Use%20Handbook%202005.pdf. (accessed January 2025).

Illingworth & Rodkin, Inc. 2024. *4335 & 4345 El Camino Real Air Quality Assessment.* December 6, 2024 (accessed January 2025).

Attachment 1

Health Risk Calculations

4335 & 4345 El Camino Real Construction Health Risk Assessment

Construction Modeling Assumptions

AERMOD Sources

PolyArea [1]		
Offroad Construction Exhaust		
Release Height	5	m
Emissions rate	1	g/s
Init Vert Dimension	1.4	m
SCAQMD LST Guidance, 2008		
Line Volume [2]		
Onroad Hauling Exhaust		
Vehicle Height	4	m
Plume Height	6.8	m
Plume Width	24	m
Release Height	3.4	m
Emissions rate	1	g/s

[1] SCAQMD, Final Localized Significance Threshold Methodology

[2] BAAQMD, CEQA AQ Guidelines, Appendix E, Table 11, Recommended Volume Source Configuration for Construction Projects

Meteorology:
Moffet Field

4335 & 4345 El Camino Real Construction Health Risk Assessment

Health Risk Assessment Results Summary

Scenario	Excess Cancer Risk (per million)	Chronic Health Risk[1]	$PM_{2.5}$ µg/m^3 annual average
Adjacent Residences	5.97	0.044	0.06
BAAQMD Significance Threshold	>10	>1	>0.3
Threshold Exceeded?	No	No	No

$PM_{2.5}$ = particulate matter less than 2.5 microns in size; µg/m^3 = micrograms per cubic meter

[1] Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

[2] There is no acute reference exposure level for diesel exhaust to calculate acute health risk. Furthermore, except for unusual circumstances of high exposure, Office of Environmental Health Hazard Assessment does not recommend acute analysis for DPM.

Source: BAAQMD 2024, Rincon Consultants 2024. For health risk calculations, see Appendix A.

4335 & 4345 El Camino Real Construction Health Risk Assessment

Health Risk Assessment Risk Factors

Residential Risk	Abbreviation	UOM	3rd Trimester	0<2
Daily Breathing Rate (95th %'ile)	DBR	L/kg-day	361	1090
Fraction Of Time At Home	FAH	unitless	1	1
Exposure Frequency	EF	days/year	0.96	0.96
Age Sensitivity Factor	ASF	unitless	10	10
Inhalation Absorption Factor	A	unitless	1	1
Conversion Factor	CF_1	m^3/L	0.001	0.001
Conversion Factor	CF_2	$\mu g/m^3$	0.001	0.001
Cancer Potency Factor (diesel exhaust)	CPF	$mg/kg\text{-}day^{-1}$	1.1	1.1
Averaging Time (for residential exposure)	AT	years	70.00	70.00

4335 & 4345 El Camino Real Construction Health Risk Assessment

Health Risk Assessment Exposure Duration Assumptions for Offroad Equipment

Residential Receptors

				Start Date	*4/1/2026*	*7/1/2026*	
				End Date	*6/30/2026*	*6/30/2028*	
		4/1/2026	*7/20/2027*	*Days*	*90*	*730*	
Phase		**Start Date**	**End Date**	**Duration (days)**	**3rd Tri**	**0<2**	**Workdays**
Demolition	3.2. Demolition (2026) - Mitigated	4/1/2026	4/29/2026	29	29	0	25
Site Preparation	3.4. Site Preparation (2026) - Mitigated	6/1/2026	6/3/2026	3	3	0	3
Grading	3.6. Grading (2026) - Mitigated	6/4/2026	6/7/2026	4	4	0	3
Building Construction	3.8. Building Construction (2027) - Mitigated	1/1/2027	7/20/2027	201	0	201	172
Paving	3.10. Paving (2027) - Mitigated	2/1/2027	2/11/2027	11	0	11	10
Architectural Coating	3.12. Architectural Coating (2027) - Mitigated	2/1/2027	2/21/2027	21	0	21	18
Trenching	3.14. Trenching (2026) - Mitigated	11/1/2026	11/4/2026	4	0	4	3

Intake Factor for Inhalation, IF (m^3/kg-day)

Risk Calculation Part 1, R1

Phase		Year	Equation	3rd Trimester	0<2		Equation	3rd Trimester	0<2
Demolition	3.2. Demolition (2026) - Mitigated	2026	$\frac{DBR \cdot FAH \cdot EF \cdot ED \cdot ASF \cdot A \cdot CF_1}{AT}$	0.003929067	0		$IF \cdot CPF \cdot CF_2$	4.32197E-06	0
Site Preparation	3.4. Site Preparation (2026) - Mitigated	2026		0.000406455	0			4.47101E-07	0
Grading	3.6. Grading (2026) - Mitigated	2026		0.00054194	0			5.96134E-07	0
Building Construction	3.8. Building Construction (2027) - Mitigated	2027		0	0.082225558			0	9.045E-05
Paving	3.10. Paving (2027) - Mitigated	2027		0	0.004499906			0	4.95E-06
Architectural Coating	3.12. Architectural Coating (2027) - Mitigated	2027		0	0.00859073			0	9.45E-06
Trenching	3.14. Trenching (2026) - Mitigated	2026		0	0.00163633			0	1.8E-06

4335 & 4345 El Camino Real Construction Health Risk Assessment

Offroad DPM Emissions, Ground Level Concentrations and Health Risk Calculations

Residential Receptors

Phase		Year	Emissions (lbs/day)	Work Hours Per Day	Emissions (g/s)
Demolition	3.2. Demolition (20	2026	0.100	10	0.001259972
Site Preparation	3.4. Site Preparatio	2026	0.040	10	0.000503989
Grading	3.6. Grading (2026)	2026	0.0500	10	0.000629986
Building Construction	3.8. Building Constr	2027	0.040	10	0.000503989
Paving	3.10. Paving (2027)	2027	0.060	10	0.000755983
Architectural Coating	3.12. Architectural	2027	0.030	10	0.000377992
Trenching	3.14. Trenching (20	2026	0.040	10	0.000503989

Max Offroad Risk
5.9

AERMOD Column Identifier: *4* *5* *5* *5* *5* *5* *5*

Unique Identifier	X (UTM)	Y (UTM)	Demolition 2026	Site Preparation 2026	Grading 2026	Building Construction 2027	Paving 2027	Architectural Coating 2027	Trenching 2026	Child Risk 3rd Trimester	Child Risk 0<2	Child Risk Total	Child Risk per million
578048.554140246.42	578048.55	4140246.4	0.005841093	0.003004983	0.003756229	0.003004983	0.004507475	0.002253738	0.003004983	2.88278E-08	3.20813E-07	3.49641E-07	0.3496406
578066.414140268	578066.41	4140268	0.002778529	0.001649777	0.002062222	0.001649777	0.002474666	0.001237333	0.001649777	1.39757E-08	1.76131E-07	1.90106E-07	0.1901064
578068.454140241.25	578068.45	4140241.3	0.004333259	0.002772902	0.003466127	0.002772902	0.004159352	0.002079676	0.002772902	2.20343E-08	2.96036E-07	3.1807E-07	0.31807
578054.694140253.42	578054.69	4140253.4	0.00444338	0.002458952	0.00307369	0.002458952	0.003688428	0.001844214	0.002458952	2.21359E-08	2.62518E-07	2.84654E-07	0.2846543
578061.934140261.73	578061.93	4140261.7	0.003330459	0.001946299	0.002432874	0.001946299	0.002919449	0.001459724	0.001946299	1.67147E-08	2.07787E-07	2.24502E-07	0.2245021
578046.974140254.6	578046.97	4140254.6	0.005001989	0.002565883	0.003207354	0.002565883	0.003848825	0.001924412	0.002565883	2.46777E-08	2.73934E-07	2.98612E-07	0.2986121
5780634140234.38	578063	4140234.4	0.005596809	0.003407131	0.004258914	0.003407131	0.005110697	0.002555348	0.003407131	2.82515E-08	3.63746E-07	3.91998E-07	0.3919977
578076.524140257.17	578076.52	4140257.2	0.002811666	0.00181818	0.002272725	0.00181818	0.00272727	0.001363635	0.00181818	1.43197E-08	1.94109E-07	2.08429E-07	0.2084291
578071.934140251.73	578071.93	4140251.7	0.003341862	0.002141116	0.002676395	0.002141116	0.003211674	0.001605837	0.002141116	1.69962E-08	2.28586E-07	2.45582E-07	0.2455824
578071.934140271.73	578071.93	4140271.7	0.00240598	0.001450364	0.001812955	0.001450364	0.002175546	0.001087773	0.001450364	1.21278E-08	1.54841E-07	1.66969E-07	0.1669691
578057.74140269.42	578057.7	4140269.4	0.003101787	0.001750888	0.00218861	0.001750888	0.002626331	0.001313166	0.001750888	1.54934E-08	1.86925E-07	2.02419E-07	0.2024186
578081.934140221.73	578081.93	4140221.7	0.004827747	0.003723203	0.004654003	0.003723203	0.005584804	0.002792402	0.003723203	2.53045E-08	3.9749E-07	4.22795E-07	0.4227946
578081.934140231.73	578081.93	4140231.7	0.00396633	0.002951828	0.003689785	0.002951828	0.004427741	0.002213871	0.002951828	2.06617E-08	3.15138E-07	3.358E-07	0.3357997
578081.934140251.73	578081.93	4140251.7	0.002795941	0.001899957	0.002374947	0.001899957	0.002849936	0.001424968	0.001899957	1.43492E-08	2.0284E-07	2.17189E-07	0.2171892
578081.934140261.73	578081.93	4140261.7	0.002394476	0.001554327	0.001942909	0.001554327	0.00233149	0.001165745	0.001554327	1.2202E-08	1.6594E-07	1.78142E-07	0.1781424
578066.734140278.97	578066.73	4140279	0.00231845	0.001346946	0.001683682	0.001346946	0.002020418	0.001010209	0.001346946	1.16262E-08	1.438E-07	1.55426E-07	0.1554265
578091.934140221.73	578091.93	4140221.7	0.004106501	0.00335206	0.004190075	0.00335206	0.005028091	0.002514045	0.00335206	2.17447E-08	3.57867E-07	3.79612E-07	0.3796116
578091.934140231.73	578091.93	4140231.7	0.003352874	0.002600956	0.003251195	0.002600956	0.003901433	0.001950717	0.002600956	1.75921E-08	2.77679E-07	2.95271E-07	0.2952708
578091.934140241.73	578091.93	4140241.7	0.002795639	0.002056653	0.002570816	0.002056653	0.003084979	0.001542489	0.002056653	1.45348E-08	2.19569E-07	2.34104E-07	0.2341036
578081.564140270.42	578081.56	4140270.4	0.002122285	0.001325924	0.001657405	0.001325924	0.001988886	0.000994443	0.001325924	1.07533E-08	1.41556E-07	1.52309E-07	0.1523093
578101.934140211.73	578101.93	4140211.7	0.004538823	0.003808699	0.004760874	0.003808699	0.005713049	0.002856525	0.003808699	2.41577E-08	4.06618E-07	4.30775E-07	0.4307755
578101.934140221.73	578101.93	4140221.7	0.003517641	0.002880775	0.003600969	0.002880775	0.004321163	0.002160581	0.002880775	1.86378E-08	3.07552E-07	3.2619E-07	0.3261902
578101.934140231.73	578101.93	4140231.7	0.00285511	0.002228347	0.002785433	0.002228347	0.00334252	0.00167126	0.002228347	1.49965E-08	2.37899E-07	2.52895E-07	0.2528954
578101.934140241.73	578101.93	4140241.7	0.002402074	0.001760761	0.002200951	0.001760761	0.002641141	0.001320571	0.001760761	1.2481E-08	1.87979E-07	2.0046E-07	0.2004603
578101.934140251.73	578101.93	4140251.7	0.002063595	0.001424761	0.001780952	0.001424761	0.002137142	0.001068571	0.001424761	1.06175E-08	1.52108E-07	1.62725E-07	0.1627254
578114.354140204.87	578114.35	4140204.9	0.004772964	0.003694128	0.00461766	0.003694128	0.005541192	0.002770596	0.003694128	2.5033E-08	3.94386E-07	4.19419E-07	0.4194191
578111.934140211.73	578111.93	4140211.7	0.003997249	0.003147642	0.003934553	0.003147642	0.004721464	0.002360732	0.003147642	2.10288E-08	3.36043E-07	3.57072E-07	0.357072
578111.934140221.73	578111.93	4140221.7	0.003095714	0.002381695	0.002977119	0.002381695	0.003572543	0.001786271	0.002381695	1.62192E-08	2.5427E-07	2.7049E-07	0.2704897
578111.934140231.73	578111.93	4140231.7	0.002512485	0.001865223	0.002331528	0.001865223	0.002797834	0.001398917	0.001865223	1.30827E-08	1.99132E-07	2.12214E-07	0.2122144
578111.934140241.73	578111.93	4140241.7	0.002111461	0.00148966	0.001862075	0.00148966	0.00223449	0.001117245	0.00148966	1.09018E-08	1.59037E-07	1.69938E-07	0.1699383
578121.934140201.73	578121.93	4140201.7	0.004775648	0.003409918	0.004262398	0.003409918	0.005114877	0.002557439	0.003409918	2.47058E-08	3.64044E-07	3.8875E-07	0.3887496
578121.934140211.73	578121.93	4140211.7	0.003588439	0.002546742	0.003183427	0.002546742	0.003820112	0.001910056	0.002546742	1.85455E-08	2.71891E-07	2.90436E-07	0.2904364
578121.934140221.73	578121.93	4140221.7	0.002796193	0.001962664	0.00245333	0.001962664	0.002943996	0.001471998	0.001962664	1.44251E-08	2.09535E-07	2.2396E-07	0.2239596

578121.934140231.73	578121.93	4140231.7	0.002260441	0.001558848	0.00194856	0.001558848	0.002338272	0.001169136	0.001558848	1.16281E-08	1.66423E-07	1.78051E-07	0.1780511
578121.934140241.73	578121.93	4140241.7	0.001890614	0.001260935	0.001576169	0.001260935	0.001891402	0.000945701	0.001260935	9.67456E-09	1.34618E-07	1.44292E-07	0.1442923
578133.384140194.38	578133.38	4140194.4	0.005037155	0.003169692	0.003962115	0.003169692	0.004754538	0.002377269	0.003169692	2.55496E-08	3.38397E-07	3.63947E-07	0.3639468
578131.934140201.73	578131.93	4140201.7	0.004227761	0.00270507	0.003381337	0.00270507	0.004057604	0.002028802	0.00270507	2.14974E-08	2.88794E-07	3.10291E-07	0.3102914
578131.934140211.73	578131.93	4140211.7	0.003255504	0.002079962	0.002599953	0.002079962	0.003119943	0.001559972	0.002079962	1.65501E-08	2.22057E-07	2.38607E-07	0.2386074
578131.934140221.73	578131.93	4140221.7	0.002563313	0.001637193	0.002046491	0.001637193	0.002455789	0.001227895	0.001637193	1.30305E-08	1.74787E-07	1.87818E-07	0.1878177
578131.934140231.73	578131.93	4140231.7	0.002073057	0.001312548	0.001640685	0.001312548	0.001968823	0.000984411	0.001312548	1.05246E-08	1.40128E-07	1.50653E-07	0.1506526
578141.934140201.73	578141.93	4140201.7	0.003758207	0.002182206	0.002727758	0.002182206	0.00327331	0.001636655	0.002182206	1.88447E-08	2.32973E-07	2.51818E-07	0.2518176
578141.934140211.73	578141.93	4140211.7	0.002960998	0.001714041	0.002142551	0.001714041	0.002571062	0.001285531	0.001714041	1.4841E-08	1.82991E-07	1.97832E-07	0.1978324
578141.934140221.73	578141.93	4140221.7	0.002362725	0.001370482	0.001713102	0.001370482	0.002055723	0.001027861	0.001370482	1.18456E-08	1.46313E-07	1.58159E-07	0.1581586
578141.934140231.73	578141.93	4140231.7	0.001913369	0.001116275	0.001395344	0.001116275	0.001674412	0.000837206	0.001116275	9.60043E-09	1.19174E-07	1.28774E-07	0.1287742
578151.934140221.73	578151.93	4140221.7	0.002159756	0.001163816	0.00145477	0.001163816	0.001745724	0.000872862	0.001163816	1.0722E-08	1.24249E-07	1.34971E-07	0.1349713
578169.174140166.31	578169.17	4140166.3	0.004856626	0.003727416	0.00465927	0.003727416	0.005591124	0.002795562	0.003727416	2.54343E-08	3.9794E-07	4.23374E-07	0.4233743
578175.314140159.08	578175.31	4140159.1	0.004810725	0.00395408	0.0049426	0.00395408	0.00593112	0.00296556	0.00395408	2.55062E-08	4.22139E-07	4.47645E-07	0.4476448
578171.934140171.73	578171.93	4140171.7	0.00432391	0.00301535	0.003769188	0.00301535	0.004523026	0.002261513	0.00301535	2.22829E-08	3.2192E-07	3.44203E-07	0.3442026
578171.934140181.73	578171.93	4140181.7	0.003735893	0.002259624	0.00282453	0.002259624	0.003389436	0.001694718	0.002259624	1.88405E-08	2.41238E-07	2.60079E-07	0.2600786
578181.934140151.73	578181.93	4140151.7	0.00467548	0.003967592	0.00495949	0.003967592	0.005951388	0.002975694	0.003967592	2.49377E-08	4.23581E-07	4.48519E-07	0.448519
578181.934140161.73	578181.93	4140161.7	0.004216711	0.00319593	0.003994912	0.00319593	0.004793894	0.002396947	0.00319593	2.20349E-08	3.41198E-07	3.63233E-07	0.3632332
5781804140184.63	578180	4140184.6	0.003206365	0.001845471	0.002306839	0.001845471	0.002768207	0.001384103	0.001845471	1.60581E-08	1.97023E-07	2.13081E-07	0.2130811
578181.934140191.73	578181.93	4140191.7	0.002799041	0.001499795	0.001874744	0.001499795	0.002249693	0.001124847	0.001499795	1.38855E-08	1.60119E-07	1.74004E-07	0.1740041
578191.934140141.73	578191.93	4140141.7	0.004385598	0.003711243	0.004639054	0.003711243	0.005566865	0.002783432	0.003711243	2.33792E-08	3.96213E-07	4.19593E-07	0.4195926
578191.934140151.73	578191.93	4140151.7	0.004036031	0.003142008	0.00392751	0.003142008	0.004713012	0.002356506	0.003142008	2.11897E-08	3.35442E-07	3.56631E-07	0.3566314
578191.934140161.73	578191.93	4140161.7	0.003662046	0.002600895	0.003251119	0.002600895	0.003901343	0.001950671	0.002600895	1.89282E-08	2.77672E-07	2.96601E-07	0.2966005
578191.934140191.73	578191.93	4140191.7	0.002492868	0.001318994	0.001648743	0.001318994	0.001978492	0.000989246	0.001318994	1.23467E-08	1.40816E-07	1.53163E-07	0.1531629
578191.934140201.73	578191.93	4140201.7	0.00213404	0.001055166	0.001318958	0.001055166	0.001582749	0.000791375	0.001055166	1.04813E-08	1.1265E-07	1.23131E-07	0.1231311
578191.934140211.73	578191.93	4140211.7	0.001813339	0.000857673	0.001072091	0.000857673	0.00128651	0.000643255	0.000857673	8.85978E-09	9.15654E-08	1.00425E-07	0.1004252
578201.934140141.73	578201.93	4140141.7	0.003814868	0.00295845	0.003698063	0.00295845	0.004437675	0.002218838	0.00295845	2.0015E-08	3.15845E-07	3.3586E-07	0.33586
578201.934140151.73	578201.93	4140151.7	0.003523865	0.002552709	0.003190886	0.002552709	0.003829063	0.001914532	0.002552709	1.82736E-08	2.72528E-07	2.90801E-07	0.2908015
578201.934140161.73	578201.93	4140161.7	0.003209741	0.002155903	0.002694879	0.002155903	0.003233855	0.001616927	0.002155903	1.64428E-08	2.30165E-07	2.46608E-07	0.2466077
578201.934140171.73	578201.93	4140171.7	0.002886181	0.001780467	0.002225583	0.001780467	0.0026707	0.00133535	0.001780467	1.45968E-08	1.90083E-07	2.0468E-07	0.2046799
578201.934140191.73	578201.93	4140191.7	0.002233061	0.001166749	0.001458437	0.001166749	0.001750124	0.000875062	0.001166749	1.10423E-08	1.24562E-07	1.35605E-07	0.1356048
578201.934140201.73	578201.93	4140201.7	0.001930769	0.00094692	0.001183649	0.00094692	0.001420379	0.00071019	0.00094692	9.47372E-09	1.01093E-07	1.10567E-07	0.1105671
578211.934140161.73	578211.93	4140161.7	0.002838188	0.001816799	0.002270999	0.001816799	0.002725199	0.001362599	0.001816799	1.44327E-08	1.93962E-07	2.08395E-07	0.2083947
578211.934140191.73	578211.93	4140191.7	0.002010966	0.001037602	0.001297003	0.001037602	0.001556403	0.000778202	0.001037602	9.92844E-09	1.10775E-07	1.20703E-07	0.1207031
578108.954140089.28	578108.95	4140089.3	0.045338614	0.051071785	0.063839731	0.051071785	0.076607677	0.038303838	0.051071785	2.56844E-07	5.45244E-06	5.70928E-06	5.7092813
578108.954140097.28	578108.95	4140097.3	0.044533869	0.053227532	0.066534414	0.053227532	0.079841297	0.039920649	0.053227532	2.55936E-07	5.68259E-06	5.93852E-06	5.9385216
578116.954140081.28	578116.95	4140081.3	0.036037801	0.043436998	0.054296248	0.043436998	0.065155497	0.032577749	0.043436998	2.07543E-07	4.63735E-06	4.84489E-06	4.8448888
578116.954140089.28	578116.95	4140089.3	0.035399222	0.046890229	0.058612786	0.046890229	0.070335344	0.035167672	0.046890229	2.089E-07	5.00601E-06	5.21491E-06	5.214914
578116.954140097.28	578116.95	4140097.3	0.034052967	0.049138393	0.061422991	0.049138393	0.073707589	0.036853794	0.049138393	2.05762E-07	5.24603E-06	5.45179E-06	5.4517905
578116.954140105.28	578116.95	4140105.3	0.032066293	0.049780832	0.06222604	0.049780832	0.074671248	0.037335624	0.049780832	1.97942E-07	5.31462E-06	5.51256E-06	5.5125571
578124.954140073.28	578124.95	4140073.3	0.029226366	0.035430968	0.04428871	0.035430968	0.053146452	0.026573226	0.035430968	1.68559E-07	3.78262E-06	3.95118E-06	3.9511787
578124.954140081.28	578124.95	4140081.3	0.028716355	0.038635526	0.048294408	0.038635526	0.057953289	0.028976645	0.038635526	1.70175E-07	4.12474E-06	4.29491E-06	4.2949146
578124.954140089.28	578124.95	4140089.3	0.027735491	0.041390093	0.051737616	0.041390093	0.062085139	0.031042569	0.041390093	1.6922E-07	4.41882E-06	4.58804E-06	4.5880378
578124.954140097.28	578124.95	4140097.3	0.026331177	0.043500879	0.054376098	0.043500879	0.065251318	0.032625659	0.043500879	1.65667E-07	4.64417E-06	4.80983E-06	4.8098331
578124.954140105.28	578124.95	4140105.3	0.024600353	0.044638462	0.055798078	0.044638462	0.066957693	0.033478847	0.044638462	1.59543E-07	4.76561E-06	4.92516E-06	4.9251576
578124.954140113.28	578124.95	4140113.3	0.022649626	0.044342066	0.055427583	0.044342066	0.0665131	0.03325655	0.044342066	1.50759E-07	4.73397E-06	4.88473E-06	4.8847299
578124.954140121.28	578124.95	4140121.3	0.020639769	0.042254378	0.052817973	0.042254378	0.063381567	0.031690784	0.042254378	1.39583E-07	4.51109E-06	4.65067E-06	4.6506721
578132.954140065.28	578132.95	4140065.3	0.024121274	0.02858064	0.0357258	0.02858064	0.042870961	0.02143548	0.02858064	1.38327E-07	3.05128E-06	3.1896E-06	3.1896043
578132.954140073.28	578132.95	4140073.3	0.023694697	0.031030576	0.03878822	0.031030576	0.046545864	0.023272932	0.031030576	1.39405E-07	3.31283E-06	3.45224E-06	3.4522374
578132.954140081.28	578132.95	4140081.3	0.02296414	0.033351782	0.041689728	0.033351782	0.050027673	0.025013837	0.033351782	1.39015E-07	3.56065E-06	3.69966E-06	3.6996601
578132.954140089.28	578132.95	4140089.3	0.021959716	0.035469952	0.04433744	0.035469952	0.053204928	0.026602464	0.035469952	1.37199E-07	3.78678E-06	3.92398E-06	3.9239808
578132.954140105.28	578132.95	4140105.3	0.019304526	0.038385916	0.047982394	0.038385916	0.057578873	0.028789437	0.038385916	1.292E-07	4.09809E-06	4.22729E-06	4.2272909
578132.954140113.28	578132.95	4140113.3	0.01783342	0.038628914	0.048286142	0.038628914	0.057943371	0.028971685	0.038628914	1.23132E-07	4.12403E-06	4.24717E-06	4.247165
578132.954140121.28	578132.95	4140121.3	0.016383683	0.037542717	0.046928396	0.037542717	0.056314075	0.028157038	0.037542717	1.15571E-07	4.00807E-06	4.12364E-06	4.1236416
578132.954140129.28	578132.95	4140129.3	0.015018944	0.034792132	0.043490165	0.034792132	0.052188198	0.026094099	0.034792132	1.06393E-07	3.71442E-06	3.82081E-06	3.8208106
578140.954140057.28	578140.95	4140057.3	0.020231336	0.02313307	0.028916337	0.02313307	0.034699605	0.017349802	0.02313307	1.1502E-07	2.46969E-06	2.58471E-06	2.584713
578140.954140065.28	578140.95	4140065.3	0.019857742	0.02486158	0.031076975	0.02486158	0.037292371	0.018646185	0.02486158	1.15466E-07	2.65423E-06	2.7697E-06	2.7696955
578140.954140073.28	578140.95	4140073.3	0.019291876	0.026554671	0.033193338	0.026554671	0.039832006	0.019916003	0.026554671	1.15039E-07	2.83498E-06	2.95002E-06	2.9500232

578140.954140081.28	578140.95	4140081.3	0.018540705	0.028172137	0.035215172	0.028172137	0.042258206	0.021129103	0.028172137	1.13721E-07	3.00767E-06	3.12139E-06	3.1213863
578118.524140112.89	578118.52	4140112.9	0.028116835	0.047899941	0.059874926	0.047899941	0.071849911	0.035924955	0.047899941	1.7863E-07	5.11381E-06	5.29244E-06	5.2924406
578140.954140113.28	578140.95	4140113.3	0.014371054	0.031998592	0.03999824	0.031998592	0.047997888	0.023998944	0.031998592	1.00262E-07	3.41618E-06	3.51644E-06	3.5164407
578140.954140121.28	578140.95	4140121.3	0.013311947	0.031296813	0.039121016	0.031296813	0.046945219	0.02347261	0.031296813	9.48481E-08	3.34126E-06	3.4361E-06	3.4361044
578140.954140129.28	578140.95	4140129.3	0.012354015	0.029287187	0.036608984	0.029287187	0.043930781	0.021965391	0.029287187	8.83119E-08	3.12671E-06	3.21502E-06	3.2150201
578140.954140137.28	578140.95	4140137.3	0.011408053	0.025608814	0.032011018	0.025608814	0.038413222	0.019206611	0.025608814	7.98379E-08	2.734E-06	2.81384E-06	2.8138419
578148.954140049.28	578148.95	4140049.3	0.017233169	0.018901156	0.023626445	0.018901156	0.028351734	0.014175867	0.018901156	9.70166E-08	2.01789E-06	2.11491E-06	2.1149091
578148.954140057.28	578148.95	4140057.3	0.016918806	0.020107841	0.025134802	0.020107841	0.030161762	0.015080881	0.020107841	9.70966E-08	2.14672E-06	2.24382E-06	2.2438152
578148.954140065.28	578148.95	4140065.3	0.016448232	0.021256679	0.026570849	0.021256679	0.031885018	0.015942509	0.021256679	9.64325E-08	2.26937E-06	2.3658E-06	2.3658014
578148.954140073.28	578148.95	4140073.3	0.015845133	0.022336561	0.027920701	0.022336561	0.033504841	0.016752421	0.022336561	9.51134E-08	2.38466E-06	2.47977E-06	2.4797708
578111.194140102.62	578111.19	4140102.6	0.040034446	0.052603881	0.065754851	0.052603881	0.078905821	0.03945291	0.052603881	2.35746E-07	5.616E-06	5.85175E-06	5.8517505
578136.744140133.62	578136.74	4140133.6	0.013058503	0.030389376	0.03798672	0.030389376	0.045584064	0.022792032	0.030389376	9.26708E-08	3.24438E-06	3.33705E-06	3.3370489
578148.954140121.28	578148.95	4140121.3	0.011033073	0.024480535	0.030600668	0.024480535	0.036720802	0.018360401	0.024480535	7.6872E-08	2.61355E-06	2.69042E-06	2.6904206
578148.954140129.28	578148.95	4140129.3	0.01033593	0.022622605	0.028278256	0.022622605	0.033933907	0.016966954	0.022622605	7.16438E-08	2.4152E-06	2.48684E-06	2.4868393
578148.954140137.28	578148.95	4140137.3	0.009638611	0.019360355	0.024200444	0.019360355	0.029040533	0.014520266	0.019360355	6.47406E-08	2.06692E-06	2.13166E-06	2.1316574
578156.954140041.28	578156.95	4140041.3	0.014817903	0.015550648	0.01943831	0.015550648	0.023325972	0.011662986	0.015550648	8.25831E-08	1.66019E-06	1.74277E-06	1.7427746
578156.954140049.28	578156.95	4140049.3	0.014587026	0.0164177	0.020522125	0.0164177	0.02462655	0.012313275	0.0164177	8.26191E-08	1.75276E-06	1.83538E-06	1.8353772
578156.954140057.28	578156.95	4140057.3	0.014215662	0.017208166	0.021510208	0.017208166	0.02581225	0.012906125	0.017208166	8.19565E-08	1.83715E-06	1.91911E-06	1.919105
578156.954140065.28	578156.95	4140065.3	0.013741232	0.017928855	0.022411069	0.017928855	0.026893283	0.013446642	0.017928855	8.07653E-08	1.91409E-06	1.99485E-06	1.9948548
578156.954140073.28	578156.95	4140073.3	0.013169986	0.018548999	0.023186248	0.018548999	0.027823498	0.013911749	0.018548999	7.90357E-08	1.9803E-06	2.05933E-06	2.0593319
578156.954140113.28	578156.95	4140113.3	0.009897485	0.019204245	0.024005306	0.019204245	0.028806367	0.014403183	0.019204245	6.56733E-08	2.05025E-06	2.11592E-06	2.1159237
578156.954140121.28	578156.95	4140121.3	0.009295256	0.018164682	0.022705852	0.018164682	0.027247023	0.013623511	0.018164682	6.1831E-08	1.93927E-06	2.0011E-06	2.0010974
578156.954140129.28	578156.95	4140129.3	0.008766068	0.016350513	0.020438142	0.016350513	0.02452577	0.012262885	0.016350513	5.73809E-08	1.74559E-06	1.80297E-06	1.8029662
578164.954140041.28	578164.95	4140041.3	0.012651797	0.013493622	0.016867028	0.013493622	0.020240433	0.010120217	0.013493622	7.07688E-08	1.44058E-06	1.51135E-06	1.5113516
578164.954140049.28	578164.95	4140049.3	0.012377652	0.014051674	0.017564592	0.014051674	0.021077511	0.010538755	0.014051674	7.02493E-08	1.50016E-06	1.57041E-06	1.5704098
578164.954140057.28	578164.95	4140057.3	0.012016922	0.014541632	0.01817704	0.014541632	0.021812448	0.010906224	0.014541632	6.92744E-08	1.55247E-06	1.62174E-06	1.6217429
578164.954140065.28	578164.95	4140065.3	0.011579359	0.0149463	0.018682874	0.0149463	0.022419449	0.011209725	0.0149463	6.78657E-08	1.59567E-06	1.66354E-06	1.6635367
578164.954140073.28	578164.95	4140073.3	0.011074564	0.015236597	0.019045746	0.015236597	0.022854896	0.011427448	0.015236597	6.60301E-08	1.62666E-06	1.69269E-06	1.6926934
578164.954140081.28	578164.95	4140081.3	0.010523427	0.015389185	0.019236481	0.015389185	0.023083777	0.011541889	0.015389185	6.383E-08	1.64295E-06	1.70678E-06	1.7067836
578164.954140105.28	578164.95	4140105.3	0.008892884	0.014883311	0.018604139	0.014883311	0.022324966	0.011162483	0.014883311	5.61797E-08	1.58895E-06	1.64513E-06	1.6451261
578164.954140113.28	578164.95	4140113.3	0.008403032	0.014229466	0.017786833	0.014229466	0.021344199	0.0106721	0.014229466	5.3283E-08	1.51914E-06	1.57242E-06	1.5724247
578164.954140121.28	578164.95	4140121.3	0.007938682	0.013112244	0.016390305	0.013112244	0.019668365	0.009834183	0.013112244	4.99441E-08	1.39987E-06	1.44981E-06	1.4498108
578164.954140129.28	578164.95	4140129.3	0.00751043	0.011459735	0.014324668	0.011459735	0.017189602	0.008594801	0.011459735	4.6123E-08	1.22344E-06	1.26957E-06	1.2695674
578172.954140049.28	578172.95	4140049.3	0.010546345	0.01188805	0.014860062	0.01188805	0.017832074	0.008916037	0.01188805	5.97548E-08	1.26917E-06	1.32893E-06	1.3289262
578172.954140057.28	578172.95	4140057.3	0.01022383	0.012163984	0.015204979	0.012163984	0.018245975	0.009122988	0.012163984	5.86899E-08	1.29863E-06	1.35732E-06	1.3573201
578172.954140065.28	578172.95	4140065.3	0.009844327	0.012350868	0.015438585	0.012350868	0.018526301	0.009263151	0.012350868	5.72725E-08	1.31858E-06	1.37585E-06	1.3758545
578172.954140073.28	578172.95	4140073.3	0.00941266	0.012415701	0.015519626	0.012415701	0.018623551	0.009311776	0.012415701	5.54841E-08	1.3255E-06	1.38099E-06	1.3809877
578172.954140081.28	578172.95	4140081.3	0.00894957	0.012339654	0.015424567	0.012339654	0.018509481	0.00925474	0.012339654	5.3392E-08	1.31738E-06	1.37078E-06	1.3707768
578172.954140089.28	578172.95	4140089.3	0.008487992	0.012131668	0.015164585	0.012131668	0.018197502	0.009098751	0.012131668	5.11491E-08	1.29518E-06	1.34633E-06	1.3463293
578172.954140097.28	578172.95	4140097.3	0.008040248	0.011766024	0.01470753	0.011766024	0.017649036	0.008824518	0.011766024	4.8778E-08	1.25614E-06	1.30492E-06	1.3049219
578172.954140105.28	578172.95	4140105.3	0.007616633	0.01122227	0.014027838	0.01122227	0.016833405	0.008416703	0.01122227	4.62989E-08	1.19809E-06	1.24439E-06	1.2443915
578172.954140113.28	578172.95	4140113.3	0.007222766	0.01049199	0.013114988	0.01049199	0.015737985	0.007868993	0.01049199	4.37259E-08	1.12013E-06	1.16385E-06	1.1638536
578172.954140121.28	578172.95	4140121.3	0.006854564	0.009512498	0.011890622	0.009512498	0.014268747	0.007134373	0.009512498	4.09667E-08	1.01556E-06	1.05652E-06	1.0565236
578180.954140065.28	578180.95	4140065.3	0.00843685	0.010131658	0.012664573	0.010131658	0.015197488	0.007598744	0.010131658	4.85435E-08	1.08166E-06	1.1302E-06	1.1302021
578180.954140073.28	578180.95	4140073.3	0.008082873	0.010032917	0.012541146	0.010032917	0.015049375	0.007524688	0.010032917	4.68959E-08	1.07112E-06	1.11801E-06	1.1180129
578180.954140081.28	578180.95	4140081.3	0.007696755	0.009835197	0.012293996	0.009835197	0.014752796	0.007376398	0.009835197	4.49914E-08	1.05001E-06	1.095E-06	1.0949997
578180.954140089.28	578180.95	4140089.3	0.00731778	0.009529039	0.011911299	0.009529039	0.014293558	0.007146779	0.009529039	4.29884E-08	1.01732E-06	1.06031E-06	1.0603112
578180.954140097.28	578180.95	4140097.3	0.006954618	0.009103062	0.011378828	0.009103062	0.013654594	0.006827297	0.009103062	4.0911E-08	9.71845E-07	1.01276E-06	1.0127564
578180.954140105.28	578180.95	4140105.3	0.006609663	0.008549234	0.010686543	0.008549234	0.012823851	0.006411926	0.008549234	3.87598E-08	9.12719E-07	9.51478E-07	0.9514783
578180.954140113.28	578180.95	4140113.3	0.006284225	0.00786955	0.009836937	0.00786955	0.011804324	0.005902162	0.00786955	3.65429E-08	8.40155E-07	8.76698E-07	0.8766981
578188.954140073.28	578188.95	4140073.3	0.006988449	0.0080996	0.0101245	0.0080996	0.012149401	0.0060747	0.0080996	3.98608E-08	8.64716E-07	9.04576E-07	0.9045764
578188.954140081.28	578188.95	4140081.3	0.006683523	0.007842722	0.009803403	0.007842722	0.011764083	0.005882042	0.007842722	3.82366E-08	8.37291E-07	8.75528E-07	0.8755278
578188.954140089.28	578188.95	4140089.3	0.006370407	0.007506496	0.00938312	0.007506496	0.011259744	0.005629872	0.007506496	3.64825E-08	8.01396E-07	8.37878E-07	0.8378781
578188.954140097.28	578188.95	4140097.3	0.006070912	0.007090831	0.008863539	0.007090831	0.010636247	0.005318124	0.007090831	3.46925E-08	7.57019E-07	7.91712E-07	0.7917116
578188.954140105.28	578188.95	4140105.3	0.005786435	0.006600359	0.008250449	0.006600359	0.009900539	0.00495027	0.006600359	3.28782E-08	7.04656E-07	7.37534E-07	0.7375344
578188.954140113.28	578188.95	4140113.3	0.005516738	0.006048693	0.007560867	0.006048693	0.00907304	0.00453652	0.006048693	3.10549E-08	6.4576E-07	6.76815E-07	0.676815
578196.954140081.28	578196.95	4140081.3	0.005829967	0.006300667	0.007875834	0.006300667	0.009451001	0.004725501	0.006300667	3.27091E-08	6.72661E-07	7.0537E-07	0.70537
578196.954140089.28	578196.95	4140089.3	0.005574659	0.00598129	0.007476612	0.00598129	0.008971935	0.004485967	0.00598129	3.12248E-08	6.38564E-07	6.69789E-07	0.669789

578196.954140097.28	578196.95	4140097.3	0.005330879	0.005615328	0.00701916	0.005615328	0.008422992	0.004211496	0.005615328	2.97349E-08	5.99494E-07	6.29229E-07	0.6292289
578196.954140105.28	578196.95	4140105.3	0.005100582	0.00521192	0.006514901	0.00521192	0.007817881	0.00390894	0.00521192	2.82586E-08	5.56426E-07	5.84685E-07	0.5846846
578204.954140097.28	578204.95	4140097.3	0.004725387	0.0045346	0.00566825	0.0045346	0.0068019	0.00340095	0.0045346	2.58295E-08	4.84115E-07	5.09945E-07	0.5099446
578001.424140037.45	578001.42	4140037.5	0.01291343	0.002267149	0.002833936	0.002267149	0.003400723	0.001700361	0.002267149	5.85146E-08	2.42041E-07	3.00556E-07	0.300556
578001.424140045.45	578001.42	4140045.5	0.01380486	0.002328272	0.002910341	0.002328272	0.003492409	0.001746204	0.002328272	6.24402E-08	2.48567E-07	3.11007E-07	0.3110072
578009.424140029.45	578009.42	4140029.5	0.014592696	0.002682335	0.003352918	0.002682335	0.004023502	0.002011751	0.002682335	6.62673E-08	2.86367E-07	3.52634E-07	0.3526341
578009.424140037.45	578009.42	4140037.5	0.015748279	0.002782533	0.003478166	0.002782533	0.004173799	0.0020869	0.002782533	7.13812E-08	2.97064E-07	3.68445E-07	0.3684451
578009.424140045.45	578009.42	4140045.5	0.017037546	0.002885765	0.003607206	0.002885765	0.004328647	0.002164324	0.002885765	7.70764E-08	3.08085E-07	3.85161E-07	0.3851615
578017.424140029.45	578017.42	4140029.5	0.017547041	0.003271669	0.004089586	0.003271669	0.004907504	0.002453752	0.003271669	7.97386E-08	3.49284E-07	4.29023E-07	0.4290229
578017.424140037.45	578017.42	4140037.5	0.01913734	0.003426631	0.004283288	0.003426631	0.005139946	0.002569973	0.003426631	8.67966E-08	3.65828E-07	4.52625E-07	0.4526246
578025.424140021.45	578025.42	4140021.5	0.019082431	0.003777054	0.004721318	0.003777054	0.005665581	0.002832791	0.003777054	8.6977E-08	4.03239E-07	4.90216E-07	0.4902164
578025.424140029.45	578025.42	4140029.5	0.020954182	0.003996526	0.004995658	0.003996526	0.005994789	0.002997395	0.003996526	9.53284E-08	4.2667E-07	5.21999E-07	0.5219986
578033.424140013.45	578033.42	4140013.5	0.020248207	0.00427689	0.005346113	0.00427689	0.006415335	0.003207668	0.00427689	9.26114E-08	4.56602E-07	5.49213E-07	0.5492134
578033.424140021.45	578033.42	4140021.5	0.022324692	0.004564476	0.005705595	0.004564476	0.006846714	0.003423357	0.004564476	1.01929E-07	4.87305E-07	5.89234E-07	0.5892335
578041.424140013.45	578041.42	4140013.5	0.023181687	0.00510823	0.006385287	0.00510823	0.007662345	0.003831172	0.00510823	1.06281E-07	5.45356E-07	6.51637E-07	0.651637
578041.424140021.45	578041.42	4140021.5	0.025726566	0.005501623	0.006877029	0.005501623	0.008252435	0.004126218	0.005501623	1.17749E-07	5.87355E-07	7.05104E-07	0.7051038
578049.424140005.45	578049.42	4140005.5	0.023492938	0.005600491	0.007000614	0.005600491	0.008400736	0.004200368	0.005600491	1.08213E-07	5.9791E-07	7.06123E-07	0.7061231
578049.424140013.45	578049.42	4140013.5	0.026063659	0.006070334	0.007587918	0.006070334	0.009105502	0.004552751	0.006070334	1.19884E-07	6.48071E-07	7.67955E-07	0.7679545
578049.424140021.45	578049.42	4140021.5	0.029056534	0.006594589	0.008243236	0.006594589	0.009891883	0.004945942	0.006594589	1.33444E-07	7.0404E-07	8.37484E-07	0.8374842
578049.424140029.45	578049.42	4140029.5	0.032577111	0.007184271	0.008980339	0.007184271	0.010776406	0.005388203	0.007184271	1.49363E-07	7.66995E-07	9.16358E-07	0.9163577
578057.424139997.45	578057.42	4139997.5	0.023310607	0.006025197	0.007531497	0.006025197	0.009037796	0.004518898	0.006025197	1.07931E-07	6.43252E-07	7.51183E-07	0.7511832
578057.424140005.45	578057.42	4140005.5	0.025790875	0.006557112	0.00819639	0.006557112	0.009835668	0.004917834	0.006557112	1.19285E-07	7.00039E-07	8.19324E-07	0.8193244
578057.424140013.45	578057.42	4140013.5	0.028671978	0.007159243	0.008949054	0.007159243	0.010738864	0.005369432	0.007159243	1.32455E-07	7.64323E-07	8.96778E-07	0.896778
578057.424140021.45	578057.42	4140021.5	0.032037074	0.007841664	0.00980208	0.007841664	0.011762496	0.005881248	0.007841664	1.47813E-07	8.37178E-07	9.84991E-07	0.984991
578057.424140029.45	578057.42	4140029.5	0.035995554	0.008617545	0.010771931	0.008617545	0.012926317	0.006463159	0.008617545	1.65846E-07	9.20011E-07	1.08586E-06	1.0858577
578057.424140037.45	578057.42	4140037.5	0.040701676	0.009506984	0.01188373	0.009506984	0.014260476	0.007130238	0.009506984	1.87246E-07	1.01497E-06	1.20221E-06	1.2022147
578057.424140045.45	578057.42	4140045.5	0.046352627	0.010532904	0.01316613	0.010532904	0.015799356	0.007899678	0.010532904	2.12893E-07	1.1245E-06	1.33739E-06	1.3373886
578065.424140005.45	578065.42	4140005.5	0.027699796	0.007610696	0.00951337	0.007610696	0.011416044	0.005708022	0.007610696	1.28792E-07	8.1252E-07	9.41312E-07	0.9413118
578065.424140021.45	578065.42	4140021.5	0.034389455	0.009231358	0.011539197	0.009231358	0.013847037	0.006923518	0.009231358	1.59637E-07	9.85542E-07	1.14518E-06	1.1451789
578065.424140029.45	578065.42	4140029.5	0.038612403	0.010229558	0.012786948	0.010229558	0.015344337	0.007672169	0.010229558	1.79078E-07	1.09211E-06	1.27119E-06	1.2711886
578065.424140037.45	578065.42	4140037.5	0.043588336	0.011379878	0.014224847	0.011379878	0.017069816	0.008534908	0.011379878	2.01956E-07	1.21492E-06	1.41687E-06	1.4168744
578065.424140045.45	578065.42	4140045.5	0.049519705	0.012721738	0.015902172	0.012721738	0.019082607	0.009541303	0.012721738	2.29191E-07	1.35818E-06	1.58737E-06	1.5873668
578065.424140053.45	578065.42	4140053.5	0.056687612	0.014311571	0.017889464	0.014311571	0.021467356	0.010733678	0.014311571	2.62066E-07	1.52791E-06	1.78997E-06	1.7899729
578073.424139989.45	578073.42	4139989.5	0.023901673	0.007230789	0.009038486	0.007230789	0.010846184	0.005423092	0.007230789	1.11923E-07	7.71961E-07	8.83884E-07	0.8838845
578073.424140029.45	578073.42	4140029.5	0.040128238	0.011983742	0.014979677	0.011983742	0.017975613	0.008987806	0.011983742	1.87721E-07	1.27939E-06	1.46711E-06	1.4671086
578073.424140037.45	578073.42	4140037.5	0.045089656	0.01344539	0.016806738	0.01344539	0.020168086	0.010084043	0.01344539	2.10907E-07	1.43543E-06	1.64634E-06	1.6463404
578073.424140045.45	578073.42	4140045.5	0.050914268	0.01516752	0.018959401	0.01516752	0.022751281	0.01137564	0.01516752	2.38134E-07	1.61929E-06	1.85742E-06	1.8574225
578081.424139981.45	578081.42	4139981.5	0.022533469	0.007398144	0.00924768	0.007398144	0.011097215	0.005548608	0.007398144	1.0621E-07	7.89828E-07	8.96037E-07	0.8960375
578081.424139989.45	578081.42	4139989.5	0.024650727	0.008122078	0.010152598	0.008122078	0.012183117	0.006091559	0.008122078	1.16224E-07	8.67115E-07	9.83339E-07	0.9833388
578081.424139997.45	578081.42	4139997.5	0.027044434	0.008951397	0.011189246	0.008951397	0.013427096	0.006713548	0.008951397	1.27558E-07	9.55654E-07	1.08321E-06	1.0832114
578081.424140005.45	578081.42	4140005.5	0.029755605	0.009904707	0.012380884	0.009904707	0.014857061	0.00742853	0.009904707	1.40412E-07	1.05743E-06	1.19784E-06	1.1978413
578081.424140021.45	578081.42	4140021.5	0.036366251	0.012303473	0.015379341	0.012303473	0.018455209	0.009227604	0.012303473	1.71843E-07	1.31352E-06	1.48537E-06	1.4853651
578081.424140029.45	578081.42	4140029.5	0.040406818	0.013827343	0.017284179	0.013827343	0.020741015	0.010370508	0.013827343	1.91123E-07	1.47621E-06	1.66733E-06	1.6673341
578081.424140037.45	578081.42	4140037.5	0.045041197	0.015631165	0.019538956	0.015631165	0.023446747	0.011723374	0.015631165	2.13303E-07	1.66879E-06	1.88209E-06	1.8820909
578089.424139981.45	578089.42	4139981.5	0.022851058	0.008166676	0.010208345	0.008166676	0.012250014	0.006125007	0.008166676	1.08499E-07	8.71877E-07	9.80375E-07	0.9803751
578089.424139989.45	578089.42	4139989.5	0.024905443	0.009000934	0.011251168	0.009000934	0.013501401	0.006750701	0.009000934	1.18372E-07	9.60942E-07	1.07931E-06	1.0793144
578089.424139997.45	578089.42	4139997.5	0.027189961	0.009952762	0.012440953	0.009952762	0.014929144	0.007464572	0.009952762	1.29381E-07	1.06256E-06	1.19194E-06	1.1919403
578089.424140005.45	578089.42	4140005.5	0.029744719	0.011052925	0.013816156	0.011052925	0.016579387	0.008289694	0.011052925	1.41734E-07	1.18001E-06	1.32175E-06	1.3217472
578089.424140013.45	578089.42	4140013.5	0.032615868	0.012340863	0.015426079	0.012340863	0.018511295	0.009255648	0.012340863	1.55679E-07	1.31751E-06	1.47319E-06	1.4731925
578089.424140021.45	578089.42	4140021.5	0.035836004	0.013854443	0.017318054	0.013854443	0.020781664	0.010390832	0.013854443	1.714E-07	1.4791E-06	1.6505E-06	1.6505046
578089.424140029.45	578089.42	4140029.5	0.039447992	0.015648522	0.019560653	0.015648522	0.023472784	0.011736392	0.015648522	1.8915E-07	1.67064E-06	1.85979E-06	1.859791
578097.424139989.45	578097.42	4139989.5	0.024639979	0.009804927	0.012256159	0.009804927	0.014707391	0.007353696	0.009804927	1.18183E-07	1.04678E-06	1.16496E-06	1.1649602
578097.424139997.45	578097.42	4139997.5	0.026749765	0.010877804	0.013597255	0.010877804	0.016316706	0.008158353	0.010877804	1.28581E-07	1.16132E-06	1.2899E-06	1.2898984
578097.424140005.45	578097.42	4140005.5	0.029057769	0.012112803	0.015141004	0.012112803	0.018169205	0.009084603	0.012112803	1.40029E-07	1.29317E-06	1.43319E-06	1.4331949
578097.424140013.45	578097.42	4140013.5	0.031601074	0.013561469	0.016951836	0.013561469	0.020342204	0.010171102	0.013561469	1.52748E-07	1.44783E-06	1.60057E-06	1.6005741
578097.424140021.45	578097.42	4140021.5	0.034391509	0.01527106	0.019088825	0.01527106	0.02290659	0.011453295	0.01527106	1.66846E-07	1.63034E-06	1.79719E-06	1.797189
578105.424140005.45	578105.42	4140005.5	0.027773165	0.012990661	0.016238327	0.012990661	0.019485992	0.009742996	0.012990661	1.35523E-07	1.38689E-06	1.52241E-06	1.5224098
578105.424140013.45	578105.42	4140013.5	0.02992594	0.014559271	0.018199089	0.014559271	0.021838907	0.010919454	0.014559271	1.46698E-07	1.55435E-06	1.70105E-06	1.7010495

578172.954140089.28	578172.95	4140089.3	0.008487992	0.012131668	0.015164585	0.012131668	0.018197502	0.009098751	0.012131668	5.11491E-08	1.29518E-06	1.34633E-06	1.3463293
578172.954140097.28	578172.95	4140097.3	0.008040248	0.011766024	0.01470753	0.011766024	0.017649036	0.008824518	0.011766024	4.8778E-08	1.25614E-06	1.30492E-06	1.3049219
578172.954140105.28	578172.95	4140105.3	0.007616633	0.01122227	0.014027838	0.01122227	0.016833405	0.008416703	0.01122227	4.62989E-08	1.19809E-06	1.24439E-06	1.2443915
578172.954140113.28	578172.95	4140113.3	0.007222766	0.01049199	0.013114988	0.01049199	0.015737985	0.007868993	0.01049199	4.37259E-08	1.12013E-06	1.16385E-06	1.1638536
578172.954140121.28	578172.95	4140121.3	0.006854564	0.009512498	0.011890622	0.009512498	0.014268747	0.007134373	0.009512498	4.09667E-08	1.01556E-06	1.05652E-06	1.0565236
578180.954140065.28	578180.95	4140065.3	0.00843685	0.010131658	0.012664573	0.010131658	0.015197488	0.007598744	0.010131658	4.85435E-08	1.08166E-06	1.1302E-06	1.1302021
578180.954140073.28	578180.95	4140073.3	0.008082873	0.010032917	0.012541146	0.010032917	0.015049375	0.007524688	0.010032917	4.68959E-08	1.07112E-06	1.11801E-06	1.1180129
578180.954140081.28	578180.95	4140081.3	0.007696755	0.009835197	0.012293996	0.009835197	0.014752796	0.007376398	0.009835197	4.49914E-08	1.05001E-06	1.095E-06	1.0949997
578180.954140089.28	578180.95	4140089.3	0.00731778	0.009529039	0.011911299	0.009529039	0.014293558	0.007146779	0.009529039	4.29884E-08	1.01732E-06	1.06031E-06	1.0603112
578180.954140097.28	578180.95	4140097.3	0.006954618	0.009103062	0.011378828	0.009103062	0.013654594	0.006827297	0.009103062	4.0911E-08	9.71845E-07	1.01276E-06	1.0127564
578180.954140105.28	578180.95	4140105.3	0.006609663	0.008549234	0.010686543	0.008549234	0.012823851	0.006411926	0.008549234	3.87598E-08	9.12719E-07	9.51478E-07	0.9514783
578180.954140113.28	578180.95	4140113.3	0.006284225	0.00786955	0.009836937	0.00786955	0.011804324	0.005902162	0.00786955	3.65429E-08	8.40155E-07	8.76698E-07	0.8766981
578188.954140073.28	578188.95	4140073.3	0.006988449	0.0080996	0.0101245	0.0080996	0.012149401	0.0060747	0.0080996	3.98608E-08	8.64716E-07	9.04576E-07	0.9045764
578188.954140081.28	578188.95	4140081.3	0.006683523	0.007842722	0.009803403	0.007842722	0.011764083	0.005882042	0.007842722	3.82366E-08	8.37291E-07	8.75528E-07	0.8755278
578188.954140089.28	578188.95	4140089.3	0.006370407	0.007506496	0.00938312	0.007506496	0.011259744	0.005629872	0.007506496	3.64825E-08	8.01396E-07	8.37878E-07	0.8378781
578188.954140097.28	578188.95	4140097.3	0.006070912	0.007090831	0.008863539	0.007090831	0.010636247	0.005318124	0.007090831	3.46925E-08	7.57019E-07	7.91712E-07	0.7917116
578188.954140105.28	578188.95	4140105.3	0.005786435	0.006600359	0.008250449	0.006600359	0.009900539	0.00495027	0.006600359	3.28782E-08	7.04656E-07	7.37534E-07	0.7375344
578188.954140113.28	578188.95	4140113.3	0.005516738	0.006048693	0.007560867	0.006048693	0.00907304	0.00453652	0.006048693	3.10549E-08	6.4576E-07	6.76815E-07	0.676815
578196.954140081.28	578196.95	4140081.3	0.005829967	0.006300667	0.007875834	0.006300667	0.009451001	0.004725501	0.006300667	3.27091E-08	6.72661E-07	7.0537E-07	0.70537
578196.954140089.28	578196.95	4140089.3	0.005574659	0.00598129	0.007476612	0.00598129	0.008971935	0.004485967	0.00598129	3.12248E-08	6.38564E-07	6.69789E-07	0.669789
578196.954140097.28	578196.95	4140097.3	0.005330879	0.005615328	0.00701916	0.005615328	0.008422992	0.004211496	0.005615328	2.97349E-08	5.99494E-07	6.29229E-07	0.6292289
578196.954140105.28	578196.95	4140105.3	0.005100582	0.00521192	0.006514901	0.00521192	0.007817881	0.00390894	0.00521192	2.82586E-08	5.56426E-07	5.84685E-07	0.5846846
578204.954140097.28	578204.95	4140097.3	0.004725387	0.0045346	0.00566825	0.0045346	0.0068019	0.00340095	0.0045346	2.58295E-08	4.84115E-07	5.09945E-07	0.5099446
578001.424140037.45	578001.42	4140037.5	0.01291343	0.002267149	0.002833936	0.002267149	0.003400723	0.001700361	0.002267149	5.85146E-08	2.42041E-07	3.00556E-07	0.300556
578001.424140045.45	578001.42	4140045.5	0.01380486	0.002328272	0.002910341	0.002328272	0.003492409	0.001746204	0.002328272	6.24402E-08	2.48567E-07	3.11007E-07	0.3110072
578009.424140029.45	578009.42	4140029.5	0.014592696	0.002682335	0.003352918	0.002682335	0.004023502	0.002011751	0.002682335	6.62673E-08	2.86367E-07	3.52634E-07	0.3526341
578009.424140037.45	578009.42	4140037.5	0.015748279	0.002782533	0.003478166	0.002782533	0.004173799	0.0020869	0.002782533	7.13812E-08	2.97064E-07	3.68445E-07	0.3684451
578009.424140045.45	578009.42	4140045.5	0.017037546	0.002885765	0.003607206	0.002885765	0.004328647	0.002164324	0.002885765	7.70764E-08	3.08085E-07	3.85161E-07	0.3851615
578017.424140029.45	578017.42	4140029.5	0.017547041	0.003271669	0.004089586	0.003271669	0.004907504	0.002453752	0.003271669	7.97386E-08	3.49284E-07	4.29023E-07	0.4290229
578017.424140037.45	578017.42	4140037.5	0.01913734	0.003426631	0.004283288	0.003426631	0.005139946	0.002569973	0.003426631	8.67966E-08	3.65828E-07	4.52625E-07	0.4526246
578025.424140021.45	578025.42	4140021.5	0.019082431	0.003777054	0.004721318	0.003777054	0.005665581	0.002832791	0.003777054	8.6977E-08	4.03239E-07	4.90216E-07	0.4902164
578025.424140029.45	578025.42	4140029.5	0.020954182	0.003996526	0.004995658	0.003996526	0.005994789	0.002997395	0.003996526	9.53284E-08	4.2667E-07	5.21999E-07	0.5219986
578033.424140013.45	578033.42	4140013.5	0.020248207	0.00427689	0.005346113	0.00427689	0.006415335	0.003207668	0.00427689	9.26114E-08	4.56602E-07	5.49213E-07	0.5492134
578033.424140021.45	578033.42	4140021.5	0.022324692	0.004564476	0.005705595	0.004564476	0.006846714	0.003423357	0.004564476	1.01929E-07	4.87305E-07	5.89234E-07	0.5892335
578041.424140013.45	578041.42	4140013.5	0.023181687	0.00510823	0.006385287	0.00510823	0.007662345	0.003831172	0.00510823	1.06281E-07	5.45356E-07	6.51637E-07	0.651637
578041.424140021.45	578041.42	4140021.5	0.025726566	0.005501623	0.006877029	0.005501623	0.008252435	0.004126218	0.005501623	1.17749E-07	5.87355E-07	7.05104E-07	0.7051038
578049.424140005.45	578049.42	4140005.5	0.023492938	0.005600491	0.007000614	0.005600491	0.008400736	0.004200368	0.005600491	1.08213E-07	5.9791E-07	7.06123E-07	0.7061231
578049.424140013.45	578049.42	4140013.5	0.026063659	0.006070334	0.007587918	0.006070334	0.009105502	0.004552751	0.006070334	1.19884E-07	6.48071E-07	7.67955E-07	0.7679545
578049.424140021.45	578049.42	4140021.5	0.029056534	0.006594589	0.008243236	0.006594589	0.009891883	0.004945942	0.006594589	1.33444E-07	7.0404E-07	8.37484E-07	0.8374842
578049.424140029.45	578049.42	4140029.5	0.032577111	0.007184271	0.008980339	0.007184271	0.010776406	0.005388203	0.007184271	1.49363E-07	7.66995E-07	9.16358E-07	0.9163577

4335 & 4345 El Camino Real Construction Health Risk Assessment

Offroad DPM Emissions, Ground Level Concentrations and Health Risk Calculations
Residential Receptors

Phase		Year	Emissions (lbs/day)	Work Hours Per Day	Emissions (g/s)
Demolition	3.2. Demolition (20	2026	0.005	10	6.29986E-05
Site Preparation	3.4. Site Preparatio	2026	0.000	10	0
Grading	3.6. Grading (2026)	2026	0.005	10	6.29986E-05
Building Construction	3.8. Building Const	2027	0.005	10	6.29986E-05
Paving	3.10. Paving (2027)	2027	0.005	10	6.29986E-05
Architectural Coating	3.12. Architectural	2027	0.000	10	0
Trenching	3.14. Trenching (20	2026	0.000	10	0

Max Haul Cancer Risk
0.08

	AERMOD Column Identifier:	*6*	*6*	*6*	*6*	*6*	*6*	*6*				
											MAX:	0.076765
Unique Identifier	X (UTM)	Y (UTM)	Demolition 2026	Site Preparation 2026	Grading 2026	Building Construction 2027	Paving 2027	Architectural Coating 2027	Trenching 2026	3rd Trimester	Child Risk 0<2	Total	per million
578048.554140246.42	578048.55	4140246.4	4.11242E-05	0	4.11242E-05	4.11242E-05	4.11242E-05	0	0	2.02253E-10	3.92317E-09	4.125E-09	0.0041254
578066.414140268	578066.41	4140268	3.11295E-05	0	3.11295E-05	3.11295E-05	3.11295E-05	0	0	1.53098E-10	2.96969E-09	3.123E-09	0.0031228
578068.454140241.25	578068.45	4140241.3	4.08729E-05	0	4.08729E-05	4.08729E-05	4.08729E-05	0	0	2.01017E-10	3.89919E-09	4.1E-09	0.0041002
578054.694140253.42	578054.69	4140253.4	3.7178E-05	0	3.7178E-05	3.7178E-05	3.7178E-05	0	0	1.82845E-10	3.54671E-09	3.73E-09	0.0037296
578061.934140261.73	578061.93	4140261.7	3.34038E-05	0	3.34038E-05	3.34038E-05	3.34038E-05	0	0	1.64283E-10	3.18665E-09	3.351E-09	0.0033509
578046.974140254.6	578046.97	4140254.6	3.75396E-05	0	3.75396E-05	3.75396E-05	3.75396E-05	0	0	1.84624E-10	3.5812E-09	3.766E-09	0.0037658
5780634140234.38	578063	4140234.4	4.54888E-05	0	4.54888E-05	4.54888E-05	4.54888E-05	0	0	2.23719E-10	4.33954E-09	4.563E-09	0.0045633
578076.524140257.17	578076.52	4140257.2	3.356E-05	0	3.356E-05	3.356E-05	3.356E-05	0	0	1.65052E-10	3.20156E-09	3.367E-09	0.0033666
578071.934140251.73	578071.93	4140251.7	3.59413E-05	0	3.59413E-05	3.59413E-05	3.59413E-05	0	0	1.76763E-10	3.42873E-09	3.605E-09	0.0036055
578071.934140271.73	578071.93	4140271.7	2.97379E-05	0	2.97379E-05	2.97379E-05	2.97379E-05	0	0	1.46254E-10	2.83693E-09	2.983E-09	0.0029832
578057.74140269.42	578057.7	4140269.4	3.13563E-05	0	3.13563E-05	3.13563E-05	3.13563E-05	0	0	1.54214E-10	2.99133E-09	3.146E-09	0.0031455
578081.934140221.73	578081.93	4140221.7	4.94766E-05	0	4.94766E-05	4.94766E-05	4.94766E-05	0	0	2.43331E-10	4.71997E-09	4.963E-09	0.0049633
578081.934140231.73	578081.93	4140231.7	4.34898E-05	0	4.34898E-05	4.34898E-05	4.34898E-05	0	0	2.13888E-10	4.14884E-09	4.363E-09	0.0043627
578081.934140251.73	578081.93	4140251.7	3.48137E-05	0	3.48137E-05	3.48137E-05	3.48137E-05	0	0	1.71217E-10	3.32115E-09	3.492E-09	0.0034924
578081.934140261.73	578081.93	4140261.7	3.1665E-05	0	3.1665E-05	3.1665E-05	3.1665E-05	0	0	1.55732E-10	3.02078E-09	3.177E-09	0.0031765
578066.734140278.97	578066.73	4140279	2.82776E-05	0	2.82776E-05	2.82776E-05	2.82776E-05	0	0	1.39072E-10	2.69762E-09	2.837E-09	0.0028367
578091.934140221.73	578091.93	4140221.7	4.69636E-05	0	4.69636E-05	4.69636E-05	4.69636E-05	0	0	2.30972E-10	4.48023E-09	4.711E-09	0.0047112
578091.934140231.73	578091.93	4140231.7	4.16263E-05	0	4.16263E-05	4.16263E-05	4.16263E-05	0	0	2.04723E-10	3.97107E-09	4.176E-09	0.0041758
578091.934140241.73	578091.93	4140241.7	3.72775E-05	0	3.72775E-05	3.72775E-05	3.72775E-05	0	0	1.83335E-10	3.5562E-09	3.74E-09	0.0037395
578081.564140270.42	578081.56	4140270.4	2.94008E-05	0	2.94008E-05	2.94008E-05	2.94008E-05	0	0	1.44596E-10	2.80478E-09	2.949E-09	0.0029494
578101.934140211.73	578101.93	4140211.7	4.9653E-05	0	4.9653E-05	4.9653E-05	4.9653E-05	0	0	2.44199E-10	4.7368E-09	4.981E-09	0.004981
578101.934140221.73	578101.93	4140221.7	4.41066E-05	0	4.41066E-05	4.41066E-05	4.41066E-05	0	0	2.16921E-10	4.20768E-09	4.425E-09	0.0044246
578101.934140231.73	578101.93	4140231.7	3.95512E-05	0	3.95512E-05	3.95512E-05	3.95512E-05	0	0	1.94517E-10	3.7731E-09	3.968E-09	0.0039676
578101.934140241.73	578101.93	4140241.7	3.58248E-05	0	3.58248E-05	3.58248E-05	3.58248E-05	0	0	1.7619E-10	3.41761E-09	3.594E-09	0.0035938
578101.934140251.73	578101.93	4140251.7	3.26755E-05	0	3.26755E-05	3.26755E-05	3.26755E-05	0	0	1.60702E-10	3.11718E-09	3.278E-09	0.0032779
578114.354140204.87	578114.35	4140204.9	4.93544E-05	0	4.93544E-05	4.93544E-05	4.93544E-05	0	0	2.4273E-10	4.70831E-09	4.951E-09	0.004951

578111.934140211.73	578111.93	4140211.7	4.60854E-05	0	4.60854E-05	4.60854E-05	4.60854E-05	0	0	2.26653E-10	4.39645E-09	4.623E-09	0.0046231
578111.934140221.73	578111.93	4140221.7	4.14537E-05	0	4.14537E-05	4.14537E-05	4.14537E-05	0	0	2.03874E-10	3.9546E-09	4.158E-09	0.0041585
578111.934140231.73	578111.93	4140231.7	3.76839E-05	0	3.76839E-05	3.76839E-05	3.76839E-05	0	0	1.85333E-10	3.59497E-09	3.78E-09	0.0037803
578111.934140241.73	578111.93	4140241.7	3.44325E-05	0	3.44325E-05	3.44325E-05	3.44325E-05	0	0	1.69343E-10	3.28479E-09	3.454E-09	0.0034541
578121.934140201.73	578121.93	4140201.7	4.86078E-05	0	4.86078E-05	4.86078E-05	4.86078E-05	0	0	2.39059E-10	4.63709E-09	4.876E-09	0.0048761
578121.934140211.73	578121.93	4140211.7	4.33632E-05	0	4.33632E-05	4.33632E-05	4.33632E-05	0	0	2.13265E-10	4.13676E-09	4.35E-09	0.00435
578121.934140221.73	578121.93	4140221.7	3.93672E-05	0	3.93672E-05	3.93672E-05	3.93672E-05	0	0	1.93612E-10	3.75555E-09	3.949E-09	0.0039492
578121.934140231.73	578121.93	4140231.7	3.60087E-05	0	3.60087E-05	3.60087E-05	3.60087E-05	0	0	1.77095E-10	3.43516E-09	3.612E-09	0.0036123
578121.934140241.73	578121.93	4140241.7	3.3124E-05	0	3.3124E-05	3.3124E-05	3.3124E-05	0	0	1.62908E-10	3.15997E-09	3.323E-09	0.0033229
578133.384140194.38	578133.38	4140194.4	4.88019E-05	0	4.88019E-05	4.88019E-05	4.88019E-05	0	0	2.40013E-10	4.6556E-09	4.896E-09	0.0048956
578131.934140201.73	578131.93	4140201.7	4.55329E-05	0	4.55329E-05	4.55329E-05	4.55329E-05	0	0	2.23936E-10	4.34375E-09	4.568E-09	0.0045677
578131.934140211.73	578131.93	4140211.7	4.11765E-05	0	4.11765E-05	4.11765E-05	4.11765E-05	0	0	2.02511E-10	3.92816E-09	4.131E-09	0.0041307
578131.934140221.73	578131.93	4140221.7	3.76032E-05	0	3.76032E-05	3.76032E-05	3.76032E-05	0	0	1.84937E-10	3.58727E-09	3.772E-09	0.0037722
578131.934140231.73	578131.93	4140231.7	3.45749E-05	0	3.45749E-05	3.45749E-05	3.45749E-05	0	0	1.70043E-10	3.29838E-09	3.468E-09	0.0034684
578141.934140201.73	578141.93	4140201.7	4.29027E-05	0	4.29027E-05	4.29027E-05	4.29027E-05	0	0	2.11E-10	4.09283E-09	4.304E-09	0.0043038
578141.934140211.73	578141.93	4140211.7	3.91631E-05	0	3.91631E-05	3.91631E-05	3.91631E-05	0	0	1.92608E-10	3.73608E-09	3.929E-09	0.0039287
578141.934140221.73	578141.93	4140221.7	3.59829E-05	0	3.59829E-05	3.59829E-05	3.59829E-05	0	0	1.76968E-10	3.4327E-09	3.61E-09	0.0036097
578141.934140231.73	578141.93	4140231.7	3.32374E-05	0	3.32374E-05	3.32374E-05	3.32374E-05	0	0	1.63465E-10	3.17079E-09	3.334E-09	0.0033343
578151.934140221.73	578151.93	4140221.7	3.44785E-05	0	3.44785E-05	3.44785E-05	3.44785E-05	0	0	1.69569E-10	3.28918E-09	3.459E-09	0.0034588
578169.174140166.31	578169.17	4140166.3	4.97166E-05	0	4.97166E-05	4.97166E-05	4.97166E-05	0	0	2.44512E-10	4.74287E-09	4.987E-09	0.0049874
578175.314140159.08	578175.31	4140159.1	5.07674E-05	0	5.07674E-05	5.07674E-05	5.07674E-05	0	0	2.4968E-10	4.84311E-09	5.093E-09	0.0050928
578171.934140171.73	578171.93	4140171.7	4.66341E-05	0	4.66341E-05	4.66341E-05	4.66341E-05	0	0	2.29352E-10	4.4488E-09	4.678E-09	0.0046782
578171.934140181.73	578171.93	4140181.7	4.29846E-05	0	4.29846E-05	4.29846E-05	4.29846E-05	0	0	2.11403E-10	4.10064E-09	4.312E-09	0.004312
578181.934140151.73	578181.93	4140151.7	5.16349E-05	0	5.16349E-05	5.16349E-05	5.16349E-05	0	0	2.53946E-10	4.92587E-09	5.18E-09	0.0051798
578181.934140161.73	578181.93	4140161.7	4.75923E-05	0	4.75923E-05	4.75923E-05	4.75923E-05	0	0	2.34064E-10	4.54021E-09	4.774E-09	0.0047743
5781804140184.63	578180	4140184.6	4.03103E-05	0	4.03103E-05	4.03103E-05	4.03103E-05	0	0	1.9825E-10	3.84552E-09	4.044E-09	0.0040438
578181.934140191.73	578181.93	4140191.7	3.79189E-05	0	3.79189E-05	3.79189E-05	3.79189E-05	0	0	1.86489E-10	3.61738E-09	3.804E-09	0.0038039
578191.934140141.73	578191.93	4140141.7	5.24678E-05	0	5.24678E-05	5.24678E-05	5.24678E-05	0	0	2.58042E-10	5.00532E-09	5.263E-09	0.0052634
578191.934140151.73	578191.93	4140151.7	4.85165E-05	0	4.85165E-05	4.85165E-05	4.85165E-05	0	0	2.38609E-10	4.62838E-09	4.867E-09	0.004867
578191.934140161.73	578191.93	4140161.7	4.49823E-05	0	4.49823E-05	4.49823E-05	4.49823E-05	0	0	2.21228E-10	4.29122E-09	4.512E-09	0.0045124
578191.934140191.73	578191.93	4140191.7	3.63785E-05	0	3.63785E-05	3.63785E-05	3.63785E-05	0	0	1.78914E-10	3.47044E-09	3.649E-09	0.0036494
578191.934140201.73	578191.93	4140201.7	3.40759E-05	0	3.40759E-05	3.40759E-05	3.40759E-05	0	0	1.67589E-10	3.25078E-09	3.418E-09	0.0034184
578191.934140211.73	578191.93	4140211.7	3.19976E-05	0	3.19976E-05	3.19976E-05	3.19976E-05	0	0	1.57368E-10	3.05251E-09	3.21E-09	0.0032099
578201.934140141.73	578201.93	4140141.7	4.94193E-05	0	4.94193E-05	4.94193E-05	4.94193E-05	0	0	2.43049E-10	4.7145E-09	4.958E-09	0.0049575
578201.934140151.73	578201.93	4140151.7	4.59304E-05	0	4.59304E-05	4.59304E-05	4.59304E-05	0	0	2.25891E-10	4.38167E-09	4.608E-09	0.0046076
578201.934140161.73	578201.93	4140161.7	4.27735E-05	0	4.27735E-05	4.27735E-05	4.27735E-05	0	0	2.10365E-10	4.08051E-09	4.291E-09	0.0042909
578201.934140171.73	578201.93	4140171.7	3.99468E-05	0	3.99468E-05	3.99468E-05	3.99468E-05	0	0	1.96463E-10	3.81084E-09	4.007E-09	0.0040073
578201.934140191.73	578201.93	4140191.7	3.50726E-05	0	3.50726E-05	3.50726E-05	3.50726E-05	0	0	1.72491E-10	3.34586E-09	3.518E-09	0.0035183
578201.934140201.73	578201.93	4140201.7	3.29741E-05	0	3.29741E-05	3.29741E-05	3.29741E-05	0	0	1.6217E-10	3.14566E-09	3.308E-09	0.0033078
578211.934140161.73	578211.93	4140161.7	4.0905E-05	0	4.0905E-05	4.0905E-05	4.0905E-05	0	0	2.01175E-10	3.90226E-09	4.103E-09	0.0041034
578211.934140191.73	578211.93	4140191.7	3.39556E-05	0	3.39556E-05	3.39556E-05	3.39556E-05	0	0	1.66997E-10	3.2393E-09	3.406E-09	0.0034063
578108.954140089.28	578108.95	4140089.3	0.000309329	0	0.000309329	0.000309329	0.000309329	0	0	1.52132E-09	2.95094E-08	3.103E-08	0.0310307
578108.954140097.28	578108.95	4140097.3	0.000269602	0	0.000269602	0.000269602	0.000269602	0	0	1.32593E-09	2.57195E-08	2.705E-08	0.0270454
578116.954140081.28	578116.95	4140081.3	0.000295251	0	0.000295251	0.000295251	0.000295251	0	0	1.45208E-09	2.81664E-08	2.962E-08	0.0296185
578116.954140089.28	578116.95	4140089.3	0.000255561	0	0.000255561	0.000255561	0.000255561	0	0	1.25688E-09	2.43801E-08	2.564E-08	0.0256369
578116.954140097.28	578116.95	4140097.3	0.000223144	0	0.000223144	0.000223144	0.000223144	0	0	1.09744E-09	2.12875E-08	2.238E-08	0.0223849
578116.954140105.28	578116.95	4140105.3	0.000196054	0	0.000196054	0.000196054	0.000196054	0	0	9.64216E-10	1.87032E-08	1.967E-08	0.0196674
578124.954140073.28	578124.95	4140073.3	0.00028581	0	0.00028581	0.00028581	0.00028581	0	0	1.40565E-09	2.72657E-08	2.867E-08	0.0286714

578124.954140081.28	578124.95	4140081.3	0.000246439	0	0.000246439	0.000246439	0.000246439	0	0	1.21201E-09	2.35098E-08	2.472E-08	0.0247218
578124.954140089.28	578124.95	4140089.3	0.000214523	0	0.000214523	0.000214523	0.000214523	0	0	1.05505E-09	2.04651E-08	2.152E-08	0.0215201
578124.954140097.28	578124.95	4140097.3	0.000188173	0	0.000188173	0.000188173	0.000188173	0	0	9.25456E-10	1.79513E-08	1.888E-08	0.0188768
578124.954140105.28	578124.95	4140105.3	0.000166143	0	0.000166143	0.000166143	0.000166143	0	0	8.1711E-10	1.58497E-08	1.667E-08	0.0166668
578124.954140113.28	578124.95	4140113.3	0.000147351	0	0.000147351	0.000147351	0.000147351	0	0	7.24686E-10	1.4057E-08	1.478E-08	0.0147816
578124.954140121.28	578124.95	4140121.3	0.000131311	0	0.000131311	0.000131311	0.000131311	0	0	6.45803E-10	1.25268E-08	1.317E-08	0.0131726
578132.954140065.28	578132.95	4140065.3	0.00027927	0	0.00027927	0.00027927	0.00027927	0	0	1.37348E-09	2.66418E-08	2.802E-08	0.0280153
578132.954140073.28	578132.95	4140073.3	0.000240031	0	0.000240031	0.000240031	0.000240031	0	0	1.1805E-09	2.28985E-08	2.408E-08	0.024079
578132.954140081.28	578132.95	4140081.3	0.000208704	0	0.000208704	0.000208704	0.000208704	0	0	1.02643E-09	1.991E-08	2.094E-08	0.0209364
578132.954140089.28	578132.95	4140089.3	0.000183184	0	0.000183184	0.000183184	0.000183184	0	0	9.0092E-10	1.74754E-08	1.838E-08	0.0183763
578132.954140105.28	578132.95	4140105.3	0.000143822	0	0.000143822	0.000143822	0.000143822	0	0	7.07332E-10	1.37203E-08	1.443E-08	0.0144277
578132.954140113.28	578132.95	4140113.3	0.000128544	0	0.000128544	0.000128544	0.000128544	0	0	6.32195E-10	1.22629E-08	1.29E-08	0.0128951
578132.954140121.28	578132.95	4140121.3	0.000115506	0	0.000115506	0.000115506	0.000115506	0	0	5.68071E-10	1.1019E-08	1.159E-08	0.0115871
578132.954140129.28	578132.95	4140129.3	0.000104315	0	0.000104315	0.000104315	0.000104315	0	0	5.13032E-10	9.95144E-09	1.046E-08	0.0104645
578140.954140057.28	578140.95	4140057.3	0.000275031	0	0.000275031	0.000275031	0.000275031	0	0	1.35263E-09	2.62374E-08	2.759E-08	0.02759
578140.954140065.28	578140.95	4140065.3	0.000235559	0	0.000235559	0.000235559	0.000235559	0	0	1.15851E-09	2.24719E-08	2.363E-08	0.0236304
578140.954140073.28	578140.95	4140073.3	0.000204614	0	0.000204614	0.000204614	0.000204614	0	0	1.00632E-09	1.95198E-08	2.053E-08	0.0205261
578140.954140081.28	578140.95	4140081.3	0.0001796	0	0.0001796	0.0001796	0.0001796	0	0	8.8329E-10	1.71334E-08	1.802E-08	0.0180167
578118.524140112.89	578118.52	4140112.9	0.000168153	0	0.000168153	0.000168153	0.000168153	0	0	8.26997E-10	1.60415E-08	1.687E-08	0.0168685
578140.954140113.28	578140.95	4140113.3	0.000113946	0	0.000113946	0.000113946	0.000113946	0	0	5.60397E-10	1.08702E-08	1.143E-08	0.0114306
578140.954140121.28	578140.95	4140121.3	0.000103085	0	0.000103085	0.000103085	0.000103085	0	0	5.06984E-10	9.83413E-09	1.034E-08	0.0103411
578140.954140129.28	578140.95	4140129.3	9.37961E-05	0	9.37961E-05	9.37961E-05	9.37961E-05	0	0	4.61299E-10	8.94796E-09	9.409E-09	0.0094093
578140.954140137.28	578140.95	4140137.3	8.55943E-05	0	8.55943E-05	8.55943E-05	8.55943E-05	0	0	4.20962E-10	8.16553E-09	8.586E-09	0.0085865
578148.954140049.28	578148.95	4140049.3	0.000273248	0	0.000273248	0.000273248	0.000273248	0	0	1.34386E-09	2.60673E-08	2.741E-08	0.0274111
578148.954140057.28	578148.95	4140057.3	0.000233659	0	0.000233659	0.000233659	0.000233659	0	0	1.14916E-09	2.22906E-08	2.344E-08	0.0234398
578148.954140065.28	578148.95	4140065.3	0.000202314	0	0.000202314	0.000202314	0.000202314	0	0	9.95001E-10	1.93003E-08	2.03E-08	0.0202953
578148.954140073.28	578148.95	4140073.3	0.000177133	0	0.000177133	0.000177133	0.000177133	0	0	8.71157E-10	1.68981E-08	1.777E-08	0.0177693
578111.194140102.62	578111.19	4140102.6	0.000233666	0	0.000233666	0.000233666	0.000233666	0	0	1.14919E-09	2.22912E-08	2.344E-08	0.0234404
578136.744140133.62	578136.74	4140133.6	9.40783E-05	0	9.40783E-05	9.40783E-05	9.40783E-05	0	0	4.62688E-10	8.97489E-09	9.438E-09	0.0094376
578148.954140121.28	578148.95	4140121.3	9.31038E-05	0	9.31038E-05	9.31038E-05	9.31038E-05	0	0	4.57894E-10	8.88191E-09	9.34E-09	0.0093398
578148.954140129.28	578148.95	4140129.3	8.52277E-05	0	8.52277E-05	8.52277E-05	8.52277E-05	0	0	4.19159E-10	8.13055E-09	8.55E-09	0.0085497
578148.954140137.28	578148.95	4140137.3	7.81781E-05	0	7.81781E-05	7.81781E-05	7.81781E-05	0	0	3.84489E-10	7.45804E-09	7.843E-09	0.0078425
578156.954140041.28	578156.95	4140041.3	0.000270938	0	0.000270938	0.000270938	0.000270938	0	0	1.3325E-09	2.5847E-08	2.718E-08	0.0271795
578156.954140049.28	578156.95	4140049.3	0.00023274	0	0.00023274	0.00023274	0.00023274	0	0	1.14464E-09	2.2203E-08	2.335E-08	0.0233476
578156.954140057.28	578156.95	4140057.3	0.000201628	0	0.000201628	0.000201628	0.000201628	0	0	9.9163E-10	1.92349E-08	2.023E-08	0.0202266
578156.954140065.28	578156.95	4140065.3	0.000176529	0	0.000176529	0.000176529	0.000176529	0	0	8.68189E-10	1.68405E-08	1.771E-08	0.0177087
578156.954140073.28	578156.95	4140073.3	0.000155813	0	0.000155813	0.000155813	0.000155813	0	0	7.66306E-10	1.48643E-08	1.563E-08	0.0156306
578156.954140113.28	578156.95	4140113.3	9.27837E-05	0	9.27837E-05	9.27837E-05	9.27837E-05	0	0	4.5632E-10	8.85138E-09	9.308E-09	0.0093077
578156.954140121.28	578156.95	4140121.3	8.49517E-05	0	8.49517E-05	8.49517E-05	8.49517E-05	0	0	4.17802E-10	8.10423E-09	8.522E-09	0.008522
578156.954140129.28	578156.95	4140129.3	7.81095E-05	0	7.81095E-05	7.81095E-05	7.81095E-05	0	0	3.84151E-10	7.45149E-09	7.836E-09	0.0078356
578164.954140041.28	578164.95	4140041.3	0.000230228	0	0.000230228	0.000230228	0.000230228	0	0	1.13229E-09	2.19633E-08	2.31E-08	0.0230956
578164.954140049.28	578164.95	4140049.3	0.000200456	0	0.000200456	0.000200456	0.000200456	0	0	9.85864E-10	1.91231E-08	2.011E-08	0.020109
578164.954140057.28	578164.95	4140057.3	0.000175898	0	0.000175898	0.000175898	0.000175898	0	0	8.65084E-10	1.67803E-08	1.765E-08	0.0176454
578164.954140065.28	578164.95	4140065.3	0.000155526	0	0.000155526	0.000155526	0.000155526	0	0	7.64893E-10	1.48369E-08	1.56E-08	0.0156018
578164.954140073.28	578164.95	4140073.3	0.000138492	0	0.000138492	0.000138492	0.000138492	0	0	6.81117E-10	1.32118E-08	1.389E-08	0.013893
578164.954140081.28	578164.95	4140081.3	0.000124107	0	0.000124107	0.000124107	0.000124107	0	0	6.1037E-10	1.18395E-08	1.245E-08	0.0124499
578164.954140105.28	578164.95	4140105.3	9.2664E-05	0	9.2664E-05	9.2664E-05	9.2664E-05	0	0	4.55732E-10	8.83996E-09	9.296E-09	0.0092957
578164.954140113.28	578164.95	4140113.3	8.49341E-05	0	8.49341E-05	8.49341E-05	8.49341E-05	0	0	4.17715E-10	8.10254E-09	8.52E-09	0.0085203

578164.954140121.28	578164.95	4140121.3	7.81794E-05	0	7.81794E-05	7.81794E-05	7.81794E-05	0	0	3.84495E-10	7.45816E-09	7.843E-09	0.0078427
578164.954140129.28	578164.95	4140129.3	7.21819E-05	0	7.21819E-05	7.21819E-05	7.21819E-05	0	0	3.54999E-10	6.88601E-09	7.241E-09	0.007241
578172.954140049.28	578172.95	4140049.3	0.000174488	0	0.000174488	0.000174488	0.000174488	0	0	8.5815E-10	1.66458E-08	1.75E-08	0.0175039
578172.954140057.28	578172.95	4140057.3	0.000154821	0	0.000154821	0.000154821	0.000154821	0	0	7.61426E-10	1.47696E-08	1.553E-08	0.015531
578172.954140065.28	578172.95	4140065.3	0.00013808	0	0.00013808	0.00013808	0.00013808	0	0	6.79091E-10	1.31725E-08	1.385E-08	0.0138516
578172.954140073.28	578172.95	4140073.3	0.000123963	0	0.000123963	0.000123963	0.000123963	0	0	6.09663E-10	1.18258E-08	1.244E-08	0.0124355
578172.954140081.28	578172.95	4140081.3	0.000111937	0	0.000111937	0.000111937	0.000111937	0	0	5.50519E-10	1.06786E-08	1.123E-08	0.0112291
578172.954140089.28	578172.95	4140089.3	0.000101644	0	0.000101644	0.000101644	0.000101644	0	0	4.99895E-10	9.69662E-09	1.02E-08	0.0101965
578172.954140097.28	578172.95	4140097.3	9.27673E-05	0	9.27673E-05	9.27673E-05	9.27673E-05	0	0	4.5624E-10	8.84982E-09	9.306E-09	0.0093061
578172.954140105.28	578172.95	4140105.3	8.5067E-05	0	8.5067E-05	8.5067E-05	8.5067E-05	0	0	4.18369E-10	8.11522E-09	8.534E-09	0.0085336
578172.954140113.28	578172.95	4140113.3	7.8357E-05	0	7.8357E-05	7.8357E-05	7.8357E-05	0	0	3.85368E-10	7.47511E-09	7.86E-09	0.0078605
578172.954140121.28	578172.95	4140121.3	7.24623E-05	0	7.24623E-05	7.24623E-05	7.24623E-05	0	0	3.56377E-10	6.91276E-09	7.269E-09	0.0072691
578180.954140065.28	578180.95	4140065.3	0.000123795	0	0.000123795	0.000123795	0.000123795	0	0	6.08839E-10	1.18098E-08	1.242E-08	0.0124187
578180.954140073.28	578180.95	4140073.3	0.000111959	0	0.000111959	0.000111959	0.000111959	0	0	5.50628E-10	1.06807E-08	1.123E-08	0.0112313
578180.954140081.28	578180.95	4140081.3	0.000101803	0	0.000101803	0.000101803	0.000101803	0	0	5.00676E-10	9.71177E-09	1.021E-08	0.0102124
578180.954140089.28	578180.95	4140089.3	9.30263E-05	0	9.30263E-05	9.30263E-05	9.30263E-05	0	0	4.57513E-10	8.87452E-09	9.332E-09	0.009332
578180.954140097.28	578180.95	4140097.3	8.53902E-05	0	8.53902E-05	8.53902E-05	8.53902E-05	0	0	4.19958E-10	8.14606E-09	8.566E-09	0.008566
578180.954140105.28	578180.95	4140105.3	7.8696E-05	0	7.8696E-05	7.8696E-05	7.8696E-05	0	0	3.87035E-10	7.50744E-09	7.894E-09	0.0078945
578180.954140113.28	578180.95	4140113.3	7.28069E-05	0	7.28069E-05	7.28069E-05	7.28069E-05	0	0	3.58072E-10	6.94563E-09	7.304E-09	0.0073037
578188.954140073.28	578188.95	4140073.3	0.000101976	0	0.000101976	0.000101976	0.000101976	0	0	5.01528E-10	9.72829E-09	1.023E-08	0.0102298
578188.954140081.28	578188.95	4140081.3	9.32896E-05	0	9.32896E-05	9.32896E-05	9.32896E-05	0	0	4.58808E-10	8.89964E-09	9.358E-09	0.0093585
578188.954140089.28	578188.95	4140089.3	8.57417E-05	0	8.57417E-05	8.57417E-05	8.57417E-05	0	0	4.21687E-10	8.17959E-09	8.601E-09	0.0086013
578188.954140097.28	578188.95	4140097.3	7.9113E-05	0	7.9113E-05	7.9113E-05	7.9113E-05	0	0	3.89086E-10	7.54723E-09	7.936E-09	0.0079363
578188.954140105.28	578188.95	4140105.3	7.32548E-05	0	7.32548E-05	7.32548E-05	7.32548E-05	0	0	3.60275E-10	6.98836E-09	7.349E-09	0.0073486
578188.954140113.28	578188.95	4140113.3	6.8058E-05	0	6.8058E-05	6.8058E-05	6.8058E-05	0	0	3.34717E-10	6.4926E-09	6.827E-09	0.0068273
578196.954140081.28	578196.95	4140081.3	8.61317E-05	0	8.61317E-05	8.61317E-05	8.61317E-05	0	0	4.23605E-10	8.21679E-09	8.64E-09	0.0086404
578196.954140089.28	578196.95	4140089.3	7.95483E-05	0	7.95483E-05	7.95483E-05	7.95483E-05	0	0	3.91227E-10	7.58875E-09	7.98E-09	0.00798
578196.954140097.28	578196.95	4140097.3	7.37279E-05	0	7.37279E-05	7.37279E-05	7.37279E-05	0	0	3.62602E-10	7.0335E-09	7.396E-09	0.0073961
578196.954140105.28	578196.95	4140105.3	6.85563E-05	0	6.85563E-05	6.85563E-05	6.85563E-05	0	0	3.37168E-10	6.54014E-09	6.877E-09	0.0068773
578204.954140097.28	578204.95	4140097.3	6.90975E-05	0	6.90975E-05	6.90975E-05	6.90975E-05	0	0	3.39829E-10	6.59176E-09	6.932E-09	0.0069316
578001.424140037.45	578001.42	4140037.5	7.98967E-05	0	7.98967E-05	7.98967E-05	7.98967E-05	0	0	3.92941E-10	7.62199E-09	8.015E-09	0.0080149
578001.424140045.45	578001.42	4140045.5	8.3298E-05	0	8.3298E-05	8.3298E-05	8.3298E-05	0	0	4.09669E-10	7.94647E-09	8.356E-09	0.0083561
578009.424140029.45	578009.42	4140029.5	9.23686E-05	0	9.23686E-05	9.23686E-05	9.23686E-05	0	0	4.54279E-10	8.81178E-09	9.266E-09	0.0092661
578009.424140037.45	578009.42	4140037.5	9.71174E-05	0	9.71174E-05	9.71174E-05	9.71174E-05	0	0	4.77634E-10	9.26481E-09	9.742E-09	0.0097424
578009.424140045.45	578009.42	4140045.5	0.000102212	0	0.000102212	0.000102212	0.000102212	0	0	5.0269E-10	9.75083E-09	1.025E-08	0.0102535
578017.424140029.45	578017.42	4140029.5	0.000113238	0	0.000113238	0.000113238	0.000113238	0	0	5.56917E-10	1.08027E-08	1.136E-08	0.0113596
578017.424140037.45	578017.42	4140037.5	0.000120407	0	0.000120407	0.000120407	0.000120407	0	0	5.92176E-10	1.14866E-08	1.208E-08	0.0120788
578025.424140021.45	578025.42	4140021.5	0.000131131	0	0.000131131	0.000131131	0.000131131	0	0	6.44916E-10	1.25096E-08	1.315E-08	0.0131546
578025.424140029.45	578025.42	4140029.5	0.000141103	0	0.000141103	0.000141103	0.000141103	0	0	6.9396E-10	1.34609E-08	1.415E-08	0.0141549
578033.424140013.45	578033.42	4140013.5	0.000149848	0	0.000149848	0.000149848	0.000149848	0	0	7.36968E-10	1.42952E-08	1.503E-08	0.0150322
578033.424140021.45	578033.42	4140021.5	0.000162887	0	0.000162887	0.000162887	0.000162887	0	0	8.01094E-10	1.55391E-08	1.634E-08	0.0163402
578041.424140013.45	578041.42	4140013.5	0.00018448	0	0.00018448	0.00018448	0.00018448	0	0	9.07293E-10	1.7599E-08	1.851E-08	0.0185063
578041.424140021.45	578041.42	4140021.5	0.000203262	0	0.000203262	0.000203262	0.000203262	0	0	9.99667E-10	1.93908E-08	2.039E-08	0.0203905
578049.424140005.45	578049.42	4140005.5	0.000204529	0	0.000204529	0.000204529	0.000204529	0	0	1.00589E-09	1.95116E-08	2.052E-08	0.0205175
578049.424140013.45	578049.42	4140013.5	0.000226658	0	0.000226658	0.000226658	0.000226658	0	0	1.11473E-09	2.16228E-08	2.274E-08	0.0227375
578049.424140021.45	578049.42	4140021.5	0.000252864	0	0.000252864	0.000252864	0.000252864	0	0	1.24361E-09	2.41228E-08	2.537E-08	0.0253664
578049.424140029.45	578049.42	4140029.5	0.000284383	0	0.000284383	0.000284383	0.000284383	0	0	1.39863E-09	2.71296E-08	2.853E-08	0.0285282
578057.424139997.45	578057.42	4139997.5	0.000222436	0	0.000222436	0.000222436	0.000222436	0	0	1.09396E-09	2.122E-08	2.231E-08	0.0223139

578057.424140005.45	578057.42	4140005.5	0.000247055	0	0.000247055	0.000247055	0.000247055	0	0	1.21504E-09	2.35685E-08	2.478E-08	0.0247836
578057.424140013.45	578057.42	4140013.5	0.000276397	0	0.000276397	0.000276397	0.000276397	0	0	1.35935E-09	2.63677E-08	2.773E-08	0.0277271
578057.424140021.45	578057.42	4140021.5	0.000311652	0	0.000311652	0.000311652	0.000311652	0	0	1.53274E-09	2.9731E-08	3.126E-08	0.0312637
578057.424140029.45	578057.42	4140029.5	0.000354525	0	0.000354525	0.000354525	0.000354525	0	0	1.74359E-09	3.3821E-08	3.556E-08	0.0355646
578057.424140037.45	578057.42	4140037.5	0.000407561	0	0.000407561	0.000407561	0.000407561	0	0	2.00443E-09	3.88805E-08	4.088E-08	0.0408849
578057.424140045.45	578057.42	4140045.5	0.000474313	0	0.000474313	0.000474313	0.000474313	0	0	2.33272E-09	4.52485E-08	4.758E-08	0.0475812
578065.424140005.45	578065.42	4140005.5	0.0002959	0	0.0002959	0.0002959	0.0002959	0	0	1.45527E-09	2.82283E-08	2.968E-08	0.0296835
578065.424140021.45	578065.42	4140021.5	0.000379315	0	0.000379315	0.000379315	0.000379315	0	0	1.86551E-09	3.61859E-08	3.805E-08	0.0380514
578065.424140029.45	578065.42	4140029.5	0.0004354	0	0.0004354	0.0004354	0.0004354	0	0	2.14134E-09	4.15363E-08	4.368E-08	0.0436776
578065.424140037.45	578065.42	4140037.5	0.000504856	0	0.000504856	0.000504856	0.000504856	0	0	2.48294E-09	4.81623E-08	5.065E-08	0.0506452
578065.424140045.45	578065.42	4140045.5	0.000592816	0	0.000592816	0.000592816	0.000592816	0	0	2.91553E-09	5.65534E-08	5.947E-08	0.059469
578065.424140053.45	578065.42	4140053.5	0.000707347	0	0.000707347	0.000707347	0.000707347	0	0	3.47881E-09	6.74795E-08	7.096E-08	0.0709583
578073.424139989.45	578073.42	4139989.5	0.000278796	0	0.000278796	0.000278796	0.000278796	0	0	1.37115E-09	2.65966E-08	2.797E-08	0.0279677
578073.424140029.45	578073.42	4140029.5	0.0005267	0	0.0005267	0.0005267	0.0005267	0	0	2.59037E-09	5.02461E-08	5.284E-08	0.0528365
578073.424140037.45	578073.42	4140037.5	0.000615311	0	0.000615311	0.000615311	0.000615311	0	0	3.02616E-09	5.86994E-08	6.173E-08	0.0617256
578073.424140045.45	578073.42	4140045.5	0.000728247	0	0.000728247	0.000728247	0.000728247	0	0	3.5816E-09	6.94733E-08	7.305E-08	0.0730549
578081.424139981.45	578081.42	4139981.5	0.00029067	0	0.00029067	0.00029067	0.00029067	0	0	1.42955E-09	2.77293E-08	2.916E-08	0.0291589
578081.424139989.45	578081.42	4139989.5	0.000324591	0	0.000324591	0.000324591	0.000324591	0	0	1.59637E-09	3.09653E-08	3.256E-08	0.0325617
578081.424139997.45	578081.42	4139997.5	0.000364821	0	0.000364821	0.000364821	0.000364821	0	0	1.79423E-09	3.48032E-08	3.66E-08	0.0365974
578081.424140005.45	578081.42	4140005.5	0.000412854	0	0.000412854	0.000412854	0.000412854	0	0	2.03046E-09	3.93854E-08	4.142E-08	0.0414159
578081.424140021.45	578081.42	4140021.5	0.00054215	0	0.00054215	0.00054215	0.00054215	0	0	2.66635E-09	5.172E-08	5.439E-08	0.0543864
578081.424140029.45	578081.42	4140029.5	0.000630618	0	0.000630618	0.000630618	0.000630618	0	0	3.10145E-09	6.01597E-08	6.326E-08	0.0632611
578081.424140037.45	578081.42	4140037.5	0.000742379	0	0.000742379	0.000742379	0.000742379	0	0	3.6511E-09	7.08215E-08	7.447E-08	0.0744726
578089.424139981.45	578089.42	4139981.5	0.000334575	0	0.000334575	0.000334575	0.000334575	0	0	1.64548E-09	3.19178E-08	3.356E-08	0.0335633
578089.424139989.45	578089.42	4139989.5	0.000375738	0	0.000375738	0.000375738	0.000375738	0	0	1.84792E-09	3.58447E-08	3.769E-08	0.0376926
578089.424139997.45	578089.42	4139997.5	0.000424279	0	0.000424279	0.000424279	0.000424279	0	0	2.08665E-09	4.04754E-08	4.256E-08	0.042562
578089.424140005.45	578089.42	4140005.5	0.000482529	0	0.000482529	0.000482529	0.000482529	0	0	2.37313E-09	4.60323E-08	4.841E-08	0.0484054
578089.424140013.45	578089.42	4140013.5	0.000553671	0	0.000553671	0.000553671	0.000553671	0	0	2.72301E-09	5.28191E-08	5.554E-08	0.0555421
578089.424140021.45	578089.42	4140021.5	0.000641347	0	0.000641347	0.000641347	0.000641347	0	0	3.15422E-09	6.11833E-08	6.434E-08	0.0643375
578089.424140029.45	578089.42	4140029.5	0.000751553	0	0.000751553	0.000751553	0.000751553	0	0	3.69622E-09	7.16967E-08	7.539E-08	0.0753929
578097.424139989.45	578097.42	4139989.5	0.000432257	0	0.000432257	0.000432257	0.000432257	0	0	2.12589E-09	4.12364E-08	4.336E-08	0.0433623
578097.424139997.45	578097.42	4139997.5	0.000491546	0	0.000491546	0.000491546	0.000491546	0	0	2.41748E-09	4.68925E-08	4.931E-08	0.04931
578097.424140005.45	578097.42	4140005.5	0.000562493	0	0.000562493	0.000562493	0.000562493	0	0	2.7664E-09	5.36607E-08	5.643E-08	0.0564271
578097.424140013.45	578097.42	4140013.5	0.000649893	0	0.000649893	0.000649893	0.000649893	0	0	3.19624E-09	6.19985E-08	6.519E-08	0.0651947
578097.424140021.45	578097.42	4140021.5	0.000759213	0	0.000759213	0.000759213	0.000759213	0	0	3.73389E-09	7.24274E-08	7.616E-08	0.0761613
578105.424140005.45	578105.42	4140005.5	0.000655816	0	0.000655816	0.000655816	0.000655816	0	0	3.22538E-09	6.25636E-08	6.579E-08	0.0657889
578105.424140013.45	578105.42	4140013.5	0.000765228	0	0.000765228	0.000765228	0.000765228	0	0	3.76347E-09	7.30012E-08	7.676E-08	0.0767647
578172.954140089.28	578172.95	4140089.3	0.000101644	0	0.000101644	0.000101644	0.000101644	0	0	4.99895E-10	9.69662E-09	1.02E-08	0.0101965
578172.954140097.28	578172.95	4140097.3	9.27673E-05	0	9.27673E-05	9.27673E-05	9.27673E-05	0	0	4.5624E-10	8.84982E-09	9.306E-09	0.0093061
578172.954140105.28	578172.95	4140105.3	8.5067E-05	0	8.5067E-05	8.5067E-05	8.5067E-05	0	0	4.18369E-10	8.11522E-09	8.534E-09	0.0085336
578172.954140113.28	578172.95	4140113.3	7.8357E-05	0	7.8357E-05	7.8357E-05	7.8357E-05	0	0	3.85368E-10	7.47511E-09	7.86E-09	0.0078605
578172.954140121.28	578172.95	4140121.3	7.24623E-05	0	7.24623E-05	7.24623E-05	7.24623E-05	0	0	3.56377E-10	6.91276E-09	7.269E-09	0.0072691
578180.954140065.28	578180.95	4140065.3	0.000123795	0	0.000123795	0.000123795	0.000123795	0	0	6.08839E-10	1.18098E-08	1.242E-08	0.0124187
578180.954140073.28	578180.95	4140073.3	0.000111959	0	0.000111959	0.000111959	0.000111959	0	0	5.50628E-10	1.06807E-08	1.123E-08	0.0112313
578180.954140081.28	578180.95	4140081.3	0.000101803	0	0.000101803	0.000101803	0.000101803	0	0	5.00676E-10	9.71177E-09	1.021E-08	0.0102124
578180.954140089.28	578180.95	4140089.3	9.30263E-05	0	9.30263E-05	9.30263E-05	9.30263E-05	0	0	4.57513E-10	8.87452E-09	9.332E-09	0.009332
578180.954140097.28	578180.95	4140097.3	8.53902E-05	0	8.53902E-05	8.53902E-05	8.53902E-05	0	0	4.19958E-10	8.14606E-09	8.566E-09	0.008566
578180.954140105.28	578180.95	4140105.3	7.8696E-05	0	7.8696E-05	7.8696E-05	7.8696E-05	0	0	3.87035E-10	7.50744E-09	7.894E-09	0.0078945

578180.954140113.28	578180.95	4140113.3	7.28069E-05	0	7.28069E-05	7.28069E-05	7.28069E-05	0	0	3.58072E-10	6.94563E-09	7.304E-09	0.0073037
578188.954140073.28	578188.95	4140073.3	0.000101976	0	0.000101976	0.000101976	0.000101976	0	0	5.01528E-10	9.72829E-09	1.023E-08	0.0102298
578188.954140081.28	578188.95	4140081.3	9.32896E-05	0	9.32896E-05	9.32896E-05	9.32896E-05	0	0	4.58808E-10	8.89964E-09	9.358E-09	0.0093585
578188.954140089.28	578188.95	4140089.3	8.57417E-05	0	8.57417E-05	8.57417E-05	8.57417E-05	0	0	4.21687E-10	8.17959E-09	8.601E-09	0.0086013
578188.954140097.28	578188.95	4140097.3	7.9113E-05	0	7.9113E-05	7.9113E-05	7.9113E-05	0	0	3.89086E-10	7.54723E-09	7.936E-09	0.0079363
578188.954140105.28	578188.95	4140105.3	7.32548E-05	0	7.32548E-05	7.32548E-05	7.32548E-05	0	0	3.60275E-10	6.98836E-09	7.349E-09	0.0073486
578188.954140113.28	578188.95	4140113.3	6.8058E-05	0	6.8058E-05	6.8058E-05	6.8058E-05	0	0	3.34717E-10	6.4926E-09	6.827E-09	0.0068273
578196.954140081.28	578196.95	4140081.3	8.61317E-05	0	8.61317E-05	8.61317E-05	8.61317E-05	0	0	4.23605E-10	8.21679E-09	8.64E-09	0.0086404
578196.954140089.28	578196.95	4140089.3	7.95483E-05	0	7.95483E-05	7.95483E-05	7.95483E-05	0	0	3.91227E-10	7.58875E-09	7.98E-09	0.00798
578196.954140097.28	578196.95	4140097.3	7.37279E-05	0	7.37279E-05	7.37279E-05	7.37279E-05	0	0	3.62602E-10	7.0335E-09	7.396E-09	0.0073961
578196.954140105.28	578196.95	4140105.3	6.85563E-05	0	6.85563E-05	6.85563E-05	6.85563E-05	0	0	3.37168E-10	6.54014E-09	6.877E-09	0.0068773
578204.954140097.28	578204.95	4140097.3	6.90975E-05	0	6.90975E-05	6.90975E-05	6.90975E-05	0	0	3.39829E-10	6.59176E-09	6.932E-09	0.0069316
578001.424140037.45	578001.42	4140037.5	7.98967E-05	0	7.98967E-05	7.98967E-05	7.98967E-05	0	0	3.92941E-10	7.62199E-09	8.015E-09	0.0080149
578001.424140045.45	578001.42	4140045.5	8.3298E-05	0	8.3298E-05	8.3298E-05	8.3298E-05	0	0	4.09669E-10	7.94647E-09	8.356E-09	0.0083561
578009.424140029.45	578009.42	4140029.5	9.23686E-05	0	9.23686E-05	9.23686E-05	9.23686E-05	0	0	4.54279E-10	8.81178E-09	9.266E-09	0.0092661
578009.424140037.45	578009.42	4140037.5	9.71174E-05	0	9.71174E-05	9.71174E-05	9.71174E-05	0	0	4.77634E-10	9.26481E-09	9.742E-09	0.0097424
578009.424140045.45	578009.42	4140045.5	0.000102212	0	0.000102212	0.000102212	0.000102212	0	0	5.0269E-10	9.75083E-09	1.025E-08	0.0102535
578017.424140029.45	578017.42	4140029.5	0.000113238	0	0.000113238	0.000113238	0.000113238	0	0	5.56917E-10	1.08027E-08	1.136E-08	0.0113596
578017.424140037.45	578017.42	4140037.5	0.000120407	0	0.000120407	0.000120407	0.000120407	0	0	5.92176E-10	1.14866E-08	1.208E-08	0.0120788
578025.424140021.45	578025.42	4140021.5	0.000131131	0	0.000131131	0.000131131	0.000131131	0	0	6.44916E-10	1.25096E-08	1.315E-08	0.0131546
578025.424140029.45	578025.42	4140029.5	0.000141103	0	0.000141103	0.000141103	0.000141103	0	0	6.9396E-10	1.34609E-08	1.415E-08	0.0141549
578033.424140013.45	578033.42	4140013.5	0.000149848	0	0.000149848	0.000149848	0.000149848	0	0	7.36968E-10	1.42952E-08	1.503E-08	0.0150322
578033.424140021.45	578033.42	4140021.5	0.000162887	0	0.000162887	0.000162887	0.000162887	0	0	8.01094E-10	1.55391E-08	1.634E-08	0.0163402
578041.424140013.45	578041.42	4140013.5	0.00018448	0	0.00018448	0.00018448	0.00018448	0	0	9.07293E-10	1.7599E-08	1.851E-08	0.0185063
578041.424140021.45	578041.42	4140021.5	0.000203262	0	0.000203262	0.000203262	0.000203262	0	0	9.99667E-10	1.93908E-08	2.039E-08	0.0203905
578049.424140005.45	578049.42	4140005.5	0.000204529	0	0.000204529	0.000204529	0.000204529	0	0	1.00589E-09	1.95116E-08	2.052E-08	0.0205175
578049.424140013.45	578049.42	4140013.5	0.000226658	0	0.000226658	0.000226658	0.000226658	0	0	1.11473E-09	2.16228E-08	2.274E-08	0.0227375
578049.424140021.45	578049.42	4140021.5	0.000252864	0	0.000252864	0.000252864	0.000252864	0	0	1.24361E-09	2.41228E-08	2.537E-08	0.0253664
578049.424140029.45	578049.42	4140029.5	0.000284383	0	0.000284383	0.000284383	0.000284383	0	0	1.39863E-09	2.71296E-08	2.853E-08	0.0285282

4335 & 4345 El Camino Real Construction Health Risk Assessment

PM2.5 Emissions

Residential Receptors

Phase			Year	Work Hours Per Day	Exhaust Emissions (lbs/day)	Exhaust Emissions (lbs/yr)	Exhaust Emissions (g/s)	Fugitive Dust Emissions (lbs/day)	Fugitive Dust Emissions (lbs/yr)	Fugitive Dust Emissions (g/s)
Offroad	Demolition	3.2. Demolit	2026	10	0.010	0.250	8.62995E-06	0.150	3.750	0.000129449
Offroad	Site Preparation	3.4. Site Pre	2026	10	0.040	0.120	4.14237E-06	1.170	3.510	0.000121164
Offroad	Grading	3.6. Grading	2026	10	0.050	0.150	5.17797E-06	1.340	4.020	0.00013877
Offroad	Building Construction	3.8. Building	2027	10	0.040	6.880	0.000237496	0.000	0.000	0
Offroad	Paving	3.10. Paving	2027	10	0.050	0.500	1.72599E-05	0.000	0.000	0
Offroad	Architectural Coating	3.12. Archite	2027	10	0.030	0.540	1.86407E-05	0.000	0.000	0
Offroad	Trenching	3.14. Trench	2026	10	0.030	0.090	3.10678E-06	0.000	0.000	0
Haul	Demolition	3.2. Demolit	2026	10	0.005	0.125	6.29986E-05	0.005	0.125	6.29986E-05
Haul	Site Preparation	3.4. Site Pre	2026	10	0.000	0.000	0	0.000	0.000	0
Haul	Grading	3.6. Grading	2026	10	0.005	0.015	6.29986E-05	0.005	0.015	6.29986E-05
Haul	Building Construction	3.8. Building	2027	10	0.005	0.860	6.29986E-05	0.005	0.860	6.29986E-05
Haul	Paving	3.10. Paving	2027	10	0.005	0.050	6.29986E-05	0.005	0.050	6.29986E-05
Haul	Architectural Coating	3.12. Archite	2027	10	0.000	0.002	1.31662E-06	0.000	0.000	0
Haul	Trenching	3.14. Trench	2026	10	0.000	0.000	0	0.000	0.000	0

Year	Max Annual PM2.5 Concentration (ug/m3)
2026	0.06
2027	0.03
Maximum	**0.06**
Threshold	0.3
Exceed?	No

AERMOD Column Identifier (Exhaust):	*4*	*5*	*5*	*5*	*5*	*5*	*5*	*6*	*6*	*6*	*6*	*6*	*6*	*6*				
AERMOD Column Identifier (Fugitive Dust):	*7*	*8*	*8*	*8*	*8*	*8*	*8*	*9*	*9*	*9*	*9*	*9*	*9*	*9*				
Unique Identifier	X (UTM)	Y (UTM)	Demolition Offroad 2026	Site Preparation Offroad 2026	Grading Offroad 2026	Building Construction Offroad 2027	Paving Offroad 2027	Architectural Coating Offroad 2027	Trenching Offroad 2026	Demolition Haul 2026	Site Preparation Haul 2026	Grading Haul 2026	Building Construction Haul 2027	Paving Haul 2027	Architectural Coating Haul 2027	Trenching Haul 2026	2026	2027
578048.554140246.42	578048.55	4140246.4	0.000676074	0.000847961	0.000973755	0.001416047	0.00010291	0.000111143	1.85239E-05	8.32627E-05	0	8.32627E-05	8.32627E-05	8.32627E-05	8.59462E-07	0	0.0026828	0.0017975
578066.414140268	578066.41	4140268	0.000304332	0.000432137	0.000496346	0.000777429	5.64992E-05	6.10192E-05	1.01699E-05	6.27762E-05	0	6.27762E-05	6.27762E-05	6.27762E-05	6.5058E-07	0	0.0013685	0.0010212
578068.454140241.25	578068.45	4140241.3	0.000488691	0.000771098	0.000885524	0.001306682	9.49624E-05	0.000102559	1.70932E-05	8.29541E-05	0	8.29541E-05	8.29541E-05	8.29541E-05	8.54208E-07	0	0.0023283	0.001671
578054.694140253.42	578054.69	4140253.4	0.000504802	0.000673057	0.000772967	0.001158739	8.42107E-05	9.09475E-05	1.51579E-05	7.5141E-05	0	7.5141E-05	7.5141E-05	7.5141E-05	7.76989E-07	0	0.0021163	0.001485
578061.934140261.73	578061.93	4140261.7	0.000370135	0.000518857	0.000595922	0.00091716	6.66541E-05	7.19864E-05	1.19977E-05	6.74293E-05	0	6.74293E-05	6.74293E-05	6.74293E-05	6.9811E-07	0	0.0016318	0.0011914
578046.974140254.6	578046.97	4140254.6	0.000569826	0.000707698	0.000812734	0.001209128	8.78727E-05	9.49025E-05	1.58171E-05	7.58226E-05	0	7.58226E-05	7.58226E-05	7.58226E-05	7.84546E-07	0	0.0022577	0.0015443
5780634140234.38	578063	4140234.4	0.000653426	0.000981509	0.001127053	0.001605552	0.000116683	0.000126017	2.10029E-05	9.25828E-05	0	9.25828E-05	9.25828E-05	9.25828E-05	9.50677E-07	0	0.0029682	0.0020344
578076.524140257.17	578076.52	4140257.2	0.000304082	0.000478856	0.000549998	0.000856786	6.22664E-05	6.72478E-05	1.1208E-05	6.77978E-05	0	6.77978E-05	6.77978E-05	6.77978E-05	7.01375E-07	0	0.0014797	0.0011226
578071.934140251.73	578071.93	4140251.7	0.000367151	0.000575568	0.00066104	0.001008964	7.33259E-05	7.9192E-05	1.31987E-05	7.27149E-05	0	7.27149E-05	7.27149E-05	7.27149E-05	7.51143E-07	0	0.0017624	0.0013077
578071.934140271.73	578071.93	4140271.7	0.000259722	0.000374272	0.000429901	0.000683459	4.967E-05	5.36436E-05	8.9406E-06	5.99344E-05	0	5.99344E-05	5.99344E-05	5.99344E-05	6.21496E-07	0	0.0011927	0.0009073
578057.74140269.42	578057.7	4140269.4	0.000345219	0.000462463	0.000531165	0.000825076	5.99619E-05	6.47589E-05	1.07931E-05	6.31977E-05	0	6.31977E-05	6.31977E-05	6.31977E-05	6.5532E-07	0	0.001476	0.0010768
578081.934140221.73	578081.93	4140221.7	0.000558101	0.001107974	0.001272166	0.001754496	0.000127507	0.000137708	2.29513E-05	0.000101274	0	0.000101274	0.000101274	0.000101274	1.03402E-06	0	0.0031637	0.0022233
578081.934140231.73	578081.93	4140231.7	0.000442088	0.000833323	0.000956944	0.001390998	0.00010109	0.000109177	1.81962E-05	8.85105E-05	0	8.85105E-05	8.85105E-05	8.85105E-05	9.08901E-07	0	0.0024276	0.0017792
578081.934140251.73	578081.93	4140251.7	0.000301167	0.000501767	0.000576308	0.000895322	6.5067E-05	7.02724E-05	1.17121E-05	7.03928E-05	0	7.03928E-05	7.03928E-05	7.03928E-05	7.27576E-07	0	0.0015317	0.0011722
578081.934140261.73	578081.93	4140261.7	0.000255427	0.000401186	0.000460816	0.00073245	5.32304E-05	5.74888E-05	9.58147E-06	6.38982E-05	0	6.38982E-05	6.38982E-05	6.38982E-05	6.61771E-07	0	0.0012548	0.0009716
578066.734140278.97	578066.73	4140279	0.000252215	0.000346368	0.000397854	0.000634725	4.61283E-05	4.98185E-05	8.30309E-06	5.69444E-05	0	5.69444E-05	5.69444E-05	5.69444E-05	5.90977E-07	0	0.0011186	0.0008452
578091.934140221.73	578091.93	4140221.7	0.000460976	0.000979073	0.001124216	0.001579601	0.000114797	0.00012398	2.06634E-05	9.58631E-05	0	9.58631E-05	9.58631E-05	9.58631E-05	9.81499E-07	0	0.0027767	0.0020111
578091.934140231.73	578091.93	4140231.7	0.000365727	0.000720196	0.000827078	0.001225656	8.90738E-05	9.61997E-05	1.60333E-05	8.45712E-05	0	8.45712E-05	8.45712E-05	8.45712E-05	8.69955E-07	0	0.0020982	0.0015809
578091.934140241.73	578091.93	4140241.7	0.000300076	0.000547181	0.000628456	0.000969162	7.04333E-05	7.6068E-05	1.2678E-05	7.54906E-05	0	7.54906E-05	7.54906E-05	7.54906E-05	7.79069E-07	0	0.0016394	0.0012674
578081.564140270.42	578081.56	4140270.4	0.000225098	0.000337087	0.000387207	0.000624819	4.54084E-05	4.9041E-05	8.17351E-06	5.9247E-05	0	5.9247E-05	5.9247E-05	5.9247E-05	6.14452E-07	0	0.0010761	0.0008384
578101.934140211.73	578101.93	4140211.7	0.000515513	0.001186807	0.001362527	0.001794784	0.000130435	0.00014087	2.34783E-05	0.000101701	0	0.000101701	0.000101701	0.000101701	1.03771E-06	0	0.0032917	0.0022705
578101.934140221.73	578101.93	4140221.7	0.000391141	0.000822955	0.000945008	0.001357516	9.86567E-05	0.000106549	1.77582E-05	8.98524E-05	0	8.98524E-05	8.98524E-05	8.98524E-05	9.2179E-07	0	0.0023566	0.0017433
578101.934140231.73	578101.93	4140231.7	0.000310446	0.000600164	0.000689285	0.00105007	7.63132E-05	8.24183E-05	1.37364E-05	8.02527E-05	0	8.02527E-05	8.02527E-05	8.02527E-05	8.26586E-07	0	0.0017741	0.0013701
578101.934140241.73	578101.93	4140241.7	0.000255866	0.000456874	0.000524772	0.000829728	6.03E-05	6.5124E-05	1.0854E-05	7.24717E-05	0	7.24717E-05	7.24717E-05	7.24717E-05	7.48708E-07	0	0.0013933	0.0011008
578101.934140251.73	578101.93	4140251.7	0.000216571	0.00036041	0.000414003	0.000671394	4.87932E-05	5.26967E-05	8.78278E-06	6.59589E-05	0	6.59589E-05	6.59589E-05	6.59589E-05	6.8289E-07	0	0.0011317	0.0009055
578114.354140204.87	578114.35	4140204.9	0.000524738	0.001191699	0.00136803	0.001740794	0.000126511	0.000136632	2.2772E-05	0.000100918	0	0.000100918	0.000100918	0.000100918	1.03146E-06	0	0.0033091	0.0022068
578111.934140211.73	578111.93	4140211.7	0.000443042	0.000946557	0.0010868	0.001483273	0.000107796	0.00011642	1.94033E-05	9.40727E-05	0	9.40727E-05	9.40727E-05	9.40727E-05	9.63145E-07	0	0.0026839	0.0018966
578111.934140221.73	578111.93	4140221.7	0.000339554	0.000659446	0.000757313	0.001122333	8.15649E-05	8.80901E-05	1.46817E-05	8.42732E-05	0	8.42732E-05	8.42732E-05	8.42732E-05	8.66348E-07	0	0.0019395	0.0014614
578111.934140231.73	578111.93	4140231.7	0.00027084	0.000489011	0.000561669	0.000878954	6.38775E-05	6.89877E-05	1.14979E-05	7.63562E-05	0	7.63562E-05	7.63562E-05	7.63562E-05	7.87561E-07	0	0.0014857	0.0011653
578111.934140241.73	578111.93	4140241.7	0.000223569	0.000378635	0.000434933	0.000701977	5.10158E-05	5.5097E-05	9.18284E-06	6.9592E-05	0	6.9592E-05	6.9592E-05	6.9592E-05	7.1961E-07	0	0.0011855	0.000948
578121.934140201.73	578121.93	4140201.7	0.000512388	0.001088743	0.001249871	0.001606866	0.000116778	0.00012612	2.102E-05	9.91516E-05	0	9.91516E-05	9.91516E-05	9.91516E-05	1.01586E-06	0	0.0030703	0.0020491
578121.934140211.73	578121.93	4140211.7	0.000386609	0.000725443	0.000833041	0.001200108	8.72172E-05	9.41945E-05	1.56991E-05	8.82081E-05	0	8.82081E-05	8.82081E-05	8.82081E-05	9.06254E-07	0	0.0021372	0.0015588
578121.934140221.73	578121.93	4140221.7	0.000300555	0.000523824	0.000601624	0.000924872	6.72145E-05	7.25917E-05	1.20986E-05	7.98551E-05	0	7.98551E-05	7.98551E-05	7.98551E-05	8.22741E-07	0	0.0015978	0.0012252
578121.934140231.73	578121.93	4140231.7	0.00024086	0.000399409	0.000458785	0.00073458	5.33852E-05	5.7656E-05	9.60934E-06	7.28629E-05	0	7.28629E-05	7.28629E-05	7.28629E-05	7.52552E-07	0	0.0012544	0.0009921

578121.934140241.73	578121.93	4140241.7	0.000199021	0.000316025	0.000363029	0.000594194	4.31827E-05	4.66373E-05	7.77289E-06	6.68913E-05	0	6.68913E-05	6.68913E-05	6.68913E-05	6.92264E-07	0	0.0010196	0.0008185
578133.384140194.38	578133.38	4140194.4	0.000524396	0.00101686	0.001167337	0.001493663	0.000108551	0.000117235	1.95392E-05	9.92014E-05	0	9.92014E-05	9.92014E-05	9.92014E-05	1.01992E-06	0	0.0029265	0.0019189
578131.934140201.73	578131.93	4140201.7	0.000441288	0.000787697	0.000904477	0.001274718	9.26394E-05	0.000100051	1.66751E-05	9.24965E-05	0	9.24965E-05	9.24965E-05	9.24965E-05	9.51598E-07	0	0.0023351	0.0016534
578131.934140211.73	578131.93	4140211.7	0.000341402	0.000559486	0.000642569	0.000980147	7.12316E-05	7.69301E-05	1.28217E-05	8.35009E-05	0	8.35009E-05	8.35009E-05	8.35009E-05	8.60554E-07	0	0.0017233	0.0012962
578131.934140221.73	578131.93	4140221.7	0.000269567	0.000421286	0.000483908	0.000771499	5.60682E-05	6.05537E-05	1.00923E-05	7.61099E-05	0	7.61099E-05	7.61099E-05	7.61099E-05	7.85876E-07	0	0.0013371	0.0010411
578131.934140231.73	578131.93	4140231.7	0.000217711	0.00032985	0.000378907	0.000618516	4.49503E-05	4.85463E-05	8.09105E-06	6.98566E-05	0	6.98566E-05	6.98566E-05	6.98566E-05	7.22586E-07	0	0.0010743	0.0008524
578141.934140201.73	578141.93	4140201.7	0.000383824	0.000593708	0.000681851	0.001028327	7.47331E-05	8.07117E-05	1.3452E-05	8.68808E-05	0	8.68808E-05	8.68808E-05	8.68808E-05	8.9663E-07	0	0.0018466	0.0013584
578141.934140211.73	578141.93	4140211.7	0.000303715	0.000441971	0.000507664	0.000807712	5.87E-05	6.3396E-05	1.0566E-05	7.92208E-05	0	7.92208E-05	7.92208E-05	7.92208E-05	8.18475E-07	0	0.0014224	0.0010891
578141.934140221.73	578141.93	4140221.7	0.000243797	0.000343468	0.000394553	0.000645816	4.69343E-05	5.06891E-05	8.44818E-06	7.27004E-05	0	7.27004E-05	7.27004E-05	7.27004E-05	7.52012E-07	0	0.0011357	0.0008896
578141.934140231.73	578141.93	4140231.7	0.000198258	0.000275328	0.000316294	0.000526025	3.82286E-05	4.12869E-05	6.88115E-06	6.70803E-05	0	6.70803E-05	6.70803E-05	6.70803E-05	6.94634E-07	0	0.0009309	0.0007404
578151.934140221.73	578151.93	4140221.7	0.000219724	0.000285217	0.000327661	0.000548428	3.98567E-05	4.30453E-05	7.17421E-06	6.95713E-05	0	6.95713E-05	6.95713E-05	6.95713E-05	7.20572E-07	0	0.0009789	0.0007712
578169.174140166.31	578169.17	4140166.3	0.000521305	0.001084802	0.001245631	0.001756481	0.000127651	0.000137863	2.29772E-05	0.000100367	0	0.000100367	0.000100367	0.000100367	1.03904E-06	0	0.0030754	0.0022238
578175.314140159.08	578175.31	4140159.1	0.000526192	0.001120904	0.001287173	0.001863293	0.000135414	0.000146247	2.43745E-05	0.000102459	0	0.000102459	0.000102459	0.000102459	1.061E-06	0	0.0031636	0.0023509
578171.934140171.73	578171.93	4140171.7	0.000454374	0.000822303	0.000944377	0.001420932	0.000103265	0.000111527	1.85878E-05	9.40569E-05	0	9.40569E-05	9.40569E-05	9.40569E-05	9.74613E-07	0	0.0024278	0.0018248
578171.934140181.73	578171.93	4140181.7	0.000380088	0.000583945	0.000670736	0.001064809	7.73844E-05	8.35751E-05	1.39292E-05	8.66628E-05	0	8.66628E-05	8.66628E-05	8.66628E-05	8.98341E-07	0	0.001822	0.0014
578181.934140151.73	578181.93	4140151.7	0.000519813	0.00108883	0.00125045	0.00186966	0.000135876	0.000146747	2.44578E-05	0.000104186	0	0.000104186	0.000104186	0.000104186	1.07913E-06	0	0.0030919	0.0023617
578181.934140161.73	578181.93	4140161.7	0.000454901	0.000854015	0.000980853	0.001506027	0.00010945	0.000118206	1.97009E-05	9.59368E-05	0	9.59368E-05	9.59368E-05	9.59368E-05	9.94639E-07	0	0.0025013	0.0019266
5781804140184.63	578180	4140184.6	0.000322089	0.000457048	0.000525045	0.000869647	6.32011E-05	6.82572E-05	1.13762E-05	8.11844E-05	0	8.11844E-05	8.11844E-05	8.11844E-05	8.42451E-07	0	0.0014779	0.0011643
578181.934140191.73	578181.93	4140191.7	0.00027686	0.00036371	0.000417847	0.000706753	5.13629E-05	5.54719E-05	9.24531E-06	7.6343E-05	0	7.6343E-05	7.6343E-05	7.6343E-05	7.92472E-07	0	0.0012203	0.0009671
578191.934140141.73	578191.93	4140141.7	0.000494699	0.000979949	0.001125529	0.00174886	0.000127097	0.000137265	2.28775E-05	0.000105835	0	0.000105835	0.000105835	0.000105835	1.09653E-06	0	0.0028347	0.002226
578191.934140151.73	578191.93	4140151.7	0.000445202	0.000824045	0.000946482	0.001480617	0.000107603	0.000116211	1.93685E-05	9.7772E-05	0	9.7772E-05	9.7772E-05	9.7772E-05	1.01395E-06	0	0.0024306	0.001901
578191.934140161.73	578191.93	4140161.7	0.000391999	0.000664397	0.000763171	0.001225627	8.90718E-05	9.61975E-05	1.60329E-05	9.05693E-05	0	9.05693E-05	9.05693E-05	9.05693E-05	9.40091E-07	0	0.0020167	0.001593
578191.934140191.73	578191.93	4140191.7	0.000245318	0.000313231	0.000359878	0.000621554	4.5171E-05	4.87847E-05	8.13079E-06	7.31817E-05	0	7.31817E-05	7.31817E-05	7.31817E-05	7.60281E-07	0	0.0010729	0.0008626
578191.934140201.73	578191.93	4140201.7	0.000207638	0.00024824	0.000285217	0.000497229	3.61358E-05	3.90267E-05	6.50445E-06	6.85318E-05	0	6.85318E-05	6.85318E-05	6.85318E-05	7.12158E-07	0	0.0008847	0.0007102
578191.934140211.73	578191.93	4140211.7	0.000176122	0.000200624	0.000230513	0.000404164	2.93724E-05	3.17222E-05	5.28703E-06	6.43543E-05	0	6.43543E-05	6.43543E-05	6.43543E-05	6.68723E-07	0	0.0007413	0.0005946
578201.934140141.73	578201.93	4140141.7	0.000427559	0.000764803	0.000878474	0.001394119	0.000101317	0.000109422	1.8237E-05	9.95668E-05	0	9.95668E-05	9.95668E-05	9.95668E-05	1.03282E-06	0	0.0022882	0.001805
578201.934140151.73	578201.93	4140151.7	0.000385813	0.000651122	0.000747927	0.00120292	8.74215E-05	9.44153E-05	1.57359E-05	9.24605E-05	0	9.24605E-05	9.24605E-05	9.24605E-05	9.59906E-07	0	0.0019855	0.0015706
578201.934140161.73	578201.93	4140161.7	0.000341249	0.000535399	0.000615047	0.001015932	7.38323E-05	7.97389E-05	1.32898E-05	8.60454E-05	0	8.60454E-05	8.60454E-05	8.60454E-05	8.93931E-07	0	0.0016771	0.0013425
578201.934140171.73	578201.93	4140171.7	0.000297272	0.000429611	0.000493566	0.000839014	6.09749E-05	6.58529E-05	1.09755E-05	8.0322E-05	0	8.0322E-05	8.0322E-05	8.0322E-05	8.34854E-07	0	0.0013921	0.0011273
578201.934140191.73	578201.93	4140191.7	0.000218847	0.00027269	0.000313316	0.000549811	3.99572E-05	4.31537E-05	7.19229E-06	7.05011E-05	0	7.05011E-05	7.05011E-05	7.05011E-05	7.32987E-07	0	0.000953	0.0007747
578201.934140201.73	578201.93	4140201.7	0.000186969	0.000219889	0.000252653	0.00044622	3.24288E-05	3.50231E-05	5.83718E-06	6.6284E-05	0	6.6284E-05	6.6284E-05	6.6284E-05	6.89131E-07	0	0.0007979	0.0006469
578211.934140161.73	578211.93	4140161.7	0.000299872	0.000442536	0.0005084	0.000856136	6.22192E-05	6.71967E-05	1.11994E-05	8.22327E-05	0	8.22327E-05	8.22327E-05	8.22327E-05	8.5488E-07	0	0.0014265	0.0011509
578211.934140191.73	578211.93	4140191.7	0.000196425	0.000239508	0.000275201	0.000488952	3.55343E-05	3.83771E-05	6.39618E-06	6.82168E-05	0	6.82168E-05	6.82168E-05	6.82168E-05	7.09644E-07	0	0.000854	0.0007
578108.954140089.28	578108.95	4140089.3	0.00505219	0.021106708	0.024217445	0.024066704	0.001749034	0.001888956	0.000314826	0.000677692	0	0.000677692	0.000677692	0.000677692	6.46472E-06	0	0.0520466	0.0290665
578108.954140097.28	578108.95	4140097.3	0.004941635	0.025973529	0.029793265	0.025082563	0.001822861	0.00196869	0.000328115	0.000580079	0	0.000580079	0.000580079	0.000580079	5.63445E-06	0	0.0621967	0.0300399
578116.954140081.28	578116.95	4140081.3	0.003913176	0.014681778	0.016852408	0.020468942	0.001487568	0.001606574	0.000267762	0.000645527	0	0.000645527	0.000645527	0.000645527	6.1705E-06	0	0.0370062	0.0248603
578116.954140089.28	578116.95	4140089.3	0.003819495	0.017250924	0.01979782	0.022096218	0.00160583	0.001734296	0.000289049	0.000547859	0	0.000547859	0.000547859	0.000547859	5.34102E-06	0	0.042253	0.0265374
578116.954140097.28	578116.95	4140097.3	0.003656864	0.020297671	0.023289192	0.023155626	0.001682822	0.001817447	0.000302908	0.000472134	0	0.000472134	0.000472134	0.000472134	4.66351E-06	0	0.0484909	0.0276048
578116.954140105.28	578116.95	4140105.3	0.003437779	0.024058064	0.02759652	0.023458365	0.001704823	0.001841209	0.000306868	0.000411316	0	0.000411316	0.000411316	0.000411316	4.09737E-06	0	0.0562219	0.0278311
578124.954140073.28	578124.95	4140073.3	0.003113028	0.010811255	0.012412612	0.016696237	0.001213389	0.00131046	0.00021841	0.000624377	0	0.000624377	0.000624377	0.000624377	5.97319E-06	0	0.0278041	0.0204748
578124.954140081.28	578124.95	4140081.3	0.003036506	0.012280151	0.014097695	0.01820633	0.001323134	0.001428985	0.000238164	0.000527501	0	0.000527501	0.000527501	0.000527501	5.15037E-06	0	0.0307075	0.0220186
578124.954140089.28	578124.95	4140089.3	0.002913965	0.013947003	0.016009109	0.019504372	0.001417469	0.001530866	0.000255144	0.000452804	0	0.000452804	0.000452804	0.000452804	4.48335E-06	0	0.0340308	0.0233628
578124.954140097.28	578124.95	4140097.3	0.002754434	0.015913576	0.01826324	0.020499044	0.001489756	0.001608937	0.000268156	0.000393398	0	0.000393398	0.000393398	0.000393398	3.93266E-06	0	0.0379862	0.0243885
578124.954140105.28	578124.95	4140105.3	0.002574753	0.01831526	0.021014866	0.021035111	0.001528714	0.001651012	0.000275169	0.000345125	0	0.000345125	0.000345125	0.000345125	3.47225E-06	0	0.0428703	0.0249086
578124.954140113.28	578124.95	4140113.3	0.002395425	0.021339613	0.024478399	0.020895439	0.001518564	0.001640049	0.000273342	0.000304978	0	0.000304978	0.000304978	0.000304978	3.0795E-06	0	0.0490967	0.0246671
578124.954140121.28	578124.95	4140121.3	0.002235684	0.02530224	0.029014996	0.019911652	0.001447068	0.001562833	0.000260472	0.000271384	0	0.000271384	0.000271384	0.000271384	2.74429E-06	0	0.0573562	0.0234671
578132.954140065.28	578132.95	4140065.3	0.002532781	0.008249641	0.009472902	0.013468137	0.000978789	0.001057092	0.000176182	0.000609803	0	0.000609803	0.000609803	0.000609803	5.8365E-06	0	0.0216511	0.0167295
578132.954140073.28	578132.95	4140073.3	0.002469433	0.009136705	0.010490965	0.014622627	0.001062691	0.001147706	0.000191284	0.000513546	0	0.000513546	0.000513546	0.000513546	5.01644E-06	0	0.0233155	0.0178651
578132.954140081.28	578132.95	4140081.3	0.002375695	0.01010991	0.011607573	0.015716456	0.001142184	0.001233559	0.000205593	0.000440125	0	0.000440125	0.000440125	0.000440125	4.36174E-06	0	0.025179	0.0189768
578132.954140089.28	578132.95	4140089.3	0.002257608	0.011213029	0.012872796	0.016714607	0.001214724	0.001311902	0.00021865	0.000382342	0	0.000382342	0.000382342	0.000382342	3.82839E-06	0	0.0273268	0.0200097
578132.954140105.28	578132.95	4140105.3	0.001990936	0.01400395	0.016071746	0.018088705	0.001314586	0.001419753	0.000236626	0.000296661	0	0.000296661	0.000296661	0.000296661	3.00576E-06	0	0.0328966	0.0214194
578132.954140113.28	578132.95	4140113.3	0.00187157	0.015866631	0.018205282	0.018203214	0.001322908	0.001428741	0.000238123	0.000264453	0	0.000264453	0.000264453	0.000264453	2.68647E-06	0	0.0367105	0.0214865
578132.954140121.28	578132.95	4140121.3	0.001772353	0.01825011	0.020934143	0.017691363	0.001285709	0.001388566	0.000231428	0.000237389	0	0.000237389	0.000237389	0.000237389	2.41398E-06	0	0.0416628	0.0208428
578132.954140129.28	578132.95	4140129.3	0.001686475	0.021415984	0.024557649	0.016395196	0.001191511	0.001286832	0.000214472	0.000214372	0	0.000214372	0.000214372	0.000214372	2.18009E-06	0	0.0483033	0.0193045
578140.954140057.28	578140.95	4140057.3	0.002101778	0.006449684	0.007406725	0.010901063	0.000792228	0.000855607	0.000142601	0.000600064	0	0.000600064	0.000600064	0.000600064	5.7479E-06	0	0.0173009	0.0137548
578140.954140065.28	578140.95	4140065.3	0.002047843	0.006999006	0.00803735	0.011715594	0.000851424	0.000919538	0.000153256	0.000503832	0	0.000503832	0.000503832	0.000503832	4.92299E-06	0	0.0182451	0.0144991
578140.954140073.28	578140.95	4140073.3	0.00197407	0.007586485	0.008711646	0.012513434	0.000909407	0.000982159	0.000163693	0.000431365	0	0.000431365	0.000431365	0.000431365	4.27627E-06	0	0.0192986	0.015272
578140.954140081.28	578140.95	4140081.3	0.001883394	0.008225143	0.009444493	0.013275637	0.000964799	0.001041983	0.000173664	0.000374663	0	0.000374663	0.000374663	0.000374663	3.75348E-06	0	0.020476	0.0160355
578118.524140112.89	578118.52	4140112.9	0.003014093	0.026913868	0.030865651	0.022572027	0.001640409	0.001771642	0.000295274	0.000350429	0	0.000350429	0.000350429	0.000350429	3.51426E-06	0	0.0617897	0.0266884
578140.954140113.28	578140.95	4140113.3	0.001510729	0.011685781	0.013411251	0.015078789	0.001095842	0.00118351	0.000197252	0.000233447	0	0.000233447	0.000233447	0.000233447	2.38137E-06	0	0.0272719	0.0178274
578140.954140121.28	578140.95	4140121.3	0.001447785	0.012962681	0.014873081	0.014748087	0.001071809	0.001157553	0.000192926	0.000211047	0	0.000211047	0.000211047	0.000211047	2.15439E-06	0	0.0298986	0.0174017
578140.954140129.28	578140.95	4140129.3	0.001390644	0.014606128	0.016753589	0.013801086	0.001002986	0.001083225	0.000180537	0.000191957	0	0.000191957	0.000191957	0.000191957	1.96026E-06	0	0.0333148	0.0162732
578140.954140137.28	578140.95	4140137.3	0.001320173	0.016675821	0.019120842	0.012067715	0.000877014	0.000947175	0.000157863	0.000175087	0	0.000175087	0.000175087	0.000175087	1.78885E-06	0	0.0376249	0.0142439
578148.954140049.28	578148.95	4140049.3	0.001775578	0.005137805	0.005900589	0.008906846	0.0006473	0.000699084	0.000116514	0.000594939	0	0.000594939	0.000594939	0.000594939	5.71064E-06	0	0.0141204	0.0114488
578148.954140057.28	578148.95	4140057.3	0.001730498	0.005485579	0.006299933	0.009475476	0.000688625	0.000743715	0.000123952	0.000499023	0	0.000499023	0.000499023	0.000499023	4.88328E-06	0	0.014638	0.0119107
578148.954140065.28	578148.95	4140065.3	0.001669432	0.005839765	0.00670657	0.010016846	0.000727968	0.000786206	0.000131034	0.000426215	0	0.000426215	0.000426215	0.000426215	4.22819E-06	0	0.0151992	0.0123877
578148.954140073.28	578148.95	4140073.3	0.001595976	0.006207487	0.007128652	0.010525722	0.000764951	0.000826147	0.000137691	0.00036942	0	0.00036942	0.00036942	0.00036942	3.70192E-06	0	0.0158086	0.0128594
578111.194140102.62	578111.19	4140102.6	0.004392779	0.027539227	0.031585922	0.024788678	0.001801503	0.001945623	0.00032427	0.000496467	0	0.000496467	0.000496467	0.000496467	4.88341E-06	0	0.0648351	0.0295336
578136.744140133.62	578136.74	4140133.6	0.001494593	0.019579003	0.022449967	0.014320473	0.001040732	0.001123991	0.000187332	0.000192907	0	0.000192907	0.000192907	0.000192907	1.96616E-06	0	0.0440967	0.016873
578148.954140121.28	578148.95	4140121.3	0.001209994	0.008927658	0.010245906	0.011536033	0.000838374	0.000905444	0.000150907	0.000190054	0	0.000190054	0.000190054	0.000190054	1.94579E-06	0	0.0209146	0.0136619
578148.954140129.28	578148.95	4140129.3	0.00116767	0.009457504	0.010851139	0.010660515	0.000774747	0.000836726	0.000139454	0.000173891	0	0.000173891	0.000173891	0.000173891	1.78119E-06	0	0.0219635	0.0126216
578148.954140137.28	578148.95	4140137.3	0.001110389	0.009921636	0.011379902	0.009123236	0.000663026	0.000716068	0.000119345	0.000159473	0	0.000159473	0.000159473	0.000159473	1.63386E-06	0	0.0228502	0.0108229
578156.954140041.28	578156.95	4140041.3	0.001517896	0.004142766	0.004758089	0.007327976	0.000532556	0.000575161	9.58602E-05	0.000589013	0	0.000589013	0.000589013	0.000589013	5.66238E-06	0	0.0116926	0.0096194
578156.954140049.28	578156.95	4140049.3	0.001482946	0.004370619	0.005019795	0.00773656	0.00056225	0.00060723	0.000101205	0.000496075	0	0.000496075	0.000496075	0.000496075	4.86407E-06	0	0.0119667	0.0099031

578156.954140057.28	578156.95	4140057.3	0.001433634	0.004588959	0.005270539	0.008109054	0.000589321	0.000636466	0.000106078	0.0004241	0	0.0004241	0.0004241	0.0004241	4.21386E-06	0	0.0122474	0.0101873
578156.954140065.28	578156.95	4140065.3	0.001374417	0.004802977	0.005516275	0.008448666	0.000614002	0.000663122	0.00011052	0.000367718	0	0.000367718	0.000367718	0.000367718	3.68931E-06	0	0.0125396	0.0104649
578156.954140073.28	578156.95	4140073.3	0.001308641	0.005011975	0.005756173	0.008740898	0.00063524	0.000686059	0.000114343	0.000322248	0	0.000322248	0.000322248	0.000322248	3.25636E-06	0	0.0128356	0.0107099
578156.954140113.28	578156.95	4140113.3	0.001059901	0.005903759	0.006778097	0.009049671	0.00065768	0.000710294	0.000118382	0.000189059	0	0.000189059	0.000189059	0.000189059	1.9391E-06	0	0.0142383	0.0107977
578156.954140121.28	578156.95	4140121.3	0.001028745	0.005937362	0.006815688	0.008559795	0.000622078	0.000671844	0.000111974	0.000172997	0	0.000172997	0.000172997	0.000172997	1.77542E-06	0	0.0142398	0.0102015
578156.954140129.28	578156.95	4140129.3	0.000993843	0.005834918	0.006696798	0.007704899	0.000559949	0.000604745	0.000100791	0.000159038	0	0.000159038	0.000159038	0.000159038	1.63242E-06	0	0.0139444	0.0091893
578164.954140041.28	578164.95	4140041.3	0.001281472	0.003521586	0.004044882	0.006358638	0.00046211	0.000499079	8.31799E-05	0.000490504	0	0.000490504	0.000490504	0.000490504	4.81157E-06	0	0.0099121	0.0083056
578164.954140049.28	578164.95	4140049.3	0.001243028	0.003659586	0.004203413	0.006621611	0.000481222	0.000519719	8.66199E-05	0.000421233	0	0.000421233	0.000421233	0.000421233	4.18936E-06	0	0.0100351	0.0084692
578164.954140057.28	578164.95	4140057.3	0.001196023	0.003785867	0.004348464	0.006852495	0.000498001	0.000537841	8.96402E-05	0.00036607	0	0.00036607	0.00036607	0.00036607	3.67611E-06	0	0.0101521	0.0086242
578164.954140065.28	578164.95	4140065.3	0.001143443	0.003899672	0.004479153	0.007043188	0.00051186	0.000552808	9.21347E-05	0.000321388	0	0.000321388	0.000321388	0.000321388	3.25036E-06	0	0.0102572	0.0087539
578164.954140073.28	578164.95	4140073.3	0.001089052	0.003998013	0.004592033	0.007179985	0.000521801	0.000563545	9.39242E-05	0.000284668	0	0.000284668	0.000284668	0.000284668	2.89436E-06	0	0.0103424	0.0088376
578164.954140081.28	578164.95	4140081.3	0.001037598	0.004077949	0.004683715	0.00725189	0.000527027	0.000569189	9.48648E-05	0.000254096	0	0.000254096	0.000254096	0.000254096	2.59372E-06	0	0.0104023	0.0088589
578164.954140105.28	578164.95	4140105.3	0.0009334	0.004154982	0.004771505	0.007013505	0.000509702	0.000550479	9.17464E-05	0.000188591	0	0.000188591	0.000188591	0.000188591	1.9366E-06	0	0.0103288	0.0084528
578164.954140113.28	578164.95	4140113.3	0.000910882	0.004078049	0.004682832	0.006705392	0.00048731	0.000526295	8.77159E-05	0.000172723	0	0.000172723	0.000172723	0.000172723	1.77505E-06	0	0.0101049	0.0080662
578164.954140121.28	578164.95	4140121.3	0.000885977	0.003902177	0.004480444	0.00617892	0.000449049	0.000484973	8.08289E-05	0.000158878	0	0.000158878	0.000158878	0.000158878	1.63388E-06	0	0.0096672	0.0074323
578164.954140129.28	578164.95	4140129.3	0.000854448	0.00360358	0.004137039	0.005400204	0.000392457	0.000423853	7.06422E-05	0.000146685	0	0.000146685	0.000146685	0.000146685	1.50854E-06	0	0.0089591	0.0065114
578172.954140049.28	578172.95	4140049.3	0.001047137	0.003026125	0.003476049	0.00560204	0.000407125	0.000439695	7.32825E-05	0.000363112	0	0.000363112	0.000363112	0.000363112	3.64665E-06	0	0.0083488	0.0071787
578172.954140057.28	578172.95	4140057.3	0.001005818	0.00308916	0.00354848	0.005732069	0.000416575	0.000449901	7.49835E-05	0.000319851	0	0.000319851	0.000319851	0.000319851	3.23563E-06	0	0.0083581	0.0072415
578172.954140065.28	578172.95	4140065.3	0.000962431	0.003136101	0.003602402	0.005820135	0.000422975	0.000456813	7.61355E-05	0.00028377	0	0.00028377	0.00028377	0.00028377	2.88575E-06	0	0.0083446	0.0072703
578172.954140073.28	578172.95	4140073.3	0.000920025	0.003162302	0.003632466	0.005850686	0.000425195	0.000459211	7.65351E-05	0.000253728	0	0.000253728	0.000253728	0.000253728	2.59072E-06	0	0.0082988	0.0072451
578172.954140081.28	578172.95	4140081.3	0.000882219	0.003164499	0.003634917	0.005814851	0.000422591	0.000456398	7.60664E-05	0.000228431	0	0.000228431	0.000228431	0.000228431	2.33939E-06	0	0.0082146	0.007153
578172.954140089.28	578172.95	4140089.3	0.000851973	0.003141885	0.003608838	0.005716841	0.000415468	0.000448706	7.47843E-05	0.000206985	0	0.000206985	0.000206985	0.000206985	2.12427E-06	0	0.0080915	0.0069971
578172.954140097.28	578172.95	4140097.3	0.000828735	0.00308649	0.003545079	0.005544537	0.000402946	0.000435182	7.25303E-05	0.000188642	0	0.000188642	0.000188642	0.000188642	1.93876E-06	0	0.0079101	0.0067619
578172.954140105.28	578172.95	4140105.3	0.000810147	0.002989738	0.003433802	0.005288303	0.000384324	0.00041507	6.91784E-05	0.000172822	0	0.000172822	0.000172822	0.000172822	1.77783E-06	0	0.0076485	0.0064351
578172.954140113.28	578172.95	4140113.3	0.000792204	0.002843078	0.003265204	0.004944171	0.000359315	0.00038806	6.46767E-05	0.000159073	0	0.000159073	0.000159073	0.000159073	1.6376E-06	0	0.0072833	0.0060113
578172.954140121.28	578172.95	4140121.3	0.000770486	0.002634161	0.003025089	0.004482602	0.00032577	0.000351832	5.86387E-05	0.000146998	0	0.000146998	0.000146998	0.000146998	1.5144E-06	0	0.0067824	0.0054557
578180.954140065.28	578180.95	4140065.3	0.000819919	0.002506825	0.002879783	0.004774371	0.000346975	0.000374733	6.24554E-05	0.000253371	0	0.000253371	0.000253371	0.000253371	2.58722E-06	0	0.0067757	0.0060054
578180.954140073.28	578180.95	4140073.3	0.000789031	0.002487947	0.002858078	0.00472784	0.000343593	0.00037108	6.18467E-05	0.000228478	0	0.000228478	0.000228478	0.000228478	2.33985E-06	0	0.0066539	0.0059018
578180.954140081.28	578180.95	4140081.3	0.000762346	0.002450841	0.002815409	0.004634668	0.000336822	0.000363768	6.06279E-05	0.000207255	0	0.000207255	0.000207255	0.000207255	2.12759E-06	0	0.0065037	0.0057519
578180.954140089.28	578180.95	4140089.3	0.000741822	0.002392254	0.002748047	0.004490396	0.000326337	0.000352444	5.87407E-05	0.000189065	0	0.000189065	0.000189065	0.000189065	1.94417E-06	0	0.006319	0.0055493
578180.954140097.28	578180.95	4140097.3	0.000726021	0.00230786	0.002651024	0.004289662	0.000311749	0.000336689	5.61148E-05	0.000173345	0	0.000173345	0.000173345	0.000173345	1.78458E-06	0	0.0060877	0.0052866
578180.954140105.28	578180.95	4140105.3	0.00071192	0.002193701	0.002519801	0.00402868	0.000292782	0.000316205	5.27008E-05	0.00015963	0	0.00015963	0.00015963	0.00015963	1.64468E-06	0	0.0057974	0.0049586
578180.954140113.28	578180.95	4140113.3	0.000696076	0.002047963	0.002352302	0.003708391	0.000269505	0.000291066	4.85109E-05	0.000147577	0	0.000147577	0.000147577	0.000147577	1.5216E-06	0	0.00544	0.0045656
578188.954140073.28	578188.95	4140073.3	0.000685311	0.001962927	0.002255108	0.003816798	0.000277384	0.000299574	4.9929E-05	0.000207609	0	0.000207609	0.000207609	0.000207609	2.13121E-06	0	0.0053685	0.0048111
578188.954140081.28	578188.95	4140081.3	0.000667912	0.001909947	0.00219421	0.003695749	0.000268586	0.000290073	4.83455E-05	0.00018962	0	0.00018962	0.00018962	0.00018962	1.94967E-06	0	0.0051997	0.0046356
578188.954140089.28	578188.95	4140089.3	0.000653957	0.00184169	0.002115746	0.003537308	0.000257072	0.000277638	4.62729E-05	0.000174018	0	0.000174018	0.000174018	0.000174018	1.79193E-06	0	0.0050057	0.0044218
578188.954140097.28	578188.95	4140097.3	0.000642469	0.001756741	0.002018096	0.003341433	0.000242837	0.000262264	4.37106E-05	0.000160393	0	0.000160393	0.000160393	0.000160393	1.6534E-06	0	0.0047818	0.004169
578188.954140105.28	578188.95	4140105.3	0.000630714	0.001654594	0.001900686	0.003110306	0.00022604	0.000244123	4.06871E-05	0.000148395	0	0.000148395	0.000148395	0.000148395	1.53096E-06	0	0.0045235	0.0038788
578188.954140113.28	578188.95	4140113.3	0.000616099	0.001536881	0.001765393	0.002850343	0.000207147	0.000223719	3.72865E-05	0.00013776	0	0.00013776	0.00013776	0.00013776	1.42236E-06	0	0.0042312	0.0035582
578196.954140081.28	578196.95	4140081.3	0.000590708	0.001508853	0.00173351	0.002969082	0.000215776	0.000233038	3.88397E-05	0.000174735	0	0.000174735	0.000174735	0.000174735	1.80008E-06	0	0.0042214	0.0037692
578196.954140089.28	578196.95	4140089.3	0.000581187	0.001444912	0.001660003	0.00281858	0.000204839	0.000221226	3.6871E-05	0.0001612	0	0.0001612	0.0001612	0.0001612	1.66249E-06	0	0.0040454	0.0035687
578196.954140097.28	578196.95	4140097.3	0.000572354	0.001371535	0.00157565	0.002646127	0.000192306	0.00020769	3.4615E-05	0.000149278	0	0.000149278	0.000149278	0.000149278	1.54085E-06	0	0.0038527	0.0033462
578196.954140105.28	578196.95	4140105.3	0.000562145	0.001289575	0.001481434	0.002456028	0.00017849	0.00019277	3.21283E-05	0.000138711	0	0.000138711	0.000138711	0.000138711	1.43277E-06	0	0.0036427	0.0031061
578204.954140097.28	578204.95	4140097.3	0.000513738	0.001099959	0.001263685	0.002136852	0.000155295	0.000167718	2.7953E-05	0.000139754	0	0.000139754	0.000139754	0.000139754	1.44408E-06	0	0.0031848	0.0027408
578001.424140037.45	578001.42	4140037.5	0.001207529	0.000454201	0.000522147	0.001068355	7.76421E-05	8.38534E-05	1.39756E-05	0.000157191	0	0.000157191	0.000157191	0.000157191	1.66977E-06	0	0.0025122	0.0015459
578001.424140045.45	578001.42	4140045.5	0.001291269	0.000465741	0.000535417	0.001097159	7.97354E-05	8.61142E-05	1.43524E-05	0.000164813	0	0.000164813	0.000164813	0.000164813	1.74086E-06	0	0.0026364	0.0015944
578009.424140029.45	578009.42	4140029.5	0.001399509	0.000546998	0.000628784	0.001264004	9.18608E-05	9.92096E-05	1.65349E-05	0.000180999	0	0.000180999	0.000180999	0.000180999	1.93042E-06	0	0.0029538	0.001819
578009.424140037.45	578009.42	4140037.5	0.001511774	0.000567004	0.000651784	0.001311221	9.52922E-05	0.000102916	1.71526E-05	0.000191324	0	0.000191324	0.000191324	0.000191324	2.02967E-06	0	0.0031304	0.0018941
578009.424140045.45	578009.42	4140045.5	0.001637601	0.000587805	0.000675695	0.001359867	9.88276E-05	0.000106734	1.7789E-05	0.000202632	0	0.000202632	0.000202632	0.000202632	2.13615E-06	0	0.0033242	0.0019728
578017.424140029.45	578017.42	4140029.5	0.001742083	0.000680924	0.000782677	0.001541718	0.000112043	0.000121007	2.01678E-05	0.000222744	0	0.000222744	0.000222744	0.000222744	2.36658E-06	0	0.0036713	0.0022226
578017.424140037.45	578017.42	4140037.5	0.00190384	0.000713571	0.000820201	0.001614741	0.00011735	0.000126738	2.11231E-05	0.000238276	0	0.000238276	0.000238276	0.000238276	2.51641E-06	0	0.0039353	0.0023379
578025.424140021.45	578025.42	4140021.5	0.001971694	0.00080505	0.000925274	0.001779872	0.000129351	0.000139699	2.32832E-05	0.000258578	0	0.000258578	0.000258578	0.000258578	2.74053E-06	0	0.0042425	0.0025688
578025.424140029.45	578025.42	4140029.5	0.00217113	0.000852998	0.000980377	0.001883294	0.000136867	0.000147817	2.46361E-05	0.000279884	0	0.000279884	0.000279884	0.000279884	2.94893E-06	0	0.0045889	0.0027307
578033.424140013.45	578033.42	4140013.5	0.002183614	0.000935489	0.001075095	0.002015411	0.000146469	0.000158186	2.63644E-05	0.000297284	0	0.000297284	0.000297284	0.000297284	3.13169E-06	0	0.0048151	0.0029178
578033.424140021.45	578033.42	4140021.5	0.002416142	0.001000604	0.001149919	0.002150931	0.000156318	0.000168823	2.81372E-05	0.000325115	0	0.000325115	0.000325115	0.000325115	3.40419E-06	0	0.005245	0.0031297
578041.424140013.45	578041.42	4140013.5	0.002617587	0.001151196	0.00132286	0.002407166	0.000174939	0.000188935	3.14891E-05	0.000371299	0	0.000371299	0.000371299	0.000371299	3.85548E-06	0	0.0058657	0.0035175
578041.424140021.45	578041.42	4140021.5	0.002918706	0.001244313	0.001429845	0.002592546	0.000188412	0.000203485	3.39141E-05	0.000412214	0	0.000412214	0.000412214	0.000412214	4.24801E-06	0	0.0064512	0.0038131
578049.424140005.45	578049.42	4140005.5	0.002755858	0.00129763	0.001490994	0.002639135	0.000191798	0.000207141	3.45236E-05	0.000415252	0	0.000415252	0.000415252	0.000415252	4.27448E-06	0	0.0064095	0.0038729
578049.424140013.45	578049.42	4140013.5	0.003072227	0.001412188	0.001622601	0.002860541	0.000207888	0.000224519	3.74199E-05	0.000463682	0	0.000463682	0.000463682	0.000463682	4.73697E-06	0	0.0070718	0.0042251
578049.424140021.45	578049.42	4140021.5	0.003443342	0.0015416	0.001771268	0.003107587	0.000225842	0.000243909	4.06516E-05	0.00052203	0	0.00052203	0.00052203	0.00052203	5.28465E-06	0	0.0078409	0.0046267
578049.424140029.45	578049.42	4140029.5	0.003883543	0.001689193	0.001940814	0.003385465	0.000246037	0.00026572	4.42866E-05	0.00059356	0	0.00059356	0.00059356	0.00059356	5.94337E-06	0	0.008745	0.0050903
578057.424139997.45	578057.42	4139997.5	0.002822766	0.001434611	0.001648244	0.002839271	0.000206342	0.00022285	3.71416E-05	0.000455111	0	0.000455111	0.000455111	0.000455111	4.64873E-06	0	0.006853	0.0041833
578057.424140005.45	578057.42	4140005.5	0.003137468	0.001567924	0.001801385	0.003089927	0.000224559	0.000242523	4.04206E-05	0.000509257	0	0.000509257	0.000509257	0.000509257	5.16323E-06	0	0.0075657	0.0045807
578057.424140013.45	578057.42	4140013.5	0.003505009	0.001720349	0.001976476	0.003373671	0.00024518	0.000264794	4.41323E-05	0.000574768	0	0.000574768	0.000574768	0.000574768	5.77646E-06	0	0.0083955	0.005039
578057.424140021.45	578057.42	4140021.5	0.003936809	0.001895225	0.002177348	0.00369525	0.00026855	0.000290034	4.8339E-05	0.000654912	0	0.000654912	0.000654912	0.000654912	6.51327E-06	0	0.0093675	0.0055702
578057.424140029.45	578057.42	4140029.5	0.004448277	0.002096981	0.002409087	0.00406087	0.000295121	0.000318731	5.31219E-05	0.000754424	0	0.000754424	0.000754424	0.000754424	7.40928E-06	0	0.0105163	0.006191
578057.424140037.45	578057.42	4140037.5	0.005060929	0.00233225	0.002679306	0.004480004	0.000325582	0.000351628	5.86047E-05	0.000880634	0	0.000880634	0.000880634	0.000880634	8.51767E-06	0	0.0118924	0.006927
578057.424140045.45	578057.42	4140045.5	0.005802879	0.002609256	0.002997442	0.004963451	0.000360716	0.000389573	6.49289E-05	0.001044532	0	0.001044532	0.001044532	0.001044532	9.91273E-06	0	0.0135636	0.0078127
578065.424140005.45	578065.42	4140005.5	0.003465274	0.001877612	0.002156976	0.00358641	0.00026064	0.000281491	4.69152E-05	0.000618617	0	0.000618617	0.000618617	0.000618617	6.18406E-06	0	0.008784	0.005372
578065.424140021.45	578065.42	4140021.5	0.004338365	0.002304359	0.002647124	0.004350119	0.000316142	0.000341434	5.69056E-05	0.000810339	0	0.000810339	0.000810339	0.000810339	7.92737E-06	0	0.0109674	0.0066363
578065.424140029.45	578065.42	4140029.5	0.004892597	0.002572437	0.002955012	0.004820504	0.000350327	0.000378354	6.30589E-05	0.000943562	0	0.000943562	0.000943562	0.000943562	9.09949E-06	0	0.0123702	0.0074454
578065.424140037.45	578065.42	4140037.5	0.005549001	0.002887352	0.003316674	0.005362572	0.000389722	0.0004209	7.01499E-05	0.001113984	0	0.001113984	0.001113984	0.001113984	1.05511E-05	0	0.0140511	0.0084117
578065.424140045.45	578065.42	4140045.5	0.006335473	0.003262729	0.003747749	0.005994901	0.000435676	0.00047053	7.84217E-05	0.001339251	0	0.001339251	0.001339251	0.001339251	1.23893E-05	0	0.0161029	0.009592
578065.424140053.45	578065.42	4140053.5	0.007290852	0.003718271	0.004270848	0.006744083	0.000490122	0.000529332	8.8222E-05	0.001651877	0	0.001651877	0.001651877	0.001651877	1.4783E-05	0	0.0186719	0.0110821

578073.424139989.45	578073.42	4139989.5	0.003027546	0.001821546	0.002092438	0.003407386	0.00024763	0.00026744	4.45734E-05	0.000580365	0	0.000580365	0.000580365	0.000580365	5.8266E-06	0	0.0081468	0.005089
578073.424140029.45	578073.42	4140029.5	0.005149797	0.003107467	0.003569292	0.005647133	0.000410402	0.000443234	7.38724E-05	0.001162372	0	0.001162372	0.001162372	0.001162372	1.10076E-05	0	0.0142252	0.0088365
578073.424140037.45	578073.42	4140037.5	0.005799501	0.003518807	0.004041657	0.00633591	0.000460459	0.000497295	8.28825E-05	0.001388881	0	0.001388881	0.001388881	0.001388881	1.28595E-05	0	0.0162206	0.0100843
578073.424140045.45	578073.42	4140045.5	0.006562837	0.004014768	0.004611163	0.007147434	0.000519436	0.00056099	9.34984E-05	0.001696687	0	0.001696687	0.001696687	0.001696687	1.52197E-05	0	0.0186756	0.0116365
578081.424139981.45	578081.42	4139981.5	0.002881962	0.001909823	0.002193686	0.003486248	0.000253361	0.00027363	4.5605E-05	0.000606561	0	0.000606561	0.000606561	0.000606561	6.07475E-06	0	0.0082442	0.0052324
578081.424139989.45	578081.42	4139989.5	0.003157275	0.002104688	0.002417487	0.00382739	0.000278153	0.000300406	5.00676E-05	0.000682199	0	0.000682199	0.000682199	0.000682199	6.78367E-06	0	0.0090939	0.0057771
578081.424139997.45	578081.42	4139997.5	0.003467912	0.002329379	0.002675539	0.004218193	0.000306555	0.000331079	5.51798E-05	0.00077333	0	0.00077333	0.00077333	0.00077333	7.62444E-06	0	0.0100747	0.0064101
578081.424140005.45	578081.42	4140005.5	0.003818856	0.002589854	0.002974682	0.004667424	0.000339202	0.000366338	6.10564E-05	0.000884272	0	0.000884272	0.000884272	0.000884272	8.6283E-06	0	0.011213	0.0071501
578081.424140021.45	578081.42	4140021.5	0.004669915	0.003255607	0.003739232	0.005797801	0.000421352	0.00045506	7.58433E-05	0.001195598	0	0.001195598	0.001195598	0.001195598	1.13305E-05	0	0.0141318	0.0090767
578081.424140029.45	578081.42	4140029.5	0.005186805	0.003686848	0.004234444	0.006515899	0.000473539	0.000511422	8.5237E-05	0.001421644	0	0.001421644	0.001421644	0.001421644	1.31794E-05	0	0.0160366	0.0103573
578081.424140037.45	578081.42	4140037.5	0.005777067	0.00420705	0.004831782	0.007365919	0.000535314	0.000578139	9.63565E-05	0.001726709	0	0.001726709	0.001726709	0.001726709	1.55151E-05	0	0.0183657	0.0119483
578089.424139981.45	578089.42	4139981.5	0.002933625	0.002164005	0.002485461	0.003848406	0.000279681	0.000302055	5.03425E-05	0.000703821	0	0.000703821	0.000703821	0.000703821	6.99233E-06	0	0.0090411	0.0058448
578089.424139989.45	578089.42	4139989.5	0.003195703	0.00239338	0.002748882	0.004241536	0.000308251	0.000332911	5.54852E-05	0.000796571	0	0.000796571	0.000796571	0.000796571	7.85261E-06	0	0.0099866	0.0064837
578089.424139997.45	578089.42	4139997.5	0.003485434	0.002656898	0.003051508	0.004690069	0.000340848	0.000368116	6.13526E-05	0.000908357	0	0.000908357	0.000908357	0.000908357	8.86708E-06	0	0.0110719	0.0072246
578089.424140005.45	578089.42	4140005.5	0.00380721	0.002963871	0.00340403	0.005208502	0.000378525	0.000408807	6.81345E-05	0.00104594	0	0.00104594	0.00104594	0.00104594	1.00844E-05	0	0.0123351	0.0080978
578089.424140013.45	578089.42	4140013.5	0.004165796	0.003326361	0.003820298	0.005815421	0.000422632	0.000456443	7.60738E-05	0.001219475	0	0.001219475	0.001219475	0.001219475	1.15713E-05	0	0.0138275	0.009145
578089.424140021.45	578089.42	4140021.5	0.004564461	0.003757378	0.004315244	0.006528669	0.000474467	0.000512425	8.54041E-05	0.001443849	0	0.001443849	0.001443849	0.001443849	1.34036E-05	0	0.0156102	0.0104167
578089.424140029.45	578089.42	4140029.5	0.005007256	0.004276109	0.00491089	0.007374098	0.000535908	0.000578781	9.64635E-05	0.001745705	0	0.001745705	0.001745705	0.001745705	1.57068E-05	0	0.0177821	0.0119959
578097.424139989.45	578097.42	4139989.5	0.003140078	0.002666393	0.003062255	0.004620404	0.000335785	0.000362648	6.04413E-05	0.000925046	0	0.000925046	0.000925046	0.000925046	9.0338E-06	0	0.0107793	0.007178
578097.424139997.45	578097.42	4139997.5	0.003397177	0.002968046	0.003408662	0.005125979	0.000372528	0.00040233	6.7055E-05	0.001064169	0	0.001064169	0.001064169	0.001064169	1.02729E-05	0	0.0119693	0.0080394
578097.424140005.45	578097.42	4140005.5	0.003674993	0.003317953	0.003810472	0.005707951	0.000414822	0.000448008	7.4668E-05	0.001237188	0	0.001237188	0.001237188	0.001237188	1.17556E-05	0	0.0133525	0.0090569
578097.424140013.45	578097.42	4140013.5	0.003976882	0.003731888	0.004285799	0.00639061	0.000464434	0.000501589	8.35981E-05	0.001461054	0	0.001461054	0.001461054	0.001461054	1.35822E-05	0	0.0150003	0.0102923
578097.424140021.45	578097.42	4140021.5	0.004303303	0.004226038	0.004853219	0.007196225	0.000522982	0.00056482	9.41367E-05	0.001761999	0	0.001761999	0.001761999	0.001761999	1.58669E-05	0	0.0170007	0.0118239
578105.424140005.45	578105.42	4140005.5	0.003444005	0.003616946	0.004153664	0.006121627	0.000444886	0.000480477	8.00794E-05	0.001472828	0	0.001472828	0.001472828	0.001472828	1.3706E-05	0	0.0142404	0.0100064
578105.424140013.45	578105.42	4140013.5	0.003682624	0.004068451	0.004672123	0.006860807	0.000498605	0.000538494	8.97489E-05	0.00177493	0	0.00177493	0.00177493	0.00177493	1.59926E-05	0	0.0160628	0.0114638
578172.954140089.28	578172.95	4140089.3	0.000851973	0.003141885	0.003608838	0.005716841	0.000415468	0.000448706	7.47843E-05	0.000206985	0	0.000206985	0.000206985	0.000206985	2.12427E-06	0	0.0080915	0.0069971
578172.954140097.28	578172.95	4140097.3	0.000828735	0.00308649	0.003545079	0.005544537	0.000402946	0.000435182	7.25303E-05	0.000188642	0	0.000188642	0.000188642	0.000188642	1.93876E-06	0	0.0079101	0.0067619
578172.954140105.28	578172.95	4140105.3	0.000810147	0.002989738	0.003433802	0.005288303	0.000384324	0.00041507	6.91784E-05	0.000172822	0	0.000172822	0.000172822	0.000172822	1.77783E-06	0	0.0076485	0.0064351
578172.954140113.28	578172.95	4140113.3	0.000792204	0.002843078	0.003265204	0.004944171	0.000359315	0.00038806	6.46767E-05	0.000159073	0	0.000159073	0.000159073	0.000159073	1.6376E-06	0	0.0072833	0.0060113
578172.954140121.28	578172.95	4140121.3	0.000770486	0.002634161	0.003025089	0.004482602	0.00032577	0.000351832	5.86387E-05	0.000146998	0	0.000146998	0.000146998	0.000146998	1.5144E-06	0	0.0067824	0.0054557
578180.954140065.28	578180.95	4140065.3	0.000819919	0.002506825	0.002879783	0.004774371	0.000346975	0.000374733	6.24554E-05	0.000253371	0	0.000253371	0.000253371	0.000253371	2.58722E-06	0	0.0067757	0.0060054
578180.954140073.28	578180.95	4140073.3	0.000789031	0.002487947	0.002858078	0.00472784	0.000343593	0.00037108	6.18467E-05	0.000228478	0	0.000228478	0.000228478	0.000228478	2.33985E-06	0	0.0066539	0.0059018
578180.954140081.28	578180.95	4140081.3	0.000762346	0.002450841	0.002815409	0.004634668	0.000336822	0.000363768	6.06279E-05	0.000207255	0	0.000207255	0.000207255	0.000207255	2.12759E-06	0	0.0065037	0.0057519
578180.954140089.28	578180.95	4140089.3	0.000741822	0.002392254	0.002748047	0.004490396	0.000326337	0.000352444	5.87407E-05	0.000189065	0	0.000189065	0.000189065	0.000189065	1.94417E-06	0	0.006319	0.0055493
578180.954140097.28	578180.95	4140097.3	0.000726021	0.00230786	0.002651024	0.004289662	0.000311749	0.000336689	5.61148E-05	0.000173345	0	0.000173345	0.000173345	0.000173345	1.78458E-06	0	0.0060877	0.0052866
578180.954140105.28	578180.95	4140105.3	0.00071192	0.002193701	0.002519801	0.00402868	0.000292782	0.000316205	5.27008E-05	0.00015963	0	0.00015963	0.00015963	0.00015963	1.64468E-06	0	0.0057974	0.0049586
578180.954140113.28	578180.95	4140113.3	0.000696076	0.002047963	0.002352302	0.003708391	0.000269505	0.000291066	4.85109E-05	0.000147577	0	0.000147577	0.000147577	0.000147577	1.5216E-06	0	0.00544	0.0045656
578188.954140073.28	578188.95	4140073.3	0.000685311	0.001962927	0.002255108	0.003816798	0.000277384	0.000299574	4.9929E-05	0.000207609	0	0.000207609	0.000207609	0.000207609	2.13121E-06	0	0.0053685	0.0048111
578188.954140081.28	578188.95	4140081.3	0.000667912	0.001909947	0.00219421	0.003695749	0.000268586	0.000290073	4.83455E-05	0.00018962	0	0.00018962	0.00018962	0.00018962	1.94967E-06	0	0.0051997	0.0046356
578188.954140089.28	578188.95	4140089.3	0.000653957	0.00184169	0.002115746	0.003537308	0.000257072	0.000277638	4.62729E-05	0.000174018	0	0.000174018	0.000174018	0.000174018	1.79193E-06	0	0.0050057	0.0044218
578188.954140097.28	578188.95	4140097.3	0.000642469	0.001756741	0.002018096	0.003341433	0.000242837	0.000262264	4.37106E-05	0.000160393	0	0.000160393	0.000160393	0.000160393	1.6534E-06	0	0.0047818	0.004169
578188.954140105.28	578188.95	4140105.3	0.000630714	0.001654594	0.001900686	0.003110306	0.00022604	0.000244123	4.06871E-05	0.000148395	0	0.000148395	0.000148395	0.000148395	1.53096E-06	0	0.0045235	0.0038788
578188.954140113.28	578188.95	4140113.3	0.000616099	0.001536881	0.001765393	0.002850343	0.000207147	0.000223719	3.72865E-05	0.00013776	0	0.00013776	0.00013776	0.00013776	1.42236E-06	0	0.0042312	0.0035582
578196.954140081.28	578196.95	4140081.3	0.000590708	0.001508853	0.00173351	0.002969082	0.000215776	0.000233038	3.88397E-05	0.000174735	0	0.000174735	0.000174735	0.000174735	1.80008E-06	0	0.0042214	0.0037692
578196.954140089.28	578196.95	4140089.3	0.000581187	0.001444912	0.001660003	0.00281858	0.000204839	0.000221226	3.6871E-05	0.0001612	0	0.0001612	0.0001612	0.0001612	1.66249E-06	0	0.0040454	0.0035687
578196.954140097.28	578196.95	4140097.3	0.000572354	0.001371535	0.00157565	0.002646127	0.000192306	0.00020769	3.4615E-05	0.000149278	0	0.000149278	0.000149278	0.000149278	1.54085E-06	0	0.0038527	0.0033462
578196.954140105.28	578196.95	4140105.3	0.000562145	0.001289575	0.001481434	0.002456028	0.00017849	0.00019277	3.21283E-05	0.000138711	0	0.000138711	0.000138711	0.000138711	1.43277E-06	0	0.0036427	0.0031061
578204.954140097.28	578204.95	4140097.3	0.000513738	0.001099959	0.001263685	0.002136852	0.000155295	0.000167718	2.7953E-05	0.000139754	0	0.000139754	0.000139754	0.000139754	1.44408E-06	0	0.0031848	0.0027408
578001.424140037.45	578001.42	4140037.5	0.001207529	0.000454201	0.000522147	0.001068355	7.76421E-05	8.38534E-05	1.39756E-05	0.000157191	0	0.000157191	0.000157191	0.000157191	1.66977E-06	0	0.0025122	0.0015459
578001.424140045.45	578001.42	4140045.5	0.001291269	0.000465741	0.000535417	0.001097159	7.97354E-05	8.61142E-05	1.43524E-05	0.000164813	0	0.000164813	0.000164813	0.000164813	1.74086E-06	0	0.0026364	0.0015944
578009.424140029.45	578009.42	4140029.5	0.001399509	0.000546998	0.000628784	0.001264004	9.18608E-05	9.92096E-05	1.65349E-05	0.000180999	0	0.000180999	0.000180999	0.000180999	1.93042E-06	0	0.0029538	0.001819
578009.424140037.45	578009.42	4140037.5	0.001511774	0.000567004	0.000651784	0.001311221	9.52922E-05	0.000102916	1.71526E-05	0.000191324	0	0.000191324	0.000191324	0.000191324	2.02967E-06	0	0.0031304	0.0018941
578009.424140045.45	578009.42	4140045.5	0.001637601	0.000587805	0.000675695	0.001359867	9.88276E-05	0.000106734	1.7789E-05	0.000202632	0	0.000202632	0.000202632	0.000202632	2.13615E-06	0	0.0033242	0.0019728
578017.424140029.45	578017.42	4140029.5	0.001742083	0.000680924	0.000782677	0.001541718	0.000112043	0.000121007	2.01678E-05	0.000222744	0	0.000222744	0.000222744	0.000222744	2.36658E-06	0	0.0036713	0.0022226
578017.424140037.45	578017.42	4140037.5	0.00190384	0.000713571	0.000820201	0.001614741	0.00011735	0.000126738	2.11231E-05	0.000238276	0	0.000238276	0.000238276	0.000238276	2.51641E-06	0	0.0039353	0.0023379
578025.424140021.45	578025.42	4140021.5	0.001971694	0.00080505	0.000925274	0.001779872	0.000129351	0.000139699	2.32832E-05	0.000258578	0	0.000258578	0.000258578	0.000258578	2.74053E-06	0	0.0042425	0.0025688
578025.424140029.45	578025.42	4140029.5	0.00217113	0.000852998	0.000980377	0.001883294	0.000136867	0.000147817	2.46361E-05	0.000279884	0	0.000279884	0.000279884	0.000279884	2.94893E-06	0	0.0045889	0.0027307
578033.424140013.45	578033.42	4140013.5	0.002183614	0.000935489	0.001075095	0.002015411	0.000146469	0.000158186	2.63644E-05	0.000297284	0	0.000297284	0.000297284	0.000297284	3.13169E-06	0	0.0048151	0.0029178
578033.424140021.45	578033.42	4140021.5	0.002416142	0.001000604	0.001149919	0.002150931	0.000156318	0.000168823	2.81372E-05	0.000325115	0	0.000325115	0.000325115	0.000325115	3.40419E-06	0	0.005245	0.0031297
578041.424140013.45	578041.42	4140013.5	0.002617587	0.001151196	0.00132286	0.002407166	0.000174939	0.000188935	3.14891E-05	0.000371299	0	0.000371299	0.000371299	0.000371299	3.85548E-06	0	0.0058657	0.0035175
578041.424140021.45	578041.42	4140021.5	0.002918706	0.001244313	0.001429845	0.002592546	0.000188412	0.000203485	3.39141E-05	0.000412214	0	0.000412214	0.000412214	0.000412214	4.24801E-06	0	0.0064512	0.0038131
578049.424140005.45	578049.42	4140005.5	0.002755858	0.00129763	0.001490994	0.002639135	0.000191798	0.000207141	3.45236E-05	0.000415252	0	0.000415252	0.000415252	0.000415252	4.27448E-06	0	0.0064095	0.0038729
578049.424140013.45	578049.42	4140013.5	0.003072227	0.001412188	0.001622601	0.002860541	0.000207888	0.000224519	3.74199E-05	0.000463682	0	0.000463682	0.000463682	0.000463682	4.73697E-06	0	0.0070718	0.0042251
578049.424140021.45	578049.42	4140021.5	0.003443342	0.0015416	0.001771268	0.003107587	0.000225842	0.000243909	4.06516E-05	0.00052203	0	0.00052203	0.00052203	0.00052203	5.28465E-06	0	0.0078409	0.0046267
578049.424140029.45	578049.42	4140029.5	0.003883543	0.001689193	0.001940814	0.003385465	0.000246037	0.00026572	4.42866E-05	0.00059356	0	0.00059356	0.00059356	0.00059356	5.94337E-06	0	0.008745	0.0050903

4335 & 4345 El Camino Real Construction Health Risk Assessment

Cancer Risk Summary & Maximum Annual GLC for Chronic Calculations

Cancer Risk Summary

Max Risk: 5.97

XY	X	Y	Offroad Risk	Haul Risk	Total Risk
578048.554:	578048.55	4140246.4	0.349640645	0.004125	0.3537661
578066.414:	578066.41	4140268	0.190106392	0.003123	0.1932292
578068.454:	578068.45	4140241.3	0.31807	0.0041	0.3221702
578054.694:	578054.69	4140253.4	0.284654264	0.00373	0.2883838
578061.934:	578061.93	4140261.7	0.224502112	0.003351	0.227853
578046.974:	578046.97	4140254.6	0.298612064	0.003766	0.3023779
5780634140	578063	4140234.4	0.391997741	0.004563	0.396561
578076.524:	578076.52	4140257.2	0.208429126	0.003367	0.2117957
578071.934:	578071.93	4140251.7	0.245582375	0.003605	0.2491879
578071.934:	578071.93	4140271.7	0.166969076	0.002983	0.1699523
578057.741⁴	578057.7	4140269.4	0.202418616	0.003146	0.2055642
578081.934:	578081.93	4140221.7	0.422794608	0.004963	0.4277579
578081.934:	578081.93	4140231.7	0.335799673	0.004363	0.3401624
578081.934:	578081.93	4140251.7	0.217189226	0.003492	0.2206816
578081.934:	578081.93	4140261.7	0.17814241	0.003177	0.1813189
578066.734:	578066.73	4140279	0.15542648	0.002837	0.1582632
578091.934:	578091.93	4140221.7	0.37961163	0.004711	0.3843228
578091.934:	578091.93	4140231.7	0.295270808	0.004176	0.2994466
578091.934:	578091.93	4140241.7	0.234103563	0.00374	0.2378431
578081.564:	578081.56	4140270.4	0.152309349	0.002949	0.1552587
578101.934:	578101.93	4140211.7	0.430775468	0.004981	0.4357565
578101.934:	578101.93	4140221.7	0.32619017	0.004425	0.3306148
578101.934:	578101.93	4140231.7	0.252895386	0.003968	0.256863
578101.934:	578101.93	4140241.7	0.200460305	0.003594	0.2040541
578101.934:	578101.93	4140251.7	0.162725428	0.003278	0.1660033
578114.354:	578114.35	4140204.9	0.419419102	0.004951	0.4243701
578111.934:	578111.93	4140211.7	0.357072013	0.004623	0.3616951
578111.934:	578111.93	4140221.7	0.270489654	0.004158	0.2746481
578111.934:	578111.93	4140231.7	0.212214415	0.00378	0.2159947
578111.934:	578111.93	4140241.7	0.169938279	0.003454	0.1733924
578121.934:	578121.93	4140201.7	0.388749572	0.004876	0.3936257
578121.934:	578121.93	4140211.7	0.290436363	0.00435	0.2947864
578121.934:	578121.93	4140221.7	0.22395962	0.003949	0.2279088
578121.934:	578121.93	4140231.7	0.17805114	0.003612	0.1816634
578121.934:	578121.93	4140241.7	0.144292305	0.003323	0.1476152
578133.384:	578133.38	4140194.4	0.363946759	0.004896	0.3688424
578131.934:	578131.93	4140201.7	0.310291421	0.004568	0.3148591
578131.934:	578131.93	4140211.7	0.238607405	0.004131	0.2427381
578131.934:	578131.93	4140221.7	0.187817695	0.003772	0.1915899
578131.934:	578131.93	4140231.7	0.150652632	0.003468	0.1541211
578141.934:	578141.93	4140201.7	0.251817601	0.004304	0.2561214
578141.934:	578141.93	4140211.7	0.197832441	0.003929	0.2017611
578141.934:	578141.93	4140221.7	0.158158639	0.00361	0.1617683
578141.934:	578141.93	4140231.7	0.128774245	0.003334	0.1321085
578151.934:	578151.93	4140221.7	0.134971326	0.003459	0.1384301
578169.174:	578169.17	4140166.3	0.423374262	0.004987	0.4283616
578175.314:	578175.31	4140159.1	0.447644831	0.005093	0.4527376
578171.934:	578171.93	4140171.7	0.344202569	0.004678	0.3488807
578171.934:	578171.93	4140181.7	0.260078601	0.004312	0.2643906
578181.934:	578181.93	4140151.7	0.448518952	0.00518	0.4536988
578181.934:	578181.93	4140161.7	0.363233246	0.004774	0.3680075
5781804140	578180	4140184.6	0.213081137	0.004044	0.2171249
578181.934:	578181.93	4140191.7	0.174004102	0.003804	0.177808
578191.934:	578191.93	4140141.7	0.419592574	0.005263	0.4248559
578191.934:	578191.93	4140151.7	0.356631359	0.004867	0.3614983
578191.934:	578191.93	4140161.7	0.296600513	0.004512	0.301113
578191.934:	578191.93	4140191.7	0.153162904	0.003649	0.1568123
578191.934:	578191.93	4140201.7	0.123131147	0.003418	0.1265495

Max GLC for Chronic Calcs

Max GLC: 0.218063

XY	X	Y	2027	2026
578048.5541402⁴	578048.55	4140246.4	0.0098484	0.0156895
578066.4141402⁶	578066.41	4140268	0.005424	0.0082026
578068.4541402⁴	578068.45	4140241.3	0.0090937	0.0134269
578054.6941402⁵	578054.69	4140253.4	0.0080659	0.0125093
578061.9341402⁶	578061.93	4140261.7	0.0063923	0.0097227
578046.9741402⁵	578046.97	4140254.6	0.0084142	0.0134162
5780634140234.3	578063	4140234.4	0.0111642	0.016761
578076.5241402⁵	578076.52	4140257.2	0.0059762	0.0087879
578071.9341402⁵	578071.93	4140251.7	0.0070305	0.0103724
578071.9341402⁷	578071.93	4140271.7	0.0047732	0.0071791
578057.7414026⁹	578057.7	4140269.4	0.0057531	0.0088549
578081.9341402²	578081.93	4140221.7	0.0121994	0.0170271
578081.9341402³	578081.93	4140231.7	0.0096804	0.0136467
578081.9341402⁵	578081.93	4140251.7	0.0062445	0.0090404
578081.9341402⁶	578081.93	4140261.7	0.0051149	0.0075094
578066.7341402⁷	578066.73	4140279	0.0044341	0.0067526
578091.9341402²	578091.93	4140221.7	0.0109881	0.0150946
578091.9341402³	578091.93	4140231.7	0.0085364	0.0118892
578091.9341402⁴	578091.93	4140241.7	0.0067587	0.0095543
578081.5641402⁷	578081.56	4140270.4	0.0043681	0.0064903
578101.9341402¹	578101.93	4140211.7	0.0124776	0.0170164
578101.9341402²	578101.93	4140221.7	0.0094507	0.0129684
578101.9341402³	578101.93	4140231.7	0.0073212	0.0101763
578101.9341402⁴	578101.93	4140241.7	0.0057941	0.0081962
578101.9341402⁵	578101.93	4140251.7	0.0046958	0.0067594
578114.3541402⁰	578114.35	4140204.9	0.0121046	0.0168776
578111.9341402¹	578111.93	4140211.7	0.010322	0.0143193
578111.9341402²	578111.93	4140221.7	0.0078234	0.0109191
578111.9341402³	578111.93	4140231.7	0.0061373	0.0086498
578111.9341402⁴	578111.93	4140241.7	0.0049103	0.0070217
578121.9341402⁰	578121.93	4140201.7	0.0111795	0.0159551
578121.9341402¹	578121.93	4140211.7	0.0083636	0.0119521
578121.9341402²	578121.93	4140221.7	0.0064574	0.0092536
578121.9341402³	578121.93	4140231.7	0.0051383	0.0073987
578121.9341402⁴	578121.93	4140241.7	0.0041643	0.0060549
578133.3841401⁹	578133.38	4140194.4	0.0103991	0.0154363
578131.9341402⁰	578131.93	4140201.7	0.0088825	0.0131103
578131.9341402¹	578131.93	4140211.7	0.0068422	0.0100977
578131.9341402²	578131.93	4140221.7	0.0053961	0.0079594
578131.9341402³	578131.93	4140231.7	0.0043349	0.006408
578141.9341402⁰	578141.93	4140201.7	0.007178	0.0109362
578141.9341402¹	578141.93	4140211.7	0.005649	0.00861
578141.9341402²	578141.93	4140221.7	0.004526	0.0068888
578141.9341402³	578141.93	4140231.7	0.0036944	0.0056077
578151.9341402²	578151.93	4140221.7	0.0038514	0.0060111
578169.1741401⁶	578169.17	4140166.3	0.0122135	0.0170702
578175.3141401⁵	578175.31	4140159.1	0.0129523	0.017763
578171.9341401⁷	578171.93	4140171.7	0.0098932	0.0142171
578171.9341401⁸	578171.93	4140181.7	0.0074297	0.0111656
578181.9341401⁵	578181.93	4140151.7	0.0129979	0.0176734
578181.9341401⁶	578181.93	4140161.7	0.010482	0.0146987
5781804140184.⁶	578180	4140184.6	0.0060784	0.0092848
578181.9341401⁹	578181.93	4140191.7	0.0049502	0.0077492
578191.9341401⁴	578191.93	4140141.7	0.0121665	0.0165521
578191.9341401⁵	578191.93	4140151.7	0.0103086	0.0143446
578191.9341401⁶	578191.93	4140161.7	0.0085429	0.0122049
578191.9341401⁹	578191.93	4140191.7	0.0043595	0.0068524
578191.9341402⁰	578191.93	4140201.7	0.0034974	0.0056315

578191.934:	578191.93	4140211.7	0.100425206	0.00321	0.1036351
578201.934:	578201.93	4140141.7	0.335859968	0.004958	0.3408175
578201.934:	578201.93	4140151.7	0.290801455	0.004608	0.295409
578201.934:	578201.93	4140161.7	0.246607651	0.004291	0.2508985
578201.934:	578201.93	4140171.7	0.20467991	0.004007	0.2086872
578201.934:	578201.93	4140191.7	0.135604798	0.003518	0.1391231
578201.934:	578201.93	4140201.7	0.110567103	0.003308	0.1138749
578211.934:	578211.93	4140161.7	0.208394681	0.004103	0.2124981
578211.934:	578211.93	4140191.7	0.120703144	0.003406	0.1241094
578108.954:	578108.95	4140089.3	5.709281323	0.031031	5.7403121
578108.954:	578108.95	4140097.3	5.938521604	0.027045	5.965567
578116.954:	578116.95	4140081.3	4.84488883	0.029618	4.8745073
578116.954:	578116.95	4140089.3	5.214913982	0.025637	5.2405509
578116.954:	578116.95	4140097.3	5.451790457	0.022385	5.4741754
578116.954:	578116.95	4140105.3	5.512557101	0.019667	5.5322245
578124.954:	578124.95	4140073.3	3.951178708	0.028671	3.9798501
578124.954:	578124.95	4140081.3	4.294914626	0.024722	4.3196365
578124.954:	578124.95	4140089.3	4.588037807	0.02152	4.6095579
578124.954:	578124.95	4140097.3	4.809833123	0.018877	4.8287099
578124.954:	578124.95	4140105.3	4.925157585	0.016667	4.9418244
578124.954:	578124.95	4140113.3	4.884729907	0.014782	4.8995115
578124.954:	578124.95	4140121.3	4.650672096	0.013173	4.6638447
578132.954:	578132.95	4140065.3	3.189604321	0.028015	3.2176196
578132.954:	578132.95	4140073.3	3.45223742	0.024079	3.4763164
578132.954:	578132.95	4140081.3	3.699660115	0.020936	3.7205965
578132.954:	578132.95	4140089.3	3.923980806	0.018376	3.9423571
578132.954:	578132.95	4140105.3	4.22729085	0.014428	4.2417185
578132.954:	578132.95	4140113.3	4.247165047	0.012895	4.2600601
578132.954:	578132.95	4140121.3	4.123641611	0.011587	4.1352287
578132.954:	578132.95	4140129.3	3.820810613	0.010464	3.8312751
578140.954:	578140.95	4140057.3	2.584713021	0.02759	2.612303
578140.954:	578140.95	4140065.3	2.769695462	0.02363	2.7933259
578140.954:	578140.95	4140073.3	2.950023195	0.020526	2.9705493
578140.954:	578140.95	4140081.3	3.121386296	0.018017	3.139403
578118.524:	578118.52	4140112.9	5.292440616	0.016868	5.3093091
578140.954:	578140.95	4140113.3	3.516440718	0.011431	3.5278713
578140.954:	578140.95	4140121.3	3.43610442	0.010341	3.4464455
578140.954:	578140.95	4140129.3	3.215020086	0.009409	3.2244293
578140.954:	578140.95	4140137.3	2.813841946	0.008586	2.8224284
578148.954:	578148.95	4140049.3	2.114909137	0.027411	2.1423203
578148.954:	578148.95	4140057.3	2.243815234	0.02344	2.267255
578148.954:	578148.95	4140065.3	2.365801367	0.020295	2.3860967
578148.954:	578148.95	4140073.3	2.479770786	0.017769	2.49754
578111.194:	578111.19	4140102.6	5.851750503	0.02344	5.8751909
578136.744:	578136.74	4140133.6	3.337048909	0.009438	3.3464865
578148.954:	578148.95	4140121.3	2.690420604	0.00934	2.6997604
578148.954:	578148.95	4140129.3	2.486839321	0.00855	2.495389
578148.954:	578148.95	4140137.3	2.131657396	0.007843	2.1394999
578156.954:	578156.95	4140041.3	1.742774557	0.027179	1.769954
578156.954:	578156.95	4140049.3	1.835377223	0.023348	1.8587248
578156.954:	578156.95	4140057.3	1.919105038	0.020227	1.9393316
578156.954:	578156.95	4140065.3	1.994854773	0.017709	2.0125635
578156.954:	578156.95	4140073.3	2.059331898	0.015631	2.0749625
578156.954:	578156.95	4140113.3	2.115923711	0.009308	2.1252314
578156.954:	578156.95	4140121.3	2.001097449	0.008522	2.0096195
578156.954:	578156.95	4140129.3	1.80296621	0.007836	1.8108018
578164.954:	578164.95	4140041.3	1.511351556	0.023096	1.5344471
578164.954:	578164.95	4140049.3	1.570409818	0.020109	1.5905188
578164.954:	578164.95	4140057.3	1.621742946	0.017645	1.6393883
578164.954:	578164.95	4140065.3	1.663536727	0.015602	1.6791385
578164.954:	578164.95	4140073.3	1.692693379	0.013893	1.7065863
578164.954:	578164.95	4140081.3	1.706783607	0.01245	1.7192335
578164.954:	578164.95	4140105.3	1.64512608	0.009296	1.6544218
578164.954:	578164.95	4140113.3	1.572424728	0.00852	1.580945
578164.954:	578164.95	4140121.3	1.449810819	0.007843	1.4576535
578164.954:	578164.95	4140129.3	1.269567376	0.007241	1.2768084
578172.954:	578172.95	4140049.3	1.328926213	0.017504	1.3464302

578191.93414021	578191.93	4140211.7	0.0028514	0.0046648	
578201.934140141	578201.93	4140141.7	0.0097138	0.0135287	
578201.934140151	578201.93	4140151.7	0.0083882	0.011912	
578201.934140161	578201.93	4140161.7	0.0070922	0.010302	
578201.934140171	578201.93	4140171.7	0.0058664	0.0087526	
578201.934140191	578201.93	4140191.7	0.0038621	0.0060951	
578201.934140201	578201.93	4140201.7	0.0031434	0.0050742	
578211.934140161	578211.93	4140161.7	0.0059864	0.0088246	
578211.934140191	578211.93	4140191.7	0.0034401	0.0054511	
578108.954140089	578108.95	4140089.3	0.166602	0.2119406	
578108.954140097	578108.95	4140097.3	0.1735287	0.2180626	
578116.954140081	578116.95	4140081.3	0.1417607	0.1777985	
578116.954140089	578116.95	4140089.3	0.1529044	0.1883036	
578116.954140097	578116.95	4140097.3	0.1601461	0.194199	
578116.954140105	578116.95	4140105.3	0.1621798	0.1942461	
578124.954140073	578124.95	4140073.3	0.1157223	0.1449486	
578124.954140081	578124.95	4140081.3	0.1260583	0.1547747	
578124.954140089	578124.95	4140089.3	0.1349468	0.1626823	
578124.954140097	578124.95	4140097.3	0.1417542	0.1680854	
578124.954140105	578124.95	4140105.3	0.1454073	0.1700076	
578124.954140113	578124.95	4140113.3	0.1444064	0.167056	
578124.954140121	578124.95	4140121.3	0.1375894	0.1582291	
578132.954140065	578132.95	4140065.3	0.0934456	0.1175669	
578132.954140073	578132.95	4140073.3	0.1013294	0.1250241	
578132.954140081	578132.95	4140081.3	0.1088107	0.1317748	
578132.954140089	578132.95	4140089.3	0.1156437	0.1376034	
578132.954140105	578132.95	4140105.3	0.1250419	0.1443464	
578132.954140113	578132.95	4140113.3	0.1258011	0.1436345	
578132.954140121	578132.95	4140121.3	0.1222448	0.1386285	
578132.954140129	578132.95	4140129.3	0.1132831	0.128302	
578140.954140057	578140.95	4140057.3	0.0757325	0.0959639	
578140.954140065	578140.95	4140065.3	0.0812713	0.101129	
578140.954140073	578140.95	4140073.3	0.0867119	0.1060038	
578140.954140081	578140.95	4140081.3	0.0919186	0.1104594	
578118.52414011	578118.52	4140112.9	0.1560111	0.1841279	
578140.954140113	578140.95	4140113.3	0.1042233	0.1185944	
578140.954140121	578140.95	4140121.3	0.1019208	0.1152328	
578140.954140129	578140.95	4140129.3	0.095371	0.107725	
578140.954140137	578140.95	4140137.3	0.0833998	0.0948079	
578148.954140049	578148.95	4140049.3	0.0619753	0.0792084	
578148.954140057	578148.95	4140057.3	0.0658178	0.0827366	
578148.954140065	578148.95	4140065.3	0.0694888	0.0859371	
578148.954140073	578148.95	4140073.3	0.0729481	0.0887932	
578111.194140102	578111.19	4140102.6	0.1714299	0.2114644	
578136.744140133	578136.74	4140133.6	0.0989536	0.1120121	
578148.954140121	578148.95	4140121.3	0.0797479	0.090781	
578148.954140129	578148.95	4140129.3	0.0736939	0.0840299	
578148.954140137	578148.95	4140137.3	0.0630775	0.0727161	
578156.954140041	578156.95	4140041.3	0.0510815	0.0658994	
578156.954140049	578156.95	4140049.3	0.053823	0.06841	
578156.954140057	578156.95	4140057.3	0.0563298	0.0705455	
578156.954140065	578156.95	4140065.3	0.0586218	0.0723631	
578156.954140073	578156.95	4140073.3	0.0605959	0.0737659	
578156.954140113	578156.95	4140113.3	0.0625994	0.0724968	
578156.954140121	578156.95	4140121.3	0.0592051	0.0685004	
578156.954140129	578156.95	4140129.3	0.0532954	0.0620615	
578164.954140041	578164.95	4140041.3	0.0443147	0.0569665	
578164.954140049	578164.95	4140049.3	0.0460689	0.0584465	
578164.954140057	578164.95	4140057.3	0.0476121	0.059629	
578164.954140065	578164.95	4140065.3	0.0488865	0.0604659	
578164.954140073	578164.95	4140073.3	0.0497959	0.0608705	
578164.954140081	578164.95	4140081.3	0.0502631	0.0607865	
578164.954140105	578164.95	4140105.3	0.0485561	0.057449	
578164.954140113	578164.95	4140113.3	0.0464156	0.0548187	
578164.954140121	578164.95	4140121.3	0.0427712	0.0507098	
578164.954140129	578164.95	4140129.3	0.0373885	0.0448989	
578172.954140049	578172.95	4140049.3	0.0389851	0.0495315	

578172.954:	578172.95	4140057.3	1.357320079	0.015531	1.3728511
578172.954:	578172.95	4140065.3	1.37585449	0.013852	1.3897061
578172.954:	578172.95	4140073.3	1.38098774	0.012435	1.3934232
578172.954:	578172.95	4140081.3	1.370776822	0.011229	1.3820059
578172.954:	578172.95	4140089.3	1.346329261	0.010197	1.3565258
578172.954:	578172.95	4140097.3	1.304921931	0.009306	1.314228
578172.954:	578172.95	4140105.3	1.244391492	0.008534	1.2529251
578172.954:	578172.95	4140113.3	1.163853635	0.00786	1.1717141
578172.954:	578172.95	4140121.3	1.05652359	0.007269	1.0637927
578180.954:	578180.95	4140065.3	1.130202131	0.012419	1.1426208
578180.954:	578180.95	4140073.3	1.118012857	0.011231	1.1292442
578180.954:	578180.95	4140081.3	1.094999699	0.010212	1.1052121
578180.954:	578180.95	4140089.3	1.060311232	0.009332	1.0696433
578180.954:	578180.95	4140097.3	1.012756416	0.008566	1.0213224
578180.954:	578180.95	4140105.3	0.95147835	0.007894	0.9593728
578180.954:	578180.95	4140113.3	0.876698149	0.007304	0.8840019
578188.954:	578188.95	4140073.3	0.904576351	0.01023	0.9148062
578188.954:	578188.95	4140081.3	0.875527825	0.009358	0.8848863
578188.954:	578188.95	4140089.3	0.837878084	0.008601	0.8464794
578188.954:	578188.95	4140097.3	0.791711597	0.007936	0.7996479
578188.954:	578188.95	4140105.3	0.737534407	0.007349	0.744883
578188.954:	578188.95	4140113.3	0.67681501	0.006827	0.6836423
578196.954:	578196.95	4140081.3	0.705370043	0.00864	0.7140104
578196.954:	578196.95	4140089.3	0.669788967	0.00798	0.6777689
578196.954:	578196.95	4140097.3	0.629228889	0.007396	0.636625
578196.954:	578196.95	4140105.3	0.584684648	0.006877	0.591562
578204.954:	578204.95	4140097.3	0.50994457	0.006932	0.5168762
578001.424:	578001.42	4140037.5	0.300555973	0.008015	0.3085709
578001.424:	578001.42	4140045.5	0.311007178	0.008356	0.3193633
578009.424:	578009.42	4140029.5	0.352634105	0.009266	0.3619002
578009.424:	578009.42	4140037.5	0.36844514	0.009742	0.3781876
578009.424:	578009.42	4140045.5	0.385161478	0.010254	0.395415
578017.424:	578017.42	4140029.5	0.429022852	0.01136	0.4403825
578017.424:	578017.42	4140037.5	0.452624567	0.012079	0.4647034
578025.424:	578025.42	4140021.5	0.490216355	0.013155	0.5033709
578025.424:	578025.42	4140029.5	0.521998582	0.014155	0.5361535
578033.424:	578033.42	4140013.5	0.549213381	0.015032	0.5642455
578033.424:	578033.42	4140021.5	0.589233549	0.01634	0.6055737
578041.424:	578041.42	4140013.5	0.651637045	0.018506	0.6701434
578041.424:	578041.42	4140021.5	0.705103783	0.020391	0.7254943
578049.424:	578049.42	4140005.5	0.706123097	0.020518	0.7266406
578049.424:	578049.42	4140013.5	0.767954504	0.022737	0.790692
578049.424:	578049.42	4140021.5	0.837484215	0.025366	0.8628506
578049.424:	578049.42	4140029.5	0.91635774	0.028528	0.944886
578057.424:	578057.42	4139997.5	0.751183205	0.022314	0.7734971
578057.424:	578057.42	4140005.5	0.819324426	0.024784	0.844108
578057.424:	578057.42	4140013.5	0.896778012	0.027727	0.9245051
578057.424:	578057.42	4140021.5	0.984990965	0.031264	1.0162547
578057.424:	578057.42	4140029.5	1.085857719	0.035565	1.1214223
578057.424:	578057.42	4140037.5	1.202214723	0.040885	1.2430996
578057.424:	578057.42	4140045.5	1.337388633	0.047581	1.3849698
578065.424:	578065.42	4140005.5	0.941311776	0.029684	0.9709953
578065.424:	578065.42	4140021.5	1.145178886	0.038051	1.1832303
578065.424:	578065.42	4140029.5	1.271188629	0.043678	1.3148662
578065.424:	578065.42	4140037.5	1.416874381	0.050645	1.4675196
578065.424:	578065.42	4140045.5	1.587366842	0.059469	1.6468358
578065.424:	578065.42	4140053.5	1.789972857	0.070958	1.8609312
578073.424:	578073.42	4139989.5	0.883884477	0.027968	0.9118522
578073.424:	578073.42	4140029.5	1.467108621	0.052836	1.5199451
578073.424:	578073.42	4140037.5	1.646340403	0.061726	1.708066
578073.424:	578073.42	4140045.5	1.857422542	0.073055	1.9304774
578081.424:	578081.42	4139981.5	0.896037485	0.029159	0.9251964
578081.424:	578081.42	4139989.5	0.983338806	0.032562	1.0159005
578081.424:	578081.42	4139997.5	1.083211418	0.036597	1.1198088
578081.424:	578081.42	4140005.5	1.197841276	0.041416	1.2392572
578081.424:	578081.42	4140021.5	1.485365135	0.054386	1.5397515
578081.424:	578081.42	4140029.5	1.667334098	0.063261	1.7305952

578172.9541400:	578172.95	4140057.3	0.0398426	0.0500664	
578172.9541400:	578172.95	4140065.3	0.0404165	0.0502608	
578172.9541400:	578172.95	4140073.3	0.040599	0.0500116	
578172.9541400:	578172.95	4140081.3	0.0403277	0.0492773	
578172.9541400:	578172.95	4140089.3	0.0396312	0.0481192	
578172.9541400:	578172.95	4140097.3	0.0384251	0.0464654	
578172.9541401:	578172.95	4140105.3	0.0366425	0.0442591	
578172.9541401:	578172.95	4140113.3	0.0342557	0.0414784	
578172.9541401:	578172.95	4140121.3	0.0310605	0.0379151	
578180.9541400:	578180.95	4140065.3	0.0331755	0.0416123	
578180.9541400:	578180.95	4140073.3	0.0328309	0.0409138	
578180.9541400:	578180.95	4140081.3	0.032168	0.0398648	
578180.9541400:	578180.95	4140089.3	0.0311554	0.0384732	
578180.9541400:	578180.95	4140097.3	0.0297557	0.0367104	
578180.9541401:	578180.95	4140105.3	0.0279424	0.0345521	
578180.9541401:	578180.95	4140113.3	0.0257217	0.0320059	
578188.9541400:	578188.95	4140073.3	0.0265277	0.0335161	
578188.9541400:	578188.95	4140081.3	0.0256754	0.0323589	
578188.9541400:	578188.95	4140089.3	0.0245676	0.030938	
578188.9541400:	578188.95	4140097.3	0.0232034	0.0292743	
578188.9541401:	578188.95	4140105.3	0.0215977	0.0273841	
578188.9541401:	578188.95	4140113.3	0.0197944	0.0253111	
578196.9541400:	578196.95	4140081.3	0.0206494	0.0264794	
578196.9541400:	578196.95	4140089.3	0.0195983	0.0251729	
578196.9541400:	578196.95	4140097.3	0.0183973	0.0237282	
578196.9541401:	578196.95	4140105.3	0.0170759	0.0221764	
578204.9541400:	578204.95	4140097.3	0.0148756	0.019601	
578001.4241400:	578001.42	4140037.5	0.007528	0.0204415	
578001.4241400:	578001.42	4140045.5	0.0077335	0.0215383	
578009.4241400:	578009.42	4140029.5	0.0089023	0.023495	
578009.4241400:	578009.42	4140037.5	0.0092375	0.0249857	
578009.4241400:	578009.42	4140045.5	0.0095832	0.0266207	
578017.4241400:	578017.42	4140029.5	0.0108594	0.0284064	
578017.4241400:	578017.42	4140037.5	0.0113774	0.0305147	
578025.4241400:	578025.42	4140021.5	0.0125377	0.0316201	
578025.4241400:	578025.42	4140029.5	0.0132709	0.0342251	
578033.4241400:	578033.42	4140013.5	0.0141996	0.0344478	
578033.4241400:	578033.42	4140021.5	0.0151603	0.037485	
578041.4241400:	578041.42	4140013.5	0.0169707	0.0401524	
578041.4241400:	578041.42	4140021.5	0.0182868	0.0440134	
578049.4241400:	578049.42	4140005.5	0.0186107	0.0421036	
578049.4241400:	578049.42	4140013.5	0.0201819	0.0462456	
578049.4241400:	578049.42	4140021.5	0.0219381	0.0509947	
578049.4241400:	578049.42	4140029.5	0.0239176	0.0564948	
578057.4241399:	578057.42	4139997.5	0.0200268	0.0433374	
578057.4241400:	578057.42	4140005.5	0.0218047	0.0475956	
578057.4241400:	578057.42	4140013.5	0.0238203	0.0524923	
578057.4241400:	578057.42	4140021.5	0.0261087	0.0581458	
578057.4241400:	578057.42	4140029.5	0.0287161	0.0647116	
578057.4241400:	578057.42	4140037.5	0.0317128	0.0724145	
578057.4241400:	578057.42	4140045.5	0.0351806	0.0815332	
578065.4241400:	578065.42	4140005.5	0.0253266	0.0530264	
578065.4241400:	578065.42	4140021.5	0.0307605	0.06515	
578065.4241400:	578065.42	4140029.5	0.0341169	0.0727293	
578065.4241400:	578065.42	4140037.5	0.0379943	0.0815827	
578065.4241400:	578065.42	4140045.5	0.0425313	0.092051	
578065.4241400:	578065.42	4140053.5	0.0479273	0.1046149	
578073.4241399:	578073.42	4139989.5	0.0240577	0.0479593	
578073.4241400:	578073.42	4140029.5	0.0400006	0.0801288	
578073.4241400:	578073.42	4140037.5	0.0449281	0.0900178	
578073.4241400:	578073.42	4140045.5	0.0507509	0.1016652	
578081.4241399:	578081.42	4139981.5	0.0246253	0.0471588	
578081.4241399:	578081.42	4139989.5	0.0270459	0.0516967	
578081.4241399:	578081.42	4139997.5	0.0298217	0.0568661	
578081.4241400:	578081.42	4140005.5	0.033016	0.0627716	
578081.4241400:	578081.42	4140021.5	0.0410706	0.0774368	
578081.4241400:	578081.42	4140029.5	0.0462001	0.0866069	

578081.4241	578081.42	4140037.5	1.882090894	0.074473	1.9565635
578089.4241	578089.42	4139981.5	0.980375149	0.033563	1.0139384
578089.4241	578089.42	4139989.5	1.079314403	0.037693	1.117007
578089.4241	578089.42	4139997.5	1.191940326	0.042562	1.2345024
578089.4241	578089.42	4140005.5	1.321747249	0.048405	1.3701527
578089.4241	578089.42	4140013.5	1.473192524	0.055542	1.5287346
578089.4241	578089.42	4140021.5	1.650504618	0.064337	1.7148421
578089.4241	578089.42	4140029.5	1.859790977	0.075393	1.9351839
578097.4241	578097.42	4139989.5	1.164960199	0.043362	1.2083225
578097.4241	578097.42	4139997.5	1.289898376	0.04931	1.3392084
578097.4241	578097.42	4140005.5	1.433194856	0.056427	1.4896219
578097.4241	578097.42	4140013.5	1.600574093	0.065195	1.6657688
578097.4241	578097.42	4140021.5	1.797188955	0.076161	1.8733503
578105.4241	578105.42	4140005.5	1.522409823	0.065789	1.5881988
578105.4241	578105.42	4140013.5	1.701049501	0.076765	1.7778142
578172.9541	578172.95	4140089.3	1.346329261	0.010197	1.3565258
578172.9541	578172.95	4140097.3	1.304921931	0.009306	1.314228
578172.9541	578172.95	4140105.3	1.244391492	0.008534	1.2529251
578172.9541	578172.95	4140113.3	1.163853635	0.00786	1.1717141
578172.9541	578172.95	4140121.3	1.05652359	0.007269	1.0637927
578180.9541	578180.95	4140065.3	1.130202131	0.012419	1.1426208
578180.9541	578180.95	4140073.3	1.118012857	0.011231	1.1292442
578180.9541	578180.95	4140081.3	1.094999699	0.010212	1.1052121
578180.9541	578180.95	4140089.3	1.060311232	0.009332	1.0696433
578180.9541	578180.95	4140097.3	1.012756416	0.008566	1.0213224
578180.9541	578180.95	4140105.3	0.95147835	0.007894	0.9593728
578180.9541	578180.95	4140113.3	0.876698149	0.007304	0.8840019
578188.9541	578188.95	4140073.3	0.904576351	0.01023	0.9148062
578188.9541	578188.95	4140081.3	0.875527825	0.009358	0.8848863
578188.9541	578188.95	4140089.3	0.837878084	0.008601	0.8464794
578188.9541	578188.95	4140097.3	0.791711597	0.007936	0.7996479
578188.9541	578188.95	4140105.3	0.737534407	0.007349	0.744883
578188.9541	578188.95	4140113.3	0.67681501	0.006827	0.6836423
578196.9541	578196.95	4140081.3	0.705370043	0.00864	0.7140104
578196.9541	578196.95	4140089.3	0.669788967	0.00798	0.6777689
578196.9541	578196.95	4140097.3	0.629228889	0.007396	0.636625
578196.9541	578196.95	4140105.3	0.584684648	0.006877	0.591562
578204.9541	578204.95	4140097.3	0.50994457	0.006932	0.5168762
578001.4241	578001.42	4140037.5	0.300555973	0.008015	0.3085709
578001.4241	578001.42	4140045.5	0.311007178	0.008356	0.3193633
578009.4241	578009.42	4140029.5	0.352634105	0.009266	0.3619002
578009.4241	578009.42	4140037.5	0.36844514	0.009742	0.3781876
578009.4241	578009.42	4140045.5	0.385161478	0.010254	0.395415
578017.4241	578017.42	4140029.5	0.429022852	0.01136	0.4403825
578017.4241	578017.42	4140037.5	0.452624567	0.012079	0.4647034
578025.4241	578025.42	4140021.5	0.490216355	0.013155	0.5033709
578025.4241	578025.42	4140029.5	0.521998582	0.014155	0.5361535
578033.4241	578033.42	4140013.5	0.549213381	0.015032	0.5642455
578033.4241	578033.42	4140021.5	0.589233549	0.01634	0.6055737
578041.4241	578041.42	4140013.5	0.651637045	0.018506	0.6701434
578041.4241	578041.42	4140021.5	0.705103783	0.020391	0.7254943
578049.4241	578049.42	4140005.5	0.706123097	0.020518	0.7266406
578049.4241	578049.42	4140013.5	0.767954504	0.022737	0.790692
578049.4241	578049.42	4140021.5	0.837484215	0.025366	0.8628506
578049.4241	578049.42	4140029.5	0.91635774	0.028528	0.944886

578081.42414003	578081.42	4140037.5	0.052286	0.0973272	
578089.42413998	578089.42	4139981.5	0.0272108	0.0500619	
578089.42413998	578089.42	4139989.5	0.0300045	0.05491	
578089.42413999	578089.42	4139997.5	0.033195	0.060385	
578089.42414000	578089.42	4140005.5	0.0368871	0.0666318	
578089.42414001	578089.42	4140013.5	0.0412151	0.073831	
578089.42414002	578089.42	4140021.5	0.0463096	0.0821456	
578089.42414002	578089.42	4140029.5	0.0523608	0.0918088	
578097.42413998	578097.42	4139989.5	0.0327305	0.0573705	
578097.42413999	578097.42	4139997.5	0.036336	0.0630857	
578097.42414000	578097.42	4140005.5	0.0404916	0.0695494	
578097.42414001	578097.42	4140013.5	0.0453746	0.0769756	
578097.42414002	578097.42	4140021.5	0.0511494	0.0855409	
578105.42414000	578105.42	4140005.5	0.0435313	0.0713044	
578105.42414001	578105.42	4140013.5	0.0488481	0.078774	
578172.95414008	578172.95	4140089.3	0.0396312	0.0481192	
578172.95414009	578172.95	4140097.3	0.0384251	0.0464654	
578172.95414010	578172.95	4140105.3	0.0366425	0.0442591	
578172.95414011	578172.95	4140113.3	0.0342557	0.0414784	
578172.95414012	578172.95	4140121.3	0.0310605	0.0379151	
578180.95414006	578180.95	4140065.3	0.0331755	0.0416123	
578180.95414007	578180.95	4140073.3	0.0328309	0.0409138	
578180.95414008	578180.95	4140081.3	0.032168	0.0398648	
578180.95414008	578180.95	4140089.3	0.0311554	0.0384732	
578180.95414009	578180.95	4140097.3	0.0297557	0.0367104	
578180.95414010	578180.95	4140105.3	0.0279424	0.0345521	
578180.95414011	578180.95	4140113.3	0.0257217	0.0320059	
578188.95414007	578188.95	4140073.3	0.0265277	0.0335161	
578188.95414008	578188.95	4140081.3	0.0256754	0.0323589	
578188.95414008	578188.95	4140089.3	0.0245676	0.030938	
578188.95414009	578188.95	4140097.3	0.0232034	0.0292743	
578188.95414010	578188.95	4140105.3	0.0215977	0.0273841	
578188.95414011	578188.95	4140113.3	0.0197944	0.0253111	
578196.95414008	578196.95	4140081.3	0.0206494	0.0264794	
578196.95414008	578196.95	4140089.3	0.0195983	0.0251729	
578196.95414009	578196.95	4140097.3	0.0183973	0.0237282	
578196.95414010	578196.95	4140105.3	0.0170759	0.0221764	
578204.95414009	578204.95	4140097.3	0.0148756	0.019601	
578001.42414003	578001.42	4140037.5	0.007528	0.0204415	
578001.42414004	578001.42	4140045.5	0.0077335	0.0215383	
578009.42414002	578009.42	4140029.5	0.0089023	0.023495	
578009.42414003	578009.42	4140037.5	0.0092375	0.0249857	
578009.42414004	578009.42	4140045.5	0.0095832	0.0266207	
578017.42414002	578017.42	4140029.5	0.0108594	0.0284064	
578017.42414003	578017.42	4140037.5	0.0113774	0.0305147	
578025.42414002	578025.42	4140021.5	0.0125377	0.0316201	
578025.42414002	578025.42	4140029.5	0.0132709	0.0342251	
578033.42414001	578033.42	4140013.5	0.0141996	0.0344478	
578033.42414002	578033.42	4140021.5	0.0151603	0.037485	
578041.42414001	578041.42	4140013.5	0.0169707	0.0401524	
578041.42414002	578041.42	4140021.5	0.0182868	0.0440134	
578049.42414000	578049.42	4140005.5	0.0186107	0.0421036	
578049.42414001	578049.42	4140013.5	0.0201819	0.0462456	
578049.42414002	578049.42	4140021.5	0.0219381	0.0509947	
578049.42414002	578049.42	4140029.5	0.0239176	0.0564948	

4335 & 4345 El Camino Real Construction Health Risk Assessment

Maximum Individual Non-Cancer Impact Calculations - Sensitive Receptors (Maximum Impacted Senior Residential Receptor) (IMPACT AT ALL OTHER LOCATIONS ON THE PROJECT SITE WOULD BE LESS THAN SHOWN

Maximum Non-cancer Chronic Hazards / Toxicological Endpoints*

Receptor Group	Pollutant	CREL[1]	CONC	WFrac	$CONC_{WF}$	HI		ALIM	BN	CVS	DEV	ENDC	EYE	HEM	IMMUN	KIDN	NS	REPRO	RESP	SK
Project:																				
MEI - Max	DPM	5.00E+00	2.18E-01	1.00E+00	2.18E-01	0.044		-	-	-	-	-	-	-	-	-	-	-	4.36E-02	-
							Total Risk				-			-				-	0.044	
							Threshold				1.00			1.00				1.00	1.00	
							Over?				NO			NO				NO	NO	

Notes:

1. CARB, "Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values," "OEHHA/ARB Approved Chronic Reference Exposure Levels and Target Organs," "OEHHA/ARB Approved Acute Reference Exposure Levels and Target Organs," and "OEHHA/ARB Approved 8-Hour Reference Exposure Levels and Target Organs," http://www.arb.ca.gov/toxics/healthval/healthval.htm. Tables last updated: May 8, 2018. Downloaded: 08/14/18.

Source: ESA, 2020

Where:

$CONC_{WF}$	Pollutant Concentration ($\mu g/m^3$) multiplied by the weight fraction
CREL	Chronic Reference Exposure Level
HI	Hazard Index
MEI	Maximally Exposed Individual
WFrac	Weight fraction of speciated component

* Key to Toxicological Endpoints

ALIM	Alimentary Tract	EYE	Eye	NS	Nervous System
BN	Bone	HEM	Hematologic System	REPRO	Reproductive System
CVS	Cardiovascular System	IMMUN	Immune System	RESP	Respiratory System
DEV	Developmental System	KIDN	Kidney	SK	Skin
ENDC	Endocrine System				

XY	X	Y	DEMO	SITE	HAUL	DEMO_D	SITE_D	HAUL_D
578048.554140246.42	578048.6	4140246	4.63589	5.9624	0.65278	4.91364	6.79459	0.66888
578066.414140268	578066.4	4140268	2.20523	3.27344	0.49413	2.20396	3.45462	0.50234
578068.454140241.25	578068.5	4140241	3.43917	5.50191	0.64879	3.54588	6.17596	0.66797
578054.694140253.42	578054.7	4140253	3.52657	4.87898	0.59014	3.66451	5.3881	0.6026
578061.934140261.73	578061.9	4140262	2.64328	3.86179	0.53023	2.68309	4.15023	0.5401
578046.974140254.6	578047	4140255	3.96992	5.09115	0.59588	4.13727	5.66675	0.60768
5780634140234.38	578063	4140234	4.44201	6.76033	0.72206	4.75161	7.86951	0.74754
578076.524140257.17	578076.5	4140257	2.23153	3.60758	0.53271	2.20028	3.82878	0.54347
578071.934140251.73	578071.9	4140252	2.65233	4.24834	0.57051	2.65943	4.60506	0.58372
578071.934140271.73	578071.9	4140272	1.90955	2.87777	0.47204	1.87906	2.99057	0.47932
578057.74140269.42	578057.7	4140269	2.46179	3.47406	0.49773	2.50271	3.69805	0.50543
578081.934140221.73	578081.9	4140222	3.83163	7.38747	0.78536	4.05591	8.89182	0.8222
578081.934140231.73	578081.9	4140232	3.14795	5.85693	0.69033	3.20528	6.67738	0.71463
578081.934140251.73	578081.9	4140252	2.21905	3.76984	0.55261	2.17859	4.01232	0.56476
578081.934140261.73	578081.9	4140262	1.90042	3.08405	0.50263	1.84649	3.20565	0.51165
578066.734140278.97	578066.7	4140279	1.84008	2.67257	0.44886	1.8257	2.76729	0.45504
578091.934140221.73	578091.9	4140222	3.2592	6.65106	0.74547	3.34378	7.85314	0.7762
578091.934140231.73	578091.9	4140232	2.66107	5.16074	0.66075	2.64785	5.76752	0.68168
578091.934140241.73	578091.9	4140242	2.21881	4.08075	0.59172	2.17018	4.37651	0.60657
578081.564140270.42	578081.6	4140270	1.68439	2.63086	0.46669	1.6266	2.69212	0.47376
578101.934140211.73	578101.9	4140212	3.60232	7.55711	0.78816	3.7422	9.53665	0.82617
578101.934140221.73	578101.9	4140222	2.79184	5.71595	0.70012	2.83546	6.59663	0.72614
578101.934140231.73	578101.9	4140232	2.26601	4.42142	0.62781	2.24714	4.80214	0.64607
578101.934140241.73	578101.9	4140242	1.90645	3.49365	0.56866	1.84948	3.65125	0.58171
578101.934140251.73	578101.9	4140252	1.63781	2.82697	0.51867	1.56383	2.8779	0.52832
578114.354140204.87	578114.4	4140205	3.78815	7.32978	0.78342	3.80108	9.58479	0.81849
578111.934140211.73	578111.9	4140212	3.17249	6.24546	0.73153	3.21102	7.59865	0.76172
578111.934140221.73	578111.9	4140222	2.45697	4.72569	0.65801	2.45927	5.28101	0.67969
578111.934140231.73	578111.9	4140232	1.99408	3.70092	0.59817	1.95931	3.9094	0.61386
578111.934140241.73	578111.9	4140242	1.6758	2.95574	0.54656	1.61536	3.02392	0.5581
578121.934140201.73	578121.9	4140202	3.79028	6.76586	0.77157	3.70553	8.75435	0.8023
578121.934140211.73	578121.9	4140212	2.84803	5.05317	0.68832	2.7967	5.8145	0.71184
578121.934140221.73	578121.9	4140222	2.21925	3.89426	0.62489	2.17385	4.19011	0.64268
578121.934140231.73	578121.9	4140232	1.79404	3.09302	0.57158	1.74105	3.19068	0.585
578121.934140241.73	578121.9	4140242	1.50052	2.50191	0.52579	1.43741	2.5227	0.536
578133.384140194.38	578133.4	4140194	3.99783	6.28921	0.77465	3.78446	8.17738	0.80001
578131.934140201.73	578131.9	4140202	3.35544	5.36732	0.72276	3.18527	6.31756	0.74547
578131.934140211.73	578131.9	4140212	2.58379	4.127	0.65361	2.46509	4.47648	0.67183
578131.934140221.73	578131.9	4140222	2.03442	3.24847	0.59689	1.94679	3.36592	0.61123
578131.934140231.73	578131.9	4140232	1.64532	2.60432	0.54882	1.57214	2.6333	0.56004
578141.934140201.73	578141.9	4140202	2.98277	4.32987	0.68101	2.7662	4.75199	0.69808
578141.934140211.73	578141.9	4140212	2.35005	3.40095	0.62165	2.18954	3.53142	0.63585
578141.934140221.73	578141.9	4140222	1.87522	2.71927	0.57117	1.75833	2.74176	0.58283
578141.934140231.73	578141.9	4140232	1.51858	2.21488	0.52759	1.43031	2.19663	0.5372
578151.934140221.73	578151.9	4140222	1.71413	2.30921	0.54729	1.5831	2.27502	0.55704
578169.174140166.31	578169.2	4140166	3.85455	7.39583	0.78917	3.77013	8.70029	0.804
578175.314140159.08	578175.3	4140159	3.81812	7.84557	0.80585	3.81031	8.98287	0.82052
578171.934140171.73	578171.9	4140172	3.43175	5.98297	0.74024	3.28127	6.58212	0.75276
578171.934140181.73	578171.9	4140182	2.96506	4.48348	0.68231	2.73852	4.66616	0.69332
578181.934140151.73	578181.9	4140152	3.71078	7.87238	0.81962	3.76819	8.71724	0.83416
578181.934140161.73	578181.9	4140162	3.34667	6.34127	0.75545	3.29102	6.8316	0.76739
5781804140184.63	578180	4140185	2.54479	3.66173	0.63986	2.3185	3.64694	0.64881
578181.934140191.73	578181.9	4140192	2.22151	2.97585	0.6019	1.99065	2.90005	0.60992
578191.934140141.73	578191.9	4140142	3.48071	7.36374	0.83284	3.58952	7.83601	0.84712
578191.934140151.73	578191.9	4140152	3.20327	6.23428	0.77012	3.22565	6.58791	0.78185
578191.934140161.73	578191.9	4140162	2.90645	5.16062	0.71402	2.83444	5.307	0.72362
578191.934140191.73	578191.9	4140192	1.97851	2.61711	0.57745	1.76319	2.4957	0.58419
578191.934140201.73	578191.9	4140202	1.69372	2.09363	0.5409	1.4911	1.97721	0.54693
578191.934140211.73	578191.9	4140212	1.43919	1.70177	0.50791	1.2646	1.59762	0.51361
578201.934140141.73	578201.9	4140142	3.02774	5.87007	0.78445	3.10106	6.11142	0.79601

578201.934140151.73	578201.9	4140152	2.79678	5.06501	0.72907	2.79397	5.20071	0.73859
578201.934140161.73	578201.9	4140162	2.54747	4.27768	0.67896	2.46633	4.27253	0.68687
578201.934140171.73	578201.9	4140172	2.29067	3.53275	0.63409	2.14373	3.42491	0.64089
578201.934140191.73	578201.9	4140192	1.77231	2.31503	0.55672	1.57245	2.17143	0.56237
578201.934140201.73	578201.9	4140202	1.53239	1.87885	0.52341	1.34218	1.75056	0.52874
578211.934140161.73	578211.9	4140162	2.25258	3.60484	0.6493	2.16635	3.52912	0.65601
578211.934140191.73	578211.9	4140192	1.59604	2.05878	0.53899	1.41099	1.90633	0.54384
578108.954140089.28	578109	4140089	35.98382	101.3351	4.9101	36.62944	170.7344	5.84715
578108.954140097.28	578109	4140097	35.34512	105.6125	4.27949	35.81798	210.7552	4.92832
578116.954140081.28	578117	4140081	28.60206	86.18642	4.68663	28.32263	118.2258	5.56005
578116.954140089.28	578117	4140089	28.09524	93.03822	4.05662	27.63273	139.1953	4.63975
578116.954140097.28	578117	4140097	27.02676	97.49896	3.54204	26.44763	164.1884	3.95231
578116.954140105.28	578117	4140105	25.45	98.77367	3.11204	24.86031	195.1802	3.41693
578124.954140073.28	578125	4140073	23.19604	70.30109	4.53677	22.50186	86.82449	5.37419
578124.954140081.28	578125	4140081	22.79126	76.65948	3.91182	21.93771	98.73027	4.46139
578124.954140089.28	578125	4140089	22.01278	82.12501	3.4052	21.04297	112.3004	3.78232
578124.954140097.28	578125	4140097	20.89822	86.31317	2.98694	19.88489	128.3878	3.25761
578124.954140105.28	578125	4140105	19.52452	88.57033	2.63725	18.58843	148.1323	2.84104
578124.954140113.28	578125	4140113	17.97629	87.98223	2.33895	17.30633	173.1131	2.50207
578124.954140121.28	578125	4140121	16.38113	83.8399	2.08435	16.17867	205.9593	2.22343
578132.954140065.28	578133	4140065	19.14429	56.70887	4.43295	18.28954	66.14755	5.24668
578132.954140073.28	578133	4140073	18.80573	61.56996	3.8101	17.82275	73.30252	4.3416
578132.954140081.28	578133	4140081	18.22591	66.17563	3.31284	17.13727	81.17716	3.67343
578132.954140089.28	578133	4140089	17.42873	70.37844	2.90775	16.27819	90.13778	3.16131
578132.954140105.28	578133	4140105	15.32139	76.16421	2.28294	14.35863	112.9741	2.42607
578132.954140113.28	578133	4140113	14.15382	76.64636	2.04043	13.51436	128.3308	2.15733
578132.954140121.28	578133	4140121	13.00321	74.49116	1.83347	12.82461	148.0759	1.93469
578132.954140129.28	578133	4140129	11.92006	69.03353	1.65583	12.23341	174.3913	1.74698
578140.954140057.28	578141	4140057	16.05697	45.89996	4.36566	15.16585	51.6616	5.15938
578140.954140065.28	578141	4140065	15.76046	49.32962	3.73912	14.76897	56.07803	4.25839
578140.954140073.28	578141	4140073	15.31135	52.689	3.24792	14.22901	60.81179	3.5993
578140.954140081.28	578141	4140081	14.71517	55.89833	2.85085	13.56828	65.97307	3.09632
578118.524140112.89	578118.5	4140113	22.31544	95.04166	2.66916	21.79629	218.8775	2.89333
578140.954140113.28	578141	4140113	11.40585	63.49067	1.8087	10.91005	94.275	1.89689
578140.954140121.28	578141	4140121	10.56527	62.09822	1.63631	10.47984	104.8612	1.71372
578140.954140129.28	578141	4140129	9.80499	58.11078	1.48886	10.08911	118.5613	1.55814
578140.954140137.28	578141	4140137	9.05421	50.81226	1.35867	9.59477	135.8925	1.42055
578148.954140049.28	578149	4140049	13.67742	37.50312	4.33736	12.80458	41.12141	5.10632
578148.954140057.28	578149	4140057	13.42792	39.89739	3.70896	12.47297	43.90982	4.21222
578148.954140065.28	578149	4140065	13.05444	42.17688	3.2114	12.02613	46.75507	3.55406
578148.954140073.28	578149	4140073	12.57578	44.31955	2.81169	11.49059	49.71672	3.05225
578111.194140102.62	578111.2	4140103	31.77407	104.3751	3.70906	31.81611	223.7196	4.17154
578136.744140133.62	578136.7	4140134	10.36412	60.29771	1.49334	10.85485	159.5289	1.56874
578148.954140121.28	578149	4140121	8.7566	48.57356	1.47787	8.76348	72.02152	1.53893
578148.954140129.28	578149	4140129	8.2033	44.88711	1.35285	8.47341	76.5205	1.40739
578148.954140137.28	578149	4140137	7.64986	38.41425	1.24095	8.06781	80.57239	1.29043
578156.954140041.28	578157	4140041	11.7605	30.85514	4.3007	10.94177	33.13639	5.04892
578156.954140049.28	578157	4140049	11.57726	32.57552	3.69437	10.684	34.9581	4.18001
578156.954140057.28	578157	4140057	11.28252	34.14394	3.20052	10.32271	36.70649	3.53138
578156.954140065.28	578157	4140065	10.90598	35.57391	2.80211	9.89036	38.42395	3.03482
578156.954140073.28	578157	4140073	10.4526	36.80438	2.47328	9.41246	40.10679	2.64188
578156.954140113.28	578157	4140113	7.85532	38.1045	1.47279	7.66409	47.42246	1.52822
578156.954140121.28	578157	4140121	7.37735	36.04183	1.34847	7.45527	47.77031	1.39758
578156.954140129.28	578157	4140129	6.95735	32.44221	1.23986	7.21365	47.04788	1.28461
578164.954140041.28	578165	4140041	10.04133	26.77365	3.65449	9.23	28.14918	4.13146
578164.954140049.28	578165	4140049	9.82375	27.88092	3.18191	8.94752	29.25027	3.50447
578164.954140057.28	578165	4140057	9.53745	28.85308	2.79209	8.60349	30.25926	3.01868
578164.954140065.28	578165	4140065	9.19017	29.65601	2.46872	8.22046	31.17107	2.63279
578164.954140073.28	578165	4140073	8.78953	30.23201	2.19833	7.827	31.96301	2.32031
578164.954140081.28	578165	4140081	8.35211	30.53477	1.96999	7.45868	32.61239	2.06337
578164.954140105.28	578165	4140105	7.058	29.53103	1.47089	6.74002	33.28248	1.52268

578164.954140113.28	578165	4140113	6.66922	28.23369	1.34819	6.59198	32.69189	1.39351
578164.954140121.28	578165	4140121	6.30068	26.01693	1.24097	6.42416	31.31616	1.28096
578164.954140129.28	578165	4140129	5.96079	22.73807	1.14577	6.20326	28.96386	1.18261
578172.954140049.28	578173	4140049	8.3703	23.58792	2.76971	7.53115	24.16893	2.9941
578172.954140057.28	578173	4140057	8.11433	24.13542	2.45753	7.22903	24.67045	2.61958
578172.954140065.28	578173	4140065	7.81313	24.50623	2.19179	6.91394	25.04519	2.31259
578172.954140073.28	578173	4140073	7.47053	24.63487	1.96771	6.60919	25.25704	2.0598
578172.954140081.28	578173	4140081	7.10299	24.48398	1.77682	6.34164	25.28033	1.84915
578172.954140089.28	578173	4140089	6.73665	24.0713	1.61343	6.13241	25.1078	1.67212
578172.954140097.28	578173	4140097	6.38129	23.3458	1.47253	5.97659	24.67541	1.52185
578172.954140105.28	578173	4140105	6.04508	22.2669	1.3503	5.85541	23.91378	1.39297
578172.954140113.28	578173	4140113	5.73248	20.8179	1.24379	5.73764	22.7529	1.28123
578172.954140121.28	578173	4140121	5.44025	18.87442	1.15022	5.58935	21.0951	1.18314
578180.954140065.28	578181	4140065	6.69606	20.10294	1.96505	5.8875	20.00216	2.0568
578180.954140073.28	578181	4140073	6.41512	19.90702	1.77717	5.66762	19.85306	1.84955
578180.954140081.28	578181	4140081	6.10867	19.51471	1.61595	5.48191	19.56022	1.67389
578180.954140089.28	578181	4140089	5.80789	18.90724	1.47664	5.34341	19.09746	1.52446
578180.954140097.28	578181	4140097	5.51966	18.06203	1.35543	5.24056	18.42983	1.39614
578180.954140105.28	578181	4140105	5.24588	16.96314	1.24917	5.14988	17.52522	1.28469
578180.954140113.28	578181	4140113	4.98759	15.61453	1.15569	5.04471	16.36851	1.18686
578188.954140073.28	578189	4140073	5.54651	16.07099	1.6187	4.92429	15.65108	1.67676
578188.954140081.28	578189	4140081	5.3045	15.5613	1.48082	4.80601	15.23125	1.52909
578188.954140089.28	578189	4140089	5.05599	14.89417	1.36101	4.71478	14.69072	1.40124
578188.954140097.28	578189	4140097	4.81829	14.06942	1.25579	4.64188	14.01781	1.29019
578188.954140105.28	578189	4140105	4.59251	13.09624	1.1628	4.56612	13.20804	1.19273
578188.954140113.28	578189	4140113	4.37846	12.00164	1.08031	4.46749	12.27394	1.10641
578196.954140081.28	578197	4140081	4.62706	12.5016	1.3672	4.25477	12.02553	1.40644
578196.954140089.28	578197	4140089	4.42443	11.8679	1.2627	4.19473	11.51947	1.29608
578196.954140097.28	578197	4140097	4.23095	11.14177	1.17031	4.13939	10.9387	1.19923
578196.954140105.28	578197	4140105	4.04817	10.34134	1.08822	4.07271	10.28963	1.11359
578204.954140097.28	578205	4140097	3.75039	8.99742	1.09681	3.71862	8.77063	1.12155
578001.424140037.45	578001.4	4140037	10.24898	4.49841	1.26823	8.64494	3.59484	1.22692
578001.424140045.45	578001.4	4140045	10.95648	4.61969	1.32222	9.24467	3.68594	1.29392
578009.424140029.45	578009.4	4140029	11.58176	5.32221	1.4662	10.03914	4.33255	1.40687
578009.424140037.45	578009.4	4140037	12.49891	5.52102	1.54158	10.84525	4.49087	1.49537
578009.424140045.45	578009.4	4140045	13.52216	5.72585	1.62245	11.74905	4.65554	1.594
578017.424140029.45	578017.4	4140029	13.92653	6.49155	1.79747	12.52922	5.3979	1.73823
578017.424140037.45	578017.4	4140037	15.1887	6.79902	1.91127	13.69466	5.65683	1.87097
578025.424140021.45	578025.4	4140021	15.14512	7.49432	2.08149	14.22174	6.38806	2.02301
578025.424140029.45	578025.4	4140029	16.63067	7.92979	2.23978	15.66335	6.7689	2.20292
578033.424140013.45	578033.4	4140013	16.07036	8.48608	2.37859	15.79714	7.4307	2.34031
578033.424140021.45	578033.4	4140021	17.7184	9.0567	2.58556	17.48356	7.9486	2.57511
578041.424140013.45	578041.4	4140013	18.39857	10.1356	2.92832	18.99439	9.15459	2.96544
578041.424140021.45	578041.4	4140021	20.41836	10.91616	3.22646	21.18589	9.89642	3.31676
578049.424140005.45	578049.4	4140005	18.6456	11.11233	3.24656	20.04607	10.32975	3.34488
578049.424140013.45	578049.4	4140013	20.6859	12.04458	3.59783	22.35401	11.24335	3.76237
578049.424140021.45	578049.4	4140021	23.06125	13.08479	4.01381	25.06253	12.27586	4.27256
578049.424140029.45	578049.4	4140029	25.85542	14.25482	4.51412	28.27682	13.45398	4.90767
578057.424139997.45	578057.4	4139997	18.50089	11.95502	3.53081	20.57258	11.43148	3.69334
578057.424140005.45	578057.4	4140005	20.4694	13.01043	3.92159	22.87243	12.49566	4.16204
578057.424140013.45	578057.4	4140013	22.75604	14.20516	4.38735	25.55926	13.71282	4.73615
578057.424140021.45	578057.4	4140021	25.42681	15.5592	4.94697	28.71688	15.10982	5.44869
578057.424140029.45	578057.4	4140029	28.56853	17.09868	5.62751	32.45854	16.72233	6.34774
578057.424140037.45	578057.4	4140037	32.30363	18.86348	6.46936	36.94229	18.60373	7.50926
578057.424140045.45	578057.4	4140045	36.78861	20.89908	7.52894	42.37489	20.82033	9.0513
578065.424140005.45	578065.4	4140005	21.98445	15.10092	4.69693	25.30374	14.98012	5.12261
578065.424140021.45	578065.4	4140021	27.29382	18.31659	6.02101	31.69445	18.39223	6.84179
578065.424140029.45	578065.4	4140029	30.64544	20.29719	6.91126	35.75247	20.53703	8.06624
578065.424140037.45	578065.4	4140037	34.59468	22.57962	8.01377	40.55993	23.05807	9.6689
578065.424140045.45	578065.4	4140045	39.30222	25.2421	9.40998	46.32162	26.06513	11.84844
578065.424140053.45	578065.4	4140053	44.99116	28.3966	11.22798	53.3227	29.71698	14.99287

578073.424139989.45	578073.4	4139989	18.97	14.34712	4.42543	22.12324	14.54317	4.78691
578073.424140029.45	578073.4	4140029	31.84851	23.77779	8.3605	37.65914	24.83377	10.09025
578073.424140037.45	578073.4	4140037	35.78623	26.67795	9.76705	42.41562	28.12951	12.27916
578073.424140045.45	578073.4	4140045	40.40904	30.09495	11.55973	48.00423	32.10598	15.37241
578081.424139981.45	578081.4	4139981	17.8841	14.67918	4.61391	21.07099	15.26039	5.01425
578081.424139989.45	578081.4	4139989	19.5645	16.11559	5.15235	23.08577	16.81955	5.67644
578081.424139997.45	578081.4	4139997	21.46431	17.7611	5.79093	25.3588	18.61772	6.48442
578081.424140005.45	578081.4	4140005	23.61608	19.65263	6.55338	27.9264	20.70282	7.483
578081.424140021.45	578081.4	4140021	28.86274	24.41219	8.60574	34.15109	26.03472	10.37242
578081.424140029.45	578081.4	4140029	32.06961	27.43581	10.01003	37.93029	29.49049	12.55625
578081.424140037.45	578081.4	4140037	35.74777	31.0149	11.78406	42.24488	33.66148	15.62463
578089.424139981.45	578089.4	4139981	18.13616	16.20408	5.31083	21.45329	17.30608	5.86118
578089.424139989.45	578089.4	4139989	19.76666	17.85939	5.96423	23.36915	19.14258	6.68004
578089.424139997.45	578089.4	4139997	21.57981	19.74798	6.73474	25.48646	21.25289	7.68395
578089.424140005.45	578089.4	4140005	23.60744	21.93089	7.65936	27.83701	23.71178	8.94323
578089.424140013.45	578089.4	4140013	25.88618	24.48638	8.78862	30.45519	26.61613	10.56856
578089.424140021.45	578089.4	4140021	28.4419	27.48958	10.18034	33.36451	30.07075	12.73841
578089.424140029.45	578089.4	4140029	31.30862	31.04934	11.92968	36.594	34.23026	15.78053
578097.424139989.45	578097.4	4139989	19.55597	19.45465	6.86137	22.95349	21.34128	7.82222
578097.424139997.45	578097.4	4139997	21.23044	21.58342	7.80249	24.82796	23.75812	9.08945
578097.424140005.45	578097.4	4140005	23.06223	24.03387	8.92865	26.85198	26.56221	10.70968
578097.424140013.45	578097.4	4140013	25.08077	26.90827	10.31599	29.04951	29.88025	12.87586
578097.424140021.45	578097.4	4140021	27.29545	30.30039	12.05127	31.42348	33.84262	15.91759
578105.424140005.45	578105.4	4140005	22.04268	25.77569	10.41001	25.13556	28.97032	12.96873
578105.424140013.45	578105.4	4140013	23.75127	28.88808	12.14674	26.86499	32.5903	16.02737
578172.954140089.28	578173	4140089	6.28846	21.08522	1.46971	5.83586	22.6586	1.54145
578172.954140097.28	578173	4140097	5.96839	20.26649	1.3466	5.69746	22.09477	1.40652
578172.954140105.28	578173	4140105	5.66613	19.17375	1.23968	5.58991	21.23787	1.29085
578172.954140113.28	578173	4140113	5.38499	17.8186	1.14738	5.48196	20.05702	1.19145
578172.954140121.28	578173	4140121	5.12159	16.21781	1.06721	5.34437	18.51212	1.10534
578180.954140065.28	578181	4140065	6.26547	18.15978	1.78171	5.6023	18.4485	1.89033
578180.954140073.28	578181	4140073	6.00518	17.91836	1.62606	5.40233	18.28239	1.71147
578180.954140081.28	578181	4140081	5.72653	17.42157	1.48351	5.23462	17.92132	1.55289
578180.954140089.28	578181	4140089	5.45471	16.73816	1.35969	5.11175	17.4082	1.41713
578180.954140097.28	578181	4140097	5.19467	15.86456	1.25158	5.02071	16.72022	1.30015
578180.954140105.28	578181	4140105	4.94708	14.79768	1.1561	4.93762	15.82974	1.19805
578180.954140113.28	578181	4140113	4.71213	13.56743	1.07211	4.83796	14.73517	1.10868
578188.954140073.28	578189	4140073	5.21907	14.55894	1.49267	4.71603	14.48305	1.56051
578188.954140081.28	578189	4140081	4.9985	14.05154	1.37369	4.61158	14.08066	1.42917
578188.954140089.28	578189	4140089	4.77408	13.35951	1.26441	4.53048	13.53338	1.31128
578188.954140097.28	578189	4140097	4.5589	12.54088	1.16812	4.46436	12.87542	1.20822
578188.954140105.28	578189	4140105	4.35317	11.61308	1.08238	4.3924	12.10448	1.11742
578188.954140113.28	578189	4140113	4.1564	10.61665	1.00632	4.29642	11.24193	1.03715
578196.954140081.28	578197	4140081	4.38272	11.33675	1.27049	4.09749	11.15712	1.31639
578196.954140089.28	578197	4140089	4.19834	10.71252	1.17488	4.04319	10.66827	1.21425
578196.954140097.28	578197	4140097	4.02155	10.01884	1.09012	3.99099	10.12004	1.1242
578196.954140105.28	578197	4140105	3.85346	9.28484	1.01488	3.9264	9.52423	1.04491
578204.954140097.28	578205	4140097	3.5787	8.17962	1.02422	3.59296	8.18294	1.05356
578001.424140037.45	578001.4	4140037	9.12451	4.0191	1.10328	7.97908	3.33383	1.09849
578001.424140045.45	578001.4	4140045	9.70139	4.10733	1.14385	8.49605	3.40598	1.1505
578009.424140029.45	578009.4	4140029	10.34723	4.7648	1.27546	9.27094	4.01978	1.25807
578009.424140037.45	578009.4	4140037	11.10573	4.91849	1.32936	9.97068	4.1509	1.32541
578009.424140045.45	578009.4	4140045	11.9427	5.07351	1.39262	10.74768	4.28518	1.40468
578017.424140029.45	578017.4	4140029	12.4446	5.7994	1.55587	11.54713	4.99452	1.54261
578017.424140037.45	578017.4	4140037	13.49155	6.04148	1.63761	12.55686	5.21158	1.64272
578025.424140021.45	578025.4	4140021	13.63758	6.71908	1.81442	13.16765	5.92166	1.80526
578025.424140029.45	578025.4	4140029	14.89286	7.07304	1.93284	14.43411	6.2484	1.94656
578033.424140013.45	578033.4	4140013	14.60104	7.63977	2.08765	14.71381	6.90504	2.09755
578033.424140021.45	578033.4	4140021	16.01948	8.11425	2.2471	16.21931	7.35734	2.28607
578041.424140013.45	578041.4	4140013	16.80537	9.12601	2.57161	17.75042	8.50083	2.65325
578041.424140021.45	578041.4	4140021	18.56164	9.77943	2.80346	19.72493	9.15229	2.93568

578049.424140005.45	**578049.4**	**4140005**	17.20059	10.05789	2.87033	18.86453	9.62449	3.01017
578049.424140013.45	**578049.4**	**4140013**	19.00802	10.85158	3.15563	20.97773	10.43772	3.35772
578049.424140021.45	**578049.4**	**4140021**	21.09408	11.72661	3.4892	23.44215	11.34824	3.78265
578049.424140029.45	**578049.4**	**4140029**	23.52701	12.6986	3.90049	26.34841	12.37715	4.35502

Appendix E

Cultural Resources Evaluations

State of California ♘ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code
Other Listings
Review Code Reviewer Date

Page 1 **of** 17 ***Resource Name or #:** Massage Envy Spa and Peninsula Piano Brokers
P1. Other Identifier:

*P2. **Location:** D **Not for Publication** ☒ **Unrestricted**
***a. County:** Santa Clara **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Palo Alto **Date** 1997 **T** 6S; **R** 3W; **Sec** 12; Mount Diablo **B.M.**
c. Address: 4333-4335 El Camino Real City: Palo Alto Zip: 94306
d. UTM: (Give more than one for large and/or linear resources) Zone 10, S 578073 mE/ E 4140212 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
37.4054° -122.1178°; APN 148-09-010

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This property is located on the southern edge of Palo Alto, along the border with Mountain View, in the Monroe Park neighborhood[1]. The neighborhood is roughly bounded by El Camino Real on the southwest, Adobe Creek on the northwest, and the Mountain View City Limits on the northeast and southeast. The property is bounded to the southeast by Cesano Court and on the southwest by El Camino Real. Across Cesano Court to the southeast is the Country Inn Motel (4345 El Camino Real, Pao Alto). To the north is an apartment complex (440 Cesano Court); across the street on El Camino Real is a 3-story hotel (4320 El Camino Real, Los Altos) and kitty-corner is a gas station (4350 El Camino Real, Los Altos). The area is dominated by commercial and multi-family housing area along El Camino Real, with primarily 1950s era single-family homes behind. See Continuation Sheet.

P5a. Photograph or Drawing

***P3b. Resource Attributes:** HP6 Commercial (1-3 Stories)
***P4. Resources Present:** ☒ Building
P5b. Description of Photo: South Elevation, 9/2023
***P6. Date Constructed/Age and Source:** ☒ Historic
Constructed: 1966 Assessor's records
***P7. Owner and Address:**
Cesano Inc.
2310 Webster St.
Palo Alto, California 94301
***P8. Recorded by:**
Douglas Bright
Urban Programmers
10710 Ridgeview Avenue
San Jose CA 95127
***P9. Date Recorded:** 12/19/2024
***P10. Survey Type:** Intensive Building Evaluation
***P11. Report Citation:** None

***Attachments:**
☒Building, Structure, and Object Record
☒Continuation Sheet

[1] https://www.paloaltoonline.com/news/show_photo.php?main_id=15145&type=p&media_id=17880&section_id=1

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** 4333-4335 El Camino Massage Envy Spa and Peninsula Piano Brokers ***NRHP Status Code** **6Z**

B1. Historic Name: Cesano's Liquors
B2. Common Name: Massage Envy Spa and Peninsula Piano Brokers
B3. Original Use: Office Retail
B4. Present Use: Office Retail
***B5. Architectural Style:** Mansard
***B6. Construction History:** (Construction date, alterations, and date of alterations)

See Continuation Sheet.

***B7. Moved?** ☒**No** □**Yes** □**Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features: None**

B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

See Continuation Sheet.

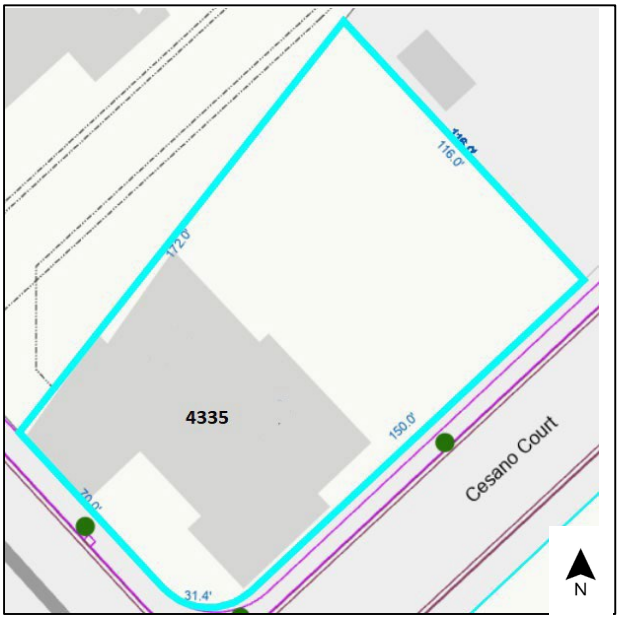
B11. Additional Resource Attributes: (List attributes and codes) N/A
***B12. References:**

- See footnotes.

B13. Remarks:

***B14. Evaluator:** Douglas Bright, Urban Programmers
***Date of Evaluation:** July 2024

(This space reserved for official comments.)



***P3a**. Description (Continued):

The property contains 2 units with a total lot square footage of 17,424 and building area of 6,565 square feet.[1] It is a tilt-up (Pre-cast Concrete) construction is a small office retail building, with a fairly typical design for its time.

The building can be stylistically divided into three sections, each with contrasting styles.

The south corner's (housing the business, Massage Envy Spa) architectural style is Mansard, which was a popular style for retail office buildings of the 1960s and 1970s. The second story of this corner is hidden behind a steeply sloping roof that extends to the first floor. Above the mansard and extending nearly level to the central "L" shaped section, is a flat roof with two skylights. The entry has a deeply recessed entry and large wood sliding windows. The mansard roof itself is clad with cedar shingles. The first floor is clad in T1-11 siding.

The middle "L" section wraps around the northwest and northeast portion of the south corner described above. As mentioned, it has a flat roof. There are four HVAC units and a skylight. The walls are clad in stucco, punctuated with three vertical bands of wood containing six windows, with 9 lites each. The second-floor windows appear to be double-hung, while the lower floor is fixed. There is a second-floor entrance on the southwest elevation accessed by a metal railed staircase.

The northwest side of the building (4333 El Camino Real, housing the business "Peninsula Piano Brokers") has a non-descript rectangular floorplan with a flat roof on the rear addition and a hipped roof with an HVAC unit on the front. It has no exterior ornamentation except for a mural of a piano on the northwestern elevation. The walls are concrete, painted white. The front entrance consists of a large canvas awning over two doors separated by a strip of the concrete wall. The doors are flanked by large picture windows. The back half of this section was added sometime between 1966 and 1980.

The building is fronted at various locations along the sidewalk with landscaping with flowers, trees, mulch, and shrubs. There is an approximately 20-space parking lot behind the building, accessed via Cesano Court.

[1] City of Palo Alto Assessor's Records

Photograph 2
4333-4335 E; Camino Real
View: Front – South side
Camera facing North
Date:1/2/2025

Photograph 2. 4333-4335 El Camino Real
View: Rear side
Camera facing west
Date: 10-14-2024

Photograph 3
4333-4335 El Camino Real
View West Sicee
Camera facing easttDate: 1/1/2025

Photograph 4
4333-43335 El Camino Real
View: East side
Camera facing west
Date: 1/2/2025
5

***B6**. Construction History (Continued):
In 1929, property owners Frank D. Phillips and Mary C. Phillips relinquished some land from this parcel to the State of California for street widening. This property was transferred from

James Cesano and Clotilda Cesano to Cesano, Inc. on 1/30/1959. Based on aerial photographs, the building was heavily altered sometime between 1982 and 1987. Cesano Court was constructed sometime between 1968 and 1980.

Available records for the Property at the City of Palo Alto Building Department were reviewed in January-February 2024. Records indicate the property was constructed in 1966. Topographic maps[2] dated in 1937, 1943, 1944, 1955, 1956, 1962, 1963, 1965, 1966, 1969, 1974, 1995, 2012, 2015, 2018, and 2021 were reviewed. No built resources were recorded on these maps for this property. However, Cesano Court first appears on the 2012 map. Historical aerial photographs[3] dated in 1948, 1956, 1958, 1960, 1968, 1980, 1987,

988, 1991, 1993, 1998, 2002, 2004, 2005, 2009, 2010, 2014, 2016, 2018, and 2020 were reviewed. The property was indicated to have been occupied by a farmhouse from at least 1948 until at most 1968. At this point, all but the north corner of the building appears to have been constructed. By 1980, the present for was achieved. Cesano Court was constructed sometime between 1968 and 1980.[4]

***B10.** Significance (Continued):

El Camino Real and Southern Palo Alto Development History

The City of Palo Alto is known to have been inhabited by indigenous peoples for thousands of years prior to the arrival of Europeans. Archaeological excavations have shown that the area was inhabited as far back as 2400 BC, during the late Archaic period. During the late Archaic period, prehistoric peoples lived widely throughout the region in small groups.

El Camino Real extends over 600 miles from San Diego in the south to Sonoma in the north. It has a romanticized attachment to the collection of parallel trails that once connected the 21 Franciscan missions between these two points. However, the modern route itself was never the single or even primary route taken by travelers between these missions.

In the late 19th and early 20th centuries, California decided to create a unified highway system. As part of this system, the California Highway Commission (which later became the California Department of Transportation, or Caltrans) was assigned responsibility in 1911 for El Camino Real. They paved the road in 1912-1913 from the Daly City at the

northern end of San Mateo County down into San Jose. This was followed by a building boom in the 1920s and 1930s that spawned many roadside motels, restaurants, and other businesses as the road became very popular with travelers between San Francisco, San Jose, and points south. Although originally called "County Road", it was changed to "El Camino Real" by 1927.

However, as automobile use increased, congestion became a problem and in the 1960s, U.S. Highway 101 was built to the east as a means of alleviating the traffic problem. While this did relieve traffic congestion, it did change the character of the businesses along the road by reducing the number of hotels and diners, while increasing the number of strip malls, office buildings, and grocery stores. As a result, the setting of the El Camino Real corridor near this property has changed drastically since its construction. The road has been widened; concrete medians, streetlights, and sidewalk furniture have been updated; and surrounding businesses and orchards have been razed and new developments built in their place.

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[2] https://www.historicaerials.com/viewer
[3] Ibid.
[4] https://historicaerials.com/viewer

This property is located in the Monroe Park neighborhood of Palo Alto which is named for L.G. Monroe, the original property owner (and president of the Rio del Mar Country Club and Aptos Land and Water Company[5]) of the land that was developed into the Monroe Park subdivision[6]. This community dates back to 1926 and has continuously developed over the years since[7].

Development History of 4333-4335 El Camino Real

Research and public outreach also yielded little information. According to Santa Clara County Assessor records, the property was heavily remodeled from the ground up in 1966. Prior to construction the property was occupied by a farmhouse, that may have had an attached storefront, with agricultural land and smaller structures to the rear.[8] This 1966 remodel was paid for by the Cesano Family and represented the start of "Cesano's Liquors" at this location.

Below you will find the permit history of this property (this includes pre-1966 permits for the farmhouse that was at this location before it was heavily remodeled:

Permit	*Date*	*Repair*	*Amount*
7232	1/14/1948	Unspecified alterations	$ 6,000
13397	7/20/1955	Remove wall	$ 1,000
14284	3/13/1956	Enclose porch	$ 800
26133	10/10/1966	Remodel store (Bob Birdsall Contr.)	$ 8,000
27270	2/2/1968	Remove front for highway widenings	$ 2,000
31065	8/14/1972	Unspecified	$ 1,500

[5] https://www.newspapers.com/article/santa-cruz-sentinel-monroe-dies/6450557/
[6] https://www.cityofpaloalto.org/Departments/Community-Services/Open-Space-Parks/Neighborhood-Parks/Monroe-Park
[7] https://www.neighborhoods.com/monroe-park-palo-alto-ca
[8] https://historicaerials.com/viewer

James Cesano Sr. was the owner of the property across the street (Country Inn) in 1953. James Cesano Sr. was born on December 27, 1893, and died in June 1973[9]. James Cesano Sr. (the original owner) was born in Italy about 1894 and lived at 2424 San Bruno Ave., San Francisco where both Tilda and James worked as grocery clerks[10]. He moved to the Menlo Park/Palo Alto area with his wife, Tilda (also from Italy), and children, Mary, and James Jr. in 1943. Cesano's Liquors was operated for many years by James Cesano Sr.'s son, James "Jim" Cesano. It is currently owned by James Cesano III[11]. James "Jim" Cesano, was born in San Francisco on October 18, 1933, and lived on San Bruno Ave with his family until they moved to the Menlo Park/Palo Alto area in 1943. Jim attended Central Elementary and later St. Clare's in Santa Clara graduating in 1947. Jim went on to graduate from Bellarmine Preparatory in 1951 and then Santa Clara University in 1954. Upon graduation Jim served in the United States Marine Corps where he attained the rank of Captain. After his service he owned and operated several family businesses on the family property in South Palo Alto including Cesano's Liquors until his retirement.[12]

Bill Cesano is owner of Avalanche Enterprises (of Palo Alto or San Jose) who ran Destino Spa since 2001.[13][14] The Destino Spa operated at 4335 El Camino Real but is now closed. It is now called Massage Envy Spa. This property also houses Classic Kitchens and Baths, Stephano Homes, and Peninsula Music and Repair.

James Cesano Jr.'s obituary states that his family moved from San Bruno Ave, San Francisco (living there from at least 1933) to Menlo Park/Palo Alto area in 1943. The family operated several businesses in South Palo Alto including Cesano's Liquors (4333 El Camino Real – now "Peninsula Piano Brokers"). He was not prominent, but other family members include his parents Gerolomo (James – and potentially original owner of the Inn) and Clotilda. His sons are Bill (Billy) of San Jose and Chris of Vancouver, WA, his sister Mary

[9] https://www.sysoon.com/deceased/james-cesano-237
[10] https://www.ancestry.com/imageviewer/collections/2442/images/m-t0627-00302-00123?ssrc=&backlabel=Return&pId=71503053
[11] https://opencorporates.com/companies/us_ca/0363514
[12] https://www.svdp.org/james-jim-cesano-longtime-vincentian-passes/
[13] https://www.linkedin.com/in/bill-cesano-8583436/
[14] https://www.buildzoom.com/contractor/avalanche-enterprises-ca

Rena Gretz (Bill) of Palo Alto.[15]

In 1966, when the property was substantially remodeled into its current form, this road was the main thoroughfare through San Mateo County. It has been largely superseded as a regional highway by U. S. Highway 101, which parallels El Camino Real to the east[16].

4333-4337 EL CAMINO COMMERCIAL BUILDING TENANTS

4333 El Camino Real	Peninsula Piano Brokers (1991, 1994, 1999, 2001, 2004 2017), Peninsula Music & Repair (2014), Manpower Health (1994, 1999), 1965) Manpower Technical Services (1970, 1975, 1986), Instep the Shoe Store (1978), Cesanos Liquors (1950, 1955),
4335 El Camino Real	Classic Kitchens of Palo Alto (1994, 1999, 2001, 2004, 2009, 2014, 2017), Destino Spa (2004, 2009, 2017), Stephano Massage Envy Spa (2014, 2017),
4337 El Camino Real	Homes (2004, 2009, 2014, 2017), Cesanos Liquors (1975, 1986), Big Bear Market Gro (1960), Leader market Inc. (1955) Occupant Unknown (2014),

T he address 4337 is no longer used.

Historic Significance

The property at 4333-4335 El Camino Real is not listed as a California Historical Landmark, or in the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR). Additionally, the property is not included in the City of Palo Alto Master List of Structures on the Historic Inventory, City of Palo Alto Historic District Map, and Cultural Resources Chapter in the Comprehensive Plan. In addition, this property does not contain resources recognized by City Council resolution or in the California Office of Historic Preservation (OHP) 2023 Built Environment Resource Directory (BERD).

As a result of this study, the property at 4333-4335 El Camino Real has been determined to not be eligible for the CRHR as it does not rise to the level of significance on a local, state, or national level. The application of the California Register Criteria is detailed below.

Application of California Register of Historical Resources Criteria

- Criterion 1: Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

The retail office building at 4333-4335 El Camino Real does not appear to be connected to any broad pattern of local, regional, state, or national history in relation to rise of automobile tourism. 4333-4335 El Camino Real is not significant for its association with the development of El Camino Real in Santa Clara County. The property is a minor office building with no significant ties to El Camino Real or the City of Palo Alto beyond that of simple location. Therefore, the property at 4333-4335 El Camino Real does not appear significant under Criterion 1.

- Criterion 2: Associated with the lives of persons important to local, California or national history.

The building at 4333-4335 El Camino Real was constructed by an unknown builder and designed by an unknown architect. Research did not yield any significant persons as owner or occupants, and as such, is not associated with the lives of any local, regional, state-wide, or nationally significant person. The owners/developers and early operator, the Cesanos, were moderately successful businessmen for several decades, but do not appear to have had significant impacts upon the liquor store trade, or overall business trends in Palo Alto. They were typical of local working-class proprietors in this area who operated the small-scale inns that dominated the local economy at the time of this building's 1966 extensive remodel into a liquor store. Review of the later tenants shows that they were also small businesses that have not had a n important influence on the commercial history of Palo Alto. The short street that bears the family name is typical of retaining the original landowner's family name when subdividing for new uses

The property is not known to be associated with any persons of historic significance. Therefore, the property at 4333-4335 El Camino Real does not appear significant under Criterion 2.

[15] https://www.legacy.com/us/obituaries/mercurynews/name/james-cesano-obituary?id=8477301&fhid=20272 and https://www.svdp.org/james-jim-cesano-longtime-vincentian-passes/

[16] El Camino Real DPR (1999) by William Kostura of Caltrans District 4

- Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values.
The building at 4333-4335 El Camino Real was constructed in 1966 and drastically remodeled in the early 1980s by an unknown builder. The property consists of one building designed in the Mansard style and used for retail office space. The property is one of multiple small retail office buildings in Santa Clara County along El Camino Real and does not appear to be the earliest or a significant example. The property is characteristic of many small retail office buildings throughout California, and it is neither a significant example of the property type, period, or method of construction. Additionally, as a Mansard style property, it is neither the earliest example nor representative of distinctive characteristics of the, at times, almost ubiquitous style in California. The property also does not appear uncommon in Santa Clara County or Palo Alto. The architect and builder are unknown, and thus, the property does not represent the work of a master. Therefore, the property at 4333-4335 El Camino Real does not appear significant under Criterion 3.

- Criterion 4: Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.
The property at 4333-4335 El Camino Real has not been evaluated for historic archaeological resources. However, the built resources has not yielded, nor does have the potential to yield, historically important information. It should be noted that the landform age dates back to the Late Holocene (4200-2200 years ago); and the soil has a moderate and high sensitivity for buried and surface archaeological deposits, respectively.

City of Palo Alto Historic property designation criteria. Municipal Code Section 16.49.020

16.49.020 Definitions.

Throughout this chapter, the following definitions shall apply:

(a) "Downtown area" means that area of the University Avenue business district subject to Chapter 18.48 of Title 18 of the Palo Alto Municipal Code (the Zoning Code) and all zones within the geographical boundaries shown on the maps incorporated into Chapter 18.48, including planned community and public facility districts.

(b) "Historic categories" means those categories established to define and categorize the historic structures/sites on the historic inventory. Those categories are as follows:

Category 1: "Exceptional building" means any building or group of buildings of preeminent national or state importance, meritorious work of the best architects or an outstanding example of the stylistic development of architecture in the United States. An exceptional building has had either no exterior modifications or such minor ones that the overall appearance of the building is in its original character.

Category 2: "Major building" means any building or group of buildings of major regional importance, meritorious works of the best architects or an outstanding example of an architectural style or the stylistic development of architecture in the state or region. A major building may have some exterior modifications, but the original character is retained.

Category 3 or 4: "Contributing building" means any building or group of buildings which are good local examples of architectural styles and which relate to the character of a neighborhood grouping in scale, materials, proportion or other factors. A contributing building may have had extensive or permanent changes made to the original design, such as inappropriate additions, extensive removal of architectural details, or wooden facades resurfaced in asbestos or stucco.

(c) "Historic district" means a collection of buildings in a geographically definable area possessing a significant concentration or continuity of buildings unified by past events, or aesthetically by plan or physical development. A district should have integrity of design, setting, materials, workmanship and association. The collective value of a historic district taken together may be greater than the value of each individual building. All structures/sites within a historic district are categorized as significant on the historic inventory.

(d) "Historic inventory" means the current edition of the Palo Alto Historical and Architectural Resources Report and Inventory, and the master list of categories for those structures or sites.

(e) "Historic structure/site" means any structure or site within the city which has been identified as having historic or architectural significance and has been placed on the historic inventory of the city of Palo Alto, including structures and sites within categories 1, 2, 3 or 4, and all structures within historic districts.

(f) "Significant building" means any building, group of buildings or site categorized on the historic inventory as number one or number two and all structures within historic districts.

(Ord. 3721 § 1 (part), 1986)

16.49.040 Designation of historic structures/sites.

(b) Criteria for Designation. The following criteria, along with the definitions of historic categories and districts in Section 16.49.020, shall be used as criteria for designating additional historic structures/sites or districts to the historic inventory:

(1) The structure or site is identified with the lives of historic people or with important events in the city, state or nation;

(2) The structure or site is particularly representative of an architectural style or way of life important to the city, state or nation;

(3) The structure or site is an example of a type of building which was once common, but is now rare;

(4) The structure or site is connected with a business or use which was once common, but is now rare;

(5) The architect or building was important;

(6) The structure or site contains elements demonstrating outstanding attention to architectural design, detail, materials or craftsmanship.

(Ord. 5494 § 3, 2020: Ord. 3721 § 1 (part), 1986)

The Massage Envy Spa and Peninsula Piano Brokers building at 4333-4335 El Camino Real does not fit within any of the categories listed in 16.49.020.

This property is not an exceptional building displaying significant architectural qualities and was not designed by a significant architect. It is not part of a historic district and is not listed in the Palo Alto Historic Resources Inventory. The designation criteria, much like the California Register of Historical Resources criteria, requires the building to be associated with persons important in the City, the State or the Nation. The owners/developers and early operator, the Cesanos, were moderately successful businessmen for several decades, but do not appear to have had significant impacts upon the liquor store trade, or overall business trends in Palo Alto. They were typical of local working-class proprietors in this area who operated the small-scale inns that dominated the local economy at the time of this building's 1966 extensive remodel into a liquor store.

The short street that bears the family name is typical of retaining the original landowner's family name when subdividing for new uses. This practice is current today and does not make the family or the street significant (1 and 2). The Massage Envy Spa and Peninsula Piano Brokers building is a common style building that is not rare and continues to be

quite common in the area today. The use, liquor store/massage salon/piano store (3), are also business types that continue today (4). Criteria 5 and 6 identify buildings of significant architecture or the work of a significant architect, neither of which applies.

Conclusion: The Massage Envy Spa and Peninsula Piano Brokers building at 4333-4335 El Camino Real does not meet any of the criteria used by the City of Palo to identify and designate significant historical resources. Buildings not designated significant would not be accepted under a local program as historic resources as defined by CEQA.

Figure 1 - 1945 Thomas Brothers Map[17]

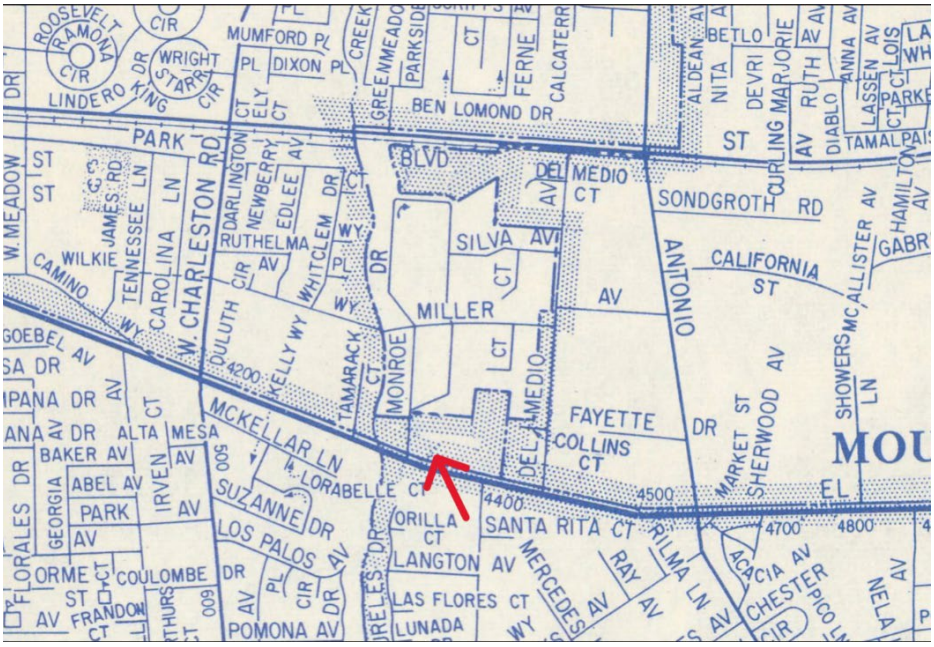


Figure 2 - 1959 Thomas Brothers Map

[17] Thomas Brothers Map of Palo Alto-Mountain View-Sunnyvale-Menlo Park-Atherton-Los Altos and Vicinity. List

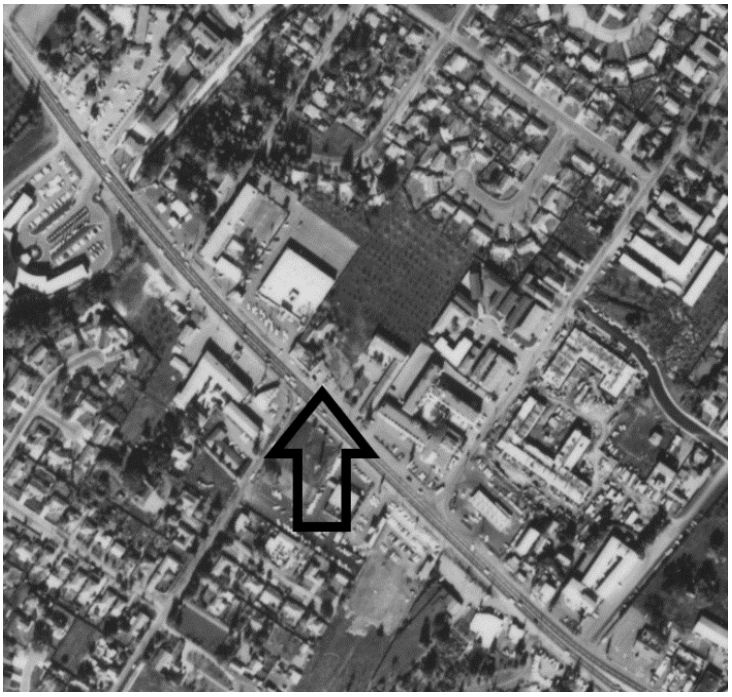


Figure 3 - January 15, 1964, Aerial Photograph

Figure 4 - Cesano's Liquors Match Striker/Cover

Page 17 of 17 ***Resource Name or #:** Massage Envy Spa and Peninsula Piano Brokers

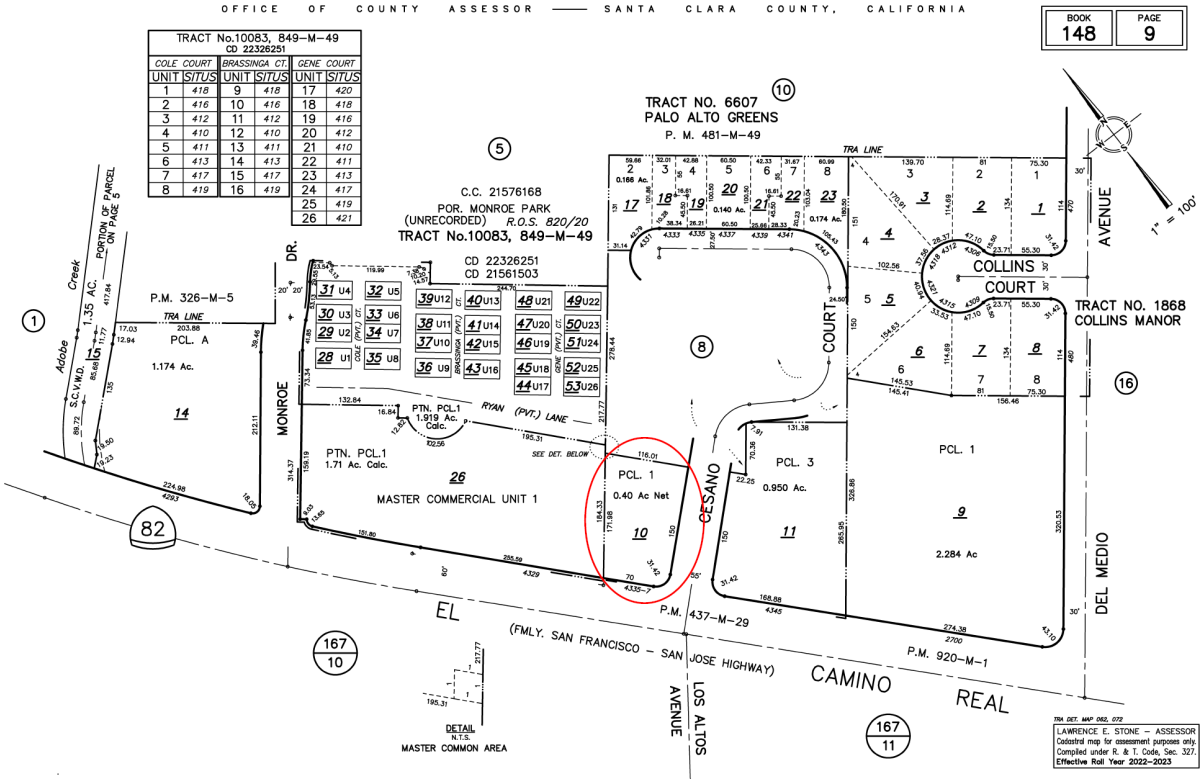


Figure 5 - Assessor's Parcel Map

State of California ♘ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code
Other Listings
Review Code Reviewer Date

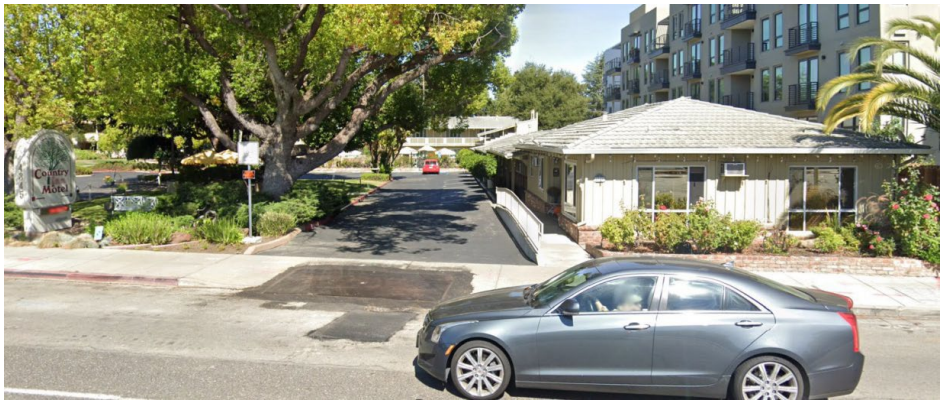
Page 1 **of** 21 ***Resource Name or #:** Country Inn
P1. Other Identifier:

***P2. Location:** ☒ **Unrestricted**
***a. County:** Santa Clara **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Palo Alto **Date** 1997 **T** 6S; **R** 3W; **Sec** 12; Mount Diablo **B.M.**
c. Address: 4345 El Camino Real City: Palo Alto Zip: 94306
d. UTM: (Give more than one for large and/or linear resources) Zone 10, S 578096 mE/ E 4140137 mN
e. Other Locational Data: 37.4047° -122.1176°; APN 148-09-011

***P3a. Description:**

This property is located at 4345 El Camino Real (California State Route 82, Post Mile 22.328) on the southern edge of Palo Alto, along the border with Mountain View and Los Altos, in the Monroe Park neighborhood[1]. The neighborhood is roughly bounded by El Camino Real on the southwest, Adobe Creek on the northwest, and the Mountain View City Limits on the northeast and southeast. The property is bounded to the northwest and northeast by Cesano Court; on the southwest by El Camino Real, and the southeast by MV Apartments (700 W. El Camino Real, Mountain View). Across Cesano Court to the northwest is a two-story office building (4335 El Camino Real); to the north is an apartment complex (440 Cesano Court); across the street on El Camino Real is a gas station (4350 El Camino Real, Los Altos) and kitty-corner is a 3-story hotel (4320 El Camino Real, Los Altos). The lot is 43,035 square feet[2]. See Continuation Sheet.

P5a. Photograph or Drawing



***P3b. Resource Attributes:** HP5 Hotel/Motel
***P4. Resources Present:** ☒ Building
P5b. Description of Photo: West Elevation, 9/2023.
***P6. Date Constructed/Age and Source:** ☒ Historic. Constructed: 1953 Assessor's records
***P7. Owner and Address:**
Cesano Inc.
2310 Webster St.
Palo Alto, California 94301
***P8. Recorded by:**
Douglas Bright
Urban Programmers
10710 Ridgeview Avenue
San Jose CA 95127
***P9. Date Recorded:** January 2024
***P10. Survey Type:** Intensive Building Evaluation
***P11. Report Citation**:

None

***Attachments:**
☒Building, Structure, and Object Record
☒Continuation Sheet

[1] https://www.paloaltoonline.com/news/show_photo.php?main_id=15145&type=p&media_id=17880&section_id=1
[2] https://opengis.cityofpaloalto.org/parcelreports/

P3 Description cont.

Rear two-story wing and swimming pool

View looking at the center parking and landscaped area.

Center landscaped area and motel sign

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #:** Country Inn ***NRHP Status Code** 6Z
Page 3 **of** 21

B1. Historic Name: Country Inn
B2. Common Name: Country Inn
B3. Original Use: Motel B4. Present Use: Motel
***B5. Architectural Style:** Minimal Traditional
***B6. Construction History:** (Construction date, alterations, and date of alterations)

See Continuation Sheet.

***B7. Moved?** ☒**No** ☐**Yes** ☐**Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features: None**
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

See Continuation Sheet.

B11. Additional Resource Attributes: (List attributes and codes) N/A
***B12. References:**

- See footnotes.
- The Grand Boulevard Initiative, "El Camino Real/Monterey Highway: The Well-Travelled Road," http://www.grandboulevard.net/about-us/history-of-el-camino.html
- Santa Clara Valley Transportation Authority, El Camino Real Bus Rapid Transit Project Draft Environmental Impact Report/Environmental Assessment (October 2014)
- J. P. Sinclair, "Bay Area Report – 1964" California Highways and Public Works (May-June 1964).
- Kevin Starr, Golden Dreams: California in an Age of Abundance, 1950-1963 (New York: Oxford University Press, 2009).

B13. Remarks:

***B14. Evaluator:** Douglas Bright, Urban Programmers
***Date of Evaluation:** January-February 2024

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

*P3a. Description (Continued):

The property contains 27 units with a total square footage of 18,128[1]. The area is dominated by commercial and multi-family housing area along El Camino Real, with primarily 1950s era single-family homes behind. It is a fairly typical motor court style with a U-shaped drive around a central courtyard. The Country inn is designed in an "L" plan with a row of single-story, attached units on the southeast lot line, with a two-story attached unit addition on the northeast lot line, behind a swimming pool. A parking lot is located inside this "L" plan and is nearly bisected by a courtyard area with mature trees and patio furniture. The Country Inn sign is located in this courtyard area, adjacent to the sidewalk along El Camino Real. The office and managers unit is located in the front of the property along El Camino Real. The units have a continuous roof that is covered with grey concrete tiles. The office and managers unit has a hip roof that transitions to a gabled design for the rest of the attached single-story units. When this roof reaches the two-story addition at the northeast portion of the building, the roof transitions briefly to a shed roof at the northeast corner before immediately becoming a gable once more for the remainder of the addition. Exposed rafters are present along the fascia.
Each unit of the single-story portion has a front door and 2-lite sliding sash window on the front façade. The interior of the windows have shutters. The units of the 2-story addition have 1/4-1/2-1/4 slider windows with interior shutters.
The buildings are clad in board and batten siding with exterior brick wainscotting.
The pool area, located at the junction of the single-story unit and 2-story addition, is separated from the parking lot and Cesano Court lot line with a brick planter surmounted by a steel fence, punctuated with two metal gates.

*B6. Construction History (Continued):
In 1929, property owners Frank D. Phillips and Mary C. Phillips relinquished some land from this parcel to the State of California for street widening. This property was transferred from James Cesano and Clotilda Cesano to Cesano, Inc. on 1/30/1959.[2]
Available records for the Property at the City of Palo Alto Building Department were reviewed in January-February 2024. Records indicate the property was constructed in 1953. 1956 saw the construction of a pool on the property.
Topographic maps[3] dated in 1937, 1943, 1944, 1955, 1956, 1962, 1963, 1965, 1966, 1969, 1974, 1995, 2012, 2015, 2018, and 2021 were reviewed. No built resources were recorded on these maps for this property. However, Cesano Court first appears on the 2012 map.
Historical aerial photographs[4] dated in 1948, 1956, 1958, 1960, 1968, 1980, 1987,

[1] https://www.propertyshark.com/mason/Property/37870387/4345-El-Camino-Real-Palo-Alto-CA-94306/
[2] Book 4307 page 540
[3] https://www.historicaerials.com/viewer
[4] Ibid.

1988, 1991, 1993, 1998, 2002, 2004, 2005, 2009, 2010, 2014, 2016, 2018, and 2020 were reviewed. The property was indicated to have been vacant in 1948. In 1956, the one-story portion of the property was in existence. In 1960, the property was shown to contain the pool and the two-story addition.

*B10. Significance (Continued):

In 1953, when the Country Inn was built at 4345 El Camino Real, this road was the main thoroughfare through San Mateo County. It has been largely superseded as a regional highway by U. S. Highway 101, which parallels El Camino Real to the east[5]. Founded by Italian immigrant Gerolomo "James" Cesano, the descendants of James Cesano still own and operate the motel.[6]

James Cesano Jr's obituary states that his family moved from San Bruno Ave, San Francisco (living there from at least 1933) to Menlo Park/Palo Alto area in 1943. The family operated businesses in South Palo Alto. He was not prominent, but other family members include his parents Gerolomo (James – and potentially original owner of the Inn) and Clotilda. His sons are Bill (Billy) of San Jose and Chris of Vancouver, WA., his sister Mary Rena Gretz (Bill) of Palo Alto.[7]

El Camino Real was the main thoroughfare through San Mateo County. It has been largely superseded as a regional highway by U. S. Highway 101, which parallels El Camino Real to the east[8].

The Monroe Park neighborhood is named for L.G. Monroe, the original property owner (and president of the Rio del Mar Country Club and Aptos Land and Water Company[9]) of the land that was developed into the Monroe Park subdivision[10]. This community dates back to 1926 and has continuously developed over the years since[11]. Cesano Court was constructed sometime between 1968 and 1980.[12]

El Camino Real and Southern Palo Alto Development History

[5] El Camino Real DPR (1999) by William Kostura of Caltrans District 4
[6] https://paloaltocountryinn.com/about-us/
[7] https://www.legacy.com/us/obituaries/mercurynews/name/james-cesano-obituary?id=8477301&fhid=20272 and https://www.svdp.org/james-jim-cesano-longtime-vincentian-passes/
[8] El Camino Real DPR (1999) by William Kostura of Caltrans District 4
[9] https://www.newspapers.com/article/santa-cruz-sentinel-monroe-dies/6450557/
[10] https://www.cityofpaloalto.org/Departments/Community-Services/Open-Space-Parks/Neighborhood-Parks/Monroe-Park
[11] https://www.neighborhoods.com/monroe-park-palo-alto-ca
[12] https://historicaerials.com/viewer

The City of Palo Alto is known to have been inhabited by indigenous peoples for thousands of years prior to the arrival of Europeans. Archaeological excavations have shown that the area was inhabited as far back as 2400 BC, during the late Archaic period. During the late Archaic period, prehistoric peoples lived widely throughout the region in small groups.

El Camino Real extends over 600 miles from San Diego in the south to Sonoma in the north. It has a romanticized attachment to the collection of parallel trails that once connected the 21 Franciscan missions between these two points. However, the modern route itself was never the single or even primary route taken by travelers between these missions.

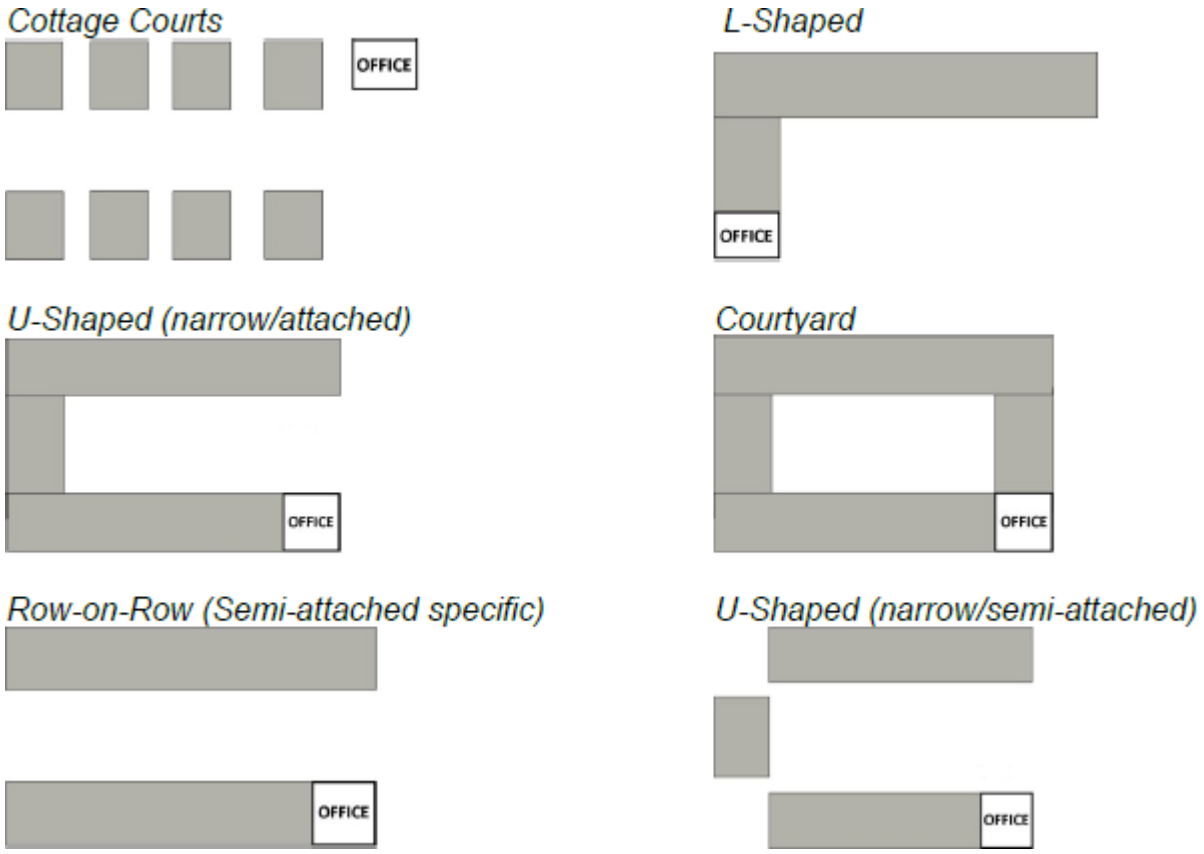
In the late 19th and early 20th centuries, California decided to create a unified highway system. As part of this system, the California Highway Commission (which later became the California Department of Transportation, or Caltrans) was assigned responsibility in 1911 for El Camino Real. They paved the road in 1912-1913 from the Daly City at the northern end of San Mateo County down into San Jose. This was followed by a building boom in the 1920s and 1930s that spawned many roadside motels, restaurants, and other businesses as the road became very popular with travelers between San Francisco, San Jose, and points south. Although originally called "County Road", it was changed to "El Camino Real" by 1927.

However, as automobile use increased, congestion became a problem and in the 1960s, U.S. Highway 101 was built to the east as a means of alleviating the traffic problem. While this did relieve traffic congestion, it did change the character of the businesses along the road by reducing the number of hotels and diners, while increasing the number of strip malls, office buildings, and grocery stores. As a result, the setting of the El Camino Real corridor near this property has changed drastically since its construction. The road has been widened (claiming property frontage of the subject parcel); concrete medians, streetlights, and sidewalk furniture have been updated; and surrounding businesses and orchards have been razed and new developments built in their place.

Motels, 1920-1965[13]

The typical layouts of motels have changed over its development history. The illustration below provides an overview of the most popular ones:

[13] https://en.wikipedia.org/wiki/Motel



The first motels emerged in the 1920s to capture the business of a new type of customer: the motorist. The first iterations were mostly "cottage (later called "motor") courts" that often provided a gas station and general store for visitors. Often, tents were rented as an option or when there were no vacancies left.[14] Continuing through the 1930s, these motor courts were often styled after cottages that mimicked the local architectural styles but were almost always very modest. The office (and usually home of the owner) was often a larger home at the front of the property.[15]

During the Great Depression, conventional hotels virtually ceased to be built, but motor courts were still going strong. This was because financing incentives from the Federal

[14] Warren James Belasco, Americans on the Road: From Autocamp to Motel, 1910-1945 (Baltimore: Johns Hopkins University Press, 1979 [1997]), 130; Liebs, Main Street to Miracle Mile, 169-174.
[15] John A. Jakle, Keith A. Sculle and Jefferson S. Rogers, The Motel in America (Baltimore: Johns Hopkins University Press, 1996), 18; Liebs, Main Street to Miracle Mile, 174-178.

Housing Administration were available for constructing cottages costing less than $2,000.[16] Even at the lowest point of the Great Depression, in 1933, the periodical "Architectural Record" wrote "the construction of 'shacks' for autoists has been the single growing and highly active division of the building industry during the depression years."[17]

By the late 1930s, Streamline Moderne was beginning to supplant vernacular cottage styles in popularity. In 1935 the "Architectural Record" captured this zeitgeist by featuring a portfolio of motels with these designs. 1937, the "Tourist Court Journal" began as the first trade publication focused solely on motels. The editorial lean of this journal was the promotion of the new Streamline Moderne look, including white stucco walls, for new construction and remodeling, as a means of attracting motorists with a futuristic look. It was termed, "The Motor Court Moderne."[18] Although Streamline Moderne was quite popular in the late 1930s, vernacular architecture (especially with a historicist flair) did not go away and was commonplace throughout this period.[19]

Design suggestions not only came from trade journals. In the early 1930s, the U.S. Small Business Administration offered booklets for guidance in establishing a motel. The booklets were intended to help inexperienced mom and pop proprietors with not only designs, but with practicalities such as where to locate vending machines, and traffic circulation suggestions.

During WWII, a scarcity of building materials prompted the evolution of motor courts into abandoning separate cottages in favor of sharing walls with adjoining units. This style proved popular with business owners as it was continued after the war as well and new motor courts with detached units became quite rare. To retain some of the lost greenery, small porches and flower boxes were often added. This led to a marketing shift away from advertising the bucolic allure of cottages in nature and replaced it with a home-away-from-home suburban residential appeal. Merging the cottages into a row of units also inspired the addition of a second stories with exterior walkways that began to appear in the late 1940s. This era also saw the introduction of more amenities including on-site laundry services and swimming pools. By the 1950s, swimming pools especially became very common. During the 1950s, the number of motels in the nation grew from 20,000 to 60,000.

This rapidly evolving design to an attached linear arrangement was occasionally present in pre-war motels, but after it came to dominate new construction, it began to draw the attention of professional architects and journals. The first of these studies was published in

[16] Liebs, Main Street to Miracle Mile, 178-179.
[17] Quoted in Liebs, Main Street to Miracle Mile, 179.
[18] Liebs, Main Street to Miracle Mile, 179.
[19] Ibid.

the "Progressive Architecture" periodical in 1955. The article examined the various layouts and provided case-studies and representative building schematics.[20] Some of the popular trends included a central courtyard or swimming pool surrounded by units one row deep, with parking along the outer perimeter. The unites had two exterior doors, one to access the vehicle, and one to access the central pedestrian-only area.[21] Above all, the article emphasized the importance of newness, bold street-facing design, and cleanliness.[22] The bold street-facing design was best accomplished with a "billboard of distinctive shape and texture."[23] The strange, otherworldliness of the Googie style met this need perfectly.

By the mid-1950s motels began to sport the whimsical Googie style to their office and street-facing porte-cochère, and incorporate neon lettering into their signage, but the utilitarian and unornamented designs of the post-war period prevailed elsewhere.[24] Because the design of the rest of these motels were often bland and uninspired, they lost much of the charm of the original pre-war motor courts. One historian complained that "utilitarian and functional imagery began edging out the quaint and the streamlined".[25] The reason for this was a combination of demand outstripping the ability of builders to dedicate the time and energy required for the attention to detail necessary, the high cost of materials due to the heavy demand for construction in the 1950s, and the countervailing pressure of mid-century modernism (International) style that stressed the removal of unnecessary ornamentation. As a result, owners typically opted for eye-catching design for the façade, and saving money and time by adopting a stripped-down International Style for the units in the rear. In major metropolitan areas during this time, some motels began to feature large, often luxurious, units in up to 3-story complexes surrounding a courtyard.[26]

It was during this time, between the end of World War II and the mid-1950s within Santa Clara County, that "mom and pop" motels sprang up along the major thoroughfares, including U.S. Highway 101 and El Camino Real and attracted customers flashy neon signs, on-site or nearby dining options, in-unit air-conditioning, and swimming pools. Upper scale ones also offered more exotic amenities, including shuffleboard, cocktail lounges, dancing, and putting greens. However, chain motels began to supplant these independent businesses beginning in the mid-1950s.[27]

[20] Geoffrey Baker and Bruno Funaro, Motels (New York: Reinhold Publishing Company, 1955), passim.
[21] Baker and Funaro, Motels, passim; Jakle, Sculle and Rogers, The Motel in America, 45.
[22] Baker and Funaro, Motels, 1, 5-6, 12.
[23] Ibid., 140.
[24] Ibid., 182-183.
[25] Liebs, Main Street to Miracle Mile, 178-179.
[26] Ralph Edward Newlan and Laura Caffrey. "Historic-age Motels in Texas from the 1950s to the 1970s: An Annotated Guide to Selected Studies" (Texas Department of Transportation, 2011)
[27] Heather M. David. "Motel San Jose" (Sourisseau Academy, 2016.)

The corporatization of motels began in 1952 with the first Holiday Inn. In 1953, the first Howard Johnson's was opened. By the late 1960s corporate chain motels would dominate the market and build several multi-story motels that smaller, independently owned motels often could not compete with. These chain motels later began to hybridize their motels with hotels by adding an interior corridor between the units, severing the direct link between the automobile and the unit's exterior door. The chains also adopted cost-cutting measures such as standardizing their signage and other architectural details inside and out across the country.[28] Because of this corporatization, the motel began to lose any architectural innovation it once had, as the independently owned and designed motels were crowded out by the chain motels. The rapid rise of this corporatization can be illustrated by the fact that in 1962 fewer than two percent of the country's motels were part of a chain. By 1987 that number had risen to 67 percent and nearly all new motel construction since then has been initiated by motel chains.[29]

One final development during the 1960s was the introduction of the "motor inn." These motels were often independently owned, contained multiple stories, and included onsite dining, banquet halls, meeting rooms, and cocktail lounges. However, like the chain motels, their styles were normally uninspired with standardized designs.[30]

Development History of 4345 El Camino Real

According to Santa Clara County Assessor records, the property was constructed in 1953. Prior to construction the property was a vacant lot[31]. It has operated since then with little change to the buildings or site. James Cesano Sr. was founder and owner beginning with the construction of the property in 1953. James Cesano Sr. was born on December 27, 1893, and died in June 1973[32]. James Cesano Sr. (the original owner) was born in Italy about 1894 and lived at 2424 San Bruno Ave., San Francisco where both Tilda and James worked as grocery clerks[33]. He moved to the Menlo Park/Palo Alto area with his wife, Tilda (also from Italy), and children, Mary, and James Jr. in 1943. Prior to this motel enterprise, the family operated several businesses in South Palo Alto including Cesano's Liquors (4333 El Camino Real – now "Peninsula Piano Brokers").[34] The current owner is James Cesano

[28] Liebs, Main Street to Miracle Mile, 185-187.
[29] Jakle, Sculle and Rogers, The Motel in America, 150.
[30] Jakle, Sculle and Rogers, The Motel in America, 49.
[31] https://historicaerials.com/viewer
[32] https://www.sysoon.com/deceased/james-cesano-237
[33] https://www.ancestry.com/imageviewer/collections/2442/images/m-t0627-00302-00123?ssrc=&backlabel=Return&pId=71503053
[34] https://www.legacy.com/us/obituaries/mercurynews/name/james-cesano-obituary?id=8477301&fhid=20272 and https://www.svdp.org/james-jim-cesano-longtime-vincentian-passes/

Sr's grandson, also named James Cesano[35]. James Cesano Jr's obituary states that his family moved from San Bruno Ave, San Francisco (living there from at least 1933) to Menlo Park/Palo Alto area in 1943. The family operated businesses in South Palo Alto. He was not prominent, but other family members include his parents Gerolomo (James – and potentially original owner of the Inn) and Clotilda. His sons are Bill (Billy) of San Jose and Chris of Vancouver, WA., his sister Mary Rena Gretz (Bill) of Palo Alto.[36]

The Cesano's motel competed with the famous Rickey's Studio Inn at 4219 El Camino Real and were a few blocks away from the locally famous Dinah's Shack (Which Rickey's Studio Inn's Owner and prominent businessman, John Herman Rickey, purchased after a fire destroyed the original structure in 1942. The original motel only had 11 units - with kitchenettes and tv. No pool (see 1953 postcard reverse). The pool and two-story addition with 18 units was added sometime between 1953-1959. By the late 1950s it had 29 units - with kitchens, TVs, and phones and billed itself as "Palo Alto's Most Pleasant Luxury Motel (see late 1950s postcard reverse) and a pool (see front of postcard). In the 1974 postcard, they advertised Kitchens, heated pool, air conditioning, telephone, and TV. The central courtyard was original to the 1953 design. The large, mature trees within the courtyard appear to be original as well. The original design of the property was set back from the main road by several meters, with no sidewalk, making the courtyard seem to be an island surrounded driveways. This central courtyard is a common component of 1950s era motels. The Inn sign was originally between the street and the office but was relocated to the edge of the courtyard at some point after the construction of the 18-unit addition. This was likely required due to what appears to have been a widening of El Camino Real that necessitated the relocation of the sign. The windows are new (though the layout is the same), but the railing, exterior wainscot, roof supports, and siding are original. A ramp was installed in front of the entrance at some point after the construction of the 18-unit addition.

James Cesano Jr's obituary states that his family moved from San Bruno Ave, San Francisco (living there from at least 1933) to Menlo Park/Palo Alto area in 1943. The family operated businesses in South Palo Alto. He was not prominent, but other family members include his parents Gerolomo (James – and potentially original owner of the Inn) and Clotilda. His sons are Bill (Billy) of San Jose and Chris of Vancouver, WA., his sister Mary Rena Gretz (Bill) of Palo Alto.[37]

[35] https://opencorporates.com/companies/us_ca/0363514

[36] https://www.legacy.com/us/obituaries/mercurynews/name/james-cesano-obituary?id=8477301&fhid=20272 and https://www.svdp.org/james-jim-cesano-longtime-vincentian-passes/

[37] https://www.legacy.com/us/obituaries/mercurynews/name/james-cesano-obituary?id=8477301&fhid=20272 and https://www.svdp.org/james-jim-cesano-longtime-vincentian-passes/

The property at 4345 El Camino Real is not listed as a California Historical Landmark, or in the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR). Additionally, the property is not included in the City of Palo Alto Master List of Structures on the Historic Inventory, City of Palo Alto Historic District Map, and Cultural Resources Chapter in the Comprehensive Plan. In addition, this property does not contain resources recognized by City Council resolution or in the California Office of Historic Preservation (OHP) 2023 Built Environment Resource Directory (BERD).

As a result of this study, the property at 4345 El Camino Real (Country Inn) has been determined to not be eligible for the CRHR as it does not rise to the level of significance on a local, state, or national level. The application of the California Register Criteria is detailed below.

Application of California Register of Historical Resources Criteria

[the National Register of Historical Resources-the Federal Register NRHP has criteria similar to but more stringent than the California Register of Historical Resources]

- Criterion 1(A): Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

The Country Inn at 4345 El Camino Real does not appear to be connected to any broad pattern of local, regional, state, or national history in relation to rise of automobile tourism. 4345 El Camino Real is not significant for its association with the development of El Camino Real in Santa Clara County. The property is a minor roadside motel with no significant ties to El Camino Real or the City of Palo Alto beyond that of simple location. Therefore, the property at 4345 El Camino Real does not appear significant under Criterion 1.

- Criterion 2(B): Associated with the lives of persons important to local, California or national history.

The Country Inn at 4345 El Camino Real was constructed by an unknown builder for James Cesano. The owners/developers and early operator, the Cesanos, were moderately successful businessmen for several decades, but do not appear to have had significant impacts upon the motel industry or other businesses they operated. trade, or overall business trends in Palo Alto. They were typical of local working-class proprietors in this area who operated the small-scale inns that dominated the local economy at the time of this building's 1966 extensive remodel into a liquor store. Review of the later tenants shows that they were also small businesses that have not had a n important influence on the commercial history of Palo Alto.

The short street that bears the family name is typical of retaining the original landowner's family name when subdividing for new uses

Research did not yield any significant persons as owner or occupants, and as such, is not associated with the lives of any local, regional, state-wide, or nationally significant person. The property is not known to be associated with any persons of historic significance. Therefore, the property at 4345 El Camino Real does not appear significant under Criterion 2.

- Criterion 3(C): Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values.Page

The Country Inn at 4345 El Camino Real was constructed in 1953 and 1960 by an unknown builder for James Cesano. The property consists of one building designed in the Minimal Traditional style and used as a motel. The property is one of multiple motels/hotels in Santa Clara County along El Camino Real and does not appear to be the earliest or a significant example. The property is characteristic of many motels throughout California, and it is neither a significant example of the property type, period, or method of construction. Additionally, as a Minimal Traditional style property, it is neither the earliest example nor representative of distinctive characteristics of the, at times, almost ubiquitous style in California. The property also does not appear uncommon in Santa Clara County or Palo Alto. The architect and builder are unknown, and thus, the property does not represent the work of a master. Therefore, the property at 4345 El Camino Real does not appear significant under Criterion 3.

- Criterion 4(D): Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The property at 4345 El Camino Real has not been evaluated for historic archaeological resources. However, the built resources has not yielded, nor does have the potential to yield, historically important information. It should be noted that the landform age dates back to the Late Holocene (4200-2200 years ago); and the soil has a moderate and high sensitivity for buried and surface archaeological deposits, respectively.

City of Palo Alto Historic property designation criteria. Municipal Code Section 16.49.020
16.49.020 Definitions.

Throughout this chapter, the following definitions shall apply:

(a) "Downtown area" means that area of the University Avenue business district subject to Chapter 18.48 of Title 18 of the Palo Alto Municipal Code (the Zoning Code) and all zones within the geographical boundaries shown on the maps incorporated into Chapter 18.48, including planned community and public facility districts.

(b) "Historic categories" means those categories established to define and categorize the historic structures/sites on the historic inventory. Those categories are as follows:

Category 1: "Exceptional building" means any building or group of buildings of

preeminent national or state importance, meritorious work of the best architects or an outstanding example of the stylistic development of architecture in the United States. An exceptional building has had either no exterior modifications or such minor ones that the overall appearance of the building is in its original character.

Category 2: "Major building" means any building or group of buildings of major regional importance, meritorious works of the best architects or an outstanding example of an architectural style or the stylistic development of architecture in the state or region. A major building may have some exterior modifications, but the original character is retained.

Category 3 or 4: "Contributing building" means any building or group of buildings which are good local examples of architectural styles and which relate to the character of a neighborhood grouping in scale, materials, proportion or other factors. A contributing building may have had extensive or permanent changes made to the original design, such as inappropriate additions, extensive removal of architectural details, or wooden facades resurfaced in asbestos or stucco.

(c) "Historic district" means a collection of buildings in a geographically definable area possessing a significant concentration or continuity of buildings unified by past events, or aesthetically by plan or physical development. A district should have integrity of design, setting, materials, workmanship and association. The collective value of a historic district taken together may be greater than the value of each individual building. All structures/sites within a historic district are categorized as significant on the historic inventory.

(d) "Historic inventory" means the current edition of the Palo Alto Historical and Architectural Resources Report and Inventory, and the master list of categories for those structures or sites.

(e) "Historic structure/site" means any structure or site within the city which has been identified as having historic or architectural significance and has been placed on the historic inventory of the city of Palo Alto, including structures and sites within categories 1, 2, 3 or 4, and all structures within historic districts.

(f) "Significant building" means any building, group of buildings or site categorized on the historic inventory as number one or number two and all structures within historic districts.

(Ord. 3721 § 1 (part), 1986)

16.49.040 Designation of historic structures/sites.

(b) Criteria for Designation. The following criteria, along with the definitions of historic categories and districts in Section 16.49.020, shall be used as criteria for designating additional historic structures/sites or districts to the historic inventory:

(1) The structure or site is identified with the lives of historic people or with important

vents in the city, state or nation;

(2) The structure or site is particularly representative of an architectural **style** or way of life important to the city, state or nation;

The structure or site is an example of a type of building which was once common, but is now rare;

(3) The structure or site is connected with a business or use which was once common, but is now rare;

(4) The architect or building was important;

(5) The structure or site contains elements demonstrating outstanding attention to architectural design, detail, materials or craftsmanship.

(Ord. 5494 § 3, 2020: Ord. 3721 § 1 (part), 1986)

The Country Inn at 4345 El Camino Real does not fit within any of the categories listed in **16.49.020.**

This property is not an exceptional building displaying significant architectural qualities and was not designed by a significant architect. It is not part of a historic district and is not listed in the Palo Alto Historic Resources Inventory. The designation criteria, much like the California Register of Historical Resources criteria, requires the building to be associated with persons important in the City, the State or the Nation. The owners/developers and early operator, the Cesanos, were moderately successful businessmen for several decades, but do not appear to have had significant impacts upon the motel industry, or overall business trends in Palo Alto. They were typical of local working-class proprietors in this area who operated the small-scale inns that dominated the local economy.

The short street that bears the family name is typical of retaining the original landowner's family name when subdividing for new uses. This practice is current today and does not make the family or the street significant (1 and 2). The Country Inn motel building is a common wood-frame style building that is not rare and continues to be quite common in the area today(3). The use, lodging, is a business type that continues today (4). Criteria 5 and 6 identify buildings of significant architecture or the work of a significant architect, neither of which applies.

Conclusion: The Country Inn building at 4345 El Camino Real does not meet any of the criteria used by the City of Palo to identify and designate significant historical resources. Buildings not designated significant would not be accepted under a local program as historic resources as defined by CEQA.

Figure 1 - 1945 Thomas Brothers Map[38]

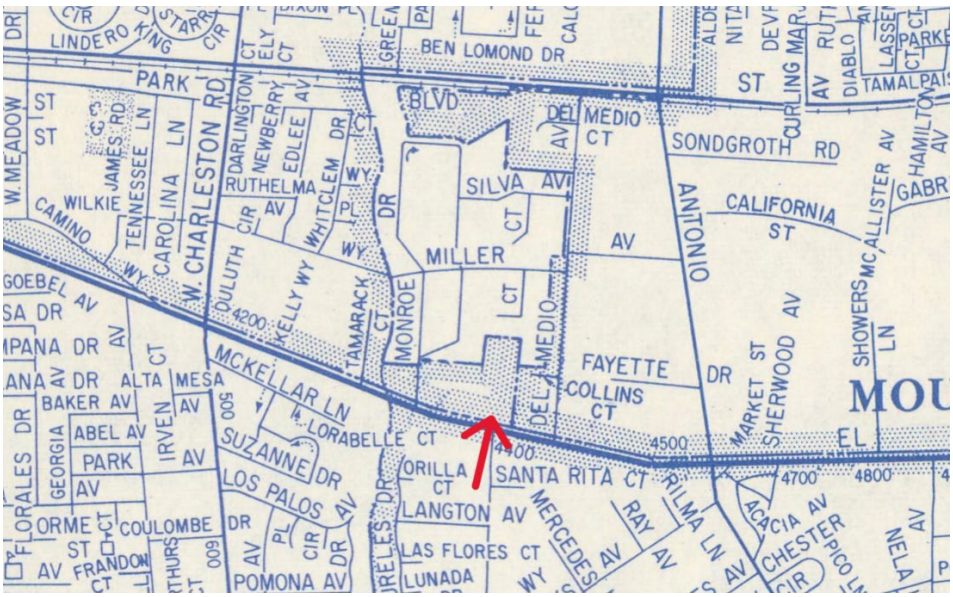


Figure 2 - 1959 Thomas Brothers Map

[38] Thomas Brothers Map of Palo Alto-Mountain View-Sunnyvale-Menlo Park-Atherton-Los Altos and Vicinity. List No. 10629.001

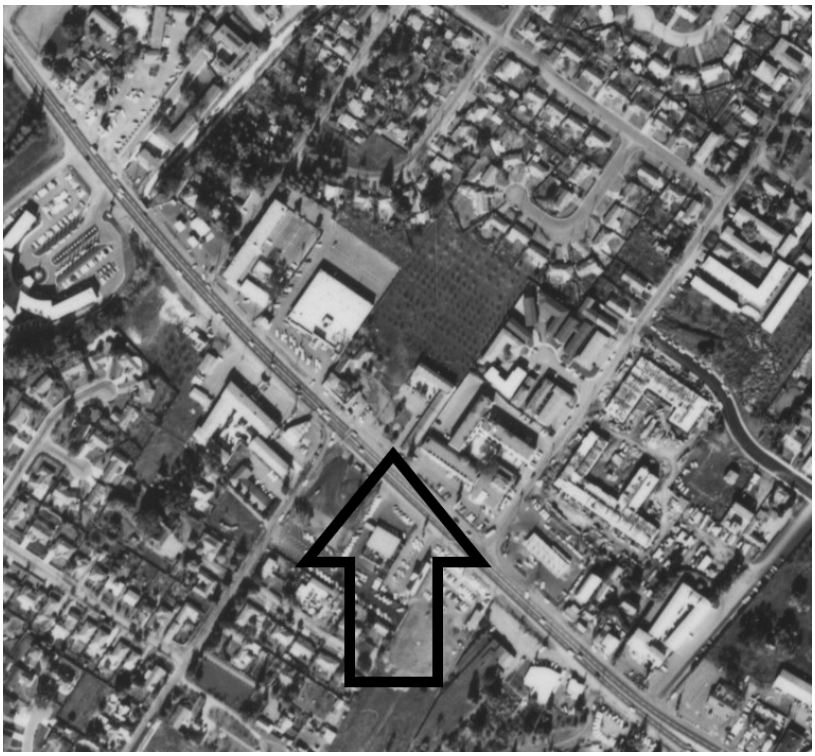


Figure 3 - January 15, 1964, Aerial Photograph

Figure 4 - Country Inn Postcard (1953)

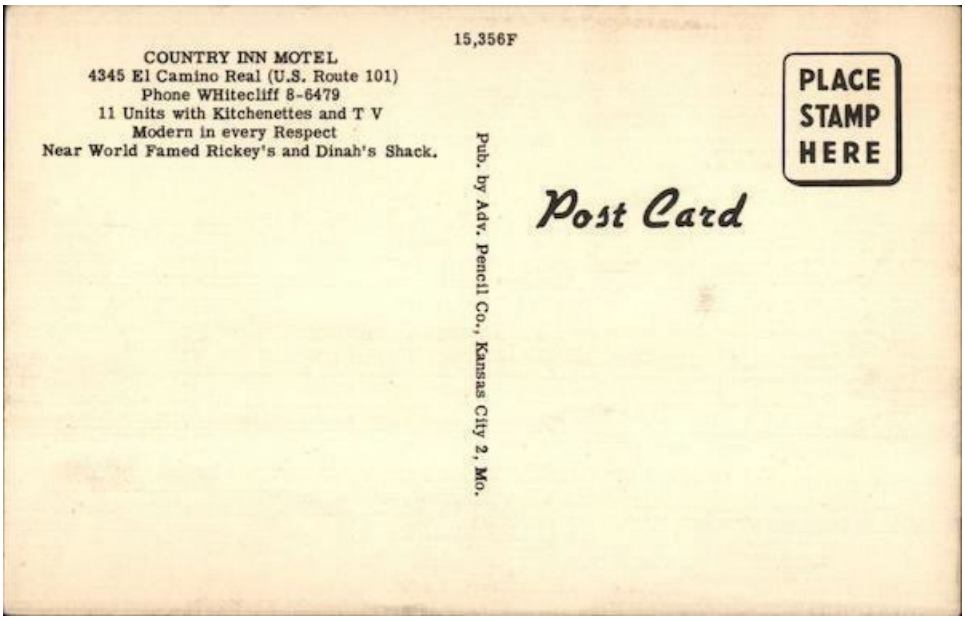


Figure 5 - Country Inn Postcard (1953) (Reverse)

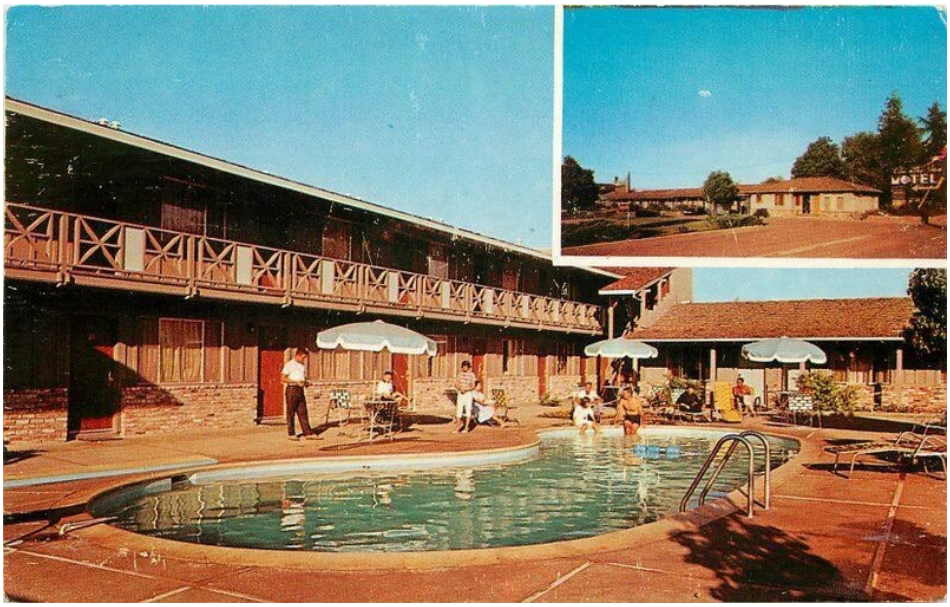


Figure 6 - Country Inn Postcard (late 1950s)

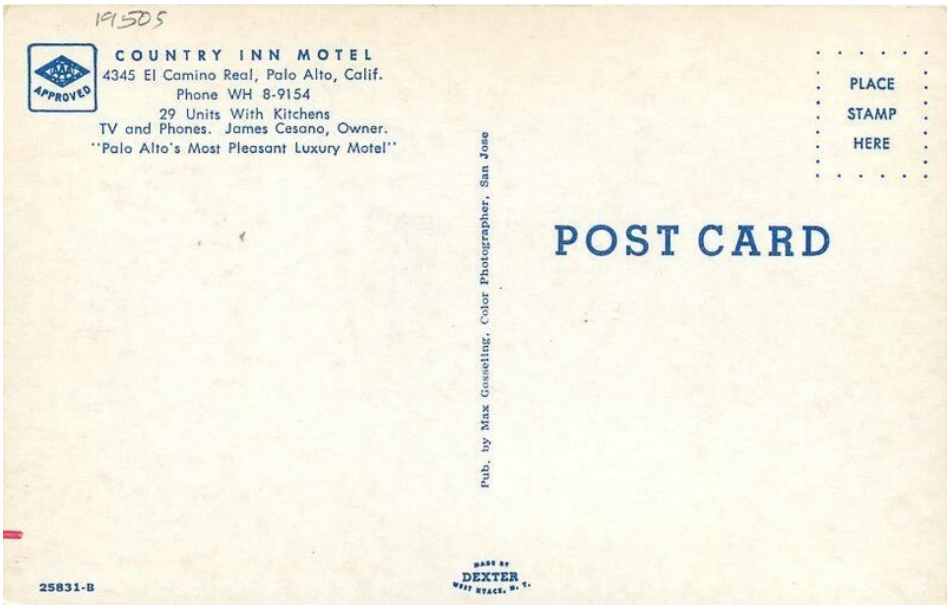


Figure 7 - Country Inn Postcard (late 1950s) (Reverse)

Figure 8 - Country Inn Postcard (1974)

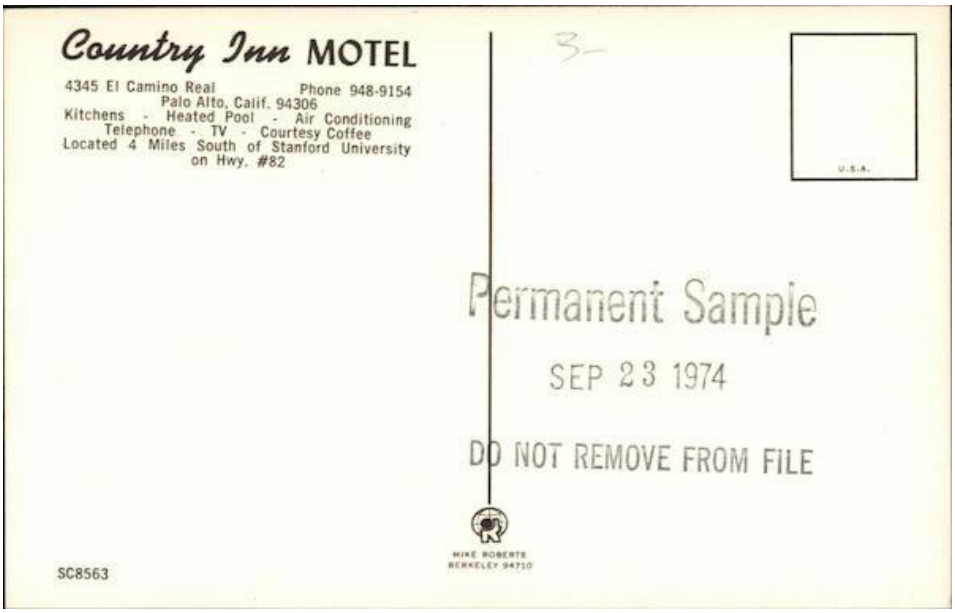


Figure 9 - Country Inn Postcard (1974) (Reverse)

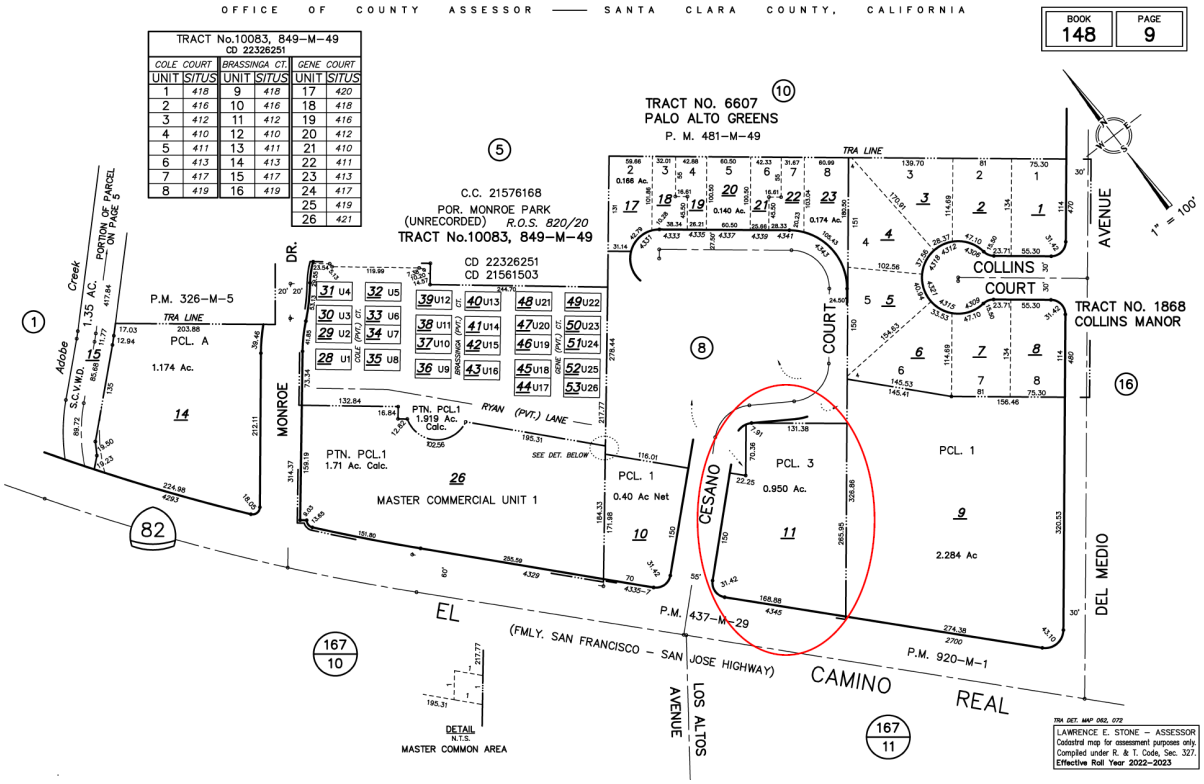


Figure 10 - Assessor's Parcel Map

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
1400 Valley House Drive, Suite 210
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
https://nwic.sonoma.edu

10/9/2024 NWIC File No.: 24-0412

JulieAnn Murphy
Rincon Consultants, Inc
66 Franklin Street, Suite 300
Oakland, CA 94607

Re: 4335-4345 El Camino Real Residential Project - 24-16517

The Northwest Information Center received your record search request for the project area referenced above, located on the Mountain View USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a ¼ mile radius:

Resources within project area:	0
Resources within ¼ mi. radius:	1: P-43-003984
Reports within project area:	2: S-034502 and S-041536
Reports within ¼ mi. radius:	6: See the report digital database records

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☒ enclosed	☐ not requested	☐ nothing listed
OHP Built Environment Resources Directory:	☐ enclosed	☒ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☐ not requested	☒ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed

*Notes:

** Current versions of these resources are available on-line:

Caltrans Bridge Survey: http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Soil Survey: http://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=CA

Shipwreck Inventory: http://www.slc.ca.gov/Info/Shipwrecks.html

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Lindsey Willoughby

Lindsey Willoughby
Researcher