El Camino Specific Plan Amendment

CONSTRUCTION HEALTH RISK ASSESSMENT

CITY OF SAN JUAN CAPISTRANO

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LIST OF ABBREVIATED TERMS

(1)	Reference
µg	Microgram
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AQMD	Air Quality Management District
ARB	Air Resources Board
ASF	Age Sensitivity Factor
CEQA	California Environmental Quality Act
CPF	Cancer Potency Factor
DPM	Diesel Particulate Matter
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
FAH	Fraction of Time at Home
HI	Hazard Index
HRA	Health Risk Assessment
MEIR	Maximally Exposed Individual Receptor
MEISC	Maximally Exposed Individual School Child
MEIW	Maximally Exposed Individual Worker
NAD	North American Datum
OEHHA	Office of Environmental Health Hazard Assessment
PM_{10}	Particulate Matter 10 microns in diameter or less
Project	El Camino Specific Plan Amendment
REL	Reference Exposure Level
SCAQMD	South Coast Air Quality Management District
TAC	Toxic Air Contaminant
TA	Traffic Analysis
URF	Unit Risk Factor
UTM	Universal Transverse Mercator

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EXECUTIVE SUMMARY

This report evaluates the potential health risk impacts to sensitive receptors (which are residents, workers and students) associated with the development of the Project, more specifically, health risk impacts as a result of exposure to Toxic Air Contaminants (TACs) including diesel particulate matter (DPM) as a result of heavy-duty diesel trucks and construction equipment used during construction of the proposed Project. This section summarizes the significance criteria and Project health risks.

The results of the health risk assessment from Project construction-generated DPM emissions are provided in Table ES-1 below for the Project. Because the proposed Project would not generate TAC emissions during long-term operation, an operational HRA is not required.

CONSTRUCTION IMPACTS

Residential Exposure Scenario:

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R10 which is located approximately 503 feet west of the Project site at an existing residence located at 31871 Los Rios Street. Since there are no private outdoor living areas (backyards) facing the Project site, R10 is placed at the residential building façade. At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project construction-source DPM emissions is estimated at 1.73 in one million, which is less than the South Coast Air Quality Management District (SCAQMD) significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be less than 0.01, which would not exceed the applicable threshold of 1.0. Location R10 is the nearest receptor to the Project site and would experience the highest concentrations of DPM during Project construction due to meteorological conditions at the site. Because all other modeled receptors would experience lower concentrations of DPM during Project construction, all other receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for this location. The modeled receptors are illustrated on Exhibit 2-B.

Worker Exposure Scenario[1]:

The worker receptor land use with the greatest potential exposure to Project construction-source DPM emissions is Location R7, which represents the potential worker receptor located approximately 10 feet northwest of the Project site. At the maximally exposed individual worker (MEIW), the maximum incremental cancer risk impact is 1.29 in one million which is less than the SCAQMD's threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be 0.05, which would not exceed the applicable significance threshold of 1.0.

1 SCAQMD guidance does not require assessment of the potential health risk to on-site workers. Excerpts from the document OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines—The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003), also indicate that it is not necessary to examine the health effects to on-site workers unless required by RCRA (Resource Conservation and Recovery Act) / CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or the worker resides on-site.

Location R7 is the worker receptor that would experience the highest concentrations of DPM during Project construction due to meteorological conditions at the site. All other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby workers. The modeled receptors are illustrated on Exhibit 2-B.

School Child Exposure Scenario:

The nearest school is San Juan Elementary School, located approximately 832 feet north of the Project site and represented by Location R11. The maximally exposed individual school child (MEISC) is the school receptor that would experience the highest modeled concentrations of DPM, and thus the highest risk. At the MEISC, the maximum incremental cancer risk impact attributable to the Project is calculated to be 0.22 in one million, which is less than the significance threshold of 10 in one million. At this same location, non-cancer risks attributable to the Project were calculated to be less than 0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled school receptors would be exposed to lower concentrations of DPM, all other school receptors in the vicinity of the of the Project would be exposed to less emissions and therefore less risk than the MEISC identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby school children. The modeled receptors are illustrated on Exhibit 2-B.

TABLE ES-1: SUMMARY OF CONSTRUCTION CANCER AND NON-CANCER RISKS

Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
2.23 Year Exposure[1]	Maximum Exposed Sensitive Receptor (Location R10)	1.73	10	NO
2.23 Year Exposure[1]	Maximum Exposed Worker Receptor (Location R7)	1.29	10	NO
2.23 Year Exposure[1]	Maximum Exposed Individual School Child (Location R11)	0.22	10	NO
Time Period	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Annual Average	Maximum Exposed Sensitive Receptor (Location R10)	<0.01	1.0	NO
Annual Average	Maximum Exposed Worker Receptor (Location R7)	0.05	1.0	NO
Annual Average	Maximum Exposed Individual School Child (Location R11)	<0.01	1.0	NO

[1] 2.23 years Is the expected duration of construction activities.

1 INTRODUCTION

This HRA has been prepared in accordance with the document Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (1) and is comprised of all relevant and appropriate procedures presented by the United States Environmental Protection Agency (U.S. EPA), California EPA and SCAQMD. Cancer risk is expressed in terms of expected incremental incidence per million population. The SCAQMD has established an incidence rate of ten (10) persons per million as the maximum acceptable incremental cancer risk due to TAC exposure from a project such as the proposed Project. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulatively considerable impact.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (2). In this report the AQMD states (Page D-3):

"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

The SCAQMD has also established non-carcinogenic risk parameters for use in HRAs. Non-carcinogenic risks are quantified by calculating a "hazard index," expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). A REL is a concentration at or below which health effects are not likely to occur. A hazard index less than one (1.0) means that adverse health effects are not expected. In this HRA, non-carcinogenic exposures of less than 1.0 are considered less-than-significant. Both the cancer risk and non-carcinogenic risk thresholds are applied to the nearest sensitive receptors below.

1.1 SITE LOCATION

The Project site encompasses approximately 5.61 acres of land in the downtown area of the City of San Juan Capistrano, as shown on Exhibit 1-A. The Forster & El Camino Mixed Use Project portion of the Project site is located at 31878 Camino Capistrano on a 3.15-acre property (Assessor's Parcel Numbers: 124-160-37, -51, and -52). The central portion of the Project site includes the Blas Aguilar Adobe and Historic Town Center (HTC) Park (Assessor's Parcel Numbers: 124-160-08, -09, -10, -11, -12, and -27). The Project site is located south of Old Mission Road, east of El Camino Real, and both west and north of Del Obispo Street. Local access to the Project site would be provided by Forster Street and Camino Capistrano. Regional access to the site would be provided by Interstate 5 (I-5), which is located approximately 568 feet northwest of the Project site.

1.2 PROJECT DESCRIPTION

With the Project, the ECSP, which now totals 1.68± acres, would be amended to encompass eight [8] parcels of land with a combined total of approximately 7.33± acres of land. Approximately 3.15± acres of land on the southern portion of the Project site would be redeveloped with the Forster & El Camino Mixed-Use Development. The middle 2.5± acres of the Project include a 1.0± acre HTC park and a 1.5± acre site that is set aside for development of a Performing Arts Center. Although no development will occur on the 1.0-acre Blas Aguilar Adobe Museum property, it is also proposed to be part of the expanded El Camino Specific Plan Amendment (ECSPA).

The proposed Forster & El Camino mixed-use component of the Project as shown on Exhibit 1-B, consists of 95 multi-family apartment homes with 50 one-bedroom units, and 45 two-bedroom units, a 3,500 SF residential clubhouse/leasing office, and a one building that would house a 4,294 SF quality restaurant and a one-story, 3,100 SF health/fitness club. This Project component will provide a total of 175 parking spaces, comprised of 83 structured spaces in the garage, and 92 surface spaces on site. The middle 2.5± acres of the Project include a 1.0± acre HTC park, and a 1.5±-acre site that is set aside for development of a 49,097 SF performing arts center with a capacity of 352 seats in the Main Auditorium and a capacity of 100 seats in the "Black Box" theater. This Project component is expected to share parking with the 216-space parking structure that is planned as a part of the adopted ECSP development.

EXHIBIT 1-A: LOCATION MAP

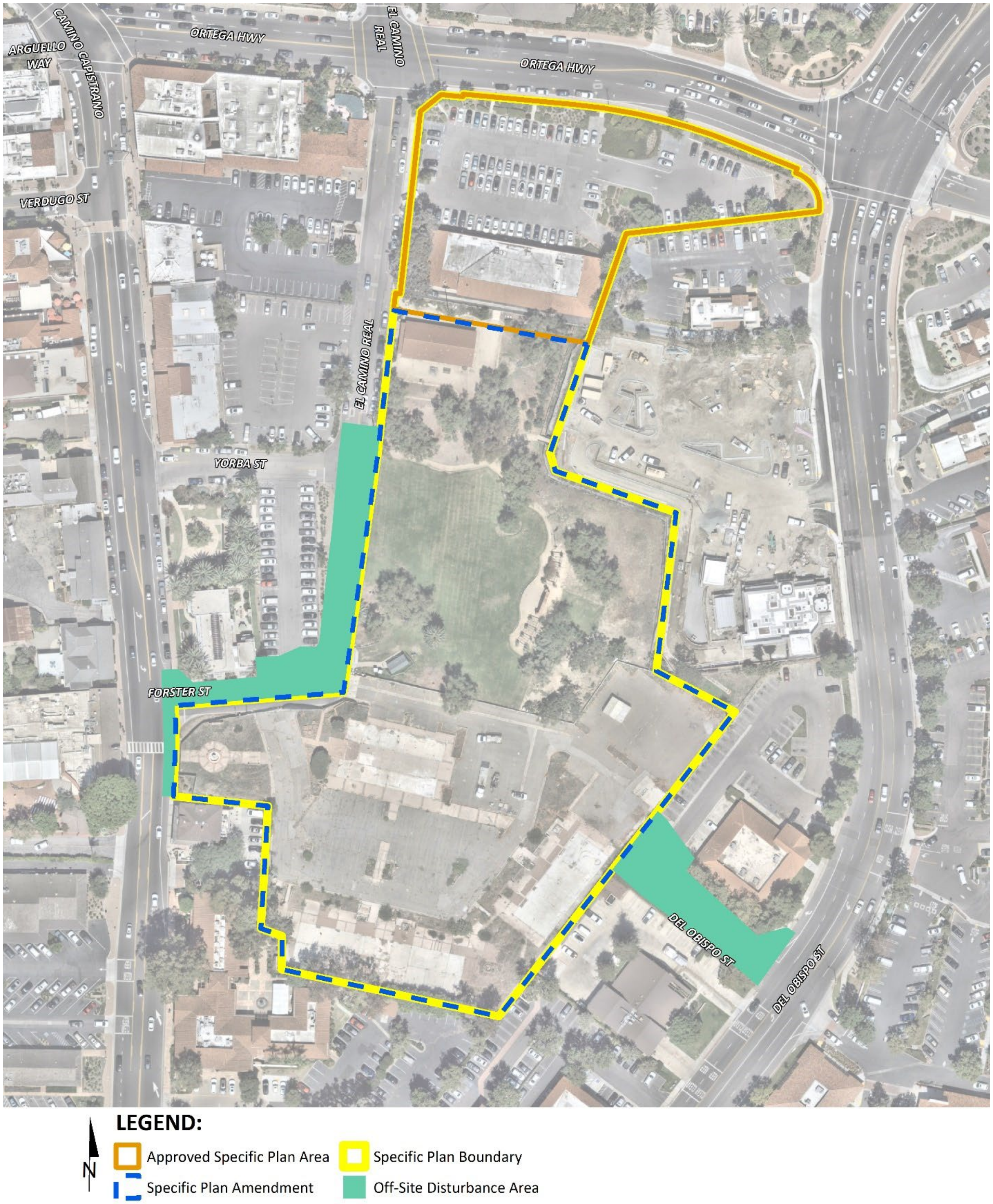

EXHIBIT 1-B: FORSTER & EL CAMINO MIXED USE PROJECT SITE PLAN

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2 BACKGROUND

2.1 BACKGROUND ON RECOMMENDED METHODOLOGY

This HRA is based on applicable guidelines to produce conservative estimates of human health risk posed by exposure to DPM. The conservative nature of this analysis is due primarily to the following factors:

- The ARB-adopted diesel exhaust Unit Risk Factor (URF) of 300 in one million per $\mu g/m^3$ is based upon the upper 95 percentile of estimated risk for each of the epidemiological studies utilized to develop the URF. Using the 95^{th} percentile URF represents a very conservative (health-protective) risk posed by DPM because it represents breathing rates that are high for the human body.

2.2 CONSTRUCTION HEALTH RISK ASSESSMENT

2.2.1 EMISSIONS CALCULATIONS

The emissions calculations for the construction HRA component are based on an assumed mix of construction equipment and hauling activity as presented in the *El Camino Specific Plan Amendment Air Quality Impact Analysis* ("technical study") prepared by Urban Crossroads, Inc. (3). Construction related DPM emissions are expected to occur primarily as a function of the operation of heavy-duty construction equipment.

As discussed in the technical study, the Project would result in approximately 584 total working-days of construction activity. The construction duration by phase is shown on Table 2-1. A detailed summary of construction equipment assumptions by phase is provided at Table 2-2. The CalEEMod emissions outputs are presented in Appendix 2.1. The modeled emission sources for construction activity are illustrated on Exhibit 2-A.

TABLE 2-1: CONSTRUCTION DURATION

Area	Construction Activity	Start Date	End Date	Days
Forster & El Camino Mixed Use Project	Demolition	6/10/2025	7/10/2025	23
	Grading	7/11/2025	8/30/2025	36
	Grading/Off-Site Improvements	8/31/2025	9/30/2025	22
	Building Construction	8/30/2025	12/3/2026	329
	Architectural Coating	8/20/2026	1/3/2027	97
	Paving	10/27/2026	2/20/2027	84
Performing Arts Center	Grading	12/14/2025	1/13/2026	22
	Grading/Off-Site Improvements	1/14/2026	2/2/2026	14
	Building Construction	2/3/2026	7/2/2027	369
	Architectural Coating	12/19/2026	8/21/2027	175
	Paving	7/2/2027	9/5/2027	46

TABLE 2-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Area	Construction Activity	Equipment	Quantity	Hours Per Day
Forster & El Camino Mixed Use Project	Demolition	Rubber Tired Dozers	2	8
		Concrete/Industrial Saws	1	8
		Excavators	3	8
	Grading	Graders	1	8
		Excavators	1	8
		Rubber Tired Dozers	1	8
		Crawler Tractors	3	8
	Grading/Off-Site Improvements	Graders	1	8
		Excavators	1	8
		Rubber Tired Dozers	1	8
		Crawler Tractors	3	8
	Building Construction	Cranes	1	8
		Forklifts	3	8
		Generator Sets	1	8
		Welders	1	8
		Tractors/Loaders/Backhoes	3	8
	Paving	Tractors/Loaders/Backhoes	1	8
		Cement and Mortar Mixers	2	8
		Pavers	1	8
		Paving Equipment	2	8
		Rollers	2	8
	Architectural Coating	Air Compressors	1	8
Performing Arts Center	Grading	Graders	1	8
		Rubber Tired Dozers	1	8
		Crawler Tractors	2	8
	Grading/Off-Site Improvements	Graders	1	8
		Rubber Tired Dozers	1	8
		Crawler Tractors	2	8
	Building Construction	Cranes	1	8
		Forklifts	2	8
		Generator Sets	1	8
		Welders	3	8
		Tractors/Loaders/Backhoes	1	8
		Tractors/Loaders/Backhoes	1	8

Area	Construction Activity	Equipment	Quantity	Hours Per Day
	Paving	Cement and Mortar Mixers	1	8
		Pavers	1	8
		Paving Equipment	1	8
		Rollers	2	8
	Architectural Coating	Air Compressors	1	8

EXHIBIT 2-A: MODELED CONSTRUCTION EMISSION SOURCES

2.3 EXPOSURE QUANTIFICATION

The analysis herein has been conducted in accordance with the guidelines in the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (1). The Environmental Protection Agency's (U.S. EPA's) AERMOD model has been utilized. For purposes of this analysis, the Lakes AERMOD View (Version 12.0.0) was used to calculate annual average particulate concentrations associated with site operations. Lakes AERMOD View was utilized to incorporate the U.S. EPA's latest AERMOD Version 23132 (4).

The model offers additional flexibility by allowing the user to assign an initial release height and vertical dispersion parameters for mobile sources representative of a roadway. For this HRA, the roadways were modeled as adjacent volume sources. Roadways were modeled using the U.S. EPA's haul route methodology for modeling construction haul truck and vendor truck movement. More specifically, the Haul Road Volume Source Calculator in Lakes AERMOD View has been utilized to determine the release height parameters. Based on the US EPA methodology, the Project's modeled sources would result in a release height of 3.49 meters and an initial lateral dimension of 4.0 meters, and an initial vertical dimension of 3.25 meters.

Model parameters are presented in Table 2-3 (5). The model requires additional input parameters including emission data and local meteorology. Meteorological data from the SCAQMD's Mission Viejo monitoring station was used to represent local weather conditions and prevailing winds (6).

TABLE 2-3: AERMOD MODEL PARAMETERS

Dispersion Coefficient (Urban/Rural)	Urban (population 3,010,232)
Terrain (Flat/Elevated)	Elevated (Regulatory Default)
Averaging Time	1 year (5-year Meteorological Data Set)
Receptor Height	0 meters (Regulatory Default)

Universal Transverse Mercator (UTM) coordinates for World Geodetic System (WGS) 84 were used to locate the Project site boundaries, each volume source location, and receptor locations in the Project vicinity. The AERMOD dispersion model summary output files for the Project are presented in Appendix 2.2. Modeled sensitive receptors were placed at residential and non-residential locations.

Receptors may be placed at applicable structure locations for residential property and not necessarily the boundaries of the properties containing these uses because the human receptors spend a majority of their time at the residence's building, and not on the property line. It should be noted that the primary purpose of receptor placement is focused on long-term exposure. Notwithstanding, as a conservative measure, receptors were placed at either the outdoor living area or the building façade, whichever is closer to the Project site.

For purposes of this HRA, receptors include both residential, non-residential (worker) and school land uses in the vicinity of the Project. These receptors are included in the HRA since residents, workers, and school children may be exposed at these locations over a long-term duration of 30, 25, and 9 years, respectively. This methodology is consistent with SCAQMD and OEHHA recommended guidance.

Any impacts to residents, workers or school children located further away from the Project site than the modeled residents, workers or school children would have a lesser impact than what has already been disclosed in the HRA at the MEIR, MEISC, and MEIW because concentrations dissipate with distance.

All receptors were set to existing elevation height so that only ground-level concentrations are analyzed. United States Geological Survey (USGS) Digital Elevation Model (DEM) terrain data based on a 7.5-minute topographic quadrangle map series using AERMAP was utilized in the HRA modeling to set elevations (7).

Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the 2015 OEHHA Guidelines. Tables 2-4 through 2-6 summarize the Exposure Parameters for residents, workers, and school children based on 2015 OEHHA Guidelines. Appendix 2.3 includes the detailed risk calculation.

TABLE 2-4: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (RESIDENTIAL)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Fraction of Time at Home	Exposure Frequency (days/year)	Exposure Time (hours/day)
0 to 2	1,090	10	2.00	1.00	250	8
2 to 16	572	3	0.23	1.00	250	8

TABLE 2-5: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (WORKER)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Exposure Frequency (days/year)	Exposure Time (hours/day)
16 to 41	230	1	2.23	250	8

TABLE 2-6: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (SCHOOL CHILD)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Exposure Frequency (days/year)	Exposure Time (hours/day)
4 to 13	631	3	2.23	180	8

2.4 CARCINOGENIC CHEMICAL RISK

Excess cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens over a specified exposure duration. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). A risk level of 10 in one million implies a likelihood that up to 10 people, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of toxic air contaminants over a specified duration of time.

Guidance from CARB and the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA) recommends a refinement to the standard point estimate approach when alternate human body weights and breathing rates are utilized to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose. Once determined, contaminant dose is multiplied by the cancer potency factor (CPF) in units of inverse dose expressed in milligrams per kilogram per day $(mg/kg/day)^{-1}$ to derive the cancer risk estimate. Therefore, to assess exposures, the following dose algorithm was utilized.

$$DOSE_{AIR} = \left(C_{AIR} \times \frac{BR}{BW} \times A \times EF\right) \times (1 \times 10^{-6})$$

Where:

$DOSE_{AIR}$	=	chronic daily intake (mg/kg/day)
C_{AIR}	=	concentration of contaminant in air (µg/m^3)
$\frac{BR}{BW}$	=	daily breathing rate normalized to body weight (L/kg BW-day)
A	=	inhalation absorption factor
EF	=	exposure frequency (days/365 days)
BW	=	body weight (kg)
1×10^{-6}	=	conversion factors (µg to mg, L to m^3)

$$RISK_{AIR} = DOSE_{AIR} \times CPF \times ASF \times FAH \times \frac{ED}{AT}$$

Where:

$DOSE_{AIR}$	=	chronic daily intake (mg/kg/day)
CPF	=	cancer potency factor
ASF	=	age sensitivity factor
FAH	=	fraction of time at home

ED	=	number of years within particular age group
AT	=	averaging time

2.5 NON-CARCINOGENIC EXPOSURES

An evaluation of the potential noncarcinogenic effects of chronic exposures was also conducted. Adverse health effects are evaluated by comparing a compound's annual concentration with its toxicity factor or Reference Exposure Level (REL). The REL for diesel particulates was obtained from OEHHA for this analysis. The chronic reference exposure level (REL) for DPM was established by OEHHA as 5 μg/m^3 (8).

Non-cancer health effects are expressed as a hazard index (HI), which is calculated using the following equation:

$$HI_{DPM} = \frac{C_{DPM}}{REL_{DPM}}$$

Where:

HI_{DPM}	=	Hazard index (unitless)
C_{DPM}	=	Annual average DPM concentration (μg/m^3)
REL_{DPM}	=	REL for DPM (the DPM concentration at which no adverse health effects are anticipated).

2.6 POTENTIAL PROJECT DPM-SOURCE CANCER AND NON-CANCER RISKS

CONSTRUCTION IMPACTS

Residential Exposure Scenario:

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R10 which is located approximately 503 feet west of the Project site at an existing residence located at 31871 Los Rios Street. Since there are no private outdoor living areas (backyards) facing the Project site, R10 is placed at the residential building façade. At the MEIR, the maximum incremental cancer risk attributable to Project construction-source DPM emissions is estimated at 1.73 in one million, which is less than the SCAQMD significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be less than 0.01, which would not exceed the applicable threshold of 1.0. Location R10 is the nearest receptor to the Project site and would experience the highest concentrations of DPM during Project construction due to meteorological conditions at the site. Because all other modeled receptors would experience lower concentrations of DPM during Project construction, all other receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for this location. The modeled receptors are illustrated on Exhibit 2-B.

Worker Exposure Scenario[2]*:*

The worker receptor land use with the greatest potential exposure to Project construction-source DPM emissions is Location R7, which represents the potential worker receptor located approximately 10 feet northwest of the Project site. At the MEIW, the maximum incremental cancer risk impact is 1.29 in one million which is less than the SCAQMD's threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be 0.05, which would not exceed the applicable significance threshold of 1.0. Location R7 is the worker receptor that would experience the highest concentrations of DPM during Project construction due to meteorological conditions at the site. All other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby workers. The modeled receptors are illustrated on Exhibit 2-B.

School Child Exposure Scenario:

The nearest school is San Juan Elementary School, located approximately 832 feet north of the Project site and represented by Location R11. The MEISC is the school receptor that would experience the highest modeled concentrations of DPM, and thus the highest risk. At the MEISC, the maximum incremental cancer risk impact attributable to the Project is calculated to be 0.22 in one million, which is less than the significance threshold of 10 in one million. At this same location, non-cancer risks attributable to the Project were calculated to be less than 0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled school receptors would be exposed to lower concentrations of DPM, all other school receptors in the vicinity of the of the Project would be exposed to less emissions and therefore less risk than the MEISC identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby school children. The modeled receptors are illustrated on Exhibit 2-B.

It should be noted that for clarity purposes, the receptors presented in Exhibit 2-B do not represent all modeled receptors and instead presents the nearest receptors that would experience the highest pollutant concentrations. A total of 82 receptors were modeled in the analysis. Appendix 2.4 presents a figure detailing the locations of all receptors as modeled in AERMOD.

2 SCAQMD guidance does not require assessment of the potential health risk to on-site workers. Excerpts from the document OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines—The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003), also indicate that it is not necessary to examine the health effects to on-site workers unless required by RCRA (Resource Conservation and Recovery Act) / CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or the worker resides on-site.

EXHIBIT 2-B: RECEPTOR LOCATIONS

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3 REFERENCES

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2. **Goss, Tracy A and Kroeger, Amy.** White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. [Online] South Coast Air Quality Management District, 2003. [Cited: June 6, 2019.] http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf?sfvrsn=2.
3. **Urban Crossroads, Inc.** *El Camino Specific Plan Amendment Air Quality Impact Analysis.* 2023.
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4 CERTIFICATIONS

The contents of this health risk assessment represent an accurate depiction of the impacts to sensitive receptors associated with the proposed El Camino Specific Plan Amendment Project. The information contained in this health risk assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me at (949) 660-1994.

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PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Professionals
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June 2013
Planned Communities and Urban Infill – Urban Land Institute • June 2011
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Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 2.1:

CALEEMOD OUTPUTS AND EMISSION CALCULATIONS

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APPENDIX 2.2:

AERMOD MODEL INPUT/OUTPUT

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APPENDIX 2.3:

RISK CALCULATIONS

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APPENDIX 2.4:

MODELED RECEPTORS

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