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memorandum

date February 2, 2026

to BP Arlington
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cc

from Alan Sako, Principal, ESA

subject Memorandum on the adequacy of the Focused Health Risk Assessment Technical Report (2020) for the proposed Gas Station and Convenience Store

Introduction

Environmental Science Associates (ESA) prepared the *Focused Health Risk Assessment Technical Report* (2020) for BP Arlington for the proposed Arlington Project (the Project) located at the southeast corner of Arlington Avenue and Monroe Street in the City of Riverside, California. The report documented health risk impacts resulting from the Project on nearby residences. A site plan was included in the *Focused Health Risk Assessment Technical Report* that depicted the features that would be constructed on the Project site including the proposed rectangular-shaped on-site building in a north-south orientation and positioned directly adjacent to Arlington Avenue.

Findings and Conclusions

The Project Applicant, BP Arlington, has notified ESA that the current design of the Project differs from the previous design that was analyzed in the *Focused Health Risk Assessment Technical Report*. The current design of the Project has the proposed rectangular-shaped on-site building rotated by 90 degrees in an east-west orientation. However, the building is in the same location as previously analyzed, which is directly adjacent to Arlington Avenue. The rotation of the building by 90 degrees would not result in any substantial changes to the Project's construction duration, construction or operational intensity, and would not alter the Project's emissions profile and associated health risk impacts that were analyzed in the *Focused Health Risk Assessment Technical Report*.

Therefore, this memorandum concludes that the analysis and findings in the *Focused Health Risk Assessment Technical Report* remain adequate for the Project and no revisions are warranted.

**GAS STATION AND
CONVENIENCE STORE PROJECT
CITY OF RIVERSIDE, CALIFORNIA**

Focused Health Risk Assessment Technical Report

Prepared for

BP Arlington

7111 Indiana Avenue

Riverside, CA 92540

December 2020



**ARLINGTON PROJECT
CITY OF RIVERSIDE, CALIFORNIA**

Focused Health Risk Assessment Technical Report

**Prepared for
BP Arlington
7111 Indiana Avenue
Riverside, CA 92540**

December 2020

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A. Supporting Technical Documentation

ARLINGTON PROJECT, RIVERSIDE, CA

Focused Health Risk Assessment Report

Introduction

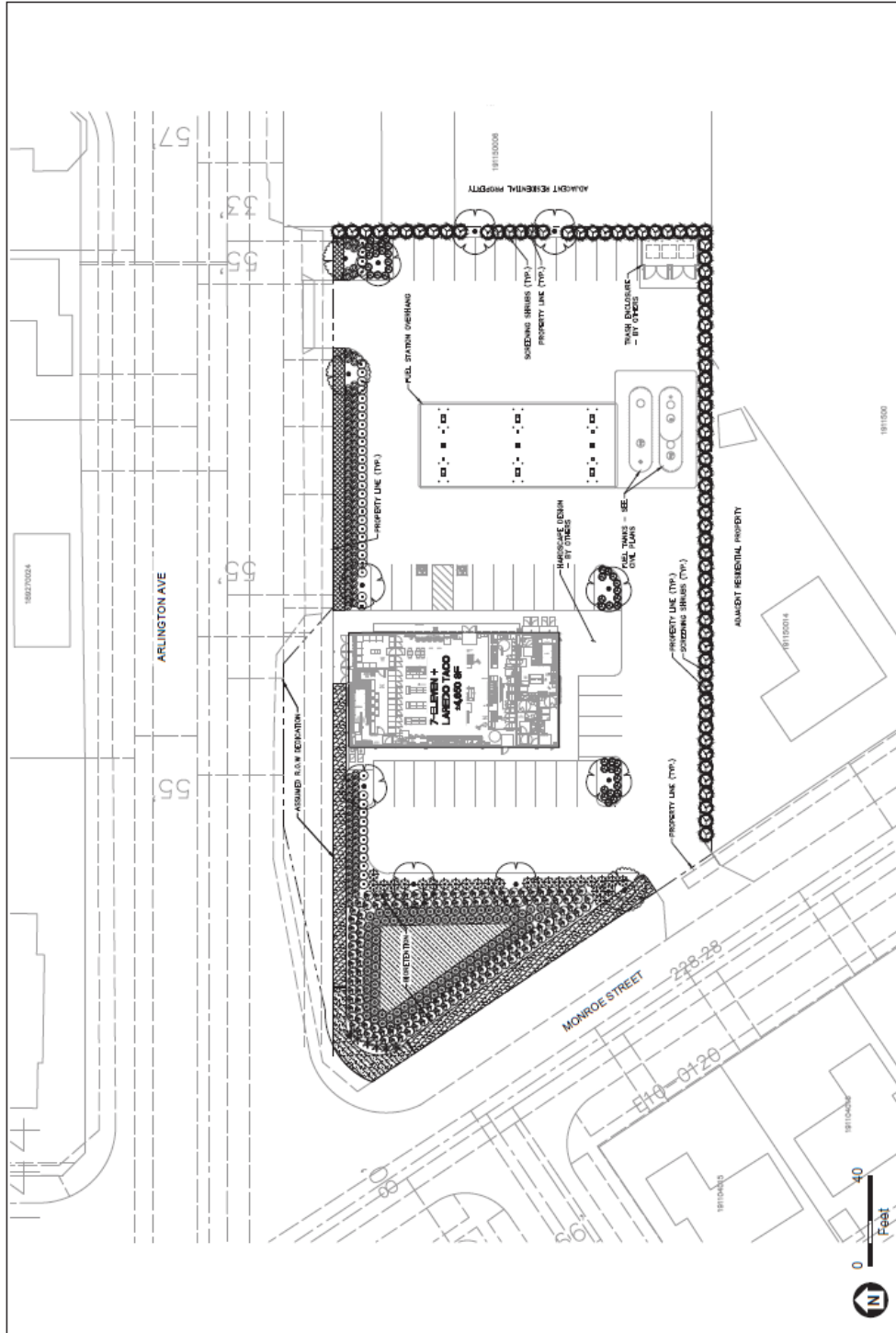
This health risk assessment (**HRA**) report has been prepared for the BP Arlington for the proposed Arlington Project (**the Project**) in Riverside, California. The purpose of this report is to determine the health risk impacts resulting from the project construction on nearby residences.

An HRA for operational health risk impacts was not required as the Project would have less than a 3.6 million gallons per year throughput of fuel sales and therefore, with respect to the California Air Resources Board (**CARB**) *Air Quality and Land Use Handbook: A Community Health Perspective*, the project would be considered a small gasoline dispensing facility with a fuel throughput of less than 3.6 million gallons per year. Additionally, the dispensing facility would be located greater than 50 feet from the property line adjacent to residential land uses, and is expected to produce a risk of less than 10 according to the California Air Pollution Control Officers Association (**CAPCOA**) Gasoline Service Station Industry-wide Risk Assessment Guidelines.¹ Given these assumptions, a quantitative health risk assessment was not performed for the operational activities and the potential operational health risk will be qualitatively addressed in this report. If the dispensing facilities would have been located within 50 feet from the residences and/or the throughput of fuel would be greater than 3.6 million gallons annually, a quantitative health risk for operational activities would have been conducted. Technical methodologies and assumptions used in the HRA as well as results and conclusions are presented in this report.

Project Description

BP Arlington proposes to develop a 7-11 convenience store with a taco restaurant at the southeast corner of Arlington Avenue and Monroe Street in the City of Riverside, California. The 7-11 convenience store and taco restaurant would be built on a 1.3-acre parcel that is bounded by Arlington Avenue to the north, Monroe Street to the west, and residential homes to the east and south. There are commercial uses to the north across Arlington Avenue and residences to the west across Monroe Street. **Figure 1** provides the Project Site Plan.

¹ California Air Resources Board. April 2006. Air Quality and Land Use Handbook: A Community Health Perspective. <https://ww3.arb.ca.gov/ch/handbook.pdf>



SOURCE: Kimley Horn, 2020.



Arlington Project

Figure 1
Project Site Plan

Methodology

The estimated construction emissions of particulate matter (**PM10**) was quantified for the Project using the most recent version of the California Emissions Estimator Model (**CalEEMod**). The calculation of the Project's construction emissions was based on the amount and types of construction equipment that would be used at the Project Site under each phase of the proposed construction scenario in order to ensure that the maximum (worst-case) daily construction emissions and corresponding annual emissions under each construction scenario is captured and presented in the HRA analysis.

ESA prepared assessments of potential toxic air contaminant (**TAC**) impacts from Project construction and primarily focused on diesel particulate matter (**DPM**), recognized as a carcinogen by the State of California; which is emitted directly from construction equipment exhaust. For the analysis, the PM10 emissions were used as a surrogate for diesel particulate matter. The HRA will focus on chronic carcinogenic and non-carcinogenic risks and will use a combination of the AERMOD air dispersion model as well as professional spreadsheets to quantify the health risk to nearby residences associated with construction of the Project. Risk levels were then compared to the South Coast Air Quality Management District's (**SCAQMD**) threshold of 10 in a million to determine significance.

Air toxic emissions associated with the proposed Project construction equipment were quantified and then utilized with air dispersion modeling software to determine resulting ambient air concentrations. The air dispersion model used unitized emission rates (1 gram/second [g/s]) to determine modeled concentrations of air toxics (micrograms per cubic meter [$\mu\text{g}/\text{m}^3$] per g/s), which were then multiplied by proposed Project construction emissions to determine ground level concentrations of TACs. These concentrations were then used to quantify potential health risk on the nearby residences associated with Project construction.

The air dispersion and health risk assessment calculation methodologies were performed consistently with the California Environmental Protection Agency (**Cal/EPA**), California Office of Environmental Health Hazard Assessment (**OEHHA**) and the SCAQMD guidelines. The most recent version of the EPA-approved air dispersion modeling software, AERMOD version 19191, was used. The cancer, chronic and acute health risk impacts were calculated using OEHHA's 2015 guidance.²

As discussed, the health risk assessment is comprised of an emissions inventory developed in CalEEMod, air dispersion modeling and health risk calculations, with more detail provided below as well as in Appendix A. Consistent with OEHHA guidance, DPM emissions were assumed equal to those of exhaust particulate matter less than 2.5 microns in diameter (**PM2.5**) emissions from diesel sources.³ However, PM10 emissions generated by CalEEMod are typically larger in

² Office of Environmental Health Hazard Assessment, Air Toxics Hotspots Program – Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments, February 2015, <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>. Accessed August 2020.

³ Ibid.

quantity than PM2.5 emissions, so those values were conservatively used for health risk calculations.

Air Toxics Emission Inventory and Sources

This HRA analyzes the impacts of Project construction and the exposure it could cause to the nearby residents from air toxic emissions of DPM.

Source Identification and Emissions Calculations

CalEEMod was used to simulate construction and operations activities and determine max daily and average annual emissions of PM10 exhaust, which were used in the construction HRA calculations. CalEEMod inputs were based on discussions with the Project Team and conservative default assumptions. Inputs to CalEEMod include items like project details, land use, sizes, construction schedules, equipment inventories, material moved, etc. Notable details from the Project Team include the application of material balance on-site, meaning that there will not be any import or export of material for site preparation or grading, as well as an agreement to utilize Level 3 diesel particulate filters (**DPF**) on construction equipment in order to minimize construction PM10 emissions from offroad equipment. The proposed Project construction schedule is provided in **Table 1**, below.

TABLE 1
PROJECT CONSTRUCTION SCHEDULE

Phase Name	CalEEMod Phase Name	Start Date	End Date	Days Per Week	Total Workdays
Site Preparation/Grading	Site Preparation/Grading	1/1/2021	2/11/2021	5	30
Below Grade Construction	Grading	2/12/2021	5/6/2021	5	60
Above Grade Construction	Building Construction	3/25/2021	12/29/2021	5	200
Paving	Paving	3/25/2021	4/7/2021	5	10
Architectural Coating	Architectural Coating	12/20/2021	12/31/2021	5	10

Source: ESA, 2020.

Of the 1.3-acres parcel, 1.00 acre is assumed to be allocated for a convenience market and gas pumps land use and 0.30 acres for a fast food restaurant land use. In CalEEMod, this corresponded to 3,100 building square feet for the gas station and 1,550 building square feet for the proposed fast-food restaurant. Vehicle emissions were calculated based on trip numbers determined by CalEEMod or from concrete and paving import assumptions, and the CARB Emissions FACTor model 2017 database (**EMFAC2017**) for vehicle model year 2021. The primary source of vehicle PM10 emissions are from heavy duty trucks associated with vendor and haul trips. Vendor trips were provided from CalEEMod, but total haul trips were assumed based off Project concrete and paving assumptions. Both above grade construction and paving phases were assumed to require material import of 1.3 acres of asphalt with a 6-inch depth. Concrete material import, in the below grade construction phase, was conservatively assumed based off of a volume of two 25,000-gallon fuel tanks with dimensions of 10-ft diameter and 42.5-ft length. A

volume equivalent to a 10-ft x 10-ft x 42.5-ft cube was assumed to conservatively generate concrete quantities without considering the void space produced by the installation of the fuel tanks. The material transfer truck size capacity of 10 cubic yards was assumed. These assumptions were used to calculate haul trips per phase.

Additional Project-related CalEEMod input details are provided in Appendix A. This includes trip numbers by phase for workers, vendors and hauling and equipment lists, numbers, and operation hours by phase. **Table 2**, *CalEEMod Emissions Summary*, presents the annual average Project construction emissions by phase.

TABLE 2
CALEEMOD PM10 EMISSIONS SUMMARY

	Site Prep / Grading	Belowground Construction	Aboveground Construction	Paving	Arch Coating	Truck Hauling
Emissions, TPY	3.30E-03	1.19E-03	8.43E-03	7.00E-04	7.00E-05	2.79E-05
Emissions, g/s	9.49E-05	3.42E-05	2.42E-04	2.01E-05	2.01E-06	8.04E-07

Source: CalEEMod, ESA, 2020. Please refer to Appendix A for emissions model outputs.

Air Dispersion Modeling Approach

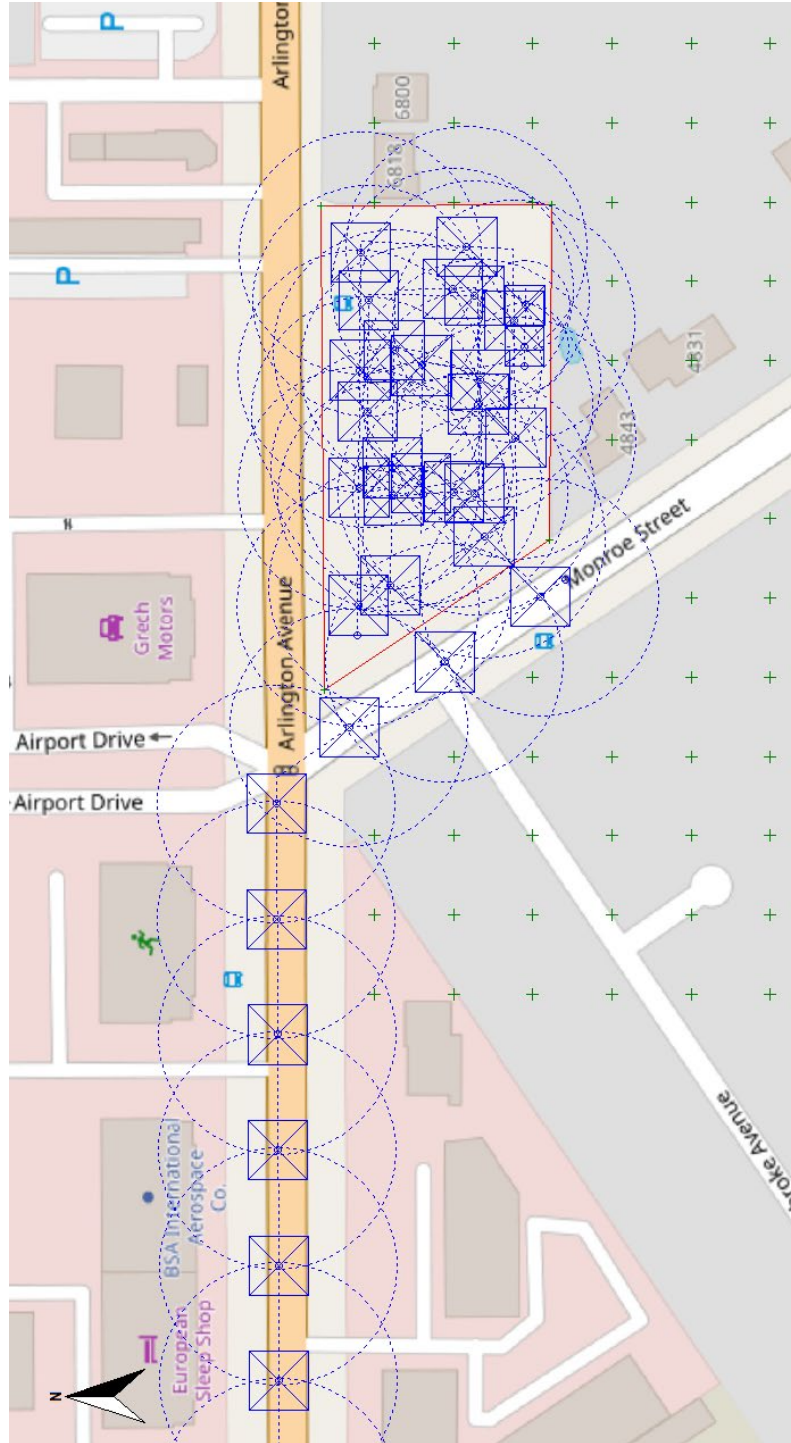
Dispersion modeling was performed using the AERMOD, version 19191, which allows the usage of ADJ_U* meteorological data. The model used the urban dispersion modeling parameter, assuming a Riverside County population of 2,189,641, consistent with SCAQMD recommendations. Pre-processed meteorological data from the SCAQMD’s nearby Riverside Airport monitoring station was used to represent local weather conditions and prevailing winds data. This dataset contains hourly meteorological data covering a 5-year period, 2012 through 2016. Terrain data from U.S. Geological Survey (USGS) was used to assign elevations to sources and modeling receptors. For modeling purposes, receptors were located at identified residences surrounding the Project Site. The dispersion modeling accounted for a construction schedule of 8 hours per day using variable emissions.

Emission Source Modeling Parameters

The construction phases and haul route were modeled as line-volume sources in AERMOD. The haul route was assumed to begin at parcel entrance on Monroe Street and proceed to the north and east on Arlington Avenue towards Van Buren Boulevard. Line-volumes source lengths and widths were produced in AERMOD to replicate off-road vehicles around the Project Site as well as on-road haul trucks. A release height of 5 meters were applied to sources in the model. Variable emissions were implemented using the Hour-of-Day function in AERMOD for each model run assuming 8 hours per day of construction, 5 days per week. A scalar of 4.2 for each hour was applied to account for a total of 24 hours per day using a unitized 1 g/s emission rate for each source.

Receptors

Receptors were used in AERMOD to simulate potential residential exposure. The receptors were located using 20-meter spacing in grids at residential locations surrounding the Project Site in all directions to conservatively capture potential exposure and risk impacts. Receptors closest to the Project Site were assumed to observe the highest impacts. A zoomed-in depiction of the air dispersion modeling setup and receptors are provided in **Figure 2**.



SOURCE: ESA 2020.



Arlington Project

Figure 2
Project AERMOD Setup

Health Risk Calculations

Cancer risk was calculated using the methodology and exposure parameters provided in the SCAQMD's *Risk Assessment Procedures for Rules 1401, 1401.1, and 212, Version 8.1, Attachment N* (Risk Assessment Procedures).⁴ This is the most recent version of the SCAQMD's Risk Assessment Procedures that incorporates information from the OEHHA *Guidance Manual for Preparation of Health Risk Assessments* (Guidance Manual)⁵ that OEHHA adopted in March 2015. The exposure duration was set for the duration of the Project construction – 1 year.

In performing health risk calculations, carcinogenic compounds are not considered to have threshold levels (i.e., dose levels below which there are no risks). Any exposure, therefore, will have some associated risk. Incremental health risks associated with exposure to carcinogenic compounds is defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. Under a deterministic approach (i.e., point estimate methodology), the cancer risk probability is determined by multiplying the chemical's annual concentration by its unit risk factor (URF). The URF is a measure of the carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It represents an upper bound estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one $\mu\text{g}/\text{m}^3$. The URFs utilized in the assessment and the corresponding cancer potency factors (CPF) were obtained principally from OEHHA Guidance Manual.

For the inhalation pathway, the cancer risk characterization procedure requires the incorporation of several discrete variables to effectively quantify dose. Once determined, contaminant dose is multiplied by the CPF in units of inverse dose expressed in milligrams per kilogram per day ($\text{mg}/\text{kg}/\text{day}$)⁻¹ and other exposure factors to derive the cancer risk estimate. Therefore, to accommodate the unique exposures associated with the proposed population, the following dose algorithm was utilized.

$$\text{CDI} = (\text{C}_{\text{AIR}} \times \{\text{BR}/\text{BW}\} \times \text{A} \times \text{EF})$$

Where:

CDI	=	Chronic daily intake ($\text{mg}/\text{kg}/\text{day}$);
C_{AIR}	=	Concentration of contaminant in air (mg/m^3);
$\{\text{BR}/\text{BW}\}$	=	Daily Breathing Rate normalized to body weight (l/kg body weight-day);
EF	=	Exposure frequency (days/year);
A	=	Inhalation absorption factor (unitless).

SCAQMD recommended default values for the parameters listed above were used in the HRA analysis. The daily breathing rate $\{\text{BR}/\text{BW}\}$ used in the analysis was based on SCAQMD recommendations which vary depending on age and which are shown in the *SCAQMD*

⁴ South Coast Air Quality Management District, Risk Assessment Procedures for Rules 1401, 1401.1, and 212, Version 8.1, Attachment N, September 2017, <http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/attachmentn-v8-1.pdf?sfvrsn=4>. Accessed August 2020.

⁵ Office of Environmental Health Hazard Assessment, Air Toxics Hotspots Program – Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments, February 2015, <https://oehha.ca.gov/media/downloads/cmr/2015guidancemanual.pdf>. Accessed August 2020.

Recommended Residential Daily Breathing Rates for Point Estimate Dose Calculations (L / kg body weight). The recommended exposure frequency (EF) is 350 days per year which is equivalent to 0.96 (350 days / 365 days a year). The inhalation absorption factor (A) is assumed to be 1 for inhalation-based risk assessment.

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 CPF is specific for each pollutant and is determined through peer reviewed scientific studies. OEHHA has determined that DPM has a CPF of $1.1 \text{ (mg/kg-day)}^{-1}$.⁶ The Age Sensitivity Factor (ASF) accounts for greater susceptibility in early life, starting from the 3rd trimester of pregnancy to 30 years. The fraction of time at home (FAH) takes into account the time spent actually residing at the sensitive receptor location for various age groups. Exposure duration for purposes of this HRA was assumed to be the entire duration of Project construction, which is one year. This exposure duration was assumed to occur at the peak risk age sensitivity of 0 to 2 years of age.

As shown in the equation below, the incremental increase in cancer risk is the product of the dose and the pollutant-specific CPF, ASF, ED, and FAH values. Cancer risk is calculated by multiplying the inhalation dose by the inhalation cancer potency factor to yield the potential inhalation excess cancer risk. The following equation illustrates the formula for calculating cancer risk. To convert this risk value to chances in one million of developing cancer, the potential cancer risk is multiplied by 10^6 .

$$\text{Cancer Risk} = \text{Dose (mg/kg-day)} \times \text{CPF (mg/kg-day)}^{-1} \times \text{ASF} \times \text{ED/AT} \times \text{FAH}$$

Where:

Dose	=	Amount of a specific pollutant a person is exposed to (mg/kg-day)
CPF	=	Cancer Potency Factor, the cancer potency of a specific pollutant (mg/kg-day) ⁻¹
ASF	=	Age Sensitivity Factor (unitless)
ED/AT	=	Exposure Duration, how long a person will be exposed to a specific pollutant in their lifetime (years)/Averaging Time, length of time over which the average dose is calculated (days)
FAH	=	Fraction of time at home (unitless)

Potential non-cancer effects of chronic (i.e., long term) exposures were evaluated using the Hazard Index approach as described in the OEHHA Guidance Manual. The Hazard Index is calculated by dividing the maximum modeled concentration of a TAC at the maximum impacted sensitive receptor by the Reference Exposure Level (REL). The REL is the concentration at or below which no adverse non-cancer health effects are known or expected to occur for that TAC. Therefore, a Hazard Index of less than 1.0 means that the maximum impacted sensitive receptor

⁶ Office of Environmental Health Hazard Assessment, Hot Spots Unit Risk and Cancer Potency Values, <https://oehha.ca.gov/media/CPF042909.pdf>. Accessed August 2020.

would be exposed to TAC concentrations at a level in which adverse non-cancer health effects would not be known or expected to occur. The chronic REL for DPM is 5 µg/m³ and the chronic hazard index target organ for DPM is the respiratory system.⁷

⁷ Office of Environmental Health Hazard Assessment/California Air Resources Board, Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values and OEHHA/ARB Approved Chronic Reference Exposure Levels and Target Organs, February 23, 2017, <http://www.arb.ca.gov/toxics/healthval/healthval.htm>. Accessed August 2020.

Results and Conclusions

Health Risk Impacts

The calculated cancer and non-cancer health risk impacts for the construction of the proposed Project are presented below. Emissions from operations associated with the proposed Project are not expected to produce significant health risk impacts and were not quantified, as discussed above. The operations of the gas station and fast food restaurant are expected to have considerably fewer toxic DPM emissions, as there will be no off-road construction equipment and many fewer trips of heavy-duty vehicles. Other emissions produced from the operations of the gas station are assumed to have toxicity which are orders of magnitude less than those produced from construction DPM emission sources. Further, the proposed Project would be considered a small gasoline dispensing facility with an annual throughput less than 3.6 million gallons per year, and according to CARB and CAPCOA, is expected to have a risk of less than 10 at 50 feet receptor distance (a condition the proposed Project will meet).⁸

Cancer Risk

Health risk impacts (cancer risk) were assessed for future on-site residents. **Table 3**, *Summary of Carcinogenic Risks for Residential Receptors*, summarizes the carcinogenic risk for representative receptors located surrounding the site. For carcinogenic exposures, the cancer risk from DPM emissions for the proposed Project resulted in a maximum carcinogenic risk of 9.5 per one million on the nearby residents for the 1-year residential exposure to Project construction. This determination was based on conservative emissions and air dispersion modeling assumptions as well as the conservative application of the 0-2 year “age bin” for health risk calculations, which would result in the highest risk values based on age sensitivity factor and breathing rates.

TABLE 3
SUMMARY OF CARCINOGENIC RISKS FOR RESIDENTIAL RECEPTORS

Risk Scenario	Carcinogenic Risk in One Million
Maximum Exposed Individual (MEI)	9.5
Threshold	10
Exceed Threshold?	No

See calculation worksheets presented in Appendix A.

SOURCE: ESA, 2020

The HRA worksheets (provided in Appendix A) provide a detailed breakdown of these calculations. In summary, with the application of Level 3 DPFs for construction equipment, the

⁸ California Air Resources Board. April 2006. Air Quality and Land Use Handbook: A Community Health Perspective. <https://ww3.arb.ca.gov/ch/handbook.pdf>

proposed Project’s construction worst-case impacts would not produce a cancer risk to the nearby residences in excess of the SCAQMD significance threshold of 10 per one million.

Non-Cancer Risk

Table 4, *Maximum Non-Cancer Chronic Risks for Residential Receptors*, summarizes the maximum non-cancer chronic risk for representative receptors surrounding the Project Site. These results were conservatively calculated using annual DPM emissions from the proposed Project and the maximum annual modeled unitized concentration, and they are well below their respective thresholds regardless.

For non-cancer chronic (annual) exposures, the maximum chronic (annual) health impact from the combined TACs associated with DPM emissions to nearby residents would be a Hazard Index of approximately 0.012 (respiratory irritant). As a result, nearby sensitive receptors would be an adequate health-based separation distance from the proposed Project and non-cancer impacts would be less than significant.

**TABLE 4
MAXIMUM NON-CANCER CHRONIC RISKS FOR RESIDENTIAL RECEPTORS**

Risk Scenario	Exposure duration	Chronic Hazard Index
Maximum Exposed Individual (MEI)	Annual	0.012 (respiratory irritant)
Threshold		1.0
Exceed threshold?		No

See calculation worksheets presented in Appendix A.
Source: ESA, 2020

Appendix A

Supporting Technical Documentation



Emissions Calculations

Arlington Assumptions for Construction Health Risk

CalEEMod Inputs (Non-Default information only)

Project Location		
County	Riverside	
Air District	SCAQMD	
Climate Zone		10
Construction Year start		2021
Operational Year Project		2022
Utility Provider	Southern California Edison	
Source Receptor Area (SCAQMD)	23	
	2021	2022
CO intensity	483.27	462.58
% renewable	35.75%	38.50%

1 Southern California Edison, 2018. ESG/Sustainability Template. Report date: September 27, 2018. Available: <https://www.edison.com/content/dam/eix/documents/sustainability/eix-esg-pilot-quantitative-section-sce.pdf>. Accessed April 5, 2019.

2 SCE 2017 Power Content Label https://www.sce.com/sites/default/files/inline-files/2017PCL_0.pdf

3 SB-100 California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases, https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=20170180

Project Description

BP Arlington is proposing to construct a 7-11 store with a taco restaurant on a 1.3-acre site at the southeast corner of Arlington Avenue and Monroe Street.

Land Use	Building SQFT	Building KFS	Units/ Spaces	Acres	CalEEMod Category
Convenience market/gas pumps	3,100	3.10	12	1.00	
Fast food restaurant	1,550	1.55		0.30	

Construction Schedule

Phase Name	CalEEMod Phase Name	Start Date	End Date	Days/week	Workdays
Site Preparation/Grading	Site Preparation/Grading	1/1/2021	2/11/2021	5	30
Below Grade Construction	Grading	2/12/2021	5/6/2021	5	60
Above Grade Construction	Building Construction	3/25/2021	12/29/2021	5	200
	Paving	3/25/2021	4/7/2021	5	10
Architectural Coating	Architectural Coating	12/20/2021	12/31/2021	5	10
<u>Construction will occur:</u>		5 days per week			

Trips and VMT

Phase	1-Way Worker Trips /day	Round Trip		Haul Trips (total)	Haul Trips (per day)	
		Worker Trips (per day)	Vendor Trips (per day)			
Site Preparation/Grading	8	16	0	0	0	
Below Grade Construction	8	16	0	32	10	
Above Grade Construction	10	20	4	105	10	
	Paving	13	26	0	105	11
Architectural Coating	4	8	0	0	0	
	miles/trip		14.70	6.90	20	

Notes:

- *Trips represent total number of one way trips per day.
- *Concrete trips only for underground tank installation in Below Grade Construction phase.
- *Asphalt trip assumptions conservatively applied to both Above Grade Construction and Paving phases.
- *Assuming Daily Haul Trips minimum of 10 per day.

Construction Phasing
Site Preparation/Grading

0	cubic yards	total export
0	cubic yards	daily export
0	Total Trucks	
0	Daily Trucks	

Equipment:

Type	#	Hrs/day	CalEEMod Designation
Dozer	1	8	Dozer
Grader	1	8	Grader
Scraper	1	8	Scraper
Jackhammer	1	8	Generator
Compactor	1	8	Crushing/Proc. Equipment
Water Truck	1	2	Off-Highway Truck
Haul Trucks See Trips and VMT Above			
Worker Trucks Not DPM source, not modeled			

Below Grade Construction

315	cubic yards	Concrete Import
32	Total Trucks	
10	Daily Trucks	

Equipment:

Type	#	Hrs/day	CalEEMod Designation
Excavator	1	8	Excavator
Backhoe	1	8	Backhoe
Water Truck	1	2	Off-Highway Truck
Concrete Trucks See Trips and VMT Above			
Worker Trucks Not DPM source, not modeled			

Phase Notes:

- *Concrete quantities calculated based on assumed 2 x 25,000 gal tank installation with dimensions of 10 ft diameter and 42.5 ft length per tank.
- *Tank installation volume assumed a volume of 8500 cubic ft (including any tank void space) which is then converted to cubic yards.
- *Truck size of 10 cubic yards assumed.
- *Tank dimensions source reference: https://www.engineeringtoolbox.com/fuel-oil-storage-tanks-dimensions-d_1585.html

Above Grade Construction

1,049	cubic yards	Asphalt Import
105	Total Trucks	
10	Daily Trucks	

Equipment:

Type	#	Hrs/day	CalEEMod Designation
Ariel Lift	1	8	Ariel Lift
Line Truck	1	8	Off-Highway Truck, 250 hp
Crane	1	8	Crane
Stringing Rig	1	8	Other construction equipment, 800 hp
Generator	1	8	Generator
Water Truck	1	2	Off-Highway Truck

Worker Trucks Not DPM source, not modeled

Phase Notes:

*Asphalt quantities calculated based on assumed 1.3 acre site and 6 inches depth, corresponding to 28,314 cubic ft and 1048.7 cubic yards.

*Truck size of 10 cubic yards assumed.

Paving

1,049	cubic yards	Asphalt Import
105	Total Trucks	
11	Daily Trucks	

Equipment:

Type	#	Hrs/day	CalEEMod Designation
Concrete/Industrial Saw	3	8	Concrete/Industrial Saw
Cement and Mortar Mixers	1	6	Cement and Mortar Mixers
Pavers	1	6	Pavers
Paving Equipment	1	8	Paving Equipment
Rollers	1	7	Rollers
Tractors/Loaders/Backhoes	1	8	Tractors/Loaders/Backhoes

Worker Trucks Not DPM source, not modeled

Phase Notes:

*Asphalt quantities calculated based on assumed 1.3 acre site and 6 inches depth, corresponding to 28,314 cubic ft and 1048.7 cubic yards.

*Truck size of 10 cubic yards assumed.

Architectural Coating

Equipment:

Type	#	Hrs/day	CalEEMod Designation
Air Compressor	1	6	Air Compressor

Worker Trucks Not DPM source, not modeled

EMFAC2017 (v1.0.2) Emission Rates

Region Type: Air Basin

Region: SOUTH COAST

Calendar Year: 2021

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW
SOUTH COAST	2021	HHDT	Aggregated	Aggregated	DSL	96726.94954	11545819.98	974405.6883	0.052422145	0.08888988	0	0.03543528	0.060771505
SOUTH COAST	2021	LDA	Aggregated	Aggregated	DSL	53709.90247	2185238.836	254840.0694	0.01003376	0	0	0.008000002	0.036750011
SOUTH COAST	2021	LDT1	Aggregated	Aggregated	DSL	406.3990307	9520.378718	1419.82588	0.154934763	0	0	0.008000002	0.036750011
SOUTH COAST	2021	LDT2	Aggregated	Aggregated	DSL	12472.42499	548393.5724	61718.10598	0.006349663	0	0	0.008000002	0.036750011
SOUTH COAST	2021	LHDT1	Aggregated	Aggregated	DSL	109610.0282	4489669.812	1378756.266	0.016169768	0.027674549	0	0.012000003	0.076440022
SOUTH COAST	2021	LHDT2	Aggregated	Aggregated	DSL	43242.23371	1730628.83	543932.9013	0.016594594	0.028135155	0	0.012000003	0.089180026
SOUTH COAST	2021	MDV	Aggregated	Aggregated	DSL	29603.6659	1222112.304	145604.7695	0.005746394	0	0	0.008000002	0.036750011
SOUTH COAST	2021	MH	Aggregated	Aggregated	DSL	11829.17149	115365.7253	1182.917149	0.098881344	0	0	0.016000005	0.130340037
SOUTH COAST	2021	MHDT	Aggregated	Aggregated	DSL	119075.2856	7535147.497	1192854.571	0.072373539	0.02559156	0	0.012000003	0.130340037
SOUTH COAST	2021	OBUS	Aggregated	Aggregated	DSL	4131.134993	308887.1946	40389.68184	0.072033004	0.086266448	0	0.012000003	0.130340037
SOUTH COAST	2021	SBUS	Aggregated	Aggregated	DSL	6314.064027	199477.2096	72863.42346	0.048511968	0.062525436	0	0.012000003	0.744800213
SOUTH COAST	2021	UBUS	Aggregated	Aggregated	DSL	14.14141831	1478.085683	56.56567323	0.006355216	0	0	0.03117991	0.075517523

Arlington Health Risk Assessment
HRA Emission Sources - For Use with AERMOD Results

FOR CANCER CALCULATIONS

By Phase

PM10	Site Prep / Grading	Below Grade CSTN	Above Grade CSTN	Paving	Arch Coating	Haul
TPY	3.3000e-003	1.1900e-003	8.4300e-003	7.0000e-004	7.0000e-005	2.79683E-05
g/s	9.49E-05	3.42E-05	2.42E-04	2.01E-05	2.01E-06	8.04E-07

Note:

Haul trips doubled to account for round trip vs 1-way

Health Risk Assessment Calculations

Arlington Health Risk Assessment

AERMOD Source Characteristics

Emission Source	Source Type	Number of Sources	Length of Line (m)	Release Height (m)	Plume Height (m)	Plume Width (m)	Emission Rate (g/s)
BELOW	Line-Volume	1	20.5	5.00	7.315	10.0	1.00
ABOVE	Line-Volume	1	156.1	5.00	7.315	15.0	1.00
SITE	Line-Volume	1	460.1	5.00	7.315	15.0	1.00
HAUL	Line-Volume	1	831.5	5.00	7.315	15.0	1.00
Source: ESA 2020.							

Note:

Emissions normalized in AERMOD (i.e. concentration is in terms of ug/m3 / g/s)

The site prep / grading and paving phases were emissions using the "SITE" emissions source

XY	X	Y	ABOVE	BELOW	SITE	HAUL
45876037!	458760	3756100	10.30949	8.69133	10.77682	5.88536
45878037!	458780	3756100	12.25967	10.78207	12.8009	5.97583
45880037!	458800	3756100	14.46486	13.55413	15.07858	6.05442
45882037!	458820	3756100	16.83066	17.22239	17.486	6.04924
45884037!	458840	3756100	19.13195	22.01693	19.76061	5.8571
45886037!	458860	3756100	20.9342	28.02553	21.46837	5.43277
45888037!	458880	3756100	21.72599	34.25281	22.16786	4.88259
45894037!	458940	3756100	17.32222	32.90526	17.79095	3.87672
45896037!	458960	3756100	14.9338	28.09925	15.40096	3.57785
45898037!	458980	3756100	12.88357	24.97844	13.32236	3.28869
45900037!	459000	3756100	11.30124	22.61024	11.66154	3.01768
45902037!	459020	3756100	10.00218	20.27121	10.32598	2.77111
45904037!	459040	3756100	9.00996	17.98863	9.29086	2.54693
45906037!	459060	3756100	8.39715	15.99562	8.62918	2.36017
45876037!	458760	3756120	11.56957	9.12808	12.25898	7.4902
45878037!	458780	3756120	14.36261	11.59806	15.2062	7.74868
45880037!	458800	3756120	17.84344	15.07361	18.85743	8.09809
45882037!	458820	3756120	22.01023	20.05252	23.1771	8.44762
45884037!	458840	3756120	26.61431	27.3005	27.85077	8.52482
45886037!	458860	3756120	30.88227	37.8892	32.05273	7.92315
45888037!	458880	3756120	33.72926	51.43764	34.79186	7.13016
45892037!	458920	3756120	31.57963	67.08314	32.74923	5.71474
45894037!	458940	3756120	27.53633	58.15345	28.76635	5.08962
45896037!	458960	3756120	23.27974	48.60102	24.41781	4.5348
45898037!	458980	3756120	19.7253	42.73223	20.66533	4.04421
45900037!	459000	3756120	17.02574	36.87322	17.73421	3.61471
45902037!	459020	3756120	14.85761	31.0294	15.39682	3.24627
45904037!	459040	3756120	13.20854	25.82668	13.61056	2.9282
45906037!	459060	3756120	11.98145	21.54492	12.27036	2.66275
45876037!	458760	3756140	12.49379	9.24181	13.48371	9.70025
45878037!	458780	3756140	16.21274	11.97798	17.53233	10.22614
45880037!	458800	3756140	21.37485	16.03416	23.11039	11.12337
45882037!	458820	3756140	28.4231	22.25745	30.63743	12.47307
45884037!	458840	3756140	37.57794	32.34402	40.24608	13.97003
45886037!	458860	3756140	48.0602	49.10346	51.03452	14.06312
45890037!	458900	3756140	60.93798	116.513	64.34945	9.93536
45892037!	458920	3756140	57.96277	140.4194	61.75925	8.1083
45894037!	458940	3756140	50.00855	120.5687	53.54605	6.73176
45896037!	458960	3756140	40.62307	98.05221	43.26652	5.69439
45898037!	458980	3756140	32.98114	79.53264	34.70614	4.89078
45900037!	459000	3756140	27.33428	60.99298	28.4519	4.25466
45902037!	459020	3756140	23.10239	46.27689	23.78131	3.73981
45904037!	459040	3756140	19.80847	35.47505	20.22247	3.31683
45906037!	459060	3756140	17.17969	27.67819	17.41963	2.96322
45876037!	458760	3756160	12.8883	9.02131	14.21429	12.89178
45878037!	458780	3756160	17.38606	11.8184	19.35632	13.77226

XY	X	Y	ABOVE	BELOW	SITE	HAUL
45880037!	458800	3756160	24.30936	16.12025	27.25778	15.60976
45882037!	458820	3756160	35.21815	23.06557	39.58068	19.23039
45884037!	458840	3756160	52.58268	35.10257	58.95246	13.55766
45890037!	458900	3756160	131.1391	213.8032	112.7195	15.63258
45892037!	458920	3756160	131.4462	360.7378	116.26	11.13358
45894037!	458940	3756160	110.775	320.0626	92.99134	8.54467
45896037!	458960	3756160	79.828	225.6388	85.34263	6.87209
45898037!	458980	3756160	57.49205	141.7141	60.12093	5.70701
45900037!	459000	3756160	43.65323	90.72743	44.93591	4.84276
45902037!	459020	3756160	34.68402	61.44798	35.22172	4.17603
45904037!	459040	3756160	28.09324	43.67069	28.28084	3.65133
45906037!	459060	3756160	23.21149	32.42393	23.22028	3.2235
45876037!	458760	3756180	12.62528	8.50327	14.22662	17.93087
45878037!	458780	3756180	17.50468	11.16199	20.16738	19.21688
45880037!	458800	3756180	25.57799	15.21872	30.23499	22.28509
45882037!	458820	3756180	40.08781	21.89111	48.59081	29.87267
45884037!	458840	3756180	68.91675	33.76497	84.70083	12.58416
45898037!	458980	3756180	91.52621	183.6244	95.97027	6.29915
45900037!	459000	3756180	62.11914	104.7383	63.03836	5.26038
45902037!	459020	3756180	45.86601	67.0861	45.79597	4.4823
45904037!	459040	3756180	35.30086	46.23285	34.99858	3.87807
45906037!	459060	3756180	27.94087	33.62621	27.55656	3.39811
45876037!	458760	3756200	11.75761	7.77554	13.45962	27.12557
45878037!	458780	3756200	16.46549	10.12619	19.54431	28.63871
45880037!	458800	3756200	24.57305	13.68021	30.78787	33.38463
45882037!	458820	3756200	40.28675	19.35448	54.83012	19.64708
45898037!	458980	3756200	114.4637	141.2753	119.8637	6.53702
45900037!	459000	3756200	72.55038	88.13342	72.37636	5.42732
45902037!	459020	3756200	51.04624	58.7654	50.09808	4.60198
45904037!	459040	3756200	37.94253	41.52931	37.05889	3.96555
45906037!	459060	3756200	29.34018	30.72462	28.54368	3.46195
45876037!	458760	3756220	10.55519	6.96911	12.14292	34.05027
45878037!	458780	3756220	14.69215	8.94877	17.64834	34.25704
45880037!	458800	3756220	21.76656	11.85614	28.11868	29.08396
45898037!	458980	3756220	106.9284	74.17376	107.7022	6.37479
45900037!	459000	3756220	67.29859	56.17849	65.61999	5.31941
45902037!	459020	3756220	46.92386	42.20418	45.32597	4.52245
45904037!	459040	3756220	34.83094	32.10327	33.50226	3.90229
45906037!	459060	3756220	26.83648	24.91843	25.80436	3.40742
45900037!	459000	3756360	5.68516	4.52391	5.47675	2.10985
45902037!	459020	3756360	5.14206	4.24052	4.96648	1.95255
45904037!	459040	3756360	4.65209	3.95628	4.50225	1.81124
45906037!	459060	3756360	4.1958	3.66482	4.0677	1.67822
45908037!	459080	3756360	3.78023	3.37982	3.67068	1.55089
45920037!	459200	3756360	2.16842	2.11367	2.11739	1.02134
45922037!	459220	3756360	2.0245	2.0025	1.9782	0.96718

XY	X	Y	ABOVE	BELOW	SITE	HAUL
45924037!	459240	3756360	1.8883	1.89246	1.84627	0.91588
45926037!	459260	3756360	1.76418	1.78843	1.72594	0.86839
45928037!	459280	3756360	1.65206	1.69129	1.61716	0.82466
45900037!	459000	3756380	4.48677	3.63681	4.33746	1.81136
45902037!	459020	3756380	4.12089	3.44508	3.99154	1.69064
45904037!	459040	3756380	3.77564	3.24309	3.66291	1.57993
45906037!	459060	3756380	3.44776	3.03195	3.34938	1.47557
45908037!	459080	3756380	3.14503	2.82322	3.05919	1.37523
45920037!	459200	3756380	1.86118	1.79906	1.8197	0.92858
45922037!	459220	3756380	1.74313	1.70943	1.70537	0.88221
45924037!	459240	3756380	1.63047	1.62081	1.59615	0.83794
45926037!	459260	3756380	1.52041	1.53077	1.48933	0.79495
45928037!	459280	3756380	1.42819	1.45368	1.39975	0.75704
45890037!	458900	3756400	4.40859	3.21006	4.31486	2.19111
45892037!	458920	3756400	4.39911	3.25674	4.28191	2.04858
45894037!	458940	3756400	4.28619	3.24512	4.15661	1.91122
45896037!	458960	3756400	4.08027	3.17411	3.95094	1.77877
45898037!	458980	3756400	3.84869	3.0802	3.72753	1.66311
45900037!	459000	3756400	3.60899	2.97127	3.49963	1.56353
45902037!	459020	3756400	3.35943	2.84134	3.2625	1.47127
45904037!	459040	3756400	3.11117	2.69592	3.02534	1.38348
45906037!	459060	3756400	2.87534	2.54464	2.79902	1.30122
45908037!	459080	3756400	2.65577	2.39397	2.58775	1.22414
45910037!	459100	3756400	2.44951	2.2447	2.38904	1.14793
45912037!	459120	3756400	2.26114	2.10335	2.20725	1.06889
45914037!	459140	3756400	2.07479	1.88036	2.02489	1.004
45916037!	459160	3756400	1.89365	1.75385	1.85027	0.9443
45918037!	459180	3756400	1.74822	1.64859	1.70961	0.89249
45920037!	459200	3756400	1.63426	1.56453	1.59932	0.84845
45922037!	459220	3756400	1.53073	1.48644	1.49901	0.80757
45924037!	459240	3756400	1.42759	1.40618	1.39899	0.76736
45926037!	459260	3756400	1.32646	1.32455	1.30074	0.72791
45928037!	459280	3756400	1.25267	1.26449	1.22898	0.69595
45890037!	458900	3756420	3.51598	2.64539	3.45018	1.85431
45892037!	458920	3756420	3.50524	2.67486	3.42429	1.74434
45894037!	458940	3756420	3.42899	2.66531	3.33863	1.63745
45896037!	458960	3756420	3.28934	2.61414	3.19687	1.53282
45898037!	458980	3756420	3.12566	2.54433	3.0368	1.43972
45900037!	459000	3756420	2.94321	2.4564	2.86191	1.35426
45902037!	459020	3756420	2.76932	2.36672	2.69589	1.28387
45904037!	459040	3756420	2.59317	2.26494	2.52711	1.21609
45906037!	459060	3756420	2.41547	2.15079	2.35611	1.14766
45908037!	459080	3756420	2.25176	2.03858	2.19806	1.08549
45910037!	459100	3756420	2.10248	1.93161	2.05373	1.02954
45912037!	459120	3756420	1.95864	1.82377	1.91456	0.96686
45914037!	459140	3756420	1.81957	1.64008	1.77833	0.91007

XY	X	Y	ABOVE	BELOW	SITE	HAUL
45916037!	459160	3756420	1.67733	1.5394	1.64029	0.8602
45918037!	459180	3756420	1.56055	1.45611	1.52725	0.81726
45920037!	459200	3756420	1.4584	1.38144	1.4283	0.77817
45922037!	459220	3756420	1.36146	1.30894	1.33428	0.74082
45924037!	459240	3756420	1.26874	1.23785	1.24431	0.70491
45926037!	459260	3756420	1.17584	1.16422	1.15409	0.66907
45928037!	459280	3756420	1.11102	1.11212	1.09104	0.64079
CONCUNIT CONCUNIT ug/m^3						
DEPUNITg, DEPUNIT g/m^2						

MAX:	ABOVE	BELOW	SITE	HAUL
	131.4462	360.7378	119.8637	34.25704

Arlington Health Risk Assessment

Maximum Individual Cancer Risk Calculations - Sensitive Receptors (Maximum Impacted Senior Residential Receptor)

Evaluated as a residential receptor, with a total Project construction duration of 1 year, conservatively assumed to occur in the 0 < 2 age bin.

Cancer Risk Calculations

Parameter		Age Bins			
		3rd Trimester	0 < 2	2 < 16	16 < 30
DBR	Daily Breathing Rate (L/kg (body weight) per day)	361	1090	572	261
A	Inhalation absorption factor (default = 1).	1	1	1	1
EF	Exposure Frequency (days/year)	350	350	350	350
ED	Exposure Duration (years)	0.25	1	14	14
FAH	Fraction of Time at Home ^a	1.00	1.00	1.00	0.73
AT	Averaged Exposure Time Period (days)	25550	25550	25550	25550
ASF	Age Sensitivity Factor	10	10	3	1
CPF	Cancer Potency Factor (mg/kg-d) ⁻¹	1.1	1.1	1.1	1.1
DOSE	$[= CONC \times DBR \times A \times EF \times ED \times FAH / AT]$ (mg/kg-d)				
	Cancer Risk (in one million) $[= DOSE \times CPF \times ASF]$				

Receptor	DPM Concentrations by Phase							
	XY	X	Y	Site Prep / Grading	Below Grade CSTN	Above Grade CSTN	Paving	Arch Coating
4587603756100	458760	3756100	1.02E-03	2.97E-04	2.50E-03	2.17E-04	2.07E-05	4.73E-06
4587803756100	458780	3756100	1.21E-03	3.69E-04	2.97E-03	2.58E-04	2.47E-05	4.80E-06
4588003756100	458800	3756100	1.43E-03	4.64E-04	3.51E-03	3.03E-04	2.91E-05	4.87E-06
4588203756100	458820	3756100	1.66E-03	5.89E-04	4.08E-03	3.52E-04	3.39E-05	4.86E-06
4588403756100	458840	3756100	1.87E-03	7.53E-04	4.64E-03	3.98E-04	3.85E-05	4.71E-06
4588603756100	458860	3756100	2.04E-03	9.59E-04	5.07E-03	4.32E-04	4.21E-05	4.37E-06
4588803756100	458880	3756100	2.10E-03	1.17E-03	5.27E-03	4.46E-04	4.37E-05	3.93E-06
4589403756100	458940	3756100	1.69E-03	1.13E-03	4.20E-03	3.58E-04	3.49E-05	3.12E-06
4589603756100	458960	3756100	1.46E-03	9.61E-04	3.62E-03	3.10E-04	3.01E-05	2.88E-06
4589803756100	458980	3756100	1.26E-03	8.54E-04	3.12E-03	2.68E-04	2.59E-05	2.64E-06
4590003756100	459000	3756100	1.11E-03	7.73E-04	2.74E-03	2.35E-04	2.27E-05	2.43E-06
4590203756100	459020	3756100	9.80E-04	6.93E-04	2.42E-03	2.08E-04	2.01E-05	2.23E-06
4590403756100	459040	3756100	8.81E-04	6.15E-04	2.18E-03	1.87E-04	1.81E-05	2.05E-06
4590603756100	459060	3756100	8.19E-04	5.47E-04	2.03E-03	1.74E-04	1.69E-05	1.90E-06
4587603756120	458760	3756120	1.16E-03	3.12E-04	2.80E-03	2.47E-04	2.33E-05	6.02E-06
4587803756120	458780	3756120	1.44E-03	3.97E-04	3.48E-03	3.06E-04	2.89E-05	6.23E-06
4588003756120	458800	3756120	1.79E-03	5.16E-04	4.32E-03	3.79E-04	3.59E-05	6.51E-06
4588203756120	458820	3756120	2.20E-03	6.86E-04	5.33E-03	4.66E-04	4.43E-05	6.79E-06
4588403756120	458840	3756120	2.64E-03	9.34E-04	6.45E-03	5.60E-04	5.36E-05	6.85E-06
4588603756120	458860	3756120	3.04E-03	1.30E-03	7.48E-03	6.45E-04	6.21E-05	6.37E-06
4588803756120	458880	3756120	3.30E-03	1.76E-03	8.17E-03	7.00E-04	6.79E-05	5.73E-06
4589203756120	458920	3756120	3.11E-03	2.29E-03	7.65E-03	6.59E-04	6.35E-05	4.59E-06
4589403756120	458940	3756120	2.73E-03	1.99E-03	6.67E-03	5.79E-04	5.54E-05	4.09E-06
4589603756120	458960	3756120	2.32E-03	1.66E-03	5.64E-03	4.91E-04	4.68E-05	3.65E-06
4589803756120	458980	3756120	1.96E-03	1.46E-03	4.78E-03	4.16E-04	3.97E-05	3.25E-06
4590003756120	459000	3756120	1.68E-03	1.26E-03	4.13E-03	3.57E-04	3.43E-05	2.91E-06
4590203756120	459020	3756120	1.46E-03	1.06E-03	3.60E-03	3.10E-04	2.99E-05	2.61E-06
4590403756120	459040	3756120	1.29E-03	8.84E-04	3.20E-03	2.74E-04	2.66E-05	2.35E-06
4590603756120	459060	3756120	1.16E-03	7.37E-04	2.90E-03	2.47E-04	2.41E-05	2.14E-06
4587603756140	458760	3756140	1.28E-03	3.16E-04	3.03E-03	2.71E-04	2.51E-05	7.80E-06
4587803756140	458780	3756140	1.66E-03	4.10E-04	3.93E-03	3.53E-04	3.26E-05	8.22E-06
4588003756140	458800	3756140	2.19E-03	5.49E-04	5.18E-03	4.65E-04	4.30E-05	8.94E-06
4588203756140	458820	3756140	2.91E-03	7.61E-04	6.89E-03	6.17E-04	5.72E-05	1.00E-05
4588403756140	458840	3756140	3.82E-03	1.11E-03	9.11E-03	8.10E-04	7.56E-05	1.12E-05
4588603756140	458860	3756140	4.84E-03	1.68E-03	1.16E-02	1.03E-03	9.67E-05	1.13E-05
4589003756140	458900	3756140	6.10E-03	3.99E-03	1.48E-02	1.29E-03	1.23E-04	7.99E-06
4589203756140	458920	3756140	5.86E-03	4.80E-03	1.40E-02	1.24E-03	1.17E-04	6.52E-06
4589403756140	458940	3756140	5.08E-03	4.12E-03	1.21E-02	1.08E-03	1.01E-04	5.41E-06
4589603756140	458960	3756140	4.10E-03	3.35E-03	9.84E-03	8.71E-04	8.17E-05	4.58E-06
4589803756140	458980	3756140	3.29E-03	2.72E-03	7.99E-03	6.98E-04	6.64E-05	3.93E-06
4590003756140	459000	3756140	2.70E-03	2.09E-03	6.62E-03	5.73E-04	5.50E-05	3.42E-06
4590203756140	459020	3756140	2.26E-03	1.58E-03	5.60E-03	4.79E-04	4.65E-05	3.01E-06
4590403756140	459040	3756140	1.92E-03	1.21E-03	4.80E-03	4.07E-04	3.99E-05	2.67E-06
4590603756140	459060	3756140	1.65E-03	9.47E-04	4.16E-03	3.51E-04	3.46E-05	2.38E-06
4587603756160	458760	3756160	1.35E-03	3.09E-04	3.12E-03	2.86E-04	2.59E-05	1.04E-05
4587803756160	458780	3756160	1.84E-03	4.04E-04	4.21E-03	3.90E-04	3.50E-05	1.11E-05
4588003756160	458800	3756160	2.59E-03	5.51E-04	5.89E-03	5.49E-04	4.89E-05	1.26E-05
4588203756160	458820	3756160	3.75E-03	7.89E-04	8.53E-03	7.96E-04	7.09E-05	1.55E-05
4588403756160	458840	3756160	5.59E-03	1.20E-03	1.27E-02	1.19E-03	1.06E-04	1.09E-05
4589003756160	458900	3756160	1.07E-02	7.31E-03	3.18E-02	2.27E-03	2.64E-04	1.26E-05
4589203756160	458920	3756160	1.10E-02	1.23E-02	3.19E-02	2.34E-03	2.65E-04	8.95E-06
4589403756160	458940	3756160	8.82E-03	1.09E-02	2.68E-02	1.87E-03	2.23E-04	6.87E-06
4589603756160	458960	3756160	8.10E-03	7.72E-03	1.93E-02	1.72E-03	1.61E-04	5.53E-06
4589803756160	458980	3756160	5.70E-03	4.85E-03	1.39E-02	1.21E-03	1.16E-04	4.59E-06
4590003756160	459000	3756160	4.26E-03	3.10E-03	1.06E-02	9.04E-04	8.78E-05	3.89E-06
4590203756160	459020	3756160	3.34E-03	2.10E-03	8.41E-03	7.09E-04	6.98E-05	3.36E-06
4590403756160	459040	3756160	2.68E-03	1.49E-03	6.81E-03	5.69E-04	5.65E-05	2.94E-06
4590603756160	459060	3756160	2.20E-03	1.11E-03	5.62E-03	4.67E-04	4.67E-05	2.59E-06

Receptor	DPM Concentrations by Phase							
	XY	X	Y	Site Prep / Grading	Below Grade CSTN	Above Grade CSTN	Paving	Arch Coating
4587603756180	458760	3756180	1.35E-03	2.91E-04	3.06E-03	2.86E-04	2.54E-05	1.44E-05
4587803756180	458780	3756180	1.91E-03	3.82E-04	4.24E-03	4.06E-04	3.52E-05	1.55E-05
4588003756180	458800	3756180	2.87E-03	5.21E-04	6.20E-03	6.08E-04	5.15E-05	1.79E-05
4588203756180	458820	3756180	4.61E-03	7.49E-04	9.71E-03	9.78E-04	8.07E-05	2.40E-05
4588403756180	458840	3756180	8.04E-03	1.16E-03	1.67E-02	1.70E-03	1.39E-04	1.01E-05
4589803756180	458980	3756180	9.10E-03	6.28E-03	2.22E-02	1.93E-03	1.84E-04	5.06E-06
4590003756180	459000	3756180	5.98E-03	3.58E-03	1.51E-02	1.27E-03	1.25E-04	4.23E-06
4590203756180	459020	3756180	4.34E-03	2.29E-03	1.11E-02	9.22E-04	9.23E-05	3.60E-06
4590403756180	459040	3756180	3.32E-03	1.58E-03	8.55E-03	7.04E-04	7.10E-05	3.12E-06
4590603756180	459060	3756180	2.61E-03	1.15E-03	6.77E-03	5.55E-04	5.62E-05	2.73E-06
4587603756200	458760	3756200	1.28E-03	2.66E-04	2.85E-03	2.71E-04	2.37E-05	2.18E-05
4587803756200	458780	3756200	1.85E-03	3.46E-04	3.99E-03	3.93E-04	3.31E-05	2.30E-05
4588003756200	458800	3756200	2.92E-03	4.68E-04	5.95E-03	6.20E-04	4.94E-05	2.68E-05
4588203756200	458820	3756200	5.20E-03	6.62E-04	9.76E-03	1.10E-03	8.11E-05	1.58E-05
4589803756200	458980	3756200	1.14E-02	4.83E-03	2.77E-02	2.41E-03	2.30E-04	5.26E-06
4590003756200	459000	3756200	6.87E-03	3.01E-03	1.76E-02	1.46E-03	1.46E-04	4.36E-06
4590203756200	459020	3756200	4.75E-03	2.01E-03	1.24E-02	1.01E-03	1.03E-04	3.70E-06
4590403756200	459040	3756200	3.52E-03	1.42E-03	9.19E-03	7.46E-04	7.64E-05	3.19E-06
4590603756200	459060	3756200	2.71E-03	1.05E-03	7.11E-03	5.74E-04	5.90E-05	2.78E-06
4587603756220	458760	3756220	1.15E-03	2.38E-04	2.56E-03	2.44E-04	2.12E-05	2.74E-05
4587803756220	458780	3756220	1.67E-03	3.06E-04	3.56E-03	3.55E-04	2.96E-05	2.75E-05
4588003756220	458800	3756220	2.67E-03	4.06E-04	5.27E-03	5.66E-04	4.38E-05	2.34E-05
4589803756220	458980	3756220	1.02E-02	2.54E-03	2.59E-02	2.17E-03	2.15E-04	5.13E-06
4590003756220	459000	3756220	6.23E-03	1.92E-03	1.63E-02	1.32E-03	1.35E-04	4.28E-06
4590203756220	459020	3756220	4.30E-03	1.44E-03	1.14E-02	9.12E-04	9.44E-05	3.64E-06
4590403756220	459040	3756220	3.18E-03	1.10E-03	8.44E-03	6.74E-04	7.01E-05	3.14E-06
4590603756220	459060	3756220	2.45E-03	8.52E-04	6.50E-03	5.19E-04	5.40E-05	2.74E-06
4590003756360	459000	3756360	5.20E-04	1.55E-04	1.38E-03	1.10E-04	1.14E-05	1.70E-06
4590203756360	459020	3756360	4.71E-04	1.45E-04	1.25E-03	9.99E-05	1.03E-05	1.57E-06
4590403756360	459040	3756360	4.27E-04	1.35E-04	1.13E-03	9.06E-05	9.36E-06	1.46E-06
4590603756360	459060	3756360	3.86E-04	1.25E-04	1.02E-03	8.19E-05	8.44E-06	1.35E-06
4590803756360	459080	3756360	3.48E-04	1.16E-04	9.16E-04	7.39E-05	7.61E-06	1.25E-06
4592003756360	459200	3756360	2.01E-04	7.23E-05	5.25E-04	4.26E-05	4.36E-06	8.21E-07
4592203756360	459220	3756360	1.88E-04	6.85E-05	4.91E-04	3.98E-05	4.07E-06	7.78E-07
4592403756360	459240	3756360	1.75E-04	6.47E-05	4.58E-04	3.72E-05	3.80E-06	7.36E-07
4592603756360	459260	3756360	1.64E-04	6.12E-05	4.28E-04	3.47E-05	3.55E-06	6.98E-07
4592803756360	459280	3756360	1.53E-04	5.79E-05	4.00E-04	3.25E-05	3.32E-06	6.63E-07
4590003756380	459000	3756380	4.11E-04	1.24E-04	1.09E-03	8.73E-05	9.03E-06	1.46E-06
4590203756380	459020	3756380	3.79E-04	1.18E-04	9.99E-04	8.03E-05	8.29E-06	1.36E-06
4590403756380	459040	3756380	3.47E-04	1.11E-04	9.15E-04	7.37E-05	7.60E-06	1.27E-06
4590603756380	459060	3756380	3.18E-04	1.04E-04	8.36E-04	6.74E-05	6.94E-06	1.19E-06
4590803756380	459080	3756380	2.90E-04	9.66E-05	7.62E-04	6.16E-05	6.33E-06	1.11E-06
4592003756380	459200	3756380	1.73E-04	6.15E-05	4.51E-04	3.66E-05	3.75E-06	7.47E-07
4592203756380	459220	3756380	1.62E-04	5.85E-05	4.22E-04	3.43E-05	3.51E-06	7.09E-07
4592403756380	459240	3756380	1.51E-04	5.54E-05	3.95E-04	3.21E-05	3.28E-06	6.74E-07
4592603756380	459260	3756380	1.41E-04	5.24E-05	3.68E-04	3.00E-05	3.06E-06	6.39E-07
4592803756380	459280	3756380	1.33E-04	4.97E-05	3.46E-04	2.82E-05	2.87E-06	6.09E-07
4589003756400	458900	3756400	4.09E-04	1.10E-04	1.07E-03	8.68E-05	8.87E-06	1.76E-06
4589203756400	458920	3756400	4.06E-04	1.11E-04	1.07E-03	8.62E-05	8.85E-06	1.65E-06
4589403756400	458940	3756400	3.94E-04	1.11E-04	1.04E-03	8.36E-05	8.63E-06	1.54E-06
4589603756400	458960	3756400	3.75E-04	1.09E-04	9.89E-04	7.95E-05	8.21E-06	1.43E-06
4589803756400	458980	3756400	3.54E-04	1.05E-04	9.33E-04	7.50E-05	7.74E-06	1.34E-06
4590003756400	459000	3756400	3.32E-04	1.02E-04	8.75E-04	7.04E-05	7.26E-06	1.26E-06
4590203756400	459020	3756400	3.09E-04	9.72E-05	8.14E-04	6.57E-05	6.76E-06	1.18E-06
4590403756400	459040	3756400	2.87E-04	9.22E-05	7.54E-04	6.09E-05	6.26E-06	1.11E-06
4590603756400	459060	3756400	2.66E-04	8.70E-05	6.97E-04	5.63E-05	5.79E-06	1.05E-06
4590803756400	459080	3756400	2.45E-04	8.19E-05	6.44E-04	5.21E-05	5.34E-06	9.84E-07
4591003756400	459100	3756400	2.27E-04	7.68E-05	5.94E-04	4.81E-05	4.93E-06	9.23E-07

Receptor			DPM Concentrations by Phase					
			Site Prep / Grading	Below Grade CSTN	Above Grade CSTN	Paving	Arch Coating	Haul
XY	X	Y						
4591203756400	459120	3756400	2.09E-04	7.20E-05	5.48E-04	4.44E-05	4.55E-06	8.59E-07
4591403756400	459140	3756400	1.92E-04	6.43E-05	5.03E-04	4.07E-05	4.18E-06	8.07E-07
4591603756400	459160	3756400	1.76E-04	6.00E-05	4.59E-04	3.72E-05	3.81E-06	7.59E-07
4591803756400	459180	3756400	1.62E-04	5.64E-05	4.24E-04	3.44E-05	3.52E-06	7.18E-07
4592003756400	459200	3756400	1.52E-04	5.35E-05	3.96E-04	3.22E-05	3.29E-06	6.82E-07
4592203756400	459220	3756400	1.42E-04	5.08E-05	3.71E-04	3.02E-05	3.08E-06	6.49E-07
4592403756400	459240	3756400	1.33E-04	4.81E-05	3.46E-04	2.82E-05	2.87E-06	6.17E-07
4592603756400	459260	3756400	1.23E-04	4.53E-05	3.21E-04	2.62E-05	2.67E-06	5.85E-07
4592803756400	459280	3756400	1.17E-04	4.33E-05	3.04E-04	2.47E-05	2.52E-06	5.60E-07
4589003756420	458900	3756420	3.27E-04	9.05E-05	8.52E-04	6.94E-05	7.08E-06	1.49E-06
4589203756420	458920	3756420	3.25E-04	9.15E-05	8.49E-04	6.89E-05	7.05E-06	1.40E-06
4589403756420	458940	3756420	3.17E-04	9.12E-05	8.31E-04	6.72E-05	6.90E-06	1.32E-06
4589603756420	458960	3756420	3.03E-04	8.94E-05	7.97E-04	6.43E-05	6.62E-06	1.23E-06
4589803756420	458980	3756420	2.88E-04	8.70E-05	7.57E-04	6.11E-05	6.29E-06	1.16E-06
4590003756420	459000	3756420	2.71E-04	8.40E-05	7.13E-04	5.76E-05	5.92E-06	1.09E-06
4590203756420	459020	3756420	2.56E-04	8.10E-05	6.71E-04	5.42E-05	5.57E-06	1.03E-06
4590403756420	459040	3756420	2.40E-04	7.75E-05	6.28E-04	5.09E-05	5.22E-06	9.78E-07
4590603756420	459060	3756420	2.24E-04	7.36E-05	5.85E-04	4.74E-05	4.86E-06	9.23E-07
4590803756420	459080	3756420	2.09E-04	6.97E-05	5.46E-04	4.42E-05	4.53E-06	8.73E-07
4591003756420	459100	3756420	1.95E-04	6.61E-05	5.10E-04	4.13E-05	4.23E-06	8.28E-07
4591203756420	459120	3756420	1.82E-04	6.24E-05	4.75E-04	3.85E-05	3.94E-06	7.77E-07
4591403756420	459140	3756420	1.69E-04	5.61E-05	4.41E-04	3.58E-05	3.66E-06	7.32E-07
4591603756420	459160	3756420	1.56E-04	5.27E-05	4.06E-04	3.30E-05	3.38E-06	6.92E-07
4591803756420	459180	3756420	1.45E-04	4.98E-05	3.78E-04	3.07E-05	3.14E-06	6.57E-07
4592003756420	459200	3756420	1.35E-04	4.73E-05	3.53E-04	2.87E-05	2.93E-06	6.26E-07
4592203756420	459220	3756420	1.27E-04	4.48E-05	3.30E-04	2.68E-05	2.74E-06	5.96E-07
4592403756420	459240	3756420	1.18E-04	4.23E-05	3.07E-04	2.50E-05	2.55E-06	5.67E-07
4592603756420	459260	3756420	1.09E-04	3.98E-05	2.85E-04	2.32E-05	2.37E-06	5.38E-07
4592803756420	459280	3756420	1.04E-04	3.80E-05	2.69E-04	2.20E-05	2.24E-06	5.15E-07

DPM Dose by Phase					
Site Prep / Grading	Below Grade CSTN	Above Grade CSTN	Paving	Arch Coating	Haul
0.02	0.00	0.04	0.00	0.00	0.00
0.02	0.01	0.04	0.00	0.00	0.00
0.02	0.01	0.05	0.00	0.00	0.00
0.02	0.01	0.06	0.01	0.00	0.00
0.03	0.01	0.07	0.01	0.00	0.00
0.03	0.01	0.08	0.01	0.00	0.00
0.03	0.02	0.08	0.01	0.00	0.00
0.03	0.02	0.06	0.01	0.00	0.00
0.02	0.01	0.05	0.00	0.00	0.00
0.02	0.01	0.05	0.00	0.00	0.00
0.02	0.01	0.04	0.00	0.00	0.00
0.01	0.01	0.04	0.00	0.00	0.00
0.01	0.01	0.03	0.00	0.00	0.00
0.01	0.01	0.03	0.00	0.00	0.00
0.02	0.00	0.04	0.00	0.00	0.00
0.02	0.01	0.05	0.00	0.00	0.00
0.03	0.01	0.06	0.01	0.00	0.00
0.03	0.01	0.08	0.01	0.00	0.00
0.04	0.01	0.10	0.01	0.00	0.00
0.05	0.02	0.11	0.01	0.00	0.00
0.05	0.03	0.12	0.01	0.00	0.00
0.05	0.03	0.11	0.01	0.00	0.00
0.04	0.03	0.10	0.01	0.00	0.00
0.03	0.02	0.08	0.01	0.00	0.00
0.03	0.02	0.07	0.01	0.00	0.00
0.03	0.02	0.06	0.01	0.00	0.00
0.02	0.02	0.05	0.00	0.00	0.00
0.02	0.01	0.05	0.00	0.00	0.00
0.02	0.01	0.04	0.00	0.00	0.00
0.02	0.00	0.05	0.00	0.00	0.00
0.02	0.01	0.06	0.01	0.00	0.00
0.03	0.01	0.08	0.01	0.00	0.00
0.04	0.01	0.10	0.01	0.00	0.00
0.06	0.02	0.14	0.01	0.00	0.00
0.07	0.03	0.17	0.02	0.00	0.00
0.09	0.06	0.22	0.02	0.00	0.00
0.09	0.07	0.21	0.02	0.00	0.00
0.08	0.06	0.18	0.02	0.00	0.00
0.06	0.05	0.15	0.01	0.00	0.00
0.05	0.04	0.12	0.01	0.00	0.00
0.04	0.03	0.10	0.01	0.00	0.00
0.03	0.02	0.08	0.01	0.00	0.00
0.03	0.02	0.07	0.01	0.00	0.00
0.02	0.01	0.06	0.01	0.00	0.00
0.02	0.00	0.05	0.00	0.00	0.00
0.03	0.01	0.06	0.01	0.00	0.00
0.04	0.01	0.09	0.01	0.00	0.00
0.06	0.01	0.13	0.01	0.00	0.00
0.08	0.02	0.19	0.02	0.00	0.00
0.16	0.11	0.47	0.03	0.00	0.00
0.16	0.18	0.48	0.03	0.00	0.00
0.13	0.16	0.40	0.03	0.00	0.00
0.12	0.12	0.29	0.03	0.00	0.00
0.09	0.07	0.21	0.02	0.00	0.00
0.06	0.05	0.16	0.01	0.00	0.00
0.05	0.03	0.13	0.01	0.00	0.00
0.04	0.02	0.10	0.01	0.00	0.00
0.03	0.02	0.08	0.01	0.00	0.00

DPM Dose by Phase					
Site Prep / Grading	Below Grade CSTN	Above Grade CSTN	Paving	Arch Coating	Haul
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00

Risk DPM by Phase (in one million)						Total Risk (in one million)
Site Prep / Grading	Below Grade CSTN	Above Grade CSTN	Paving	Arch Coating	Haul	9.5
0.17	0.05	0.41	0.04	0.00	0.00	0.7
0.20	0.06	0.49	0.04	0.00	0.00	0.8
0.23	0.08	0.58	0.05	0.00	0.00	0.9
0.27	0.10	0.67	0.06	0.01	0.00	1.1
0.31	0.12	0.76	0.07	0.01	0.00	1.3
0.33	0.16	0.83	0.07	0.01	0.00	1.4
0.35	0.19	0.86	0.07	0.01	0.00	1.5
0.28	0.18	0.69	0.06	0.01	0.00	1.2
0.24	0.16	0.59	0.05	0.00	0.00	1.0
0.21	0.14	0.51	0.04	0.00	0.00	0.9
0.18	0.13	0.45	0.04	0.00	0.00	0.8
0.16	0.11	0.40	0.03	0.00	0.00	0.7
0.14	0.10	0.36	0.03	0.00	0.00	0.6
0.13	0.09	0.33	0.03	0.00	0.00	0.6
0.19	0.05	0.46	0.04	0.00	0.00	0.7
0.24	0.07	0.57	0.05	0.00	0.00	0.9
0.29	0.08	0.71	0.06	0.01	0.00	1.2
0.36	0.11	0.88	0.08	0.01	0.00	1.4
0.43	0.15	1.06	0.09	0.01	0.00	1.7
0.50	0.21	1.23	0.11	0.01	0.00	2.1
0.54	0.29	1.34	0.11	0.01	0.00	2.3
0.51	0.38	1.26	0.11	0.01	0.00	2.3
0.45	0.33	1.10	0.10	0.01	0.00	2.0
0.38	0.27	0.93	0.08	0.01	0.00	1.7
0.32	0.24	0.79	0.07	0.01	0.00	1.4
0.28	0.21	0.68	0.06	0.01	0.00	1.2
0.24	0.17	0.59	0.05	0.00	0.00	1.1
0.21	0.15	0.53	0.04	0.00	0.00	0.9
0.19	0.12	0.48	0.04	0.00	0.00	0.8
0.21	0.05	0.50	0.04	0.00	0.00	0.8
0.27	0.07	0.65	0.06	0.01	0.00	1.1
0.36	0.09	0.85	0.08	0.01	0.00	1.4
0.48	0.13	1.13	0.10	0.01	0.00	1.8
0.63	0.18	1.50	0.13	0.01	0.00	2.5
0.80	0.28	1.91	0.17	0.02	0.00	3.2
1.00	0.65	2.43	0.21	0.02	0.00	4.3
0.96	0.79	2.31	0.20	0.02	0.00	4.3
0.83	0.68	1.99	0.18	0.02	0.00	3.7
0.67	0.55	1.62	0.14	0.01	0.00	3.0
0.54	0.45	1.31	0.11	0.01	0.00	2.4
0.44	0.34	1.09	0.09	0.01	0.00	2.0
0.37	0.26	0.92	0.08	0.01	0.00	1.6
0.32	0.20	0.79	0.07	0.01	0.00	1.4
0.27	0.16	0.68	0.06	0.01	0.00	1.2
0.22	0.05	0.51	0.05	0.00	0.00	0.8
0.30	0.07	0.69	0.06	0.01	0.00	1.1
0.42	0.09	0.97	0.09	0.01	0.00	1.6
0.62	0.13	1.40	0.13	0.01	0.00	2.3
0.92	0.20	2.09	0.19	0.02	0.00	3.4
1.76	1.20	5.22	0.37	0.04	0.00	8.6
1.81	2.03	5.23	0.38	0.04	0.00	9.5
1.45	1.80	4.41	0.31	0.04	0.00	8.0
1.33	1.27	3.18	0.28	0.03	0.00	6.1
0.94	0.80	2.29	0.20	0.02	0.00	4.2
0.70	0.51	1.74	0.15	0.01	0.00	3.1
0.55	0.35	1.38	0.12	0.01	0.00	2.4
0.44	0.25	1.12	0.09	0.01	0.00	1.9
0.36	0.18	0.92	0.08	0.01	0.00	1.6

Risk DPM by Phase (in one million)						Total Risk (in one million)
Site Prep / Grading	Below Grade CSTN	Above Grade CSTN	Paving	Arch Coating	Haul	9.5
0.22	0.05	0.50	0.05	0.00	0.00	0.8
0.31	0.06	0.70	0.07	0.01	0.00	1.1
0.47	0.09	1.02	0.10	0.01	0.00	1.7
0.76	0.12	1.60	0.16	0.01	0.00	2.7
1.32	0.19	2.74	0.28	0.02	0.00	4.6
1.50	1.03	3.64	0.32	0.03	0.00	6.5
0.98	0.59	2.47	0.21	0.02	0.00	4.3
0.71	0.38	1.83	0.15	0.02	0.00	3.1
0.55	0.26	1.41	0.12	0.01	0.00	2.3
0.43	0.19	1.11	0.09	0.01	0.00	1.8
0.21	0.04	0.47	0.04	0.00	0.00	0.8
0.30	0.06	0.66	0.06	0.01	0.00	1.1
0.48	0.08	0.98	0.10	0.01	0.00	1.6
0.85	0.11	1.60	0.18	0.01	0.00	2.8
1.87	0.79	4.56	0.40	0.04	0.00	7.7
1.13	0.50	2.89	0.24	0.02	0.00	4.8
0.78	0.33	2.03	0.17	0.02	0.00	3.3
0.58	0.23	1.51	0.12	0.01	0.00	2.5
0.44	0.17	1.17	0.09	0.01	0.00	1.9
0.19	0.04	0.42	0.04	0.00	0.00	0.7
0.27	0.05	0.58	0.06	0.00	0.00	1.0
0.44	0.07	0.87	0.09	0.01	0.00	1.5
1.68	0.42	4.26	0.36	0.04	0.00	6.7
1.02	0.32	2.68	0.22	0.02	0.00	4.3
0.71	0.24	1.87	0.15	0.02	0.00	3.0
0.52	0.18	1.39	0.11	0.01	0.00	2.2
0.40	0.14	1.07	0.09	0.01	0.00	1.7
0.09	0.03	0.23	0.02	0.00	0.00	0.4
0.08	0.02	0.20	0.02	0.00	0.00	0.3
0.07	0.02	0.19	0.01	0.00	0.00	0.3
0.06	0.02	0.17	0.01	0.00	0.00	0.3
0.06	0.02	0.15	0.01	0.00	0.00	0.2
0.03	0.01	0.09	0.01	0.00	0.00	0.1
0.03	0.01	0.08	0.01	0.00	0.00	0.1
0.03	0.01	0.08	0.01	0.00	0.00	0.1
0.03	0.01	0.07	0.01	0.00	0.00	0.1
0.03	0.01	0.07	0.01	0.00	0.00	0.1
0.07	0.02	0.18	0.01	0.00	0.00	0.3
0.06	0.02	0.16	0.01	0.00	0.00	0.3
0.06	0.02	0.15	0.01	0.00	0.00	0.2
0.05	0.02	0.14	0.01	0.00	0.00	0.2
0.05	0.02	0.13	0.01	0.00	0.00	0.2
0.03	0.01	0.07	0.01	0.00	0.00	0.1
0.03	0.01	0.07	0.01	0.00	0.00	0.1
0.02	0.01	0.06	0.01	0.00	0.00	0.1
0.02	0.01	0.06	0.00	0.00	0.00	0.1
0.02	0.01	0.06	0.00	0.00	0.00	0.1
0.07	0.02	0.18	0.01	0.00	0.00	0.3
0.07	0.02	0.18	0.01	0.00	0.00	0.3
0.06	0.02	0.17	0.01	0.00	0.00	0.3
0.06	0.02	0.16	0.01	0.00	0.00	0.3
0.06	0.02	0.15	0.01	0.00	0.00	0.2
0.05	0.02	0.14	0.01	0.00	0.00	0.2
0.05	0.02	0.13	0.01	0.00	0.00	0.2
0.05	0.02	0.12	0.01	0.00	0.00	0.2
0.04	0.01	0.11	0.01	0.00	0.00	0.2
0.04	0.01	0.11	0.01	0.00	0.00	0.2
0.04	0.01	0.10	0.01	0.00	0.00	0.2

Risk DPM by Phase (in one million)						Total Risk (in one million)
Site Prep / Grading	Below Grade CSTN	Above Grade CSTN	Paving	Arch Coating	Haul	9.5
0.03	0.01	0.09	0.01	0.00	0.00	0.1
0.03	0.01	0.08	0.01	0.00	0.00	0.1
0.03	0.01	0.08	0.01	0.00	0.00	0.1
0.03	0.01	0.07	0.01	0.00	0.00	0.1
0.02	0.01	0.07	0.01	0.00	0.00	0.1
0.02	0.01	0.06	0.00	0.00	0.00	0.1
0.02	0.01	0.06	0.00	0.00	0.00	0.1
0.02	0.01	0.05	0.00	0.00	0.00	0.1
0.02	0.01	0.05	0.00	0.00	0.00	0.1
0.05	0.01	0.14	0.01	0.00	0.00	0.2
0.05	0.02	0.14	0.01	0.00	0.00	0.2
0.05	0.01	0.14	0.01	0.00	0.00	0.2
0.05	0.01	0.13	0.01	0.00	0.00	0.2
0.05	0.01	0.12	0.01	0.00	0.00	0.2
0.04	0.01	0.12	0.01	0.00	0.00	0.2
0.04	0.01	0.11	0.01	0.00	0.00	0.2
0.04	0.01	0.10	0.01	0.00	0.00	0.2
0.04	0.01	0.10	0.01	0.00	0.00	0.2
0.03	0.01	0.09	0.01	0.00	0.00	0.1
0.03	0.01	0.08	0.01	0.00	0.00	0.1
0.03	0.01	0.08	0.01	0.00	0.00	0.1
0.03	0.01	0.07	0.01	0.00	0.00	0.1
0.03	0.01	0.07	0.01	0.00	0.00	0.1
0.02	0.01	0.06	0.01	0.00	0.00	0.1
0.02	0.01	0.06	0.00	0.00	0.00	0.1
0.02	0.01	0.05	0.00	0.00	0.00	0.1
0.02	0.01	0.05	0.00	0.00	0.00	0.1
0.02	0.01	0.04	0.00	0.00	0.00	0.1

Arlington 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, Unitized	CONC, Project	WFrac	CONC _{WF}	HI		ALIM	BN	CVS	DEV	ENDC	EYE	HEM	IMMUN	KIDN	NS	REPRO	RESP	SK	
By Phase																						
Site Prep / Grading	DPM	5	119.8637	1.14E-02	1	1.14E-02	2.27E-03		-	-	-	-	-	-	-	-	-	-	-	2.27E-03	-	
Below Grade CSTN	DPM	5	360.7378	1.23E-02	1	1.23E-02	2.47E-03		-	-	-	-	-	-	-	-	-	-	-	2.47E-03	-	
Above Grade CSTN	DPM	5	131.4462	3.19E-02	1	3.19E-02	6.37E-03		-	-	-	-	-	-	-	-	-	-	-	6.37E-03	-	
Paving	DPM	5	119.8637	2.41E-03	1	2.41E-03	4.82E-04		-	-	-	-	-	-	-	-	-	-	-	4.82E-04	-	
Arch Coating	DPM	5	131.4462	2.65E-04	1	2.65E-04	5.29E-05		-	-	-	-	-	-	-	-	-	-	-	5.29E-05	-	
Haul	DPM	5	34.25704	2.75E-05	1	2.75E-05	5.51E-06		-	-	-	-	-	-	-	-	-	-	-	5.51E-06	-	
								Max Risk Threshold Over?												0.012	1.00	NO

Notes:

- California Air Resources Board, "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 (µg/m³) 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