



**ADDENDUM TO THE INITIAL STUDY NEGATIVE DECLARATION FOR
THE LEAD HILL COMMERCIAL CENTER (WAL-MART) PROJECT (FILE
DRP 01-56, PM 01-11, AP 01-60, AP 01-61, & SV 01-05, ADOPTED
FEBRUARY 21, 2002)**

Project Title/File Number:	NERSP PCL 11 - Walmart Gas Station; File #PL26-0117
Project Location:	1400 Lead Hill Boulevard, Roseville, Placer County, CA 95661 (APN 048-520-029-000)
Project Description:	The proposed project is a Design Review Permit Modification to allow the construction of a new fuel station with ten fueling dispensers and a 1,556 square-foot convenience store within the existing parking lot of a Walmart Supercenter.
Project Applicant:	Erin Santiago, Kimley-Horn
Property Owner:	Walmart Real Estate Business Trust
Lead Agency Contact:	Kinarik Shallago, Associate Planner; Phone (916) 746-1309

An Addendum to a previously certified and adopted negative declaration or environmental impact report may be prepared for a project if only minor technical changes or additions are necessary or none of the conditions calling for the preparation of a subsequent EIR or negative declaration have occurred (California Environmental Quality Act Guidelines [CEQA] Section 15164). Consistent with CEQA Guidelines Section 15164, the below analysis has been prepared in order to demonstrate that none of the conditions described in Section 15162 of the CEQA Guidelines calling for preparation of a subsequent EIR have occurred and that only minor technical changes or additions are necessary in order to deem the adopted negative declaration adequate to describe the impacts of the proposed project. CEQA Guidelines Section 15164 also states that an addendum need not be circulated for public review, but can be included in or attached to the adopted negative declaration for consideration by the hearing body. This Addendum focuses only on those aspects of the project or its impacts which require additional discussion.

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PROJECT DESCRIPTION

Project Location

The project site is located at 1400 Lead Hill Bl., on Parcel 11 of the Northeast Roseville Specific Plan (NERSP), which is near the southwest intersection of Lead Hill Bl. and Rocky Ridge Dr. (see Figure 1 below).

Figure 1: Project Site



Background

Location	Zoning	General Plan Land Use	Actual Use of Property
Site	Community Commercial/Special Area-Northeast Roseville (CC/SA-NE)	Community Commercial (CC)	Wal-Mart (retail)
North	Planned Development 247 (PD247) across Lead Hill Bl.	Regional Commercial (RC) across Lead Hill Bl.	Roseville Automall
South	Community Commercial (CC)	CC	Retail and commercial uses
East	CC/SA-NE	CC	Retail uses and a vacant CC parcel
West	Community Commercial/Special Area-Douglas-Sunrise Corridor (CC/SA-DS) and Open Space/Special Area-Douglas-Sunrise Corridor (OS/SA-DS)	CC and Open Space (OS)	Commercial uses and a dog park

Development of the site was originally approved in 2002. On February 21, 2002, the Design Committee approved a Tentative Parcel Map (file #PM 01-11) to merge and re-subdivide two (2) parcels totaling 19.62 acres into three (3) parcels: Lot A (17.48 acres), Lot B (1.62 acres), and Lot C (1.02 acres). Concurrent with the parcel map, a Design Review Permit (file #DRP 01-56) was approved to allow construction of a 142,129-square-foot Walmart retail store with a garden center, tire and lube express on the newly created Lot A, a freestanding self-service gas station kiosk with six (6) fuel pumps on Lot C, and associated site improvements including landscaping and lighting. Lot B was designated for future commercial uses. In addition, an Administrative Permit (file #AP 01-61) was approved to allow for permanent outdoor display areas in front of the Walmart store. As part of the project, an Initial Study leading to a Negative Declaration was adopted to analyze the potential environmental impacts of the project. In 2013, Lot B was developed with an approximate 8,500-square-foot retail pad building. However, the gas station on Lot C was never constructed and the lot remains vacant.

Environmental Setting

The project site is developed with the existing Wal-Mart retail store, parking, lighting and landscaping. The project area includes the northeastern portion of the parcel. Surrounding uses include the Roseville Automall to the north across Lead Hill Bl., retail and commercial uses to the south and east, and commercial uses and a dog park to the west. Existing landscaping is located along the project frontage on Lead Hill Bl., along with streetlights, sidewalks, curb and gutter improvements.

Proposed Project

The proposed project is Design Review Permit Modification to allow the construction of a new fuel station with ten fueling dispensers and a 1,556 square-foot convenience store within the existing parking lot of the Wal-Mart Supercenter. The project will be constructed in the northeastern portion of the parcel and will involve reconfiguration of existing parking spaces and landscaping to accommodate the development.

PURPOSE AND SCOPE OF ADDENDUM

As discussed in the Background section, an Initial Study leading to a Negative Declaration (ISND) for the Lead Hill Commercial Center project was adopted on February 21, 2002. The ISND is included as Attachment 1 of this Addendum. The ISND covered development of the site and evaluated the following topical sections as it relates to:

- Aesthetics
- Agricultural and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Energy and Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

This Addendum tiers from the previously adopted ISND and the 2035 General Plan Environmental Impact Report (GP EIR) and the 2021 Housing Element Addendum (HE Addendum) (combined, the GP EIR and Addendum). The GP EIR and Addendum analyzed the impacts of full buildout of the City's General Plan land uses and implementation of its policies consistent with the General Plan and the 2021 Housing Element. The GP EIR is available for review on the City's website at: https://www.roseville.ca.gov/development_services/planning/general_plan.php#doc_center_0_panel_0 and the HE Addendum is available at https://www.roseville.ca.gov/development_services/planning/housing_element/documents.php#doc_center_0_panel_0. These are also accessible upon request at the Planning counter during normal business hours.

The ISND evaluated the same impact areas as the Project, but did not include an analysis on Energy, Greenhouse Gases, Tribal Cultural Resources, or Wildfire as these sections were added to the CEQA Guidelines after the Project approval date. Nevertheless, because this Addendum tiers from the previously approved GP EIR and Addendum, in addition to the ISND, those sections are included in the GP EIR and Addendum as described below.

The GP EIR evaluated the following topical sections, as numbered below:

Chapter 4.0. Introduction to the Environmental Analysis

- Section 4.1. Land Use and Agriculture
- Section 4.2. Population, Employment, and Housing
- Section 4.3. Transportation
- Section 4.4. Air Quality
- Section 4.5. Greenhouse Gas Emissions
- Section 4.6. Noise and Vibration
- Section 4.7. Geology, Soils, and Paleontological Resources
- Section 4.8. Biological Resources
- Section 4.9. Cultural and Tribal Cultural Resources
- Section 4.10. Hazards, Hazardous Materials, and Wildfire
- Section 4.11. Public Services and Recreation
- Section 4.12. Utilities and Service Systems
- Section 4.13. Hydrology and Water Quality
- Section 4.14. Aesthetics
- Section 4.15. Energy

The HE Addendum evaluated the same impact areas, but was formatted in the same analysis order as the CEQA Guidelines Initial Study Checklist, in which impacts are evaluated by topic area in alphabetical order. For each impact topic and question, the HE Addendum listed the location (page number) where that topic was addressed in the GP EIR and the disposition of the impact. This Addendum follows the same format. The area analyzed in the GP EIR and Addendum included all areas within the City limits and those areas that are within the City's Sphere of Influence, referred to throughout as the Planning Area. For consistency with previous documentation, in this Addendum the Planning Area will continue to refer to the area assessed within the GP EIR and Addendum, while "Project area" will refer to the much smaller subarea of the Planning area affected by the proposed Project.

The GP EIR included a comprehensive analysis of the impacts of City buildout compared to baseline physical conditions and conservatively assumed that developable sites would be fully developed, rather than developing at average intensities. The analysis in the GP EIR and Addendum assumed the Project site would be developed with uses consistent with the Project land use designation and the City's Zoning Ordinance and Community Design Guidelines. The proposed project will be constructing a convenience store with a fuel station, which are considered commercial use types consistent with the land use and zoning designations of the site. Therefore, development of the Project site would comply with the development standards of the zoning district and

development of the site would be well within the range of development analyzed within the GP EIR, which is why an Addendum was prepared.

No changes are proposed to the land use or zoning designation of the site. Impacts to physical resources (such as agricultural land, biological resources, etc.) are based on the grading and development of an area, not on the proposed use types of the buildings (i.e. restaurant vs. retail) on the property. For other types of impacts which are affected by use type and square footage, the project uses reduce or maintain the same level of potential impacts, as discussed in this Addendum.

ENVIRONMENTAL CHECKLIST FOR ADDENDUM ENVIRONMENTAL REVIEW

The purpose of this checklist is to evaluate the categories in terms of any “changed condition” (i.e. changed circumstances, project changes, or new information of substantial importance) that may result in a changed environmental result. A “no” answer does not necessarily mean there are no potential impacts relative to the environmental category, but that there is no change in the condition or status of the impact since it was analyzed and addressed in prior environmental documents.

EXPLANATION OF CHECKLIST EVALUATION CATEGORIES

Where Impact was Analyzed

This column provides a cross-reference to the pages of the prior environmental documents where information and analysis may be found relative to the environmental issue listed under each topic.

Do Proposed Changes Involve New Significant Impacts?

Pursuant to Section 15162(a)(1) of the CEQA Guidelines, this column indicates whether the changes represented by the current project will result in new significant impacts that have not already been considered and mitigated by the prior environmental review documents and related approvals, or will result in a substantial increase in the severity of a previously identified impact.

Any new Circumstances Involving New Impacts?

Pursuant to Section 15162(a)(2) of the CEQA Guidelines, this column indicates whether there have been changes to the project site or the vicinity (circumstances under which the project is undertaken) which have occurred subsequent to the certification or adoption of prior environmental documents, which would result in the current project having new significant environmental impacts that were not considered in the prior environmental documents or that substantially increase the severity of a previously identified impact.

Any new Information Requiring New Analysis or Verification?

Pursuant to Section 15162(a)(3)(A–D) of the CEQA Guidelines, this column indicates whether new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence at the time the previous environmental documents were certified or adopted is available requiring an update to the analysis of the previous environmental documents to verify that the environmental conclusions and mitigation measures remain valid. Either “yes” or “no” will be answered to indicate whether there is new information showing that: (A) the project will have one or more significant effects not discussed in the prior environmental documents; (B) that significant effects previously examined will be substantially more severe than shown in the prior environmental documents; (C) that mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or (D) that mitigation measures or alternatives which are considerably different from those analyzed in the prior environmental documents would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative. If “no,” then no additional environmental documentation (supplemental or subsequent EIR) is required.

Mitigation Measures Implemented or Addressing Impacts

Pursuant to Section 15162(a)(3) of the CEQA Guidelines, this column indicates whether the prior environmental documents provide mitigation measures to address effects in the related impact category. In some cases, the mitigation measures have already been implemented. A “yes” response will be provided in any instance where mitigation was included, regardless of whether the mitigation has been completed at this time. If “none” is indicated, this environmental analysis concludes a significant impact does not occur with this project, no mitigation was previously included, and no mitigation is needed.

DISCUSSION AND MITIGATION SECTIONS

Discussion

A discussion of the elements of the checklist is provided under each environmental category in order to clarify the answers. The discussion provides information about the particular environmental issue, how the project relates to the issue and the status of any mitigation that may be required or has already been implemented.

Mitigation Measures

Applicable mitigation measures from the prior environmental review that apply to the project are listed under each environmental category.

CHECKLIST

I. Aesthetics

	Where Impact Was Analyzed in Prior Environmental Documents	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a. Have a substantial adverse effect on a scenic vista?	ISND pgs. 7-8	No	No	No	None
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Same	No	No	No	None
c. In non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Same	No	No	No	None
d. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	Same	No	No	No	None

Discussion: The proposed project is located on a property that is already developed and is surrounded by urban uses. The project site does not abut and is not visible from any scenic vista or scenic highway. The ISND analyzed the impacts of grading of the project site and considered them to be less than significant. The proposed uses are substantially consistent with the build out assumptions and would not increase the severity of already identified significant impacts. The Findings of Fact for the CEQA Implementing Procedures indicate that compliance with the Zoning Ordinance, Subdivision Ordinance, Community Design Guidelines, and applicable Specific Plan Policies and/or Specific Plan Design Guidelines will prevent significant impacts related to construction of buildings in urban settings.

The project has been evaluated for compliance with the City's Community Design Guidelines and the design guidelines established in the NERSP. As it relates to aesthetics, these standards ensure the high quality design and architectural character of any buildings developed as well as minimum landscaping standards. As it relates to light and glare, the standards require all parking lot light fixtures to have glare shields. The project has been designed and will be conditioned to comply with the applicable Community Design Guidelines and the NERSP Design Guidelines.

Based on the reasons listed in this section, the changes introduced by the Project and/or new circumstances relevant to the project would not, as compared to the ISND result in a new significant impact or significant impacts that are substantially more severe than significant impacts previously

disclosed. Therefore, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred” relative to aesthetic resources.

Mitigation Measures: None required for this Project.

II. Agricultural & Forestry Resources

	Where Impact Was Analyzed in Prior Environmental Documents	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	ISND pg. 8	No	No	No	None
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	Same	No	No	No	None
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	Same	No	No	No	None
d) Result in the loss of forest land or conversion of forest land to non-forest use?	Same	No	No	No	None
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Same	No	No	No	None
Discussion: The ISND concluded there were no resources to be affected by conversion of the site to urban uses. This conclusion remains appropriate for this Project. The project site is not used for agricultural purposes, does not include agricultural zoning, is not within or adjacent to one of the areas of the City designated as a protected farmland category on the Placer County Important Farmland map, is not within or adjacent to land within a Williamson Act Contract, and is not considered forest land. Given the foregoing, the Project will have no impact on agricultural					

resources. Therefore, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred” relative to agricultural and forestry resources.

Mitigation Measures: None required for this Project.

III. Air Quality

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Conflict with or obstruct implementation of the applicable air quality plan?	ISND pgs. 8-10	No	No	No	None
b) Result in a cumulatively considerable net increase of any criteria for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Same	No	No	No	None
c) Expose sensitive receptors to substantial pollutant concentrations?	Same	No	No	No	None
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Same	No	No	No	None

Discussion: The ISND concluded that the construction activities associated with the prior project would result in short-term air quality impacts. However, the City’s Grading Ordinance includes the General Plan EIR mitigation measures for construction-related air quality impacts which were applicable to the prior project. In addition, the impacts to air quality of continued development in the City was assessed in the General Plan EIR and NERSP EIR and its cumulative impact analyses. The prior project was found to be consistent with the findings and statement of overriding considerations adopted by the City for the General Plan and NERSP EIR. Therefore, with the City’s Grading Ordinance air quality control measures incorporated into the project, the air quality impacts were found to be less than cumulatively considerable. The ISND further found that there are no substantial odor-producers in the vicinity, and the uses on the site would not produce substantial odors. This conclusion remains appropriate for this project.

Short-term impacts to air quality can be expected in association with construction activities. These impacts are primarily associated with grading activities and the increased potential for dust and wind driven erosion of soils. Particulate matter resulting from construction dust will be reduced

by implementing standard dust control measures on the job site as part of an erosion control plan. The grading permit and on-site inspection by the Public Works Department will ensure appropriate dust control measures, such as watering are done to reduce short-term air quality impacts. Vehicle exhaust, produced during project construction, could temporarily contribute to the deterioration of ambient air quality. Diesel fuel fumes from construction equipment may be noticeable in the vicinity of the site; however, this is a short-term effect. All equipment must comply with the mitigation measures and with California emissions standards.

The Project site is not located immediately adjacent to any sensitive receptors. The nearest sensitive receptors include the Kaiser Permanente Medical Center ("Kaiser Hospital") located 600 feet to the east of the project site and single-family residences located 1,800 feet to the south. Construction and operation of the project will increase emissions on the site, but not substantially. Consistency with the City's Grading Ordinance air quality control measures will ensure the air quality impacts of this project would be less than cumulatively considerable.

Fuel stations are also required to obtain a Permit to Operate from the Placer County Air Pollution Control District, and that permit requires preparation of a Health Risk Assessment (HRA). The HRA addresses emissions of Toxic Air Contaminants (TACs) as a result of vapors from the fuel station. A gasoline facility is a source of gasoline vapors that include TACs, primarily benzene. The HRA is required as part of the Air District permit application in order to confirm the potential cancer risk and hazard index resulting from a project is within PCAPCD thresholds, and the permit can be issued. A project-specific HRA (Attachment #1), prepared by Kimley-Horn (dated September 3, 2026) is included as part of this Addendum. The HRA concludes the TAC resulting from the annual amount of gasoline dispensed from the facility will be below the significance thresholds, which is 10 in one million for overall carcinogenic risks and a hazard index of 1 for noncarcinogenic risk (a hazard index of 1 means exposure over a lifetime is not expected to cause harmful, noncancer health effects). The HRA determined that the maximum carcinogenic residential risk associated with the project would be 0.20 cancers/million, which is well below the PCAPCD's significance threshold of 10 cancers/million. The HRA also determined that the acute health risk for residential receptors would be a hazard index of 0.007, which is far below the PCAPCD's significance threshold of a hazard index of 1. The HRA determined that the maximum cancer risk for worker receptors and the Kaiser Hospital would be 2.18 cancers/million and 0.14 cancers/million, respectively, which are both below the PCAPCD's significance threshold of 10 cancers/million. Lastly, the acute health risk for worker receptors would be a hazard index of 0.07 and for the Kaiser Hospital would be a hazard index of 0.017, which are both well below the PCAPCD's significance threshold of 1. Thus, although the project will increase the number of pumps that were originally approved with the prior project from six (6) to ten (10) pumps, the impacts will remain less than significant. Current air quality standards and permit requirements are much stricter than they were in 2002, at the time the previous Negative Declaration was adopted. The advancement of vapor recovery system technology over the past two decades, which had only just become a requirement in 2001, along with the required monitoring of those systems has made significant improvements to the air quality impacts of gas stations. Vapor recovery systems are now required to capture 95% of fumes.

The project does not include components with the potential to create significant objectionable odors. No impact associated with odor would result from the project.

Based on the foregoing, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that "none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred" relative to air quality.

Mitigation Measures: None required for this Project.

IV. Biological Resources

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	ISND pgs. 10-11	No	No	No	None
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Same	No	No	No	None
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Same	No	No	No	None
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Same	No	No	No	None

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Same	No	No	No	None
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Same	No	No	No	None
Discussion: The ISND determined there would be no impact to biological resources because the project area was void of native oak trees or significant natural features or vegetation. This conclusion remains appropriate for the proposed project. Therefore, there would be no new significant impacts not previously identified in the NRSP EIR and ISND. Therefore, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred” relative to impacts to biological resources. Mitigation Measures: None required for this Project.					

V. Cultural Resources

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Cause a substantial adverse change in the significance of an historic resource pursuant to Section 15064.5?	ISND pg. 11	No	No	No	None
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Same	No	No	No	None
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	Same	No	No	No	None
Discussion: The ISND stated that no cultural resources are known to exist on the project site. Therefore, the impacts to potential cultural resources were considered less than significant. This conclusion remains appropriate for the proposed project. Pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.” Mitigation Measures: None required for this Project.					

VI. Energy

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Result in potentially significant environmental impact due to wasteful, inefficient, or	GP EIR pgs. 4.15-9 to 4.15-18	No	No	No	None

unnecessary consumption of energy resources, during project construction or operation?					
b) Conflict with or obstruct a state or local plan for renewable energy or energy inefficiency?	GP EIR pgs. 4.15-18 to 4.15-19	No	No	No	None
Discussion: The ISND did not include an analysis on Greenhouse Gases as this section was added to the CEQA Guidelines after the Project approval date. However, this Addendum also tiers from the previously approved GP EIR, which included this section. The proposed project is consistent with the General Plan land use designation and with build out assumptions. The project is therefore consistent with the current citywide assessment of energy demand, and it is determined it would not result in substantial unplanned demands, nor would it result in inefficient, wasteful, or unnecessary consumption of energy; therefore, impacts were found to be less than significant. Pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.” Mitigation Measures: None required for this Project.					

VII. Geology and Soils

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	ISND pgs. 12-13	No	No	No	None
i) Ruptures of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	Same	No	No	No	None
ii) Strong seismic ground shaking?	Same	No	No	No	None

iii) Seismic-related ground failure, including liquefaction?	Same	No	No	No	None
iv) Landslides?	Same	No	No	No	None
b) Result in substantial soil erosion or the loss of topsoil?	Same	No	No	No	None
c) Be located in a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Same	No	No	No	None
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	Same	No	No	No	None
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	Same	No	No	No	None
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	Same	No	No	No	None
Discussion: There are no active seismic faults in Placer County, and the Alquist-Priolo Act, which addresses earthquake safety in building permits, will apply to the Building Permit review of the project. The project does not include septic systems. The ISND indicated that compliance with existing regulations and permit requirements would be sufficient to avoid impacts related to geology and soils. This conclusion remains appropriate for this Project. The project does not result in any changes to the scope or scale of impacts, and the prior conclusions remain appropriate. Therefore, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.” Mitigation Measures: None required for this Project.					

VIII. Greenhouse Gases

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	GP EIR 4.5-18	No	No	No	GP EIR MM 4.4-2a, MM 4.3-1 and MM 4.5-1c
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	GP EIR 4.5-18	No	No	No	GP EIR MM 4.4-2a, MM 4.3-1 and MM 4.5-1c

Discussion: The ISND did not include an analysis on Greenhouse Gases as this section was added to the CEQA Guidelines after the Project approval date. However, this Addendum also tiers from the previously approved GP EIR, which included this section. The proposed project is consistent with the General Plan land use designation and with build out assumptions. The GP EIR used CalEEMod to estimate GHG emissions which would result from construction and operation of completed land uses consistent with General Plan buildout. The construction emissions were summed and then amortized over a 30-year operational lifetime and added to the operational emissions associated with buildout. Thresholds of significance were developed for the GP EIR based on statewide demographics and data adjusted for land uses relevant in the City of Roseville. The GP EIR evaluation found existing conditions emissions of 5.13 MT CO₂e per service population (a combination of residents and employees) and that this would be reduced slightly to 5.12 MT CO₂e per service population in cumulative buildout conditions. This value exceeds the significance thresholds for the years 2020, 2035, and 2050 (5.07, 2.25, and 0.83 MT CO₂e per service population, respectively). The evaluation further found that mobile emissions from transportation sources account for approximately 67% of citywide emissions and that emissions resulting from the operation of buildings (energy) were the next-largest sector, at approximately 19% of citywide emissions. The GP EIR found that GHG emissions were significant and unavoidable after the application of mitigation. The GP EIR analyses of GHG adequately and appropriately describes the potential impacts of the Project, and the Project does not result in new or substantially more severe increases in significant effects and thus is within the scope of the GP EIR and ISND. Therefore, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.

Mitigation Measures: The mitigation measures below were effectuated through inclusion in the City’s 2035 General Plan Appendix A: Implementation Measures, and are included here for reference.

Mitigation Measure 4.5-1a: Implement Mitigation Measure 4.4-2a.

Mitigation Measure 4.5-1b: Implement Mitigation Measure 4.3-1.**Mitigation Measure 4.5-1c.** The proposed General Plan Update should be amended as follows:

Implementation Measure

Area Sources

- The City shall utilize electric landscape maintenance equipment to the extent feasible on parks and public/quasi-public lands.
- The installation of wood-burning fireplaces or appliances in new development shall not be permitted.

Energy

- The City will pursue within existing and future City facilities and may partner with other public agencies and organizations to promote replacement of appliances and office equipment with energy-efficient models with a priority from highest to lowest in terms of typical GHG reductions, on: water heater, vending machine, copier, refrigerator, printer, dishwasher, water cooler, computer, and clothes washer.
- The City will pursue improvements to existing and future City facilities and may partner with other public agencies and organizations to implement comprehensive building efficiency improvements, inclusive of, but not limited to, implement lighting efficiency upgrades, improved building temperature controls, building air sealing, duct air sealing and duct replacement, upgrading and/or insulating water heaters, ensuring proper functioning and efficiency of heating and air conditioning systems, reducing heat loss through and around windows, installation of cool roofs, and implementing energy conservation education.
- The City will support education and outreach to promote rebates, incentives, and other programs (as they become available) which would promote reductions in greenhouse gas emissions, and use available information on rebates used by consumers to determine where to focus education and outreach, including programs designed to promote electric appliances and replace natural gas appliances, and programs related to lighting.
- The City will promote the U.S. Department of Housing and Urban Development Energy Efficient Mortgage (EEM) program and similar programs that assist buyers in purchasing homes meeting energy-efficiency criteria.
- The City will partner with other agencies and organizations to expand the City's urban forest to promote sequestration, but also with a focus on selection and placement that reduces the need for air conditioning and the urban heat island effect. Land Use and Transportation
- The City will direct its own investments and review proposed development projects to reduce vehicular travel demand, promote non-vehicular travel, and facilitate local purchase and use of electric vehicles.
- The City will continue to direct its own investments and pursue outside funding for infrastructure and operational programs to promote ease and convenience of pedestrian, bicycle, and transit travel for daily trips.
- The City will integrate its land use and transportation planning and review and condition proposed projects to better situate residents in proximity to workplaces, goods and services, and recreational opportunities, making updates to implementing plans, such as the

Capital Improvement Program, Bicycle Master Plan, Pedestrian Master Plan, Transportation Systems Management program, transportation impact fee program, and transit plans.

- The City will support applications for affordable housing funds from agencies that reward and incentivize good planning, such as infill housing and housing built close to jobs, transportation, and amenities.
- The City will partner with other agencies and proposed developments to expand bicycle parking and other facilities, pedestrian facilities and amenities, and electric vehicle charging stations, with a focus on daily destinations.
- The City will support a reduction of parking requirements for projects with a location, design, surrounding mix of uses, access to nonvehicular transportation facilities, and/or ongoing travel demand management programs that would reduce the need for vehicular trips.

IX. Hazards and Hazardous Materials

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	ISND pg. 13	No	No	No	None
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	ISND pgs. 14-15	No	No	No	None
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Same	No	No	No	None

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Same	No	No	No	None
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	Same	No	No	No	None
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Same	No	No	No	None
g) Expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	Same	No	No	No	None

Discussion: The California Health and Safety Code and local City Ordinances regulate the handling, storage, and transportation of hazardous and toxic materials. The California Health and Safety Codes require a Risk Management and Prevention Program (RMPP) for those uses that handle specified quantities of toxic and/or hazardous materials. Also, businesses that handle toxic or hazardous materials are required to complete a Hazardous Materials Management Program (HMMP). Furthermore, all business owners must file a site-specific business plan with the City Fire Department before a new building is occupied. All plans would need to specify what materials would be used or stored on-site and what to do in the event of an accident and which transportation routes would be used. With the implementation of the HMMP and business plan requirements, the use of storage of hazardous materials on-site would be reduced to less than significant levels with the appropriate aforementioned implementation HMMP and business plan requirements.

In addition to the HMMP, regulations of both the United States Environmental Protection Agency (EPA) and the California Department of Toxic Substances Control (DTSC) regulate underground fuel storage tanks. The project will include three 20,000-gallon fuel storage tanks that will each have a depth of 18 feet below ground level. The EPA requires leak detection (called release detection) for underground fuel storage tanks. The requirements include secondary containment with interstitial monitoring, which means the fuel container is placed within a second container and leak detection is included inside that second container, so that if the tank is leaking it will be detected and resolved before it can come in contact with the surrounding environment. The same requirement for secondary containment and interstitial monitoring is also required for all pressurized piping from the tank to the fuel pumps. DTSC regulates how the tanks must be constructed and placed to ensure they remain structurally sound, including requirements for each tank to be set on foundations and surrounded with at least six inches of noncorrosive materials such as clean sand, earth, or gravel, and that the tanks must be buried at least three feet, or buried 18 inches deep with six inches of reinforced concrete or eight inches of asphalt. These regulations ensure the safe operation of underground fuel storage tanks; impacts are less than significant.

The project is not on a state-listed hazardous site, is not located within an airport land use plan area or in the vicinity of a private airstrip. The project site is within an area of the City currently receiving emergency services and the project would not increase the demand for emergency services beyond that identified in the General Plan EIR. The City is not located within a Very High Fire Hazard Severity Zone, and is not in a CAL FIRE responsibility area; fire suppression is entirely within local responsibility. The project site is in an urban area, and therefore would not expose people to any risk from wildland fire. The project does not result in any changes to the scope or scale of impacts, and the prior conclusions remain appropriate.

The proposed project does not significantly change the project's potential impacts related to hazardous materials, and it will also be subject to federal, state and local regulations and permits that would prevent significant impacts. Therefore, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.

Mitigation Measures: None required for this Project.

X. Hydrology and Water Quality

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	ISND pgs.15-16	No	No	No	None
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Same	No	No	No	None

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	Same	No	No	No	None
i) result in substantial erosion or siltation on or off-site;	Same	No	No	No	None
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	Same	No	No	No	None
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater systems or provide substantial additional sources of polluted runoff; or	Same	No	No	No	None
iv) impede or redirect flood flows?	Same	No	No	No	None
d) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Same	No	No	No	None
e) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	Same	No	No	No	None
f) In flood hazard, tsunami, or seiches zones, risk release of pollutants due to project inundation?	Same	No	No	No	None

Discussion: The ISND indicated that development of the site would not result in any substantial water-related impacts. Existing regulations and permits would ensure that water quality and stormwater impacts would be less than significant. The proposed project has been evaluated by the City to ensure the design continues to meet current adopted stormwater quality design standards. Therefore, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred” as it relates to hydrology and water quality impacts.

Mitigation Measures: None required for this Project.

XI. Land Use and Planning

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Physically divide an established community?	ISND pg. 17	No	No	No	None
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect?	Same	No	No	No	None
Discussion: The ISND concluded that the previously evaluated project would not physically divide an established community as it is located in an area that has been planned for development, including adequate roads and pedestrian paths to provide connections within the community. The ISND found that the previously evaluated project was consistent with the policies of the Zoning Ordinance and General Plan, which are adopted for the purpose of avoiding environmental effects. These conclusions remain applicable to the proposed project. The proposed project is consistent with the zoning and land use designations of the site. In addition, City staff has determined that the project is consistent with the standards and guidelines outlined in the City's Zoning Ordinance, Community Design Guidelines, and the NERSP, including setbacks, landscaping, lighting, and building architecture to fit in with the surrounding community. The project will not divide an existing community and no conflicts with policies adopted for the purpose of avoiding or mitigating an environmental effect have been identified. The Project is substantially consistent with the build out assumptions and would not increase the severity of already identified significant impacts; therefore, there would be no new significant impacts not previously identified in the ISND relative to land use. Thus, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that "none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred" relative to land use and planning. Mitigation Measures: None required for this Project.					

XII. Mineral Resources

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	ISND pg. 17	No	No	No	None
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	ISND pg. 18	No	No	No	None
Discussion: The ISND indicated that the project site was not known to include any mineral resources that would be of local, regional, or statewide importance. This conclusion remains appropriate for this Project. Therefore, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.” Mitigation Measures: None required for this Project.					

XIII. Noise

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents' Mitigation Measures Implemented or Addressing Impacts.
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	ISND pgs. 18-19	No	No	No	None
b) Generation of excessive ground borne vibration of ground borne noise levels?	Same	No	No	No	None
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Same	No	No	No	None

Discussion: The ISND addressed construction noise and found that surrounding uses may experience short-term increases in noise levels and temporary ground-borne vibrations due to construction activities. When conducted during daytime hours, construction activities are exempt from Noise Ordinance standards, but the standards do apply to construction occurring during nighttime hours. While the noise generated may be a minor nuisance, the City Noise Regulation standards are designed to ensure that impacts are not unduly intrusive. Based on this, the ISND found that impacts would be less than significant. This conclusion remains appropriate and applicable to the Project.

The project site is not in proximity to a private air strip or an airport land use plan, and is not within two miles of a public airport public use airport; therefore, no impact would occur.

Pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.”

Mitigation Measures: None required for this Project.

XIV. Population and Housing

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents Mitigation Measures Implemented or Addressing Impacts.
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	ISND pgs. 19-20	No	No	No	None
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Same	No	No	No	None

Discussion: The ISND concluded that the site development was not housing-related, was consistent with the land use designation and thus would not induce unplanned growth and would not displace housing. This conclusion remains appropriate for this Project. Therefore, pursuant

to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.”

Mitigation Measures: None required for this Project.

XV. Public Services

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents Mitigation Measures Implemented or Addressing Impacts.
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any the public services:					
a) Fire protection?	ISND pgs. 20-21	No	No	No	None
b) Police protection?	Same	No	No	No	None
c) Schools?	Same	No	No	No	None
d) Parks?	Same	No	No	No	None
e) Other public facilities?	Same	No	No	No	None

Discussion: The ISND concluded that the project would not have a significant effect upon or create any additional need for public services (i.e., fire protection, police services, schools) greater than those already identified for the General Plan EIR. The General Plan EIR examined service needs based on land use designations, so any project consistent with existing land use designations would not negatively impact services. The proposed project remains consistent with the land use designation of the site, and therefore this conclusion remains appropriate

for this Project. Therefore, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.”

Mitigation Measures: None required for this Project.

XVI. Recreation

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents Mitigation Measures Implemented or Addressing Impacts.
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated?	ISND pg. 21	No	No	No	None
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Same	No	No	No	None
Discussion: The ISND determined the project would not generate additional demand for recreation opportunities or impact the recreational facilities in Roseville. The proposed project would not result in a new significant impact or significant impacts that are substantially more severe than those analyzed in the ISND. Therefore, pursuant to CEQA Guidelines Section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred” regarding recreation. Mitigation Measures: None required for this Project.					

XVII. Transportation

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents Mitigation Measures Implemented or Addressing Impacts.
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	ISND pgs. 21-23	No	No	No	None
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Same	No	No	No	None
c) Substantially increase hazards due to a geometric design feature(s) (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Same	No	No	No	None
d) Result in inadequate emergency access?	Same	No	No	No	None

Discussion: The ISND for the prior project included a traffic study that evaluated the long-term and short-term impacts associated with the project. It was determined that the project would not create significant impacts, and the project had sufficient site access. Potential transportation impacts were considered less than significant.

Kimley-Horn prepared a circulation analysis memo for the proposed project (see Attachment 3). The memo evaluated the on-site traffic related impacts associated with the construction of the proposed fuel station including site ingress and egress, shared drive aisle usage, and queueing, particularly as it relates to the overall circulation of vehicles on-site. The memo concluded that the proposed project is not expected to result in significant on-site queueing and circulation impacts under Existing Plus Project conditions. The proposed site circulation layout was found to provide adequate vehicle storage and maintain acceptable circulation conditions for the fuel station and surrounding on-site drive aisles. Therefore, transportation impacts remain less than significant.

Therefore, the Project would not result in a new significant impact or significant impacts that are substantially more severe than those previously analyzed. Therefore, pursuant to CEQA Guidelines Section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred”.

Mitigation Measures: None required for this Project.

XVIII. Tribal Cultural Resources

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents Mitigation Measures Implemented or Addressing Impacts.
Would the project cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	ISND pg.11	No	No	No	None
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	Same	No	No	No	None
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 the lead agency shall consider the significance of the resource to a California Native American tribe.	Same	No	No	No	None

Discussion: In addition to archeological resources, tribal cultural resources are also given particular treatment. Tribal cultural resources are defined in Public Resources Code Section 21074, as either 1) a site, feature, place, geographically-defined cultural landscape, sacred place, or object with cultural value to a California Native American Tribe, that is listed or eligible for listing on the California Register or Historical Resources, or on a local register of historical resources or as 2) a resource determined by the lead agency, supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code section 5024.1(c), and considering the significance of the resource to a California Native American Tribe. This section was added to the CEQA Guidelines after the publication of the prior ISND to which this Addendum is attached, but cultural resources were addressed in that document. The ISND determined there were no impacts to cultural resources. This conclusion remains applicable to the proposed project.

As described above, the Project would not result in a new significant impact or significant impacts that are substantially more severe than those analyzed in the ISND. Therefore, pursuant to CEQA Guidelines Section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred” regarding tribal cultural resources.

Mitigation Measures: None required for this Project.

XIX. Utilities and Service Systems

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents Mitigation Measures Implemented or Addressing Impacts.
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	ISND pgs. 23-24	No	No	No	None
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Same	No	No	No	None
c) Result in a determination by the wastewater treatment provider which serves the project that it has adequate capacity to serve the project's projected demand in addition of the provider's existing commitments?	Same	No	No	No	None
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Same	No	No	No	None
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Same	No	No	No	None

Discussion: The ISND found that the previous project would have a less than significant impact on utilities and services. The proposed project has been analyzed by City and external service and utility providers, and has been found to be consistent with standards, and utilities and service demands are within the scope of the previously analyzed project. Furthermore, Citywide planning of water supply and sewer infrastructure is based on land use, and the Project is consistent with the existing land use designation. Therefore, pursuant to CEQA Guidelines

section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred” regarding utilities and service systems.

Mitigation Measures: None required for this Project.

XX. Wildfire

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents Mitigation Measures Implemented or Addressing Impacts.
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Not applicable	No	No	No	None
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Not applicable	No	No	No	None
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Not applicable	No	No	No	None

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Not applicable	No	No	No	None
Discussion: The ISND did not previously analyze the wildfire effects of the project as this was not a checklist item at the time. However, the checklist questions a—d above do not apply, because the project site is not within a Very High Fire Hazard Severity Zone and is not in a CAL FIRE responsibility area. The project receives fire protection from the Roseville Fire Department. Therefore, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.” Mitigation Measures: None required for this Project.					

XXI. Mandatory Findings of Significance

	Where Impact Was Analyzed in Prior Environmental Documents.	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Documents Mitigation Measures Implemented or Addressing Impacts.
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, threatened or rare species, or eliminate important examples of the major periods of California history or prehistory?	ISND pgs. 24-25	No	No	No	None

b) Does the project have impacts which are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	Same	No	No	No	None
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Same	No	No	No	None
Discussion: Long term environmental goals are not impacted by the proposed project. The cumulative impacts do not deviate beyond what was contemplated in the General Plan EIR and the NERSP EIR, and mitigation measures have already been incorporated. With implementation of the City’s Mitigating Ordinances, Guidelines, and Standards and best management practices, mitigation measures described in this chapter, and permit conditions, the proposed project will not have a significant impact on the habitat of any plant or animal species. Based on the foregoing, the project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of any wildlife species, or create adverse effects on human beings. Thus, pursuant to CEQA Guidelines section 15164, subdivision (a), the City finds that “none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred” relative to the mandatory findings of significance. Mitigation Measures: None required for this Project.					

ENVIRONMENTAL DETERMINATION:

In reviewing the site specific information provided for this project and acting as Lead Agency, the City of Roseville, Development Services Department, Planning Division has analyzed the potential environmental impacts created by this project and determined that the findings of CEQA Section 15162 concerning the decision not to prepare a subsequent EIR or negative declaration and the findings of CEQA Section 15164 concerning the decision to prepare an Addendum can be made. As supported by substantial evidence within the Addendum to the Initial Study Negative Declaration for the Lead Hill Commercial Center (Wal-Mart) (adopted February 21, 2002), the Lead Agency makes the following findings:

[X] No substantial changes are proposed in the project which would require major revisions of the previous EIR or Negative Declaration.

[X] No substantial changes have occurred with respect to the circumstances under which the project is undertaken.

[X] There is no new information of substantial importance which was not known and could not have been known with the exercise of due diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted.

[X] Only minor technical changes or additions are necessary in order to deem the adopted environmental document adequate.

Addendum Prepared by:

Kinarik Shallago

Kinarik Shallago, Associate Planner
City of Roseville, Development Services–Planning Division

Attachments:

1. Initial Study and Negative Declaration for the Lead Hill Commercial Center (Wal-Mart)
2. Kimley-Horn Health Risk Assessment
3. Kimley-Horn Circulation Analysis Memo

EXHIBIT A



PLANNING
CITY OF ROSEVILLE
TRADITION • PRIDE • PROGRESS

316 VERNON STREET, #104 • ROSEVILLE, CA 95678 • PHONE (916) 774-5276

NOTICE OF NEGATIVE DECLARATION

Project Title: Lead Hill Commercial Center (Wal-Mart)

Project Files: DRP 01-56, PM 01-11, AP 01-60, AP 01-61, & SV 01-05

Assessor Parcel Number: 048-520-020 & 048-520-021

Project Location: The project site is located at 1400 Lead Hill Boulevard in the Northeast Roseville Specific Plan area

Project Description: The applicant is requesting approval of a Design Review Permit (DRP) to construct a 142,129 square foot Wal-Mart store with a garden center, tire and lube express and a separate freestanding self-service gas station kiosk with six fuel pumps and associated site improvements including landscaping and lighting. In conjunction with the DRP the applicant is requesting approval of two separate Administrative Permits to allow for permanent outdoor display areas in front of the store as well as a maximum of 135 days of outdoor seasonal sales in a designated area of the parking lot. The applicant has also requested approval of a Tentative Parcel Map to merge and resubdivide two parcels totaling 19.62 acres into three parcels sized 17.48, 1.62, and 1.02 acres. Lastly, the applicant is requesting approval of a Sign Variance to allow for 341.95 square feet of signage associated with the Wal-Mart building where a maximum of 200 square feet of signage is allowed by the Sign Ordinance.

DECLARATION

On October 19, 2001, the Planning Director determined that the above project will have no significant effect on the environment and is therefore exempt from the requirement of an Environmental Impact Report. The determination is based on the following findings:

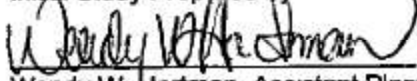
- a) *The project will not have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal community, reduce the number or restrict the range of rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.*
- b) *It will not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.*
- c) *It will not have impacts which are individually limited, but cumulatively considerable.*
- d) *It will not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.*
- e) *No substantial evidence exists that the project will have a negative adverse effect on the environment.*

Written comments shall be submitted no later than 20 days from the posting date. Appeal of this determination must be made during the posting period.

Submit comments to
Roseville Planning Department
Attn: Wendy Hartman, Assistant Planner
316 Vernon Street, #104
Roseville, CA 95678

Posting period: 2/1/02 to 2/21/02

Initial Study Prepared by


Wendy W. Hartman, Assistant Planner

The public hearing on this item is tentatively scheduled for February 21, 2002 at 4:30 p.m. before the Roseville Design Committee and will be held at the Roseville City Corporation Yard at 2005 Hilltop Circle; Roseville, California 95747.

NOTE TO PLACER COUNTY CLERK: Please mail the original of this document back to the Roseville City Clerk at 2000 Hilltop Circle, Roseville, CA 95747.



**PLANNING
CITY OF ROSEVILLE
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316 VERNON STREET, 104 ■ ROSEVILLE, CA 95678 ■ PHONE (916) 774-5276

INITIAL STUDY AND ENVIRONMENTAL CHECKLIST

**LEAD HILL COMMERCIAL CENTER
(WAL-MART)**

FILE: DRP 01-56; PM 01-11, AP 01-60, AP 01-61, & SV 01-05

FEBRUARY 1, 2002

PREPARED FOR:

**DOUCET & ASSOCIATES, INC.
3300 DOUGLAS BLVD., SUITE 475
ROSEVILLE, CA 95661**

PREPARED BY:

**CITY OF ROSEVILLE PLANNING DEPARTMENT
316 VERNON STREET, SUITE 104
ROSEVILLE, CA 95678**

**CONTACT: WENDY W. HARTMAN, ASSISTANT PLANNER
(916) 774-5276**

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ATTACHMENTS

- 1 Vicinity Map
- 2 Site Plan (reduced copy)
- 3 Elevation Plan (reduced copy)
- 4 Traffic Study (available at the Planning Department)

INTRODUCTION

This initial study has been prepared to identify and assess the potential environmental impacts of the proposed Lead Hill Commercial Center (Wal-Mart) located at 1400 Lead Hill Boulevard. This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before approving or implementing those projects.

The initial study is a public document used by the decision-making lead agency to determine whether a project may have a significant effect on the environment. If the lead agency finds substantial evidence that any aspect of the project, either individually or cumulatively, may have a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial, the lead agency is required to prepare an environmental impact report (EIR), use a previously prepared EIR and supplement that EIR, or prepare a subsequent EIR to analyze the project at hand. If the agency finds no substantial evidence that the project or any of its aspects may cause a significant impact on the environment, a negative declaration shall be prepared. If in the course of the analysis, it is recognized that the project may have a significant impact on the environment but that with specific mitigation measures these impacts shall be reduced to a less-than-significant level, a mitigated negative declaration shall be prepared.

In reviewing the site specific information provided for this project, the City of Roseville Planning Department has analyzed the potential environmental impacts created by this project and determined that the impacts are considered to be less than significant. Therefore, a **Negative Declaration** has been prepared for this project.

PROJECT INFORMATION

1. **Project Title:** Lead Hill Commercial Center (Wal-Mart)
2. **Project Applicant:** Richard Chavez, Doucet & Associates
3. **Lead Agency:** Roseville Planning Department, 316 Vernon Street (Suite 104), Roseville, CA 95678
4. **Lead Agency Contact:** Wendy W Hartman, Assistant Planner, Phone: (916) 774-5276
5. **Property Owner:** Robert Bedard, Wal-Mart Stores, Inc
6. **Assessor Parcel Number:** 048-520-020 & 048-520-021
7. **Project Location:** The project site is located at 1400 Lead Hill Boulevard in the Northeast Roseville Specific Plan area
8. **General Plan Designation, Zoning, and Surrounding Land Uses:** The surrounding uses as depicted on the City's General Plan Land Use Plan Map and Zoning Map are summarized below

LOCATION	ZONING	GENERAL PLAN LAND USE	ACTUAL USE
On-Site	Community Commercial/Special Area-Northeast Roseville Specific Plan (CC/SA-NE)	Community Commercial (CC)	Vacant
North	Planned Development – Auto Center (PD 247)	Regional Commercial (RC)	Roseville Auto Mall
South:	Community Commercial (CC)	CC	Roseville Center (Target)
East	Plan Development – Medical Campus (PD 470)	Business Professional (BP)	Kaiser Hospital
West	Planned Development – Commercial & It Ind Office (PD 16)	BP	Offices

The proposed retail project is consistent with the existing zoning and land use.

9. **Description of Project:** The project includes a Design Review Permit request for the construction of a 142,129 square foot Wal-Mart store with a garden center, tire and lube express and a separate freestanding self-service gas station kiosk with six fuel pumps and associated site improvements including landscaping and lighting. In conjunction with the DRP the applicant is requesting approval of two separate Administrative Permits to allow for permanent outdoor display areas in front of the store as well as a maximum of 135 days of outdoor seasonal sales in a designated area of the parking lot. The applicant has also requested approval of a Tentative Parcel Map to merge and resubdivide two parcels totaling 19.62 acres into three parcels sized

17.48, 1.62, and 1.02 acres. Lastly, the applicant is requesting approval of a Sign Variance to allow for 341.95 square feet of signage associated with the Wal-Mart building where a maximum of 200 square feet of signage is allowed by the Sign Ordinance.

10. **Background/Previous Entitlements:** The subject property is Parcel 11 of the Northeast Roseville Specific Plan (NERSP). The vacant 19.6-acre parcel is located at the southwest corner of Lead Hill Boulevard and Rocky Road (see Vicinity Map, Attachment 1). The project site is known as "The Rockpile" because large rocks and other fill materials were deposited on the site during construction of the adjacent Target Center and other NERSP improvements in 1987.

Parcel 11 was within the original boundaries of the NERSP at the time of the plan's adoption (April 8, 1987). The site received a Specific Plan land use designation of Business Professional/Professional Office (BP/PO), and infrastructure improvements in the plan area were designed based upon this type of development. Environmental review for the NERSP also considered development of the site. However, Parcel 11 was not a party to the original Development Agreement(s) for the NERSP. As a result, the property was zoned Urban Reserve (UR).

In 1999, the City Council approved General Plan Amendment, Specific Plan Amendment and Rezone applications and adopted a Negative Declaration for the site. The site's General Plan land use designation was changed from BP to CC, the NERSP land use designation was changed from BP/PO to BP/C, and the zoning was changed from UR to the current CC/SA-NE. A Development Agreement between the City and the Friedman Family LLC was also approved in 1999.

The City of Roseville approved a Grading Plan for the site in 1999. The site has recently been graded, including the removal of materials from the site. Although materials have been removed from the site, the site is still higher in elevation than the surrounding parcels and streets, with exception of the auto mall which is north of the site across Lead Hill Boulevard.

On January 11, 2001, the Planning Commission approved a Design Review Permit to construct two office buildings, two flex-space buildings, and one office/commercial building totaling 157,427 square feet and a Tentative Subdivision Map to subdivide the site into six parcels. Unless this permit has been effectuated by January 11, 2003 it will expire. The property owner has indicated that this project will not be pursued once the current request has been approved.

11. **Physical/Natural Characteristics of the Site:** The site has been cleared of vegetation with the exception of small areas of annual grasses and other non-perennial herbaceous species. There are no existing trees and there are no wetlands or riparian plants on the site.

PREVIOUS ENVIRONMENTAL DOCUMENTS

CEQA allows the use of program EIR's to provide the basis in an initial study for determining whether the later activity may have any significant effects. It can also be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.

The City has determined that an Initial Study shall be prepared in order to determine whether the potential exists for unmitigatable impacts resulting from the proposed project. Relevant analysis from certified

program EIRs, and other project-specific studies and reports that have been generated to date were used as the database for the Initial Study

The following documents serve as program-level "tiering" EIR's from which tiering and incorporation by reference can occur:

- General Plan EIR,
- Southeast Roseville Specific Plan EIR,
- Northeast Roseville Specific Plan EIR,
- Northwest Roseville Specific Plan EIR,
- North Central Roseville Specific Plan EIR,
- Del Webb Roseville Specific Plan EIR,
- Highland Reserve North Specific Plan EIR,
- North Roseville Specific Plan Phase I, II, and III EIRs, and
- Stoneridge Specific Plan EIR

Note: The above stated documents are available for review within the City of Roseville Planning Department located at 316 Vernon Street #104, Roseville, CA 95678.

In addition, the North Roseville Phase III Specific Plan EIR was used to provide the most recent analysis of Citywide cumulative impacts. All analysis must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project level, indirect as well as direct, and construction as well as operational impacts. This Initial Study is based on existing available information from these certified EIR's.

EXPLANATION OF INITIAL STUDY CHECKLIST

The State California Environmental Quality Act (CEQA) Guidelines recommends that lead agencies use an Initial Study Checklist to determine potential impacts of the proposed project to the physical environment. The Initial Study Checklist provides a list of questions concerning a comprehensive array of environmental issue areas potentially affected by this project. In an effort to avoid redundancy, explanations to answers are provided in "Discussion of Environmental Impacts" following the Initial Study Checklist.

There are four (4) possible answers to the Environmental Impacts Checklist on the following pages. Each possible answer is explained herein:

- 1) A "Potentially Significant Impact" is appropriate if there is enough relevant information and reasonable inferences from the information that a fair argument can be made to support a conclusion that a substantial, or potentially substantial, adverse change may occur to any of the physical conditions within the area affected by the project. When one or more "Potentially Significant Impact" entries are made, an EIR is required.
- 2) A "Potentially Significant Unless Mitigation Incorporated" answer is appropriate where the applicant has agreed to incorporate a mitigation measure to reduce an impact from "Potentially Significant" to a "Less than Significant." For instance, impacts to flood waters could be reduced from a "potentially significant impact" to a "less than significant impact" by relocating a building to an area outside of the floodway. The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level.

- 3) A "Less Than Significant Impact" answer is appropriate if there is evidence that one or more environmental impacts may occur, but the impacts are determined to be less than significant, or that the application of development policies and standards to the project will reduce the impact(s) to a less than significant level. For instance, the application of the City's Improvement Standards reduces potential erosion impacts to a less than significant impact.
- 4) A "No Impact" answer is appropriate where it can be clearly seen that the impact at hand does not have the potential to adversely affect the environment. For instance, a project in the center of an urbanized area will clearly not have an adverse effect on agricultural resources or operations.

All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project level, indirect as well as direct, and construction as well as operational impacts. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources cited in the parentheses following each response. A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards.

INITIAL STUDY CHECKLIST

This section of the Initial Study incorporates Appendix "G" Environmental Checklist Form, contained in the CEQA Guidelines (revised October 1998). Impact questions and responses are included in both tabular and narrative formats for each of the 17 environmental topic areas.

1. Aesthetics

Would the project

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Discussion of Checklist Answers:

Light and glare will increase above the existing undeveloped condition. Light and glare produced from the development of the proposed project will result from building and parking lot lighting. As part of the Design Review Permit process, site lighting is reviewed for aesthetic concerns as well as on-site conflicts.

and off-site glare. The project is not located next to sensitive receptors (e.g. residential) and has been designed using light fixtures that will minimize light and glare. In addition, the project will be conditioned to insure that all exterior lighting is directed on-site to reduce overspill and glare and to ensure that light and glare impacts upon the adjacent properties and roadways are reduced to less than significant levels.

The proposal does not obstruct any scenic vista or scenic highway. The City's reviewing authority will review the Design Review Permit for conformance with City standards and requirements. This discretionary review will reduce any potential aesthetic impacts associated with the project to a less than significant level. Based on the information presented above, aesthetic impacts are considered to be less than significant.

2. Agricultural Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X

Discussion of Checklist Answers:

No agricultural resources are present on the site. The proposed project would have no impact on agricultural resources.

3. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c) Result in a cumulatively considerable net increase of any criteria for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?			X	

Discussion of Checklist Answers:

Under the California Clean Air Act, Placer County has been designated a "serious non-attainment" area for ozone and a "non-attainment" area for PM₁₀ (particulate matter less than 10 microns in diameter). Under the Federal Clean Air Act, Placer County is designated as severe non-attainment for ozone, and South Placer County is in attainment for the federal PM₁₀ standards. The Placer County Air Pollution Control District (PCAPCD) is responsible for administration of air quality standards.

The City of Roseville, along with the south Placer County area, is located in the Sacramento Air Quality Maintenance Area (SAQMA). The Sacramento Area Council of Governments (SACOG), in conjunction with SAQMA air quality management districts, and the California Air Resources Board, developed the SAQMA portion of the State Implementation Plan (SIP). The SIP is required to demonstrate compliance with the Federal Clean Air Act Amendments. The SIP was approved by the U.S. EPA in 1996, and the SAQMA has since been operating under the SIP control measures.

Air quality impacts due to construction projects have been addressed in the Roseville 2010 General Plan EIR (Resolution No. 92-320), Northeast Roseville Specific Plan EIR and in subsequent EIR's, including the Stoneridge Specific Plan EIR and the North Roseville Specific Plan EIR. In each instance, the City determined that proposed development would create potentially unmitigatable impacts to air quality and has adopted statements of overriding considerations relative to unavoidable and unmitigatable air quality impacts.

The construction activities associated with the proposed project will result in short-term air quality impacts. CEQA requires that adverse impacts of the proposed project be reduced as much as feasible. The City's Grading Ordinance includes the General Plan EIR mitigation measures for construction-related air quality impacts which are applicable to the proposed project:

- **Dust Control:** Water all excavated or graded areas sufficiently to prevent excessive dust. Water or cover all material transported offsite to prevent excessive dust release. Minimize the total construction area disturbed by clearing, earth moving, or excavation.
- **Clean Construction:** Sweep paved streets adjacent to the project site at least once a day to remove silt accumulated from construction activities. Clean construction vehicles before exiting work site. Maintain all construction-related internal combustion engines according to the manufacturers specifications.

The City has assessed the impacts to air quality of continued development in the City in both the General Plan EIR and Northeast Roseville Specific Plan EIR and its cumulative impact analyses. This project is consistent with the findings and statement of overriding considerations adopted by the City for the General Plan and Northeast Roseville Specific Plan EIR. Therefore, with the City's grading ordinance air quality control measures incorporated into the project, the air quality impacts of this project would be less than cumulatively considerable.

No new odor-producing activities are proposed, other than that associated with equipment exhaust during construction activities. Diesel fuel fumes may be noticeable in the vicinity of the site; however, this is a short-term effect. All equipment must comply with California emissions standards. Therefore, a less than significant impact is expected.

4. Biological Resources

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

Discussion of Checklist Answers:

The natural topography has been altered in the past due to rough grading. The project area is void of trees, large shrubs or significant natural features or vegetation. Therefore the project will not have an impact on biological resources.

5. Cultural Resources

Would the project

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historic resource as defined in Section 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X

Discussion of Checklist Answers:

No cultural resources are known to exist on the project site. Impacts to potential cultural resources are considered to be less than significant.

6. Geology and Soils

Would the project

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42)				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located in a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Discussion of Checklist Answers:

- a The project will not expose people or structures to potential substantial adverse effects involving seismic shaking, ground failure or landslides
- i-iii) The project site is located in Roseville which is in Placer County. The California Department of Mines and Geology classifies the South Placer area as a low severity earthquake zone. No active faults are known to exist within the County. The project site is considered to have low seismic risk with respect to faulting, groundshaking, seismically-

related ground failure and liquefaction. Therefore, no impact would occur in association with rupture of a known earthquake fault or seismic related ground failure.

iv) Landslides typically occur where soils on steep slopes become saturated or where natural or manmade conditions have taken away supporting structures and vegetation. The existing and proposed slopes are not steep enough to present a hazard during development or upon completion of the project. In addition, during construction, measures would be incorporated to shore slopes and prevent potential earth movement. Therefore, impacts associated with landslides are considered less than significant.

b) Grading activities will result in the disruption, displacement, compaction and overcovering of soils associated with site preparation (grading and trenching for utilities). The project site has been disturbed by recent rough grading activities, therefore, there are no notable topographic features on the site. Grading activities for the project will be limited to the project site. The project site will excavate approximately 8,509 cubic yards (c y.) of material and fill 33,370 cubic yards of material.

Grading activities require a grading permit from the Engineering Division of the Public Works Department. The grading permit will be reviewed for compliance with the City's Improvement Standards, including the provision of proper drainage, appropriate dust control and erosion control measures. Grading and erosion control measures will be incorporated into the required grading plans.

c-d. The project site is not located in a sensitive geologic area and does not expose people to potential geologic impacts. Additionally, the Roseville General Plan finds such impacts to be less than significant since new buildings and structures are required to comply with all applicable building codes. The City of Roseville Building Department will review construction plans before a building permit is issued and the Engineering Division will review and approve all rough grading plans to insure that all grading and structures would withstand shrink-swell potentials and earthquake activity in this area.

e. No septic tanks are proposed as part of the project. Therefore, no impact to soils relative to supporting use of septic tanks would occur.

7. Hazards and Hazardous Materials

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Discussion of Checklist Answers:

The project includes a gas station and will store and/or use toxic and/or flammable materials at the project site. The California Health and Safety Code, and local City Ordinances regulate the handling, storage and transportation of hazardous and toxic materials. The California Health and Safety Codes require a Risk Management and Prevention Program (RMPP) for those uses that handle specified quantities of toxic and/or hazardous materials. Also, businesses which handle toxic or hazardous materials are required to complete a Hazardous Materials Management Program (HMMP). Furthermore, all business owners must file a site-specific business plan with the City Fire Department before a new building is

occupied. All plans would specify what to do in the event of an accident, and which transportation routes would be used. This project is located within an area currently receiving City emergency services; the project will cause a less than significant impact to the City's Emergency Response or Management Plans. Furthermore, the project will be required to comply with all local, State and Federal requirements for the handling of hazardous materials.

This project is located within an area currently receiving City emergency services. The project will cause a less than significant impact to the City's Emergency Response or Management Plans. In addition, conditions will be applied to the project requiring compliance with all local, State and Federal requirements for the handling and/or storage of hazardous materials. As such, potential impacts associated with hazardous materials are expected to be less than significant.

The project is not located within an airport land use plan area, no airports are located within two miles of the project site, and the project site is not located within the vicinity of a private airstrip. No impact would occur.

8. Hydrology and Water Quality

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted water?			X	
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

Discussion of Checklist Answers:

Development of the site will not result in any substantial water-related impacts. Construction of the proposed project and overcovering of the site with paving will have a minor effect on the absorption rate of water on-site, however, the project will include a drainage system designed in accordance with the City's improvement standards which will adequately handle on-site drainage associated with the development of the property.

A grading permit, with associated mitigation measures for dust control, will be required before construction starts. There may be minor amounts of wind and/or water erosion associated with construction of the facility. Standard erosion control measures will be required during construction.

No groundwater withdrawal is proposed. The proposed project will have no effect on groundwater supplies. Seiches and tsunamis are seismically induced large waves of water. Because there are no bodies of water nearby, the threat of seiche and tsunami is non-existent. Similarly, mudflows are not a concern in Placer County. Therefore, based on the soil types found in Placer County, the proposed project would have no impact relative to inundation by seiche, tsunami or mudflow.

Based on the information provided above, impacts regarding water/earth are considered less than significant.

9. Land Use and Planning

Would the project

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Discussion of Checklist Answers:

The General Plan land use designation is Community Commercial (CC); the zone district designation is Community Commercial/Special Area-Northeast Roseville Specific Plan (CC/SA-NE). The development will include a large retail building with a garden center and tire & lube service and a separate gas kiosk. The proposed primary use as a commercial retail facility (Wal-Mart) is consistent with the CC/SA-NE zone designation. All tenants locating within the freestanding pad building (Lot 2) will be required to comply with the land use and zone district designations. In addition, this pad building will require approval of a Design Review Permit prior to obtaining a Building Permit. As such, the project is considered to be consistent with the CC/SA-NE designation and will not divide an existing community. There are no Habitat Conservation Plans or Natural Community Conservation Plans covering the project site. No land use and planning impacts would occur in association with the proposed project.

10. Mineral Resources

Would the project

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
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Discussion of Checklist Answers:

The project site is not known to include any mineral resources that would be of local, regional, or statewide importance, therefore, the project is not considered to have any impacts on mineral resources

11. Noise

Would the project result in:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

Discussion of Checklist Answers:

- Noise levels during construction may exceed those levels deemed generally acceptable in the Roseville General Plan Noise Element. However, noise impacts are not expected to be significant because construction will be short-term and limited to the extent practical, to daytime hours (7:00

a m to 7 00 p m., Mondays through Fridays 8 a m to 8 p m on weekends), pursuant to Roseville Municipal Code (Section 9.24 090E) As specified in the Noise Ordinance, construction outside these hours must comply with established thresholds. Because the project would comply with the City of Roseville Noise Ordinance as well as General Plan polices regulating construction noise (i e. Policy NA-10) related impacts are considered less than significant

- b The proposed construction in association with the project (e g earthwork) could expose persons to ground-born vibrations, however, these activities are temporary in nature (being associated with construction of the facility) and are not anticipated to result in any unusual or excessive ground-born vibration or noise levels Based on this, ground-born vibrations (should they occur) are not expected to create significant impacts.
- c Uses on the proposed project site as well as neighboring uses may experience short-term increases in noise levels during construction However, these increases are associated with construction activities and would only occur for a short period of time. Based on this, construction activities would not impact the permanent ambient noise level
- d As stated under item (a) above, all operations associated with the facility will be required to comply with the provisions of the City of Roseville Noise Ordinance and the General Plan Noise Element Compliance with the provisions of these documents will reduce potential noise impacts to less than significant levels
- e The proposed project site is not located within an airport land use plan area nor is it located within two miles of an airport or within the vicinity of a private airstrip No housing is proposed as part of the project No impact would occur relative to exposing people to excessive airport related noise levels.

Because the project would comply with the provisions of the City's Noise Ordinance, impacts related to noise are considered less than significant

12. Population and Housing

Would the project

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Discussion of Checklist Answers:

The project is consistent with the General Plan land use designation as well as the zoning district. While this development may generate minor increases in population or demand for housing, the project is consistent with the development assumptions anticipated by the land use and zoning and it positively impacts the jobs/housing balance for the area. These potential impacts are acknowledged in the General Plan EIR and are considered to be less than significant.

13. Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?			X	
d) Parks?			X	
e) Other public facilities?				X

Discussion of Checklist Answers:

Tenants or customers of the development may require the services of the Roseville Fire Department in the event of an emergency. The nearest fire station is located at Eureka Road, south of Douglas Boulevard. The development of this project would require adequate water pressure in the water lines and must comply with the Uniform Fire and Building Codes used by the City of Roseville. Additionally, the applicant is required to pay a fire service construction tax that is used for purchasing capital facilities for the Fire Department. The General Plan EIR has stated that the policies of the General Plan are adequate to mitigate potential impacts to fire services.

Tenants of the project may also require the services of the Roseville Police Department in the event of an emergency. The site is located within Roseville and receives City services. The General Plan EIR has indicated that the policies of the General Plan are adequate to mitigate any potential impacts to police services.

The construction of commercial buildings can generate secondary impacts to local schools by inducing growth. This project lies within the Roseville City School District and the Roseville Joint Union High School District. The developer of this project will be required to pay school impact fees, "Sterling Fees," at a rate determined by the local school districts. School fees will be collected prior to the issuance of building permits, consistent with City requirements. The General Plan EIR has indicated that the policies of the General Plan are adequate to mitigate any potential impacts to school services.

The General Plan EIR has indicated that the policies of the General Plan are adequate to mitigate any potential impacts to Parks and Recreation facilities and services. This project is consistent with the land uses anticipated in the General Plan. As a result, the project will not have a significant effect upon, or

create any additional need for, public services (i.e. fire protection, police services, schools, parks) The impacts associated with this project upon public services are considered less than significant

14. Recreation

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Discussion of Checklist Answers

As a non-residential development project, the proposal is not expected to generate any significant additional demand for recreation opportunities or impact existing or proposed recreational facilities in Roseville. Therefore, impacts to park facilities are considered less than significant.

15. Transportation/Traffic

Would the project

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?			X	
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads and highways?				X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X

d) Substantially increase hazards due to a design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
e) Result in inadequate emergency access?			X	
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

Discussion of Checklist Answers:

a-b, d A long term traffic analysis has been prepared for the project by Fehr & Peers Associates, Inc (dated November 13, 2001) and is available for review in the Roseville Planning Department. In addition to this Traffic analysis, Kimley-Horn and Associates, Inc. has conducted a traffic analysis and signal progression analysis (dated November 5, 2001 and updated on January 4, 2002) which is also available for review in the Roseville Planning Department. These traffic studies (Attachment 4) analyzed the long-term and short-term impacts associated with the project including the addition of a light signal at Wal-Mart's main driveway off of Lead Hill Boulevard. These studies indicate that the project will generate a total of 600 P.M. peak hour trips and 8,031 daily trips (Kimley-Horn). The study included an analysis of the level of service (LOS) at five intersections. In comparing the LOS under "existing conditions" to the LOS under "existing plus project conditions", the LOS will remain at Level "C" or higher. In general, LOS "C" is considered the minimum acceptable level of service within the City of Roseville. In addition to evaluating the LOS, the progression analysis determined that adding a signal at the far western driveway on Lead Hill Boulevard would reduce the amount of queuing on the project site. The progression analysis also evaluated whether the new signal would need to be coordinated with the existing signal at the intersection of Lead Hill and Rocky Ridge. Based on the results of the signal progression analysis, the proposed signal at the project driveway can effectively operate in either a coordinated or uncoordinated mode since both strategies result in similar levels of service and vehicular delay. The Public Works Department (Engineering Division) reviewed the study and found the traffic analysis to be adequate for the proposed project, and find that the installation of a signal at the primary Lead Hill Driveway (far western driveway) conforms to City Standards.

Access to the project will be provided via two (2) driveways on Lead Hill Boulevard and one (1) driveway on Rocky Ridge Drive. The signalized driveway on Lead Hill will have full turning movements, however the other two driveways will be restricted to right-in and right-out turning movements.

- c. The project will have no impact on air traffic patterns.
- e. The City's Fire Department reviewed the project and determined that the design will provide adequate emergency access. No impact to emergency access would occur as a result of the proposed project.
- f. The project has been designed to provide vehicle parking in compliance with the City's parking standards, therefore, impacts to parking are considered less than significant.

- g The City's Public Works Department reviewed the project and determined that the project shall provide a bus turnout and shelter and has established conditions for the construction of these improvements. The project is required to provide a total of nine (9) bicycle parking spaces in conformance with City parking standards. The DRP will be conditioned to comply with this parking standard.

Based on the information noted above, potential transportation impacts are considered to be less than significant.

16. Utilities and Service Systems

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e) Result in a determination by the wastewater treatment provider which serves the project that it has adequate capacity to serve the project's projected demand in addition of the provider's existing commitments?			X	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			X	

Discussion of Checklist Answers.

Water and sewer services will be provided by the City of Roseville. All of these services are available to the site (i.e. no new backbone infrastructure will be necessary to service the site). The developer will be responsible for extending new lines onto the site in order to serve the project. Stormwater will be collected on-site and transferred via pipe into an off-site storm drain system. Solid waste will be collected by the City of Roseville's Refuse Department. The proposed project will provide the required trash enclosures as shown on the site plan. The City of Roseville will provide electric service to the site, while natural gas will be provided by PG&E. The Roseville Telephone Company will provide telephone services while Comcast will provide cable. Adequate services are available to the project, therefore, impacts to utilities are considered to be less than significant.

17. Mandatory Findings of Significance

Environmental Issue	Potentially Significant	Potentially Significant Unless Mitigated	Less Than Significant	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?			X	
b) Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Discussion of Checklist Answers:

Long term environmental goals are not impacted by the proposed project. The cumulative impacts do not deviate beyond what was contemplated by the 2010 General Plan EIR and the Northeast Roseville

Specific Plan EIR. The project does not have the potential to degrade the quality of the environment, reduce the habitat of any wildlife species nor create adverse effects on human beings

DETERMINATION

On the basis of this initial evaluation

☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required

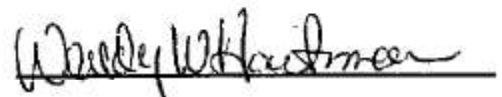
☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" effect on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required

Written comments shall be submitted no later than 20 days from the posting date of February 1, 2002. Appeal of this determination must be made during the posting period. Submit comments to

Roseville Planning Department
316 Vernon Street, #104
Roseville, CA 95678

Posting period 2/1/02 to 2/21/02
Initial Study Prepared by



Wendy W. Hartman, Assistant Planner
Roseville Planning Department



MEMORANDUM

To: Kinarik Shallago, City of Roseville
From: Ace Malisos, Kimley-Horn and Associates, Inc.
Date: September 3, 2026
Subject: 1440 Lead Hill Boulevard Fuel Station – Health Risk Assessment

1.0 Purpose

The purpose of this Health Risk Assessment (HRA) is to evaluate potential health risks associated with Toxic Air Contaminants (TACs) resulting from the 1440 Lead Hill Boulevard Fuel Station Project (Project), located in the City of Roseville (City), California. This HRA was prepared in accordance with the requirements of the Placer County Air Pollution Control District (PCAPCD) and guidance from the Office of Environmental Health Hazard Assessment (OEHHA).

2.0 Project Location and Description

The project site is located at 1440 Lead Hill Boulevard, on Parcel 11 of the Northeast Roseville Specific Plan (NERSP), which is near the southwest intersection of Lead Hill Boulevard and Rocky Ridge Drive; refer to **Figure 1: Regional Location** and **Figure 2: Vicinity Map**.

The project site is currently developed with an existing Wal-Mart Supercenter retail store, parking, lighting, and landscaping. The project area includes the northeastern portion of the parcel. Surrounding uses include the Roseville Automall to the north across Lead Hill Boulevard, retail and commercial uses to the south and east, and commercial uses and a dog park to the west. Existing landscaping is located along the project frontage on Lead Hill Boulevard, along with streetlights, sidewalks, and curb and gutter improvements.

The proposed project would construct a new fuel station with ten fueling dispensers (20 fueling positions) and a 1,556 square-foot convenience store within the existing parking lot of the Wal-Mart Supercenter. The project would be constructed in the northeastern portion of the parcel and would involve reconfiguration of existing parking spaces and landscaping to accommodate the development; refer to **Figure 3: Project Site Plan**.

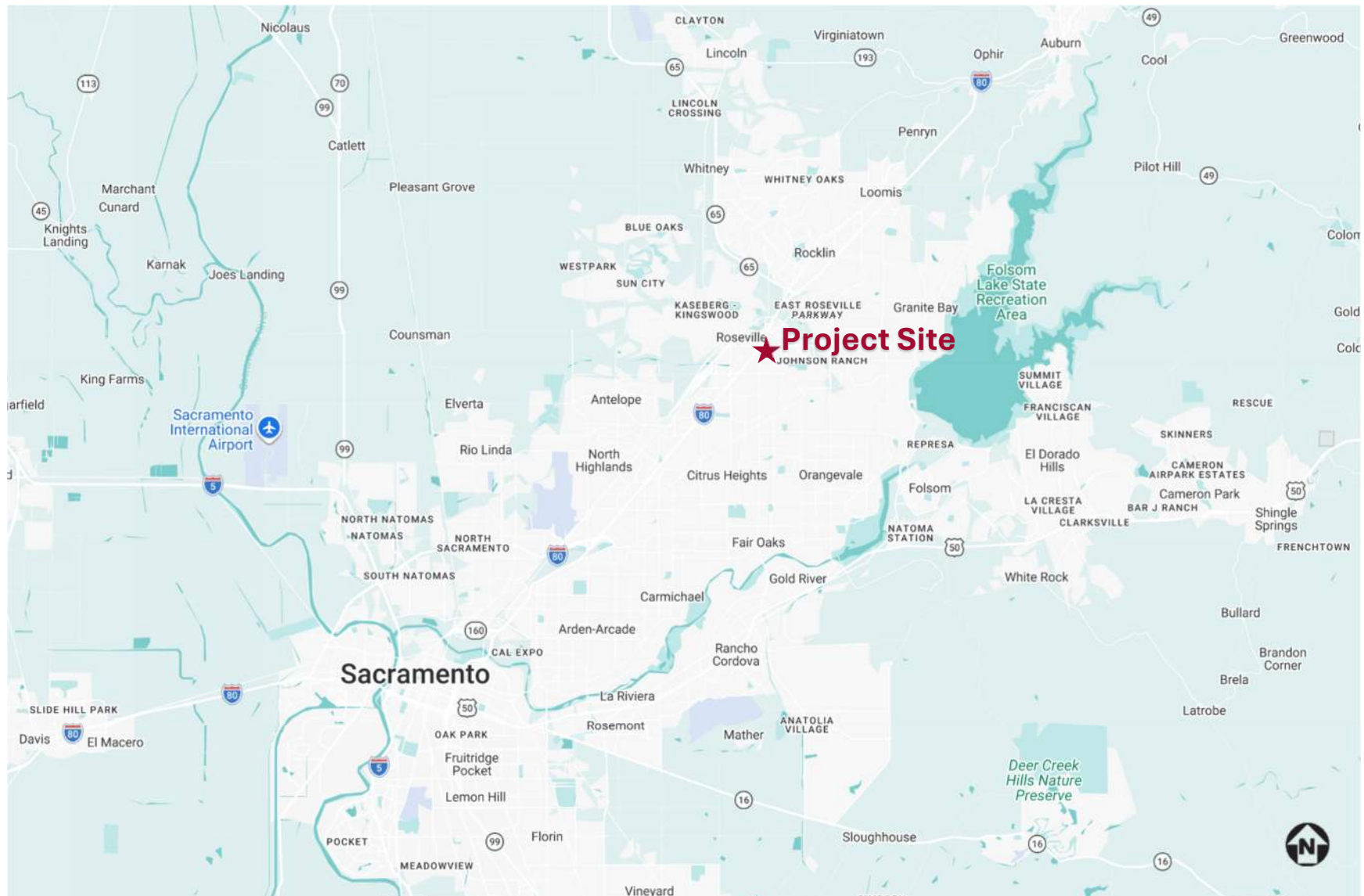


Figure 1: Regional Location

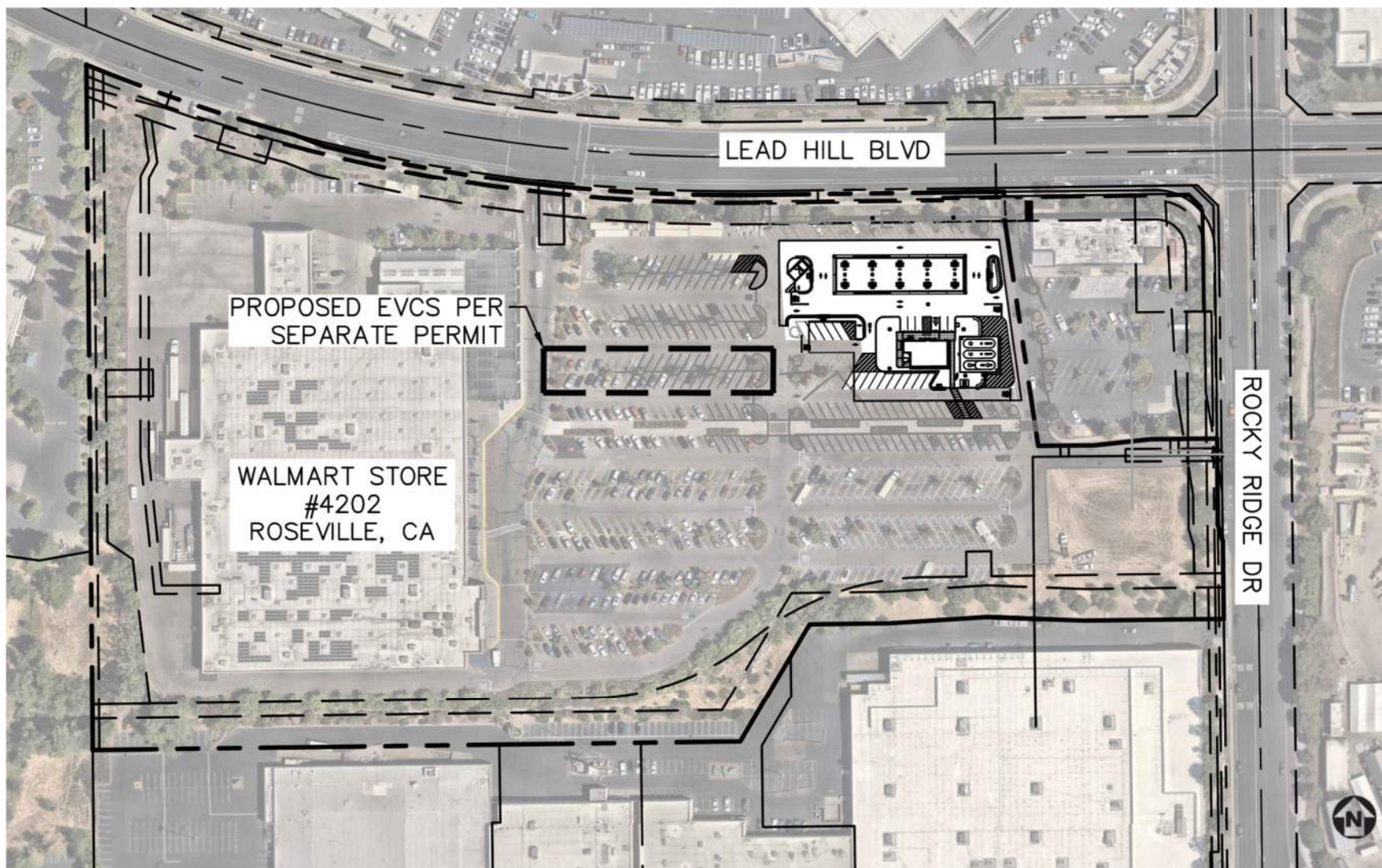


Figure 2: Vicinity Map

3.0 Regulatory Setting

Federal

Federal Clean Air Act

The Federal Clean Air Act (FCAA) was amended in 1990 to address the numerous air pollutants that are known to cause or may reasonably be anticipated to cause adverse effects to human health or adverse environmental effects. 188 specific pollutants and chemical groups were initially identified as hazardous air pollutants (HAPs), and the list has been modified over time. The FCAA Amendments included new regulatory programs to control acid deposition and for the issuance of stationary source operating permits.

In 2001, the United States Environmental Protection Agency (U.S. EPA) issued its first Mobile Source Air Toxics Rule, which identified 21 mobile source air toxic (MSAT) compounds as being HAPs that required regulation. A subset of six of these MSAT compounds were identified as having the greatest influence on health and included benzene, 1,3-butadiene, formaldehyde, acrolein, acetaldehyde, and diesel particulate matter (DPM). More recently, the U.S. EPA issued a second MSAT Rule in February 2007, which generally supported the findings in the first rule and provided additional recommendations of compounds having the greatest impact on health. The rule also identified several engine emission certification standards that must be implemented. Unlike the criteria pollutants, air toxics do not have National Ambient Air Quality Standards (NAAQS), making evaluation of their impacts more subjective.

National Emissions Standards for Hazardous Air Pollutants (NESHAPs) were incorporated into a greatly expanded program for controlling toxic air pollutants. The provisions for attainment and maintenance of the NAAQS were substantially modified and expanded. Other revisions included provisions regarding stratospheric ozone protection, increased enforcement authority, and expanded research programs.

Section 112 of the FCAA Amendments governs the federal control program for HAPs. NESHAPs are issued to limit the release of specified HAPs from specific industrial sectors. These standards are technology-based, meaning that they represent the best available control technology an industrial sector could afford. The level of emissions controls required by NESHAPs are not based on health risk considerations because allowable releases and resulting concentrations have not been determined to be safe for the general public. The FCAA does not establish air quality standards for HAPs that define legally acceptable concentrations of these pollutants in ambient air.

State of California

California Air Resources Board

CARB's statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807 the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure

for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology (T-BACT) to minimize emissions. CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, AB 2588 was amended by Senate Bill (SB) 1731 which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

CalEnviroScreen

OEHHA developed CalEnviroScreen 5.0, which is a mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. CalEnviroScreen uses environmental, health, and socioeconomic information to produce scores for every census tract in the State. The scores are mapped so that different communities can be compared. An area with a high score is one that experiences a much higher pollution burden than areas with low scores. According to CalEnviroScreen, the Project Site is located within Census Tract 6061020717, which is within the 23rd overall percentile.¹ It should be noted that the CalEnviroScreen scores are relative to other census tracts and are not an expression of health risk, and do not provide quantitative information on increases in cumulative impacts for specific sites or projects. Further, as a comparative screening tool, the results do not provide a basis for determining when differences between scores are significant in relation to public health or the environment.

Senate Bill 535

SB 535 directs 25 percent of the proceeds from the Greenhouse Gas Reduction Fund (i.e., funds from the AB 32 cap-and-trade program) to go to projects that provide a benefit to disadvantaged communities (DACs) (as identified by the OEHHA mapping). These funds must be used for programs that further reduce greenhouse gas emissions. Funding programs that reduce greenhouse gas emissions would also potentially reduce exposure to other emissions including TACs. Based on OEHHA mapping, the Project Site is not located within an SB 535 designated disadvantaged

¹ California Office of Environmental Health Hazard Assessment, *CalEnviroScreen 5.0*, <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-50>, accessed August 2026.

community.² SB 535 does not include project specific requirements or prohibit developments in proximity to the designated communities.

Gasoline Dispensing Facility Vapor Recovery Regulations

Since 2001, CARB has adopted a number of significant enhancements to gasoline dispensing facilities' (GDFs') vapor recovery systems. These efforts are necessary to ensure the continued effective operation of the vapor recovery systems during the transfer and dispensing of gasoline at these facilities.

Vapor recovery systems collect gasoline vapors that would otherwise escape into the atmosphere during fuel delivery to the underground storage tanks (Phase I) or fuel storage and vehicle fueling (Phase II). The Enhanced Vapor Recovery (EVR) regulations became state law on April 1, 2001. These regulations provide more stringent requirements for vapor recovery systems in order to reduce gasoline vapor emissions.³

CARB Air Quality and Land Use Handbook – Gasoline Dispensing Facilities

The CARB *Air Quality and Land Use Handbook* (2005) recommends a 300-foot screening distance for siting new sensitive land uses near a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). For screening purposes, CARB recommends 50-foot separation for typical gas dispensing facilities. CARB notes that a typical gasoline dispensing facility in California dispenses under 3.6 million gallons of gasoline per year. The cancer risk for a typical facility is likely to be less than 10 in a million at the fence line under urban air dispersion conditions.⁴

Gasoline Service Station Industrywide Risk Assessment Technical Guidance

CARB and the California Air Pollution Control Officers Association (CAPCOA) developed the 2021 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Manual (Technical Guidance) based on health analyses conducted to evaluate the health impacts of emissions from gasoline service stations operating throughout the state. The Technical Guidance provides an update to the CAPCOA Air Toxics “Hot Spots” Program Gasoline Service Station Industrywide Risk Assessment Guidelines (1997). The Technical Guidance also provides recommended procedures for preparing gas station emission inventories and HRAs to meet the requirements of individual facilities subject to AB 2588.

Gasoline Service Station Industrywide Risk Assessment Supplemental Policy Guidance Document

CARB developed the 2022 *Gasoline Service Station Industrywide Risk Assessment Supplemental Policy Guidance Document* (Supplemental Policy Guidance or Guidance) to provide recommendations regarding public policy for gas stations and discuss potential community-scale

² California Office of Environmental Health Hazard Assessment, *Disadvantaged Communities Map*, <https://oehha.ca.gov/calenviroscreen/sb535>, accessed August 31, 2026.

³ The Proposed gasoline station is required to comply with the State's Gasoline Dispensing Facility Vapor Recovery Regulations.

⁴ As the project has a greater throughput than the facilities used in the CARB Air Quality and Land Use Handbook to determine the screening distances, a project specific HRA has been conducted in this report.

health impacts caused by gas station emissions. In addition to discussing community-scale health impacts, the Supplemental Policy Guidance provides considerations and recommendations for the siting and permitting of new and modified gas stations. The Guidance also outlines the significant challenges in addressing cumulative impacts from multiple sources of gas stations and other sources.

Regional

Placer County Air Pollution Control District

The Placer County Air Pollution Control District (PCAPCD) is the local agency responsible for regulating stationary sources of air pollution and implementing state and federal air quality requirements within Placer County. The PCAPCD works in coordination with CARB and the U.S. EPA to achieve and maintain ambient air quality standards. PCAPCD also participates in the California Environmental Quality Act (CEQA) review process by providing guidance on evaluating air quality impacts associated with land use development projects. Through its CEQA Handbook and adopted significance thresholds, the PCAPCD provides procedures for evaluating criteria pollutant emissions, toxic air contaminant (TAC) emissions, and associated health risks from proposed projects.

Air Toxics and Health Risk Assessment Guidance

PCAPCD's CEQA Handbook includes guidance for evaluating toxic air contaminant impacts and preparing health risk assessments for projects that may expose nearby sensitive receptors to TAC emissions.⁵ The Handbook identifies gasoline dispensing facilities among the common land uses that may emit toxic air contaminants and recommends preparation of a health risk assessment when a project has the potential to create significant health risks to nearby receptors. The PCAPCD's guidance is consistent with methodologies developed by OEHHA and CARB for evaluating cancer risk and noncancer health impacts from TAC emissions.

CEQA Health Risk Assessment Requirements

Appendix G of the PCAPCD CEQA Handbook, *Preparing a Health Risk Assessment for Land Use Projects*, outlines procedures for determining whether a project requires a screening or refined health risk assessment. The guidance identifies gasoline dispensing facilities, freeways, distribution centers, rail yards, and other industrial sources as potential TAC emitters that may warrant further evaluation. For projects with the potential to expose existing or future sensitive receptors to significant TAC emissions, a health risk assessment may be required to quantify potential cancer risks and noncancer health effects.

⁵ Placer County Air Pollution Control District, *CEQA Handbook*, available at: <https://www.placer.ca.gov/1801/CEQA-Handbook>, accessed August 31, 2026.

PCAPCD Rule 213, Gasoline Transfer into Stationary Storage Containers

Gasoline dispensing facilities are also subject to PCAPCD Rule 213, which governs the transfer of gasoline from cargo tanks into underground or aboveground stationary storage tanks. Rule 213 requires the use of vapor recovery systems and submerged fill practices during fuel deliveries to reduce evaporative emissions associated with gasoline storage and transfer operations. These requirements minimize emissions of VOCs and TACs during fuel unloading activities and are an important component of the air quality regulatory framework applicable to gas station operations in Placer County.

PCAPCD Rule 214, Transfer of Gasoline into Vehicle Fuel Tanks

PCAPCD Rule 214 regulates the transfer of gasoline from stationary storage tanks into motor vehicle fuel tanks and requires gasoline dispensing facilities to utilize CARB-certified vapor recovery equipment where applicable. The rule is intended to minimize the release of gasoline vapors, including volatile organic compounds (VOCs) and toxic constituents such as benzene, during vehicle refueling operations. Gasoline dispensing facilities must maintain vapor recovery systems in accordance with District requirements, applicable CARB Executive Orders, California Health and Safety Code Sections 41950 through 41964, and California Code of Regulations vapor recovery requirements. Compliance with these requirements reduces potential emissions and associated health risks from gasoline dispensing operations.

4.0 Health Risk Analysis

Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than is the general population. Sensitive receptors that are in proximity to localized TAC sources are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive land uses nearest to the Project are shown in **Table 1: Sensitive Receptors**.

Table 1: Sensitive Receptors

Receptor Description	Distance and Direction from the Project ^{1,2}
Kaiser Permanente Medical Center	600 feet to the east
Single-Family Residence	1,800 feet to the south
Single-Family Residences	3,200 feet to the northeast

1. Distance measured from the Project site boundary line to the receiver property line.

Source: Google Earth, 2026.

Health Risk Analysis Thresholds

Project health risks are determined by examining the types and levels of air toxics generated and the associated impacts on factors that affect air quality. The PCAPCD recommends that the following air pollution thresholds be used in determining whether the impacts from the Project are significant. If the Project has the potential to exceed the air pollution thresholds, the Project should be considered significant. The thresholds for air toxic emissions are as follows.

- **Excess (Incremental) Cancer Risk:** Emit contaminants that result in a maximum individual cancer risk (MICR) that equals or exceeds 10 in one million.
- **Non-Cancer Risk:** Emit contaminants that equal or exceed the maximum hazard index of 1.0.

Cancer risk is expressed in terms of expected incremental incidence per million population. As noted above, the PCAPCD has established an incremental increase rate of less than 10 in one million as the maximum acceptable incremental cancer risk due to TAC exposure. This threshold is an upper-bound incremental probability to determine whether or not a given project has a potentially significant development-specific and cumulative impact and to ensure an individual new source does not contribute a cumulatively significant impact. The 10 in one million standard is a health-protective significance threshold. A risk level of 10 in one million implies a likelihood that up to 10 persons, 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. This risk would be an excess cancer that is in addition to any cancer risk borne by a person not exposed to these air toxics. Risk estimates should not be interpreted as the expected rates of disease in the exposed population but rather as an estimate of potential for disease, based on current knowledge and a number of assumptions.

The PCAPCD has also established non-carcinogenic risk parameters for use in HRAs. Noncarcinogenic 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). An REL is a concentration at or below which health effects are not likely to occur. A hazard index of less than 1.0 means that adverse health effects are not expected.

Methodology

Operational (Fueling) Sources. Out of the toxic compounds emitted from gasoline stations, benzene, ethylbenzene, and naphthalene have cancer toxicity values. However, benzene is the TAC which drives the risk, accounting for 87 percent of cancer risk from gasoline vapors and constitutes more than three to four times the weight of gasoline than ethylbenzene and naphthalene, respectively. Additionally, there are substances emitted from gasoline stations, such as toluene and xylene which possess acute adverse health effects (though not cancer risk). However, it is not until the benzene concentrations are more than two orders of magnitude above the 10 per million cancer risk threshold that the emissions of toluene and xylene begin to cause adverse health effects, according to CAPCOA's *Gasoline Service Station Industrywide Risk Assessment Guidelines*.⁶ Therefore, toluene and xylene emissions have not been modeled and are instead considered significant in the case that benzene concentrations are identified at two orders of magnitude above the 10 per million cancer risk threshold. Because benzene is the TOG with the highest risk and acute adverse health effects for gasoline stations, benzene and TOG are used interchangeably throughout this analysis.

TOG emissions occur from fuel storage tanks and fuel dispensers. The specific processes associated with fuel storage tanks and fuel dispensers that emit air toxics include loading, breathing, refueling, and spillage, as described below:

- Loading – Emissions occur when a fuel tanker truck unloads gasoline into the storage tanks. The storage tank vapors, displaced during loading, are emitted through its vent pipe. A required pressure/vacuum valve installed on the tank vent pipe significantly reduces these emissions.
- Breathing – Emissions occur through the storage tank vent pipe as a result of temperature and pressure changes in the tank vapor space.
- Refueling – Emissions occur during motor vehicle refueling when gasoline vapors escape through the vehicle/nozzle interface.
- Spillage – Emissions occur from evaporating gasoline that spills during vehicle refueling.

⁶ CARB and CAPCOA, *Gasoline Service Station Industrywide Risk Assessment Technical Guidance, Appendix A*, 2022.

Fuel dispensing facility emissions were computed based on the maximum anticipated throughput of fuel (i.e., approximately 7.7 million gallons per year).⁷ Emissions of benzene, ethylbenzene, and naphthalene, which are TACs, were computed using CARB emission factors for fuel dispensing facilities and average substance weight in vapor.⁸ Total benzene, ethylbenzene, and naphthalene emissions were calculated at 4.0×10^{-3} , 3.3×10^{-3} , and 3.7×10^{-3} pounds per hour, respectively; refer to [Appendix A](#) for the details of the calculations. The emission factors conservatively do not reflect control technologies required by any vapor recovery regulations later than 2013 (such as Certification Procedure for Vapor Recovery Systems for Enhanced Conventional [ECO] Nozzles and Low Permeation Conventional Hoses for Use at Gasoline Dispensing Facilities [CP-207], Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities [CP-201]). These emissions factors are currently being updated by CARB.

Dispersion Modeling

The air dispersion modeling for the HRA was performed using the American Meteorological Society (AMS)/U.S. EPA Regulatory Model (AERMOD). AERMOD is a steady-state, multiple-source, Gaussian dispersion model designed for use with emission sources situated in terrain where ground elevations can exceed the stack heights of the emission sources. AERMOD estimates hourly concentrations for each source/receptor pair and calculates concentrations for user-specified averaging times, including an average concentration for the complete simulation period. AERMOD includes atmospheric dispersion options for both urban and rural environments and can address flat, gently rolling, and complex terrain situations. The parameters used in AERMOD are detailed below.

- **Meteorological Data.** AERMOD requires hourly meteorological data consisting of wind vector, wind speed, temperature, atmospheric stability class, and mixing height. The latest 5-year meteorological data set from the Yuba County Airport (KMYV), which is the closest station to the Project Site, was obtained from CARB.⁹ Surface and upper air meteorological data from this monitoring station was selected as being the most representative for meteorology based on proximity to the Project Site as well as terrain, surrounding land use and surface characteristics.
- **Project Sources.** Operational (fueling) sources were modeled as an area source in AERMOD.¹⁰ The following parameters were used for each source (refer to [Appendix A](#) for a depiction of the source and receptor locations).

⁷ The throughput and operational parameters used in this HRA would also be reflected in, and the Project therefore constrained by, subsequent PCAPCD permitting (e.g., gasoline dispensing facility permits). In other words, the modeled throughput is tied to the project description and permit-level design/operations that the facility must comply with independent of CEQA. Accordingly, the throughput value functions as an analytical parameter rather than a mitigation trigger and does not need to be formalized as a mitigation measure where no significant impact has been identified. The throughput is explicitly disclosed to ensure transparency and consistency between the project description, technical analyses, and permitting framework.

⁸ CAPCOA, *Gasoline Service Station Industrywide Risk Assessment Technical Guidance*, February 2022.

⁹ CARB, *HARP AERMOD Meteorological Files*, <https://ww2.arb.ca.gov/resources/documents/harp-aermod-meteorological-files>, accessed August 24, 2026.

¹⁰ U.S. EPA, *Introduction to Area Source Emission Inventory Development*, January 2001.

- Receptor Grid. To identify the maximum impacted receptors, a uniform Cartesian grid was placed over the location of the nearby sensitive receptors. Due to the size of the Project Site, receptors were modeled with a maximum of 50-meter grid spacing.
- Terrain Characteristics. The United States Geological Survey (USGS) National Elevation Dataset (NED) terrain data was imported into AERMOD. AERMOD regulatory defaults, the “Urban” modeling option for the County, and “Elevated” terrain were used for this analysis.
- Averaging Times. AERMOD was run to obtain the peak 1-hour and annual average (period) concentration in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of TOG at the closest residential and worker receptors.

AERMOD was used to estimate (a) annual average concentrations to calculate the Maximum Individual Cancer Risk (MICR), the maximum chronic HI and (b) peak hourly concentrations to calculate the health impact from substances with acute non-cancer health effects. Note that the concentration estimate developed using this methodology is conservative and is not a specific prediction of the actual concentrations that would occur any one point in time, which would likely be lower. Actual annual average concentrations are dependent on many variables, particularly the number and type of vehicles and trains operating at specific distances during time periods of adverse meteorology.

Risk and Hazard Assessment

Cancer Risk

Based on the OEHHA methodology, residential inhalation cancer risk from annual average TOG concentrations are calculated by multiplying the daily inhalation dose, cancer potency factor, age sensitivity factor (ASF), frequency of time spent at home, and exposure duration divided by averaging time, yielding the excess cancer risk. These factors are discussed in more detail below. It is important to note that exposure duration is based on continual operation fueling activities at the proposed gasoline station. Exposure through inhalation (Dose_{air}) is a function of breathing rate, exposure frequency, and concentration of substance in the air. To estimate cancer risk, the dose was estimated by applying the following formula to each ground-level concentration:

$$\text{Dose}_{\text{air}} = C_{\text{air}} * (\text{BR}/\text{BW}) * A * \text{EF} * 10^{-6}$$

Dose_{air}	=	dose through inhalation (mg/kg/day)
C_{air}	=	air concentration ($\mu\text{g}/\text{m}^3$) from air dispersion model
(BR/BW)	=	daily breathing rate normalized to body weight (L/kg bodyweight-day)
A	=	inhalation absorption factor (unitless)
EF	=	exposure frequency (approximately 350 days per year for residential)
10^{-6}	=	conversion factor (micrograms to milligrams, liters to cubic meters)

OEHHA developed ASFs to consider the increased sensitivity to carcinogens during early-life exposure. In the absence of chemical-specific data, OEHHA recommends default ASFs presented

in **Table 2: Exposure Assumptions**. Fraction of time at home (FAH) during the day is used to adjust exposure duration and cancer risk from a specific facility's emissions, based on the assumption that exposure to the facility's emissions are not occurring away from home.

Table 2: Exposure Assumptions

Age/Category	Exposure Frequency (days/year) ¹	Exposure Duration (years) ²	Age Sensitivity Factor (ASF) ³	Fraction of Time at Home (FAH) ⁴	Daily Breathing Rate (L/kg BW-day) ⁵
Residential - Third trimester	350	0.25	10	100%	361
Residential - 0 to 2 years	350	2	10	100%	1,090
Residential - Ages 2 through 9 years	350	7	3	100%	631
Residential - Ages 9 through 16 years	350	7	3	100%	572
Residential - Ages 16 and greater	350	14	1	73%	261
Worker	250	25	1	N/A	230

1. The exposure frequency is based on OEHHA *Air Toxics Program Guidance Manual for the Preparation of Health Risk Assessments*, February 2015 (OEHHA Manual); refer to OEHHA Manual Section 5.4.1, Estimation of Exposure through Inhalation.

2. The total exposure duration for residential exposure is 30 years.

3. The age sensitivity factor is based on OEHHA Manual Table 8.3, *Age Sensitivity Factors by Age Group for Cancer Risk Assessment*.

4. The fraction of time at home is based on OEHHA Manual Section 8.2.2, *Fraction of Time Spent at Home for Cancer Risk Assessment*.

5. Daily breathing rate normalized to body weight (L/kg body weight – day) (95th percentile for 3rd trimester to 2 years and 80th percentile for other age groups) per the OEHHA Manual Table 5.7, *Daily Breathing Rate Distributions by Age Group for Residential Stochastic Analysis (L/kg BW-day)*. The worker breathing rate is the 95th percentile, moderate intensity, 8-hour rate per OEHHA 2015.

Source: California Office of Environmental Health Hazard Assessment, *Air Toxics Program Guidance Manual for the Preparation of Health Risk Assessments*, February 2015.

To estimate the cancer risk, the dose is multiplied by the cancer potency factor, the ASF, the exposure duration divided by averaging time, and the frequency of time spent at home (for residents only):

$$\text{Risk}_{\text{inh-res}} = (\text{Dose}_{\text{air}} * \text{CPF} * \text{ASF} * (\text{ED}/\text{AT}) * \text{FAH})$$

$\text{Risk}_{\text{inh-res}}$ = residential inhalation cancer risk (potential chances per million)

Dose_{air} = daily dose through inhalation (mg/kg-day)

CPF = inhalation cancer potency factor (mg/kg-day⁻¹)

ASF = age sensitivity factor for a specified age group (unitless)

ED = exposure duration (years)

AT = averaging time of lifetime cancer risk (years)

FAH = fraction of time spent at home (unitless)

Chronic Non-Cancer Risk

Non-cancer chronic impacts are calculated by dividing the annual average concentration by the REL for that substance. The REL is defined as the concentration at which no adverse non-cancer health effects are anticipated. The following equation was used to determine the non-cancer risk:

$$\text{Hazard Index} = C_i / \text{REL}_i$$

C_i = concentration in the air of substance i (annual average concentration in $\mu\text{g}/\text{m}^3$)
 REL_i = chronic noncancer Reference Exposure Level for substance ($\mu\text{g}/\text{m}^3$)

Acute Non-Cancer Hazard

The potential for acute non-cancer hazards is evaluated by comparing the maximum short-term exposure level to an acute REL. RELs are designed to protect sensitive individuals within the population. The calculation of acute non-cancer impacts is similar to the procedure for chronic non-cancer impacts. The equation is as follows:

$$\text{Acute HQ} = \text{Maximum Hourly Air Concentration } (\mu\text{g}/\text{m}^3) / \text{Acute REL } (\mu\text{g}/\text{m}^3)$$

Health Risk Computation

A health risk computation was performed to determine the cancer risk and chronic non-cancer risk using the approach described in the OEHHA *Air Toxics Program Guidance Manual for the Preparation of Health Risk Assessments*, dated February 2015 (OEHHA Guidance Manual). Health risks were analyzed at the point of maximum impact and are a conservative estimate. The pollutant concentrations are then used to estimate the long-term cancer risk to an individual as well as the chronic non-cancer risk hazard index.

The individual cancer and chronic non-cancer risks are based on the annual average TAC concentration resulting from operational activities at the proposed gasoline station. As noted above, the chronic and carcinogenic health risk calculations are based on the standardized equations contained in the U.S. EPA *Human Health Evaluation Manual* (1991) and the OEHHA Guidance Manual. The concentration estimates developed using this methodology are conservative and not a specific prediction of the actual concentrations that would occur at the Project Site at any given point in time. Actual 1-hour and annual average concentrations are dependent on many variables, particularly the number and types of vehicles and equipment operating at specific distances during periods of adverse meteorology. The health risk computation was performed to determine the risk of developing an excess cancer risk calculated on these worst-case exposure duration scenarios. Only the risk associated with the Project's worst-case location was assessed.

Project Health Risk

Carcinogenic Risk

The health risk analysis evaluates impacts from the proposed fuel station to nearby receptors. The following health risk analysis has been prepared to evaluate health risks from these sources. The pollutant concentrations modeled in AERMOD represent the exposure levels outdoors. OEHHHA conservatively does not include indoor exposure adjustments for residents. However, the typical person spends the majority of time indoors rather than remaining outdoors in the same location for 24 hours a day.¹¹ Therefore, the AERMOD outdoor pollutant concentrations are conservative and may overstate actual exposure. According to the U.S. EPA's *Exposure Factor Handbook* (2011), on average, people spend 90 percent of their time indoors.

Table 3: Unmitigated Carcinogenic Risk Assessment shows the calculated carcinogenic risk at the Project Site from operational TOG gasoline station sources. Based on OEHHHA Risk Assessment Guidelines, the exposure duration for a resident is 30 years, beginning with the third trimester. This represents the worst-case exposure scenario because it assumes a third trimester start age and a 30-year exposure duration, which incorporate 95 percentile breathing rates and age sensitivity factors. Worker receptors assume 16-70 age bin, 25-year exposure duration, and a 95th percentile, moderate intensity, 8-hour breathing rate. **Table 3** shows that unmitigated health risk would not exceed the 10 in one million threshold at any of the receptors. Carcinogenic risk impacts would be less than significant.

Table 3: Unmitigated Carcinogenic Risk Assessment

Exposure Scenario	Maximum Cancer Risk (Risk per Million)	Significance Threshold (per Million)	Threshold Exceeded?
Maximally Exposed Worker (worker receptors adjacent to the east)	2.18	10	No
Kaiser Permanente Medical Center (approximately 600 feet to the east)	0.14	10	No
Maximally Exposed Residential Receptor (approximately 1,800 feet to the south)	0.20	10	No

µg/m³ = micrograms per cubic meter; N/A = not applicable

Refer to [Appendix A: Modeling Data](#).

Non-Carcinogenic Hazard

The significance thresholds for TAC exposure also require an evaluation of non-cancer risk stated in terms of a hazard index. Non-cancer chronic and acute impacts are calculated by dividing the annual average concentration by the REL for that substance. The REL is defined as the concentration at

¹¹ California Air Resources Board Research Division and University of California, Berkeley, *Activity Patterns of California Residents*, May 1991. The study indicates that on average, adults and adolescents in California spent almost 15 hours per day inside their homes, and 6 hours in other indoor locations, for a total of 21 hours (87% of the day). Approximately two hours per day were spent in transit, and just over one hour per day was spent in outdoor locations.

which no adverse non-cancer health effects are anticipated. RELs are designed to protect sensitive individuals within the population. The REL for TOG varies by TAC; refer to [Appendix A](#).

Acute and chronic impacts are shown in **Table 4: Chronic and Acute Hazard Assessment Results**. A hazard index of 1.0 is considered individually significant. **Table 4** shows that non-carcinogenic hazards would be well below the 1.0 hazard index. Therefore, non-carcinogenic hazard impacts would be less than significant.

Table 4: Chronic and Acute Hazard Assessment Results

Exposure Scenario Source	Chronic Hazard	Acute Hazard
Maximally Exposed Worker (worker receptors adjacent to the east)	0.026	0.070
Kaiser Permanente Medical Center (approximately 600 feet to the east)	0.002	0.017
Maximally Exposed Residential Receptor (approximately 1,800 feet to the south)	0.001	0.007
<i>PCAPCD Threshold</i>	<i>1.0</i>	<i>1.0</i>
Threshold Exceeded?	No	No

1. The reported pollutant concentration is at the maximally exposed individual receptor.

Source: Refer to [Appendix A](#).

Conclusion

As described above, the carcinogenic sensitive receptors would not exceed the PCAPCD's threshold of 10 in one million. Additionally, non-carcinogenic hazards would not exceed the 1.0 hazard index threshold. It should be noted that the incremental contribution to health risk impacts on sensitive receptors was assessed, consistent with the OEHHA guidance and methodology. The PCAPCD has not established separate cumulative thresholds and does not require combining impacts from cumulative projects. The PCAPCD considers projects that do not exceed the incremental thresholds to generally not be cumulatively significant.

Level of Significance: Less than significant impact.

5.0 References

1. California Air Pollution Control Officers Association (CAPCOA), *Gasoline Service Station Industrywide Risk Assessment Technical Guidance*, February 2022.
2. CARB, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005.
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4. California Office of Environmental Health Hazard Assessment (OEHHA), *Air Toxics Hot Spots Program Risk Assessment Guidelines*, August 2003.
5. Lakes Environmental, *AERMOD View Gaussian Plume Air Dispersion Model*, Version 13.1.0.
6. OEHHA, *Air Toxics Hot Spots Program Risk Assessment Guidance Manual for Preparation of Health Risk Assessments*, February 2015.
7. OEHHA, *CalEnviroScreen 5.0 Results*,
<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-50>, accessed August 2026.
8. OEHHA, *OEHHA Acute, 8-hour and Chronic Reference Exposure Level (REL) Summary*,
<https://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary>, accessed August 2026.
9. Placer County Air Pollution Control District, *2017 CEQA Handbook, Appendix G - Preparing a Health Risk Assessment for Land Use Projects*, 2017.
10. United States Environmental Protection Agency (U.S. EPA), *Exposure Factors Handbook: 2011 Edition*, September 2011.
11. United States Environmental Protection Agency (U.S. EPA), *Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*, Final Rule. 40 Code of Federal Regulations, s 2, 59, 60, 80, 85, 86, 600, 1027, 1030, 1031, 1033, 1036, 1037, 1039, 1042, 1043, 1045, 1048, 1051, 1054, 1060, 1065, 1066, 1068, and 1090. January 24, 2023.
12. United States Environmental Protection Agency (U.S. EPA), *Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*, Final Rule. 40 Code of Federal Regulations, Parts 69, 80, and 86. January 18, 2001.
13. United States Environmental Protection Agency (U.S. EPA), *Introduction to Area Source Emission Inventory Development*, January 2001.

Appendix A

Modeling Data

Operational Emissions Rates

Fueling Station - TOG Emissions Factors and Annual Emissions

Emissions Source	Annual Gasoline Throughput (gallons/year)	TOG Emissions		Benzene		Ethylbenzene		Naphthalene		n-Hexane		Propylene (propene)	
		Factor (lb/1,000 gallon) ¹	TOG Annual Emissions (lbs/year)	Emission Rate (lbs/hr)	Emission Rate (g/s)	Emission Rate (lbs/hr)	Emission Rate (g/s)	Emission Rate (lbs/hr)	Emission Rate (g/s)	Emission Rate (lbs/hr)	Emission Rate (g/s)	Emission Rate (lbs/hr)	Emission Rate (g/s)
	7,708,800												
Fueling (Non-ORVR Vehicles)		0.42	3,237.7	0.001689072	2.13E-04	3.95E-04	4.98E-05	1.64472E-06	2.07E-07	6.73E-03	8.48E-04	1.32834E-05	1.67E-06
Fueling (ORVR Vehicles)		0.021	161.9	8.44536E-05	1.06E-05	1.98E-05	2.49E-06	8.2236E-08	1.04E-08	3.36E-04	4.24E-05	6.64171E-07	8.37E-08
Loading (Bulk Transfer Losses)		0.15	1,156.3	0.00060324	7.60E-05	1.41E-04	1.78E-05	5.874E-07	7.40E-08	2.40E-03	3.03E-04	4.74408E-06	5.98E-07
Breathing (Pressure Driven Losses)		0.024	185.0	9.65184E-05	1.22E-05	2.26E-05	2.85E-06	9.3984E-08	1.18E-08	3.84E-04	4.84E-05	7.59053E-07	9.56E-08
Hose Permeation (Gasoline Hose Losses)		0.009	69.4	3.61944E-05	4.56E-06	8.47E-06	1.07E-06	3.5244E-08	4.44E-09	1.44E-04	1.82E-05	2.84645E-07	3.59E-08
<i>Total Transfer and Pressure Losses</i>			<i>4,810.3</i>	<i>0.002509478</i>	<i>3.16E-04</i>	<i>5.88E-04</i>	<i>7.40E-05</i>	<i>2.44E-06</i>	<i>3.08E-07</i>	<i>9.99E-03</i>	<i>1.26E-03</i>	<i>1.97E-05</i>	<i>2.49E-06</i>
Fueling - Spillage		0.24	1,850.1	1.49E-03	1.88E-04	2.72E-03	3.43E-04	3.67E-04	4.63E-05	3.93E-03	4.95E-04	2.58E-07	3.25E-08
Total Transfer/Pressure and Spillage			6,660.4	4.00E-03	5.04E-04	3.31E-03	4.17E-04	0.000369932	4.66E-05	1.39E-02	1.75E-03	2.00E-05	2.52E-06

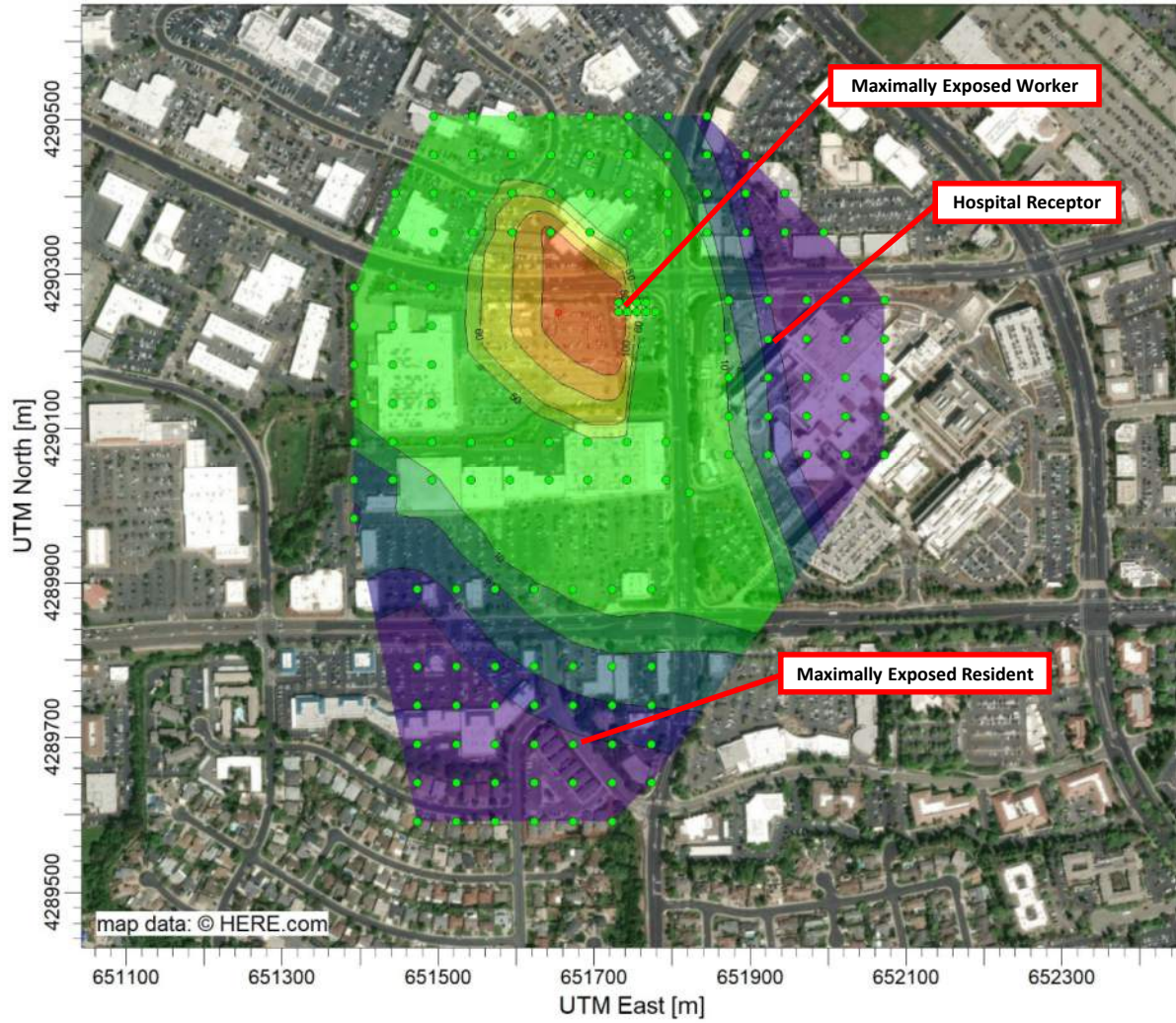
Source: CAPCOA and CARB, *Gasoline Service Station Industrywide Risk Assessment Technical Guidance*, February 2022.

The emission factors do not reflect control technologies required by any Vapor Recovery regulations later than 2013. Regulations later than 2013 include:

- Certification Procedure for Vapor Recovery Systems for Enhanced Conventional (ECO) Nozzles and Low Permeation Conventional Hoses for Use at Gasoline Dispensing Facilities (CP-207)
- Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities (CP-201) Amended Certification Procedure for Enhanced Conventional (ECO) Nozzles and Low Permeation Conventional Hoses for Use at Gasoline Dispensing Facilities (CP-207)

PROJECT TITLE:

1440 Lead Hill Blvd



Residential Operational Risk - Fueling (Benzene)

Fueling

Emissions Rate (g/s): 5.04E-04

Discrete Receptor ID			Concentration [µg/m³] at : Unmitigated		Residential Dose					Risk by Age Group					Total Risk
X	Y	X, Y	Fueling	Fueling	3rd	0<2	2<9	9<16	16<30	3rd	0<2	2<9	9<16	16<30	
1	651391.97	4289982.91	651391.97, 4289982.91	5.50604	2.78E-03	9.6E-07	2.9E-06	1.7E-06	1.5E-06	6.9E-07	3.4E-09	8.3E-08	5.0E-08	4.6E-08	1.9E-07
2	651391.97	4290032.91	651391.97, 4290032.91	6.71377	0.0033859	1.2E-06	3.5E-06	2.0E-06	1.9E-06	8.5E-07	4.2E-09	1.0E-07	6.1E-08	5.6E-08	2.3E-07
3	651391.97	4290082.91	651391.97, 4290082.91	8.35037	0.0042113	1.5E-06	4.4E-06	2.5E-06	2.3E-06	1.1E-06	5.2E-09	1.3E-07	7.6E-08	6.9E-08	2.9E-07
4	651391.97	4290132.91	651391.97, 4290132.91	10.7929	0.0054431	1.9E-06	5.7E-06	3.3E-06	3.0E-06	1.4E-06	6.7E-09	1.6E-07	9.9E-08	9.0E-08	3.8E-07
5	651391.97	4290182.91	651391.97, 4290182.91	13.3275	0.0067214	2.3E-06	7.0E-06	4.1E-06	3.7E-06	1.7E-06	8.3E-09	2.0E-07	1.2E-07	1.1E-07	4.7E-07
6	651391.97	4290232.91	651391.97, 4290232.91	13.5122	0.0068145	2.4E-06	7.1E-06	4.1E-06	3.7E-06	1.7E-06	8.4E-09	2.0E-07	1.2E-07	1.1E-07	4.7E-07
7	651391.97	4290282.91	651391.97, 4290282.91	12.5628	0.0063357	2.2E-06	6.6E-06	3.8E-06	3.5E-06	1.6E-06	7.8E-09	1.9E-07	1.2E-07	1.0E-07	4.4E-07
8	651441.97	4290032.91	651441.97, 4290032.91	7.8465	0.0039572	1.4E-06	4.1E-06	2.4E-06	2.2E-06	9.9E-07	4.9E-09	1.2E-07	7.2E-08	6.5E-08	2.7E-07
9	651441.97	4290082.91	651441.97, 4290082.91	10.2786	0.0051837	1.8E-06	5.4E-06	3.1E-06	2.8E-06	1.3E-06	6.4E-09	1.5E-07	9.4E-08	8.5E-08	3.6E-07
10	651441.97	4290132.91	651441.97, 4290132.91	14.2593	0.0071913	2.5E-06	7.5E-06	4.4E-06	3.9E-06	1.8E-06	8.9E-09	2.1E-07	1.3E-07	1.2E-07	5.0E-07
11	651441.97	4290182.91	651441.97, 4290182.91	18.1382	0.0091476	3.2E-06	9.6E-06	5.5E-06	5.0E-06	2.3E-06	1.1E-08	2.7E-07	1.7E-07	1.5E-07	6.3E-07
12	651441.97	4290232.91	651441.97, 4290232.91	18.9303	0.009547	3.3E-06	1.0E-05	5.8E-06	5.2E-06	2.4E-06	1.2E-08	2.9E-07	1.7E-07	1.6E-07	6.6E-07
13	651441.97	4290282.91	651441.97, 4290282.91	17.2697	0.0087096	3.0E-06	9.1E-06	5.3E-06	4.8E-06	2.2E-06	1.1E-08	2.6E-07	1.6E-07	1.4E-07	6.0E-07
14	651491.97	4290032.91	651491.97, 4290032.91	9.45121	0.0047665	1.6E-06	5.0E-06	2.9E-06	2.6E-06	1.2E-06	5.9E-09	1.4E-07	8.7E-08	7.8E-08	3.3E-07
15	651491.97	4290082.91	651491.97, 4290082.91	12.3798	0.0062435	2.2E-06	6.5E-06	3.8E-06	3.4E-06	1.6E-06	7.7E-09	1.9E-07	1.1E-07	1.0E-07	4.3E-07
16	651491.97	4290132.91	651491.97, 4290132.91	17.9381	0.0090467	3.1E-06	9.5E-06	5.5E-06	5.0E-06	2.3E-06	1.1E-08	2.7E-07	1.6E-07	1.5E-07	6.3E-07
17	651491.97	4290182.91	651491.97, 4290182.91	25.3351	0.0127772	4.4E-06	1.3E-05	7.7E-06	7.0E-06	3.2E-06	1.6E-08	3.8E-07	2.3E-07	2.1E-07	8.9E-07
18	651491.97	4290232.91	651491.97, 4290232.91	28.0323	0.0141374	4.9E-06	1.5E-05	8.6E-06	7.8E-06	3.5E-06	1.7E-08	4.2E-07	2.6E-07	2.3E-07	9.8E-07
19	651491.97	4290282.91	651491.97, 4290282.91	24.9962	0.0126062	4.4E-06	1.3E-05	7.6E-06	6.9E-06	3.2E-06	1.6E-08	3.8E-07	2.3E-07	2.1E-07	8.7E-07
20	651541.97	4290032.91	651541.97, 4290032.91	11.8566	0.0059796	2.1E-06	6.2E-06	3.6E-06	3.3E-06	1.5E-06	7.4E-09	1.8E-07	1.1E-07	9.8E-08	4.1E-07
21	651541.97	4290082.91	651541.97, 4290082.91	15.6917	0.0079137	2.7E-06	8.3E-06	4.8E-06	4.3E-06	2.0E-06	9.8E-09	2.4E-07	1.4E-07	1.3E-07	5.5E-07
22	651591.97	4290032.91	651591.97, 4290032.91	16.0121	0.0080753	2.8E-06	8.4E-06	4.9E-06	4.4E-06	2.0E-06	1.0E-08	2.4E-07	1.5E-07	1.3E-07	5.6E-07
23	651591.97	4290082.91	651591.97, 4290082.91	21.7389	0.0109635	3.8E-06	1.1E-05	6.6E-06	6.0E-06	2.7E-06	1.4E-08	3.3E-07	2.0E-07	1.8E-07	7.6E-07
24	651641.97	4290032.91	651641.97, 4290032.91	22.3083	0.0112506	3.9E-06	1.2E-05	6.8E-06	6.2E-06	2.8E-06	1.4E-08	3.4E-07	2.0E-07	1.9E-07	7.8E-07
25	651641.97	4290082.91	651641.97, 4290082.91	32.9863	0.0166359	5.8E-06	1.7E-05	1.0E-05	9.1E-06	4.2E-06	2.1E-08	5.0E-07	3.0E-07	2.7E-07	1.2E-06
26	651691.97	4290032.91	651691.97, 4290032.91	28.2204	0.0142323	4.9E-06	1.5E-05	8.6E-06	7.8E-06	3.6E-06	1.8E-08	4.3E-07	2.6E-07	2.3E-07	9.9E-07
27	651691.97	4290082.91	651691.97, 4290082.91	46.6336	0.0235185	8.1E-06	2.5E-05	1.4E-05	1.3E-05	5.9E-06	2.9E-08	7.0E-07	4.3E-07	3.9E-07	1.6E-06
28	651741.97	4290032.91	651741.97, 4290032.91	28.6691	0.0144586	5.0E-06	1.5E-05	8.7E-06	7.9E-06	3.6E-06	1.8E-08	4.3E-07	2.6E-07	2.4E-07	1.0E-06
29	651741.97	4290082.91	651741.97, 4290082.91	46.1734	0.0232865	8.1E-06	2.4E-05	1.4E-05	1.3E-05	5.8E-06	2.9E-08	7.0E-07	4.2E-07	3.8E-07	1.6E-06
30	651791.97	4290032.91	651791.97, 4290032.91	23.4323	0.0118175	4.1E-06	1.2E-05	7.2E-06	6.5E-06	3.0E-06	1.5E-08	3.5E-07	2.1E-07	1.9E-07	8.2E-07
31	651791.97	4290082.91	651791.97, 4290082.91	30.5388	0.0154015	5.3E-06	1.6E-05	9.3E-06	8.4E-06	3.9E-06	1.9E-08	4.6E-07	2.8E-07	2.5E-07	1.1E-06
32	651731.05	4290251.32	651731.05, 4290251.32	150.908	0.0761072	2.6E-05	8.0E-05	4.6E-05	4.2E-05	1.9E-05	9.4E-08	2.3E-06	1.4E-06	1.3E-06	5.3E-06
33	651731.05	4290263.32	651731.05, 4290263.32	126.654	0.0638748	2.2E-05	6.7E-05	3.9E-05	3.5E-05	1.6E-05	7.9E-08	1.9E-06	1.2E-06	1.1E-06	4.4E-06
34	651743.05	4290251.32	651743.05, 4290251.32	91.1079	0.0459481	1.6E-05	4.8E-05	2.8E-05	2.5E-05	1.1E-05	5.7E-08	1.4E-06	8.3E-06	7.6E-06	3.2E-06
35	651743.05	4290263.32	651743.05, 4290263.32	81.4579	0.0410814	1.4E-05	4.3E-05	2.5E-05	2.3E-05	1.0E-05	5.1E-08	1.2E-06	7.5E-07	6.8E-07	2.8E-06
36	651755.05	4290251.32	651755.05, 4290251.32	60.648	0.0305864	1.1E-05	3.2E-05	1.9E-05	1.7E-05	7.7E-06	3.8E-08	9.1E-07	5.6E-07	5.0E-07	2.1E-06
37	651755.05	4290263.32	651755.05, 4290263.32	55.9827	0.0282366	9.8E-06	3.0E-05	1.7E-05	1.5E-05	7.1E-06	3.5E-08	8.4E-07	5.1E-07	4.6E-07	2.0E-06
38	651767.05	4290251.32	651767.05, 4290251.32	43.3404	0.0218577	7.6E-06	2.3E-05	1.3E-05	1.2E-05	5.5E-06	2.7E-08	6.5E-07	4.0E-07	3.6E-07	1.5E-06
39	651767.05	4290263.32	651767.05, 4290263.32	40.7002	0.0205262	7.1E-06	2.1E-05	1.2E-05	1.1E-05	5.1E-06	2.5E-08	6.1E-07	3.7E-07	3.4E-07	1.4E-06
40	651779.05	4290251.32	651779.05, 4290251.32	32.6195	0.0164509	5.7E-06	1.7E-05	1.0E-05	9.0E-06	4.1E-06	2.0E-08	4.9E-07	3.0E-07	2.7E-07	1.1E-06
41	651444.44	4290354.01	651444.44, 4290354.01	14.6618	0.0073943	2.6E-06	7.7E-06	4.5E-06	4.1E-06	1.9E-06	9.1E-09	2.2E-07	1.3E-07	1.2E-07	5.1E-07
42	651444.44	4290404.01	651444.44, 4290404.01	13.6321	0.0068751	2.4E-06	7.2E-06	4.2E-06	3.8E-06	1.7E-06	8.5E-09	2.1E-07	1.2E-07	1.1E-07	4.8E-07
43	651494.44	4290354.01	651494.44, 4290354.01	20.9184	0.0105497	3.7E-06	1.1E-05	6.4E-06	5.8E-06	2.6E-06	1.3E-08	3.2E-07	1.9E-07	1.7E-07	7.3E-07
44	651494.44	4290404.01	651494.44, 4290404.01	21.0347	0.0106083	3.7E-06	1.1E-05	6.4E-06	5.8E-06	2.7E-06	1.3E-08	3.2E-07	1.9E-07	1.7E-07	7.4E-07
45	651494.44	4290454.01	651494.44, 4290454.01	21.6327	0.0109099	3.8E-06	1.1E-05	6.6E-06	6.0E-06	2.7E-06	1.3E-08	3.3E-07	2.0E-07	1.8E-07	7.6E-07
46	651494.44	4290504.01	651494.44, 4290504.01	20.2856	0.0102306	3.5E-06	1.1E-05	6.2E-06	5.6E-06	2.6E-06	1.3E-08	3.1E-07	1.9E-07	1.7E-07	7.1E-07
47	651544.44	4290354.01	651544.44, 4290354.01	36.3967	0.0183558	6.4E-06	1.9E-05	1.1E-05	1.0E-05	4.6E-06	2.3E-08	5.5E-07	3.3E-07	3.0E-07	1.3E-06
48	651544.44	4290404.01	651544.44, 4290404.01	36.8733	0.0185962	6.4E-06	1.9E-05	1.1E-05	1.0E-05	4.7E-06	2.3E-08	5.6E-07	3.4E-07	3.1E-07	1.3E-06
49	651544.44	4290454.01	651544.44, 4290454.01	32.4359	0.0163583	5.7E-06	1.7E-05	9.9E-06	9.0E-06	4.1E-06	2.0E-08	4.9E-07	3.0E-07	2.7E-07	1.1E-06
50	651544.44	4290504.01	651544.44, 4290504.01	25.8	0.0130116	4.5E-06	1.4E-05	7.9E-06	7.1E-06	3.3E-06	1.6E-08	3.9E-07	2.4E-07	2.1E-07	9.0E-07
51	651594.44	4290354.01	651594.44, 4290354.01	77.8009	0.0392371	1.4E-05	4.1E-05	2.4E-05	2.2E-05	9.8E-06	4.9E-08	1.2E-06	7.1E-07	6.5E-07	2.7E-06
52	651594.44	4290404.01	651594.44, 4290404.01	57.6	0.0290492	1.0E-05	3.0E-05	1.8E-05	1.6E-05	7.3E-06	3.6E-08	8.7E-07	5.3E-07	4.8E-07	2.0E-06
53	651594.44	4290454.01	651594.44, 4290454.01	38.6496	0.019492	6.7E-06	2.0E-05	1.2E-05	1.1E-05	4.9E-06	2.4E-08	5.8E-07	3.5E-07	3.2E-07	1.4E-06
54	651594.44	4290504.01	651594.44, 4290504.01	25.9198	0.013072	4.5E-06	1.4E-05	7.9E-06	7.2E-06	3.3E-06	1.6E-08	3.9E-07	2.4E-07	2.2E-07	9.1E-07
55	651644.44	4290354.01	651644.44, 4290354.01	108.195	0.0545656	1.9E-05	5.7E-05	3.3E-05	3.0E-05	1.4E-05	6.7E-08	1.6E-06	9.9E-07	9.0E-07	3.8E-06
56	651644.44	4290404.01	651644.44, 4290404.01	53.7657	0.0271155	9.4E-06	2.8E-05	1.6E-05	1.5E-05	6.8E-06	3.4E-08	8.1E-07	4.9E-07	4.5E-07	1.9E-06
57	651644.44	4290454.01	651644.44, 4290454.01</												

77	651894.44	4290454.01	651894.44, 4290454.01	4.31239	0.0021749	7.5E-07	2.3E-06	1.3E-06	1.2E-06	5.4E-07	2.7E-09	6.5E-08	3.9E-08	3.6E-08	7.8E-09	1.5E-07
78	651944.44	4290354.01	651944.44, 4290354.01	3.67088	0.0018513	6.4E-07	1.9E-06	1.1E-06	1.0E-06	4.6E-07	2.3E-09	5.5E-08	3.4E-08	3.0E-08	6.6E-09	1.3E-07
79	651944.44	4290404.01	651944.44, 4290404.01	3.37195	0.0017006	5.9E-07	1.8E-06	1.0E-06	9.3E-07	4.3E-07	2.1E-09	5.1E-08	3.1E-08	2.8E-08	6.1E-09	1.2E-07
80	651994.44	4290354.01	651994.44, 4290354.01	2.63836	0.0013306	4.6E-07	1.4E-06	8.1E-07	7.3E-07	3.3E-07	1.6E-09	4.0E-08	2.4E-08	2.2E-08	4.8E-09	9.2E-08
81	651822.56	4290016.22	651822.56, 4290016.22	17.5856	0.0088689	3.1E-06	9.3E-06	5.4E-06	4.9E-06	2.2E-06	1.1E-08	2.6E-07	1.6E-07	1.5E-07	3.2E-08	6.1E-07
82	651872.56	4290066.22	651872.56, 4290066.22	10.5956	0.0053436	1.8E-06	5.6E-06	3.2E-06	2.9E-06	1.3E-06	6.6E-09	1.6E-07	9.7E-08	8.8E-08	1.9E-08	3.7E-07
83	651872.56	4290116.22	651872.56, 4290116.22	9.76625	0.0049254	1.7E-06	5.1E-06	3.0E-06	2.7E-06	1.2E-06	6.1E-09	1.5E-07	8.9E-08	8.1E-08	1.8E-08	3.4E-07
84	651872.56	4290166.22	651872.56, 4290166.22	9.41498	0.0047482	1.6E-06	5.0E-06	2.9E-06	2.6E-06	1.2E-06	5.9E-09	1.4E-07	8.6E-08	7.8E-08	1.7E-08	3.3E-07
85	651872.56	4290216.22	651872.56, 4290216.22	8.72773	0.0044016	1.5E-06	4.6E-06	2.7E-06	2.4E-06	1.1E-06	5.4E-09	1.3E-07	8.0E-08	7.2E-08	1.6E-08	3.1E-07
86	651872.56	4290266.22	651872.56, 4290266.22	7.97671	0.0040229	1.4E-06	4.2E-06	2.4E-06	2.2E-06	1.0E-06	5.0E-09	1.2E-07	7.3E-08	6.6E-08	1.4E-08	2.8E-07
87	651922.56	4290066.22	651922.56, 4290066.22	6.28925	0.0031718	1.1E-06	3.3E-06	1.9E-06	1.7E-06	7.9E-07	3.9E-09	9.5E-08	5.8E-08	5.2E-08	1.1E-08	2.2E-07
88	651922.56	4290116.22	651922.56, 4290116.22	6.05671	0.0030546	1.1E-06	3.2E-06	1.8E-06	1.7E-06	7.6E-07	3.8E-09	9.1E-08	5.5E-08	5.0E-08	1.1E-08	2.1E-07
89	651922.56	4290166.22	651922.56, 4290166.22	5.88662	0.0029688	1.0E-06	3.1E-06	1.8E-06	1.6E-06	7.4E-07	3.7E-09	8.9E-08	5.4E-08	4.9E-08	1.1E-08	2.1E-07
90	651922.56	4290216.22	651922.56, 4290216.22	5.44197	0.0027445	9.5E-07	2.9E-06	1.7E-06	1.5E-06	6.9E-07	3.4E-09	8.2E-08	5.0E-08	4.5E-08	9.8E-09	1.9E-07
91	651922.56	4290266.22	651922.56, 4290266.22	5.0596	0.0025517	8.8E-07	2.7E-06	1.5E-06	1.4E-06	6.4E-07	3.2E-09	7.6E-08	4.6E-08	4.2E-08	9.2E-09	1.8E-07
92	651972.56	4290066.22	651972.56, 4290066.22	4.26817	0.0021526	7.5E-07	2.2E-06	1.3E-06	1.2E-06	5.4E-07	2.7E-09	6.4E-08	3.9E-08	3.5E-08	7.7E-09	1.5E-07
93	651972.56	4290116.22	651972.56, 4290116.22	4.22777	0.0021322	7.4E-07	2.2E-06	1.3E-06	1.2E-06	5.3E-07	2.6E-09	6.4E-08	3.9E-08	3.5E-08	7.7E-09	1.5E-07
94	651972.56	4290166.22	651972.56, 4290166.22	4.03714	0.002036	7.0E-07	2.1E-06	1.2E-06	1.1E-06	5.1E-07	2.5E-09	6.1E-08	3.7E-08	3.4E-08	7.3E-09	1.4E-07
95	651972.56	4290216.22	651972.56, 4290216.22	3.76232	0.0018974	6.6E-07	2.0E-06	1.1E-06	1.0E-06	4.7E-07	2.3E-09	5.7E-08	3.4E-08	3.1E-08	6.8E-09	1.3E-07
96	651972.56	4290266.22	651972.56, 4290266.22	3.52934	0.0017799	6.2E-07	1.9E-06	1.1E-06	9.8E-07	4.5E-07	2.2E-09	5.3E-08	3.2E-08	2.9E-08	6.4E-09	1.2E-07
97	652022.56	4290066.22	652022.56, 4290066.22	3.16023	0.0015938	5.5E-07	1.7E-06	9.6E-07	8.7E-07	4.0E-07	2.0E-09	4.8E-08	2.9E-08	2.6E-08	5.7E-09	1.1E-07
98	652022.56	4290116.22	652022.56, 4290116.22	3.15917	0.0015933	5.5E-07	1.7E-06	9.6E-07	8.7E-07	4.0E-07	2.0E-09	4.8E-08	2.9E-08	2.6E-08	5.7E-09	1.1E-07
99	652022.56	4290166.22	652022.56, 4290166.22	2.99307	0.0015095	5.2E-07	1.6E-06	9.1E-07	8.3E-07	3.8E-07	1.9E-09	4.5E-08	2.7E-08	2.5E-08	5.4E-09	1.0E-07
100	652022.56	4290216.22	652022.56, 4290216.22	2.8139	0.0014191	4.9E-07	1.5E-06	8.6E-07	7.8E-07	3.6E-07	1.8E-09	4.2E-08	2.6E-08	2.3E-08	5.1E-09	9.8E-08
101	652022.56	4290266.22	652022.56, 4290266.22	2.64634	0.0013346	4.6E-07	1.4E-06	8.1E-07	7.3E-07	3.3E-07	1.6E-09	4.0E-08	2.4E-08	2.2E-08	4.8E-09	9.2E-08
102	652072.56	4290066.22	652072.56, 4290066.22	2.4609	0.0012411	4.3E-07	1.3E-06	7.5E-07	6.8E-07	3.1E-07	1.5E-09	3.7E-08	2.3E-08	2.0E-08	4.5E-09	8.6E-08
103	652072.56	4290116.22	652072.56, 4290116.22	2.45384	0.0012375	4.3E-07	1.3E-06	7.5E-07	6.8E-07	3.1E-07	1.5E-09	3.7E-08	2.2E-08	2.0E-08	4.4E-09	8.6E-08
104	652072.56	4290166.22	652072.56, 4290166.22	2.34666	0.0011835	4.1E-07	1.2E-06	7.2E-07	6.5E-07	3.0E-07	1.5E-09	3.5E-08	2.1E-08	1.9E-08	4.2E-09	8.2E-08
105	652072.56	4290216.22	652072.56, 4290216.22	2.23654	0.0011279	3.9E-07	1.2E-06	6.8E-07	6.2E-07	2.8E-07	1.4E-09	3.4E-08	2.0E-08	1.9E-08	4.0E-09	7.8E-08
106	652072.56	4290266.22	652072.56, 4290266.22	2.07891	0.0010484	3.6E-07	1.1E-06	6.3E-07	5.8E-07	2.6E-07	1.3E-09	3.1E-08	1.9E-08	1.7E-08	3.8E-09	7.3E-08
107	651473.15	4289591.47	651473.15, 4289591.47	2.51794	0.0012699	4.4E-07	1.3E-06	7.7E-07	7.0E-07	3.2E-07	1.6E-09	3.8E-08	2.3E-08	2.1E-08	4.6E-09	8.8E-08
108	651523.15	4289591.47	651523.15, 4289591.47	2.79014	0.0014071	4.9E-07	1.5E-06	8.5E-07	7.7E-07	3.5E-07	1.7E-09	4.2E-08	2.6E-08	2.3E-08	5.0E-09	9.8E-08
109	651573.15	4289591.47	651573.15, 4289591.47	3.08165	0.0015542	5.4E-07	1.6E-06	9.4E-07	8.5E-07	3.9E-07	1.9E-09	4.6E-08	2.8E-08	2.6E-08	5.6E-09	1.1E-07
110	651623.15	4289591.47	651623.15, 4289591.47	3.34782	0.0016884	5.8E-07	1.8E-06	1.0E-06	9.3E-07	4.2E-07	2.1E-09	5.0E-08	3.1E-08	2.8E-08	6.1E-09	1.2E-07
111	651673.15	4289591.47	651673.15, 4289591.47	3.57176	0.0018013	6.2E-07	1.9E-06	1.1E-06	9.9E-07	4.5E-07	2.2E-09	5.4E-08	3.3E-08	3.0E-08	6.5E-09	1.2E-07
112	651723.15	4289591.47	651723.15, 4289591.47	3.71605	0.0018741	6.5E-07	2.0E-06	1.1E-06	1.0E-06	4.7E-07	2.3E-09	5.6E-08	3.4E-08	3.1E-08	6.7E-09	1.3E-07
113	651473.15	4289641.47	651473.15, 4289641.47	2.77318	0.0013986	4.8E-07	1.5E-06	8.5E-07	7.7E-07	3.5E-07	1.7E-09	4.2E-08	2.5E-08	2.3E-08	5.0E-09	9.7E-08
114	651523.15	4289641.47	651523.15, 4289641.47	3.11946	0.0015732	5.4E-07	1.6E-06	9.5E-07	8.6E-07	3.9E-07	1.9E-09	4.7E-08	2.9E-08	2.6E-08	5.6E-09	1.1E-07
115	651573.15	4289641.47	651573.15, 4289641.47	3.49441	0.0017623	6.1E-07	1.8E-06	1.1E-06	9.7E-07	4.4E-07	2.2E-09	5.3E-08	3.2E-08	2.9E-08	6.3E-09	1.2E-07
116	651623.15	4289641.47	651623.15, 4289641.47	3.81654	0.0019248	6.7E-07	2.0E-06	1.2E-06	1.1E-06	4.8E-07	2.4E-09	5.7E-08	3.5E-08	3.2E-08	6.9E-09	1.3E-07
117	651673.15	4289641.47	651673.15, 4289641.47	4.10171	0.0020686	7.2E-07	2.2E-06	1.3E-06	1.1E-06	5.2E-07	2.6E-09	6.2E-08	3.8E-08	3.4E-08	7.4E-09	1.4E-07
118	651723.15	4289641.47	651723.15, 4289641.47	4.27088	0.0021539	7.5E-07	2.3E-06	1.3E-06	1.2E-06	5.4E-07	2.7E-09	6.4E-08	3.9E-08	3.5E-08	7.7E-09	1.5E-07
119	651773.15	4289641.47	651773.15, 4289641.47	4.33133	0.0021844	7.6E-07	2.3E-06	1.3E-06	1.2E-06	5.5E-07	2.7E-09	6.5E-08	4.0E-08	3.6E-08	7.8E-09	1.5E-07
120	651473.15	4289691.47	651473.15, 4289691.47	3.15051	0.0015889	5.5E-07	1.7E-06	9.6E-07	8.7E-07	4.0E-07	2.0E-09	4.7E-08	2.9E-08	2.6E-08	5.7E-09	1.1E-07
121	651523.15	4289691.47	651523.15, 4289691.47	3.62391	0.0018276	6.3E-07	1.9E-06	1.1E-06	1.0E-06	4.6E-07	2.3E-09	5.5E-08	3.3E-08	3.0E-08	6.6E-09	1.3E-07
122	651573.15	4289691.47	651573.15, 4289691.47	4.08451	0.0020599	7.1E-07	2.2E-06	1.2E-06	1.1E-06	5.2E-07	2.5E-09	6.2E-08	3.7E-08	3.4E-08	7.4E-09	1.4E-07
123	651623.15	4289691.47	651623.15, 4289691.47	4.40883	0.0022235	7.7E-07	2.3E-06	1.3E-06	1.2E-06	5.6E-07	2.7E-09	6.6E-08	4.0E-08	3.7E-08	8.0E-09	1.5E-07
124	651673.15	4289691.47	651673.15, 4289691.47	4.76952	0.0024054	8.3E-07	2.5E-06	1.5E-06	1.3E-06	6.0E-07	3.0E-09	7.2E-08	4.4E-08	4.0E-08	8.6E-09	1.7E-07
125	651723.15	4289691.47	651723.15, 4289691.47	4.96463	0.0025038	8.7E-07	2.6E-06	1.5E-06	1.4E-06	6.3E-07	3.1E-09	7.5E-08	4.5E-08	4.1E-08	9.0E-09	1.7E-07
126	651773.15	4289691.47	651773.15, 4289691.47	5.07222	0.0025581	8.9E-07	2.7E-06	1.5E-06	1.4E-06	6.4E-07	3.2E-09	7.6E-08	4.6E-08	4.2E-08	9.2E-09	1.8E-07
127	651473.15	4289741.47	651473.15, 4289741.47	3.56112	0.001796	6.2E-07	1.9E-06	1.1E-06	9.9E-07	4.5E-07	2.2E-09	5.4E-08	3.3E-08	3.0E-08	6.4E-09	1.2E-07
128	651523.15	4289741.47	651523.15, 4289741.47	4.11173	0.0020737	7.2E-07	2.2E-06	1.3E-06	1.1E-06	5.2E-07	2.6E-09	6.2E-08	3.8E-08	3.4E-08	7.4E-09	1.4E-07
129	651573.15	4289741.47	651573.15, 4289741.47	4.69726	0.002369	8.2E-07	2.5E-06	1.4E-06	1.3E-06	5.9E-07	2.9E-09	7.1E-08	4.3E-08	3.9E-08	8.5E-09	1.6E-07
130	651623.15	4289741.47	651623.15, 4289741.47	5.21343	0.0026293	9.1E-07	2.7E-06	1.6E-06	1.4E-06	6.6E-07	3.3E-09	7.9E-08	4.8E-08	4.3E-08	9.4E-09	1.8E-07
131	651673.15	4289741.47	651673.15, 4289741.47	5.63215	0.0028404	9.8E-07	3.0E-06	1.7E-06	1.6E-06	7.1E-07	3.5E-09	8.5E-08	5.2E-08	4.7E-08	1.0E-08	2.0E-07
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Residential Operational Risk - Fueling (Ethylbenzene)

Fueling
Emissions Rate (g/s): 4.17E-04

Discrete Receptor ID	Concentration				Residential Dose		Risk by Age Group										
	X		Y		[µg/m³] at 1 g/s	Unmitigated Fueling	3rd	0<2	2<9	9<16	16<30	Risk by Age Group					Total Risk
												3rd	0<2	2<9	9<16	16<30	
1	651391.97	4289982.91	651391.97	4289982.91	5.50604	0.00229772	8.0E-07	2.4E-06	1.4E-06	1.3E-06	5.8E-07	2.5E-10	6.0E-09	3.6E-09	3.3E-09	7.2E-10	1.4E-08
2	651391.97	4290032.91	651391.97	4290032.91	6.71377	0.00280172	9.7E-07	2.9E-06	1.7E-06	1.5E-06	7.0E-07	3.0E-10	7.3E-09	4.4E-09	4.0E-09	8.7E-10	1.7E-08
3	651391.97	4290082.91	651391.97	4290082.91	8.35037	0.00348469	1.2E-06	3.6E-06	2.1E-06	1.9E-06	8.7E-07	3.7E-10	9.1E-09	5.5E-09	5.0E-09	1.1E-09	2.1E-08
4	651391.97	4290132.91	651391.97	4290132.91	10.79285	0.00450396	1.6E-06	4.7E-06	2.7E-06	2.5E-06	1.1E-06	4.8E-10	1.2E-08	7.1E-09	6.4E-09	1.4E-09	2.7E-08
5	651391.97	4290182.91	651391.97	4290182.91	13.32745	0.00556168	1.9E-06	5.8E-06	3.4E-06	3.1E-06	1.4E-06	6.0E-10	1.4E-08	8.8E-09	8.0E-09	1.7E-09	3.4E-08
6	651391.97	4290232.91	651391.97	4290232.91	13.51216	0.00563876	2.0E-06	5.9E-06	3.4E-06	3.1E-06	1.4E-06	6.1E-10	1.5E-08	8.9E-09	8.1E-09	1.8E-09	3.4E-08
7	651391.97	4290282.91	651391.97	4290282.91	12.56278	0.00524257	1.8E-06	5.5E-06	3.2E-06	2.9E-06	1.3E-06	5.6E-10	1.4E-08	8.3E-09	7.5E-09	1.6E-09	3.2E-08
8	651441.97	4290032.91	651441.97	4290032.91	7.8465	0.00327442	1.1E-06	3.4E-06	2.0E-06	1.8E-06	8.2E-07	3.5E-10	8.5E-09	5.2E-09	4.7E-09	1.0E-09	2.0E-08
9	651441.97	4290082.91	651441.97	4290082.91	10.27855	0.00428934	1.5E-06	4.5E-06	2.6E-06	2.4E-06	1.1E-06	4.6E-10	1.1E-08	6.8E-09	6.1E-09	1.3E-09	2.6E-08
10	651441.97	4290132.91	651441.97	4290132.91	14.25929	0.00595054	2.1E-06	6.2E-06	3.6E-06	3.3E-06	1.5E-06	6.4E-10	1.5E-08	9.4E-09	8.5E-09	1.9E-09	3.6E-08
11	651441.97	4290182.91	651441.97	4290182.91	18.13818	0.00756924	2.6E-06	7.9E-06	4.6E-06	4.2E-06	1.9E-06	8.1E-10	2.0E-08	1.2E-08	1.1E-08	2.4E-09	4.6E-08
12	651441.97	4290232.91	651441.97	4290232.91	18.93027	0.00789979	2.7E-06	8.3E-06	4.8E-06	4.3E-06	2.0E-06	8.5E-10	2.1E-08	1.2E-08	1.1E-08	2.5E-09	4.8E-08
13	651441.97	4290282.91	651441.97	4290282.91	17.26971	0.00720682	2.5E-06	7.5E-06	4.4E-06	4.0E-06	1.8E-06	7.8E-10	1.9E-08	1.1E-08	1.0E-08	2.3E-09	4.3E-08
14	651491.97	4290032.91	651491.97	4290032.91	9.45121	0.00394408	1.4E-06	4.1E-06	2.4E-06	2.2E-06	9.9E-07	4.2E-10	1.0E-08	6.2E-09	5.6E-09	1.2E-09	2.4E-08
15	651491.97	4290082.91	651491.97	4290082.91	12.37979	0.00516621	1.8E-06	5.4E-06	3.1E-06	2.8E-06	1.3E-06	5.6E-10	1.3E-08	8.2E-09	7.4E-09	1.6E-09	3.1E-08
16	651491.97	4290132.91	651491.97	4290132.91	17.93808	0.00748574	2.6E-06	7.8E-06	4.5E-06	4.1E-06	1.9E-06	8.1E-10	1.9E-08	1.2E-08	1.1E-08	2.3E-09	4.5E-08
17	651491.97	4290182.91	651491.97	4290182.91	25.33512	0.0105726	3.7E-06	1.1E-05	6.4E-06	5.8E-06	2.6E-06	1.1E-09	2.7E-08	1.7E-08	1.5E-08	3.3E-09	6.4E-08
18	651491.97	4290232.91	651491.97	4290232.91	28.03231	0.01169816	4.0E-06	1.2E-05	7.1E-06	6.4E-06	2.9E-06	1.3E-09	3.0E-08	1.8E-08	1.7E-08	3.7E-09	7.1E-08
19	651491.97	4290282.91	651491.97	4290282.91	24.99615	0.01043114	3.6E-06	1.1E-05	6.3E-06	5.7E-06	2.6E-06	1.1E-09	2.7E-08	1.6E-08	1.5E-08	3.3E-09	6.3E-08
20	651541.97	4290032.91	651541.97	4290032.91	11.85658	0.00494787	1.7E-06	5.2E-06	3.0E-06	2.7E-06	1.2E-06	5.3E-10	1.3E-08	7.8E-09	7.1E-09	1.5E-09	3.0E-08
21	651541.97	4290082.91	651541.97	4290082.91	15.69165	0.00654828	2.3E-06	6.8E-06	4.0E-06	3.6E-06	1.6E-06	7.0E-10	1.7E-08	1.0E-08	9.4E-09	2.0E-09	3.9E-08
22	651591.97	4290032.91	651591.97	4290032.91	16.01205	0.00668199	2.3E-06	7.0E-06	4.0E-06	3.7E-06	1.7E-06	7.2E-10	1.7E-08	1.1E-08	9.6E-09	2.1E-09	4.0E-08
23	651591.97	4290082.91	651591.97	4290082.91	21.73887	0.00907184	3.1E-06	9.5E-06	5.5E-06	5.0E-06	2.3E-06	9.8E-10	2.4E-08	1.4E-08	1.3E-08	2.8E-09	5.5E-08
24	651641.97	4290032.91	651641.97	4290032.91	22.30826	0.00930946	3.2E-06	9.7E-06	5.6E-06	5.1E-06	2.3E-06	1.0E-09	2.4E-08	1.5E-08	1.3E-08	2.9E-09	5.6E-08
25	651641.97	4290082.91	651641.97	4290082.91	32.9863	0.01376551	4.8E-06	1.4E-05	8.3E-06	7.6E-06	3.4E-06	1.5E-09	3.6E-08	2.2E-08	2.0E-08	4.3E-09	8.3E-08
26	651691.97	4290032.91	651691.97	4290032.91	28.22035	0.01177663	4.1E-06	1.2E-05	7.1E-06	6.5E-06	2.9E-06	1.3E-09	3.1E-08	1.9E-08	1.7E-08	3.7E-09	7.1E-08
27	651691.97	4290082.91	651691.97	4290082.91	46.63357	0.01946065	6.7E-06	2.0E-05	1.2E-05	1.1E-05	4.9E-06	2.1E-09	5.1E-08	3.1E-08	2.8E-08	6.1E-09	1.2E-07
28	651741.97	4290032.91	651741.97	4290032.91	28.6691	0.0119639	4.1E-06	1.3E-05	7.2E-06	6.6E-06	3.0E-06	1.3E-09	3.1E-08	1.9E-08	1.7E-08	3.7E-09	7.2E-08
29	651741.97	4290082.91	651741.97	4290082.91	46.17341	0.01926862	6.7E-06	2.0E-05	1.2E-05	1.1E-05	4.8E-06	2.1E-09	5.0E-08	3.0E-08	2.8E-08	6.0E-09	1.2E-07
30	651791.97	4290032.91	651791.97	4290032.91	23.43225	0.00977851	3.4E-06	1.0E-05	5.9E-06	5.4E-06	2.4E-06	1.1E-09	2.5E-08	1.5E-08	1.4E-08	3.1E-09	5.9E-08
31	651791.97	4290082.91	651791.97	4290082.91	30.53883	0.01274415	4.4E-06	1.3E-05	7.7E-06	7.0E-06	3.2E-06	1.4E-09	3.3E-08	2.0E-08	1.8E-08	4.0E-09	7.7E-08
32	651731.05	4290251.32	651731.05	4290251.32	150.90848	0.06297559	2.2E-05	6.6E-05	3.8E-05	3.5E-05	1.6E-05	6.8E-09	1.6E-07	9.9E-08	9.0E-08	2.0E-08	3.8E-07
33	651731.05	4290263.32	651731.05	4290263.32	126.6537	0.05285384	1.8E-05	5.5E-05	3.2E-05	2.9E-05	1.3E-05	5.7E-09	1.4E-07	8.3E-08	7.6E-08	1.7E-08	3.2E-07
34	651743.05	4290251.32	651743.05	4290251.32	91.10786	0.03802021	1.3E-05	4.0E-05	2.3E-05	2.1E-05	9.5E-06	4.1E-09	9.9E-08	6.0E-08	5.4E-08	1.2E-08	2.3E-07
35	651743.05	4290263.32	651743.05	4290263.32	81.5794	0.0339932	1.2E-05	3.6E-05	2.1E-05	1.9E-05	8.5E-06	3.7E-09	8.8E-08	5.4E-08	4.9E-08	1.1E-08	2.0E-07
36	651755.05	4290251.32	651755.05	4290251.32	60.648	0.02530901	8.8E-06	2.6E-05	1.5E-05	1.4E-05	6.3E-06	2.7E-09	6.6E-08	4.0E-08	3.6E-08	7.9E-09	1.5E-07
37	651755.05	4290263.32	651755.05	4290263.32	55.98274	0.02336215	8.1E-06	2.4E-05	1.4E-05	1.3E-05	5.8E-06	2.5E-09	6.1E-08	3.7E-08	3.3E-08	7.3E-09	1.4E-07
38	651767.05	4290251.32	651767.05	4290251.32	43.34039	0.01808637	6.3E-06	1.9E-05	1.1E-05	9.9E-06	4.5E-06	1.9E-09	4.7E-08	2.9E-08	2.6E-08	5.6E-09	1.1E-07
39	651767.05	4290263.32	651767.05	4290263.32	40.70024	0.01698461	5.9E-06	1.8E-05	1.0E-05	9.3E-06	4.3E-06	1.8E-09	4.4E-08	2.7E-08	2.4E-08	5.3E-09	1.0E-07
40	651779.05	4290251.32	651779.05	4290251.32	32.61948	0.01361243	4.7E-06	1.4E-05	8.2E-06	7.5E-06	3.4E-06	1.5E-09	3.5E-08	2.1E-08	1.9E-08	4.3E-09	8.2E-08
41	651444.44	4290354.01	651444.44	4290354.01	14.66177	0.0061185	2.1E-06	6.4E-06	3.7E-06	3.4E-06	1.5E-06	6.6E-10	1.6E-08	9.7E-09	8.8E-09	1.9E-09	3.7E-08
42	651444.44	4290404.01	651444.44	4290404.01	13.63214	0.00568883	2.0E-06	5.9E-06	3.4E-06	3.1E-06	1.4E-06	6.1E-10	1.5E-08	9.0E-09	8.1E-09	1.8E-09	3.4E-08
43	651494.44	4290354.01	651494.44	4290354.01	20.91842	0.00872946	3.0E-06	9.1E-06	5.3E-06	4.8E-06	2.2E-06	9.4E-10	2.3E-08	1.4E-08	1.2E-08	2.7E-09	5.3E-08
44	651494.44	4290404.01	651494.44	4290404.01	21.03466	0.00877797	3.0E-06	9.2E-06	5.3E-06	4.8E-06	2.2E-06	9.4					

80	651994.44	4290354.01	651994.44	4290354.01	2.63836	0.00110101	3.8E-07	1.2E-06	6.7E-07	6.0E-07	2.8E-07	1.2E-10	2.9E-09	1.7E-09	1.6E-09	3.4E-10	6.6E-09
81	651822.56	4290016.22	651822.56	4290016.22	17.58558	0.00733864	2.5E-06	7.7E-06	4.4E-06	4.0E-06	1.8E-06	7.9E-10	1.9E-08	1.2E-08	1.1E-08	2.3E-09	4.4E-08
82	651872.56	4290066.22	651872.56	4290066.22	10.5956	0.00442165	1.5E-06	4.6E-06	2.7E-06	2.4E-06	1.1E-06	4.8E-10	1.1E-08	7.0E-09	6.3E-09	1.4E-09	2.7E-08
83	651872.56	4290116.22	651872.56	4290116.22	9.76625	0.00407555	1.4E-06	4.3E-06	2.5E-06	2.2E-06	1.0E-06	4.4E-10	1.1E-08	6.4E-09	5.8E-09	1.3E-09	2.5E-08
84	651872.56	4290166.22	651872.56	4290166.22	9.41498	0.00392896	1.4E-06	4.1E-06	2.4E-06	2.2E-06	9.8E-07	4.2E-10	1.0E-08	6.2E-09	5.6E-09	1.2E-09	2.4E-08
85	651872.56	4290216.22	651872.56	4290216.22	8.72773	0.00364217	1.3E-06	3.8E-06	2.2E-06	2.0E-06	9.1E-07	3.9E-10	9.5E-09	5.8E-09	5.2E-09	1.1E-09	2.2E-08
86	651872.56	4290266.22	651872.56	4290266.22	7.97671	0.00332876	1.2E-06	3.5E-06	2.0E-06	1.8E-06	8.3E-07	3.6E-10	8.6E-09	5.3E-09	4.8E-09	1.0E-09	2.0E-08
87	651922.56	4290066.22	651922.56	4290066.22	6.28925	0.00262457	9.1E-07	2.7E-06	1.6E-06	1.4E-06	6.6E-07	2.8E-10	6.8E-09	4.1E-09	3.8E-09	8.2E-10	1.6E-08
88	651922.56	4290116.22	651922.56	4290116.22	6.05671	0.00252752	8.7E-07	2.6E-06	1.5E-06	1.4E-06	6.3E-07	2.7E-10	6.6E-09	4.0E-09	3.6E-09	7.9E-10	1.5E-08
89	651922.56	4290166.22	651922.56	4290166.22	5.88662	0.00245654	8.5E-07	2.6E-06	1.5E-06	1.3E-06	6.1E-07	2.6E-10	6.4E-09	3.9E-09	3.5E-09	7.7E-10	1.5E-08
90	651922.56	4290216.22	651922.56	4290216.22	5.44197	0.00227099	7.9E-07	2.4E-06	1.4E-06	1.2E-06	5.7E-07	2.4E-10	5.9E-09	3.6E-09	3.3E-09	7.1E-10	1.4E-08
91	651922.56	4290266.22	651922.56	4290266.22	5.0596	0.00211142	7.3E-07	2.2E-06	1.3E-06	1.2E-06	5.3E-07	2.3E-10	5.5E-09	3.3E-09	3.0E-09	6.6E-10	1.3E-08
92	651972.56	4290066.22	651972.56	4290066.22	4.26817	0.00178115	6.2E-07	1.9E-06	1.1E-06	9.8E-07	4.5E-07	1.9E-10	4.6E-09	2.8E-09	2.5E-09	5.6E-10	1.1E-08
93	651972.56	4290116.22	651972.56	4290116.22	4.22777	0.00176429	6.1E-07	1.8E-06	1.1E-06	9.7E-07	4.4E-07	1.9E-10	4.6E-09	2.8E-09	2.5E-09	5.5E-10	1.1E-08
94	651972.56	4290166.22	651972.56	4290166.22	4.03714	0.00168474	5.8E-07	1.8E-06	1.0E-06	9.2E-07	4.2E-07	1.8E-10	4.4E-09	2.7E-09	2.4E-09	5.3E-10	1.0E-08
95	651972.56	4290216.22	651972.56	4290216.22	3.76232	0.00157005	5.4E-07	1.6E-06	9.5E-07	8.6E-07	3.9E-07	1.7E-10	4.1E-09	2.5E-09	2.2E-09	4.9E-10	9.5E-09
96	651972.56	4290266.22	651972.56	4290266.22	3.52934	0.00147283	5.1E-07	1.5E-06	8.9E-07	8.1E-07	3.7E-07	1.6E-10	3.8E-09	2.3E-09	2.1E-09	4.6E-10	8.9E-09
97	652022.56	4290066.22	652022.56	4290066.22	3.16023	0.00131888	4.6E-07	1.4E-06	8.0E-07	7.2E-07	3.3E-07	1.4E-10	3.4E-09	2.1E-09	1.9E-09	4.1E-10	8.0E-09
98	652022.56	4290116.22	652022.56	4290116.22	3.15917	0.00131835	4.6E-07	1.4E-06	8.0E-07	7.2E-07	3.3E-07	1.4E-10	3.4E-09	2.1E-09	1.9E-09	4.1E-10	7.9E-09
99	652022.56	4290166.22	652022.56	4290166.22	2.99307	0.00124904	4.3E-07	1.3E-06	7.6E-07	6.9E-07	3.1E-07	1.3E-10	3.2E-09	2.0E-09	1.8E-09	3.9E-10	7.5E-09
100	652022.56	4290216.22	652022.56	4290216.22	2.8139	0.00117427	4.1E-07	1.2E-06	7.1E-07	6.4E-07	2.9E-07	1.3E-10	3.1E-09	1.9E-09	1.7E-09	3.7E-10	7.1E-09
101	652022.56	4290266.22	652022.56	4290266.22	2.64634	0.00110434	3.8E-07	1.2E-06	6.7E-07	6.1E-07	2.8E-07	1.2E-10	2.9E-09	1.7E-09	1.6E-09	3.4E-10	6.7E-09
102	652072.56	4290066.22	652072.56	4290066.22	2.4609	0.00102696	3.6E-07	1.1E-06	6.2E-07	5.6E-07	2.6E-07	1.1E-10	2.7E-09	1.6E-09	1.5E-09	3.2E-10	6.2E-09
103	652072.56	4290116.22	652072.56	4290116.22	2.45384	0.00102401	3.5E-07	1.1E-06	6.2E-07	5.6E-07	2.6E-07	1.1E-10	2.7E-09	1.6E-09	1.5E-09	3.2E-10	6.2E-09
104	652072.56	4290166.22	652072.56	4290166.22	2.34666	0.00097928	3.4E-07	1.0E-06	5.9E-07	5.4E-07	2.5E-07	1.1E-10	2.5E-09	1.5E-09	1.4E-09	3.1E-10	5.9E-09
105	652072.56	4290216.22	652072.56	4290216.22	2.23654	0.00093333	3.2E-07	9.8E-07	5.6E-07	5.1E-07	2.3E-07	1.0E-10	2.4E-09	1.5E-09	1.3E-09	2.9E-10	5.6E-09
106	652072.56	4290266.22	652072.56	4290266.22	2.07891	0.00086755	3.0E-07	9.1E-07	5.2E-07	4.8E-07	2.2E-07	9.3E-11	2.3E-09	1.4E-09	1.2E-09	2.7E-10	5.2E-09
107	651473.15	4289591.47	651473.15	4289591.47	2.51794	0.00105076	3.6E-07	1.1E-06	6.4E-07	5.8E-07	2.6E-07	1.1E-10	2.7E-09	1.7E-09	1.5E-09	3.3E-10	6.3E-09
108	651523.15	4289591.47	651523.15	4289591.47	2.79014	0.00116435	4.0E-07	1.2E-06	7.0E-07	6.4E-07	2.9E-07	1.3E-10	3.0E-09	1.8E-09	1.7E-09	3.6E-10	7.0E-09
109	651573.15	4289591.47	651573.15	4289591.47	3.08165	0.001286	4.5E-07	1.3E-06	7.8E-07	7.1E-07	3.2E-07	1.4E-10	3.3E-09	2.0E-09	1.8E-09	4.0E-10	7.8E-09
110	651623.15	4289591.47	651623.15	4289591.47	3.34782	0.00139708	4.8E-07	1.5E-06	8.5E-07	7.7E-07	3.5E-07	1.5E-10	3.6E-09	2.2E-09	2.0E-09	4.4E-10	8.4E-09
111	651673.15	4289591.47	651673.15	4289591.47	3.57176	0.00149053	5.2E-07	1.6E-06	9.0E-07	8.2E-07	3.7E-07	1.6E-10	3.9E-09	2.4E-09	2.1E-09	4.7E-10	9.0E-09
112	651723.15	4289591.47	651723.15	4289591.47	3.71605	0.00155074	5.4E-07	1.6E-06	9.4E-07	8.5E-07	3.9E-07	1.7E-10	4.0E-09	2.4E-09	2.2E-09	4.8E-10	9.3E-09
113	651473.15	4289641.47	651473.15	4289641.47	2.77318	0.00115728	4.0E-07	1.2E-06	7.0E-07	6.3E-07	2.9E-07	1.2E-10	3.0E-09	1.8E-09	1.7E-09	3.6E-10	7.0E-09
114	651523.15	4289641.47	651523.15	4289641.47	3.11946	0.00130178	4.5E-07	1.4E-06	7.9E-07	7.1E-07	3.3E-07	1.4E-10	3.4E-09	2.1E-09	1.9E-09	4.1E-10	7.8E-09
115	651573.15	4289641.47	651573.15	4289641.47	3.49441	0.00145825	5.0E-07	1.5E-06	8.8E-07	8.0E-07	3.6E-07	1.6E-10	3.8E-09	2.3E-09	2.1E-09	4.6E-10	8.8E-09
116	651623.15	4289641.47	651623.15	4289641.47	3.81654	0.00159268	5.5E-07	1.7E-06	9.6E-07	8.7E-07	4.0E-07	1.7E-10	4.1E-09	2.5E-09	2.3E-09	5.0E-10	9.6E-09
117	651673.15	4289641.47	651673.15	4289641.47	4.10171	0.00171168	5.9E-07	1.8E-06	1.0E-06	9.4E-07	4.3E-07	1.8E-10	4.4E-09	2.7E-09	2.5E-09	5.3E-10	1.0E-08
118	651723.15	4289641.47	651723.15	4289641.47	4.27088	0.00178228	6.2E-07	1.9E-06	1.1E-06	9.8E-07	4.5E-07	1.9E-10	4.6E-09	2.8E-09	2.6E-09	5.6E-10	1.1E-08
119	651773.15	4289641.47	651773.15	4289641.47	4.33133	0.00180751	6.3E-07	1.9E-06	1.1E-06	9.9E-07	4.5E-07	1.9E-10	4.7E-09	2.9E-09	2.6E-09	5.6E-10	1.1E-08
120	651473.15	4289691.47	651473.15	4289691.47	3.15051	0.00131474	4.6E-07	1.4E-06	8.0E-07	7.2E-07	3.3E-07	1.4E-10	3.4E-09	2.1E-09	1.9E-09	4.1E-10	7.9E-09
121	651523.15	4289691.47	651523.15	4289691.47	3.62391	0.00151229	5.2E-07	1.6E-06	9.2E-07	8.3E-07	3.8E-07	1.6E-10	3.9E-09	2.4E-09	2.2E-09	4.7E-10	9.1E-09
122	651573.15	4289691.47	651573.15	4289691.47	4.08451	0.00170451	5.9E-07	1.8E-06	1.0E-06	9.3E-07	4.3E-07	1.8E-10	4.4E-09	2.7E-09	2.4E-09	5.3E-10	1.0E-08
123	651623.15	4289691.47	651623.15	4289691.47	4.40883	0.00183985	6.4E-07	1.9E-06	1.1E-06	1.0E-06	4.6E-07	2.0E-10	4.8E-09	2.9E-09	2.6E-09	5.7E-10	1.1E-08
124	651673.15	4289691.47	651673.15	4289691.47	4.76952	0.00199037	6.9E-07	2.1E-06	1.2E-06	1.1E-06	5.0E-07	2.1E-10	5.2E-09	3.1E-09	2.8E-09	6.2E-10	1.2E-08
125	651723.15	4289691.47	651723.15	4289691.47	4.96463	0.00207179	7.2E-07	2.2E-06	1.3E-06	1.1E-06	5.2E-07	2.2E-10	5.4E-09	3.3E-09	3.0E-09	6.5E-10	1.2E-08
126	651773.15	4289691.47	651773.15	4289691.47	5.07222	0.00211669	7.3E-07	2.2E-06	1.3E-06	1.2E-06	5.3E-07	2.3E-10	5.5E-09	3.3E-09	3.0E-09	6.6E-10	1.3E-08
127	651473.15	4289741.47	651473.15	4289741.47	3.56112	0.00148609	5.1E-07	1.6E-06	9.0E-07	8.2E-07	3.7E-07	1.6E-10	3.9E-09	2.3E-09	2.1E-09	4.6E-10	9.0E-09
128	651523.15	4289741.47	651523.15	4289741.47	4.11173	0.00171587	5.9E-07	1.8E-06	1.0E-06	9.4E-07	4.3E-07	1.8E-10	4.5E-09	2.7E-09	2.5E-09	5.4E-10	1.0E-08
129	651573.15	4289741.47	651573.15	4289741.47	4.69726	0.00196021	6.8E-07	2.0E-06	1.2E-06	1.1E-06	4.9E-07	2.1E-10	5.1E-09	3.1E-09	2.8E-09	6.1E-10	1.2E-08
130	651623.15	4289741.47	651623.15	4289741.47	5.21343	0.00217562	7.5E-07	2.3E-06	1.3E-06	1.2E-06	5.4E-07	2.3E-10	5.7E-09	3.4E-09	3.1E-09	6.8E-10	1.3E-08
131	651673.15	4289741.47	651673.15	4289741.47	5.63215	0.00235035	8.1E-07	2.5E-06	1.4E-06	1.3E-06	5.9E-07	2.5E-10	6.1E-09	3.7E-09	3.4E-09	7.3E-10	1.4E-08
132	651723.15	4289741.47	651723.15	4289741.47	5.93425	0.00247642	8.6E-07	2.6E-06	1.5E-06	1.4E-06	6.2E-07	2.7E-10	6.4E-09	3.9E-09	3.5E-09	7.7E-10	1.5E-08
133	651773.15	4289741.47	651773.15	4289741.47	6.03932	0.00252027	8.7E-07	2.6E-06	1.5E-06	1.4E-06	6.3E-07	2.7E-10	6.5E-09	4.0E-09			

Residential Operational Risk - Fueling (Naphthalene)

Fueling
Emissions Rate (g/s): 4.66E-05

Discrete Receptor ID		Concentration		Unmitigated		Residential Dose		Risk by Age Group							Total Risk	
		X, Y	Fueling	[µg/m³] at 1 g/s		3rd	0<2	2<9	9<16	16<30	3rd	0<2	2<9	9<16	16<30	
1	651391.97	4289982.91 651391.97, 4289982.91	5.50604	0.0002566		8.9E-08	2.7E-07	1.6E-07	1.4E-07	6.4E-08	3.8E-10	9.2E-09	5.6E-09	5.1E-09	1.1E-09	2.1E-08
2	651391.97	4290032.91 651391.97, 4290032.91	6.71377	0.0003129		1.1E-07	3.3E-07	1.9E-07	1.7E-07	7.8E-08	4.6E-10	1.1E-08	6.8E-09	6.2E-09	1.3E-09	2.6E-08
3	651391.97	4290082.91 651391.97, 4290082.91	8.35037	0.0003892		1.3E-07	4.1E-07	2.4E-07	2.1E-07	9.7E-08	5.8E-10	1.4E-08	8.5E-09	7.7E-09	1.7E-09	3.2E-08
4	651391.97	4290132.91 651391.97, 4290132.91	10.79285	0.0005031		1.7E-07	5.3E-07	3.0E-07	2.8E-07	1.3E-07	7.5E-10	1.8E-08	1.1E-08	9.9E-09	2.2E-09	4.2E-08
5	651391.97	4290182.91 651391.97, 4290182.91	13.32745	0.0006212		2.2E-07	6.5E-07	3.8E-07	3.4E-07	1.6E-07	9.2E-10	2.2E-08	1.4E-08	1.2E-08	2.7E-09	5.2E-08
6	651391.97	4290232.91 651391.97, 4290232.91	13.51216	0.0006298		2.2E-07	6.6E-07	3.8E-07	3.5E-07	1.6E-07	9.3E-10	2.3E-08	1.4E-08	1.2E-08	2.7E-09	5.2E-08
7	651391.97	4290282.91 651391.97, 4290282.91	12.56278	0.0005856		2.0E-07	6.1E-07	3.5E-07	3.2E-07	1.5E-07	8.7E-10	2.1E-08	1.3E-08	1.2E-08	2.5E-09	4.9E-08
8	651441.97	4290032.91 651441.97, 4290032.91	7.8465	0.0003657		1.3E-07	3.8E-07	2.2E-07	2.0E-07	9.2E-08	5.4E-10	1.3E-08	8.0E-09	7.2E-09	1.6E-09	3.0E-08
9	651441.97	4290082.91 651441.97, 4290082.91	10.27855	0.0004791		1.7E-07	5.0E-07	2.9E-07	2.6E-07	1.2E-07	7.1E-10	1.7E-08	1.0E-08	9.5E-09	2.1E-09	4.0E-08
10	651441.97	4290132.91 651441.97, 4290132.91	14.25929	0.0006646		2.3E-07	6.9E-07	4.0E-07	3.6E-07	1.7E-07	9.9E-10	2.4E-08	1.4E-08	1.3E-08	2.9E-09	5.5E-08
11	651441.97	4290182.91 651441.97, 4290182.91	18.13818	0.0008454		2.9E-07	8.8E-07	5.1E-07	4.6E-07	2.1E-07	1.3E-09	3.0E-08	1.8E-08	1.7E-08	3.6E-09	7.0E-08
12	651441.97	4290232.91 651441.97, 4290232.91	18.93027	0.0008824		3.1E-07	9.2E-07	5.3E-07	4.8E-07	2.2E-07	1.3E-09	3.2E-08	1.9E-08	1.7E-08	3.8E-09	7.3E-08
13	651441.97	4290282.91 651441.97, 4290282.91	17.26971	0.000805		2.8E-07	8.4E-07	4.9E-07	4.4E-07	2.0E-07	1.2E-09	2.9E-08	1.8E-08	1.6E-08	3.5E-09	6.7E-08
14	651491.97	4290032.91 651491.97, 4290032.91	9.45121	0.0004405		1.5E-07	4.6E-07	2.7E-07	2.4E-07	1.1E-07	6.5E-10	1.6E-08	9.6E-09	8.7E-09	1.9E-09	3.7E-08
15	651491.97	4290082.91 651491.97, 4290082.91	12.37979	0.000577		2.0E-07	6.0E-07	3.5E-07	3.2E-07	1.4E-07	8.6E-10	2.1E-08	1.3E-08	1.1E-08	2.5E-09	4.8E-08
16	651491.97	4290132.91 651491.97, 4290132.91	17.93808	0.0008361		2.9E-07	8.7E-07	5.1E-07	4.6E-07	2.1E-07	1.2E-09	3.0E-08	1.8E-08	1.7E-08	3.6E-09	7.0E-08
17	651491.97	4290182.91 651491.97, 4290182.91	25.33512	0.0011809		4.1E-07	1.2E-06	7.1E-07	6.5E-07	3.0E-07	1.8E-09	4.2E-08	2.6E-08	2.3E-08	5.1E-09	9.8E-08
18	651491.97	4290232.91 651491.97, 4290232.91	28.03231	0.0013066		4.5E-07	1.4E-06	7.9E-07	7.2E-07	3.3E-07	1.9E-09	4.7E-08	2.8E-08	2.6E-08	5.6E-09	1.1E-07
19	651491.97	4290282.91 651491.97, 4290282.91	24.99615	0.0011651		4.0E-07	1.2E-06	7.0E-07	6.4E-07	2.9E-07	1.7E-09	4.2E-08	2.5E-08	2.3E-08	5.0E-09	9.7E-08
20	651541.97	4290032.91 651541.97, 4290032.91	11.85658	0.0005526		1.9E-07	5.8E-07	3.3E-07	3.0E-07	1.4E-07	8.2E-10	2.0E-08	1.2E-08	1.1E-08	2.4E-09	4.6E-08
21	651541.97	4290082.91 651541.97, 4290082.91	15.69165	0.0007314		2.5E-07	7.6E-07	4.4E-07	4.0E-07	1.8E-07	1.1E-09	2.6E-08	1.6E-08	1.4E-08	3.1E-09	6.1E-08
22	651591.97	4290032.91 651591.97, 4290032.91	16.01205	0.0007463		2.6E-07	7.8E-07	4.5E-07	4.1E-07	1.9E-07	1.1E-09	2.7E-08	1.6E-08	1.5E-08	3.2E-09	6.2E-08
23	651591.97	4290082.91 651591.97, 4290082.91	21.73887	0.0010133		3.5E-07	1.1E-06	6.1E-07	5.6E-07	2.5E-07	1.5E-09	3.6E-08	2.2E-08	2.0E-08	4.4E-09	8.4E-08
24	651641.97	4290032.91 651641.97, 4290032.91	22.30826	0.0010398		3.6E-07	1.1E-06	6.3E-07	5.7E-07	2.6E-07	1.5E-09	3.7E-08	2.3E-08	2.1E-08	4.5E-09	8.6E-08
25	651641.97	4290082.91 651641.97, 4290082.91	32.9863	0.0015375		5.3E-07	1.6E-06	9.3E-07	8.4E-07	3.8E-07	2.3E-09	5.5E-08	3.3E-08	3.0E-08	6.6E-09	1.3E-07
26	651691.97	4290032.91 651691.97, 4290032.91	28.22035	0.0013154		4.6E-07	1.4E-06	8.0E-07	7.2E-07	3.3E-07	2.0E-09	4.7E-08	2.9E-08	2.6E-08	5.7E-09	1.1E-07
27	651691.97	4290082.91 651691.97, 4290082.91	46.63357	0.0021736		7.5E-07	2.3E-06	1.3E-06	1.2E-06	5.4E-07	3.2E-09	7.8E-08	4.7E-08	4.3E-08	9.4E-09	1.8E-07
28	651741.97	4290032.91 651741.97, 4290032.91	28.6691	0.0013363		4.6E-07	1.4E-06	8.1E-07	7.3E-07	3.3E-07	2.0E-09	4.8E-08	2.9E-08	2.6E-08	5.8E-09	1.1E-07
29	651741.97	4290082.91 651741.97, 4290082.91	46.17341	0.0021522		7.5E-07	2.2E-06	1.3E-06	1.2E-06	5.4E-07	3.2E-09	7.7E-08	4.7E-08	4.2E-08	9.3E-09	1.8E-07
30	651791.97	4290032.91 651791.97, 4290032.91	23.43225	0.0010922		3.8E-07	1.1E-06	6.6E-07	6.0E-07	2.7E-07	1.6E-09	3.9E-08	2.4E-08	2.2E-08	4.7E-09	9.1E-08
31	651791.97	4290082.91 651791.97, 4290082.91	30.53883	0.0014234		4.9E-07	1.5E-06	8.6E-07	7.8E-07	3.6E-07	2.1E-09	5.1E-08	3.1E-08	2.8E-08	6.1E-09	1.2E-07
32	651731.05	4290251.32 651731.05, 4290251.32	150.90848	0.0070339		2.4E-06	7.4E-06	4.3E-06	3.9E-06	1.8E-06	1.0E-08	2.5E-07	1.5E-07	1.4E-07	3.0E-08	5.8E-07
33	651731.05	4290263.32 651731.05, 4290263.32	126.6537	0.0059034		2.0E-06	6.2E-06	3.6E-06	3.2E-06	1.5E-06	8.8E-09	2.1E-07	1.3E-07	1.2E-07	2.5E-08	4.9E-07
34	651743.05	4290251.32 651743.05, 4290251.32	91.10786	0.0042466		1.5E-06	4.4E-06	2.6E-06	2.3E-06	1.1E-06	6.3E-09	1.5E-07	9.3E-08	8.4E-08	1.8E-08	3.5E-07
35	651743.05	4290263.32 651743.05, 4290263.32	81.45794	0.0037968		1.3E-06	4.0E-06	2.3E-06	2.1E-06	9.5E-07	5.6E-09	1.4E-07	8.3E-08	7.5E-08	1.6E-08	3.2E-07
36	651755.05	4290251.32 651755.05, 4290251.32	60.648	0.0028268		9.8E-07	3.0E-06	1.7E-06	1.6E-06	7.1E-07	4.2E-09	1.0E-07	6.2E-08	5.6E-08	1.2E-08	2.4E-07
37	651755.05	4290263.32 651755.05, 4290263.32	55.98274	0.0026094		9.0E-07	2.7E-06	1.6E-06	1.4E-06	6.5E-07	3.9E-09	9.4E-08	5.7E-08	5.2E-08	1.1E-08	2.2E-07
38	651767.05	4290251.32 651767.05, 4290251.32	43.34039	0.0020201		7.0E-07	2.1E-06	1.2E-06	1.1E-06	5.1E-07	3.0E-09	7.2E-08	4.4E-08	4.0E-08	8.7E-09	1.7E-07
39	651767.05	4290263.32 651767.05, 4290263.32	40.70024	0.0018971		6.6E-07	2.0E-06	1.1E-06	1.0E-06	4.7E-07	2.8E-09	6.8E-08	4.1E-08	3.7E-08	8.2E-09	1.6E-07
40	651779.05	4290251.32 651779.05, 4290251.32	32.61948	0.0015204		5.3E-07	1.6E-06	9.2E-07	8.3E-07	3.8E-07	2.3E-09	5.4E-08	3.3E-08	3.0E-08	6.5E-09	1.3E-07
41	651444.44	4290354.01 651444.44, 4290354.01	14.66177	0.0006834		2.4E-07	7.1E-07	4.1E-07	3.7E-07	1.7E-07	1.0E-09	2.4E-08	1.5E-08	1.3E-08	2.9E-09	5.7E-08
42	651444.44	4290404.01 651444.44, 4290404.01	13.63214	0.0006354		2.2E-07	6.6E-07	3.8E-07	3.5E-07	1.6E-07	9.4E-10	2.3E-08	1.4E-08	1.3E-08	2.7E-09	5.3E-08
43	651494.44	4290354.01 651494.44, 4290354.01	20.91842	0.000975		3.4E-07	1.0E-06	5.9E-07	5.3E-07	2.4E-07	1.4E-09	3.5E-08	2.1E-08	1.9E-08	4.2E-09	8.1E-08
44	651494.44	4290404.01 651494.44, 4290404.01	21.03466	0.0009804		3.4E-07	1.0E-06	5.9E-07	5.4E-07	2.5E-07	1.5E-09	3.5E-08	2.1E-08	1.9E-08	4.2E-09	8.2E-08
45	651494.44	4290454.01 651494.44, 4290454.01	21.63269	0.0010083		3.5E-07	1.1E-06	6.1E-07	5.5E-07	2.5E-07	1.5E-09	3.6E-08	2.2E-08	2.0E-08	4.3E-09	8.4E-08
46	651494.44	4290504.01 651494.44, 4290504.01	20.28558	0.0009455		3.3E-07	9.9E-07	5.7E-07	5.2E-07	2.4E-07	1.4E-09	3.4E-08	2.1E-08	1.9E-08	4.1E-09	7.9E-08
47	651544.44	4290354.01 651544.44, 4290354.01	36.39668	0.0016965		5.9E-07	1.8E-06	1.0E-06	9.3E-07	4.2E-07	2.5E-09	6.1E-08	3.7E-08	3.3E-08	7.3E-09	1.4E-07
48	651544.44	4290404.01 651544.44, 4290404.01	36.87328	0.0017187		5.9E-07	1.8E-06	1.0E-06	9.4E-07	4.3E-07	2.5E-09	6.2E-08	3.7E-08	3.4E-08	7.4E-09	1.4E-07
49	651544.44	4290454.01 651544.44, 4290454.01	32.43587	0.0015119		5.2E-07	1.6E-06	9.1E-07	8.3E-07	3.8E-07	2.2E-09	5.4E-08	3.3E-08	3.0E-08	6.5E-09	1.3E-07
50	651544.44	4290504.01 651544.44, 4290504.01	25.79998	0.0012026		4.2E-07	1.3E-06	7.3E-07	6.6E-07	3.0E-07	1.8E-09	4.3E-08	2.6E-08	2.4E-08	5.2E-09	1.0E-07
51	651594.44	4290354.01 651594.44, 4290354.01	77.8009	0.0036263		1.3E-06	3.8E-06	2.2E-06	2.0E-06	9.1E-07	5.4E-09	1.3E-07	7.9E-08	7.2E-08	1.6E-08	3.0E-07
52	651594.44	4290404.01 651594.44, 4290404.01	57.59996	0.0026848		9.3E-07	2.8E-06	1.6E-06	1.5E-06	6.7E-07	4.0E-09	9.6E-08	5.8E-08	5.3E-08	1.2E-08	2.2E-07
53	651594.44	4290454.01 651594.44, 4290454.01	38.64956	0.0018015		6.2E-07	1.9E-06	1.1E-06	9.9E-07	4.5E-07	2.7E-09	6.5E-08	3.9E-08	3.6E-08	7.8E-09	1.5E-07</

80	651994.44	4290354.01	651994.44	4290354.01	2.63836	0.000123	4.3E-08	1.3E-07	7.4E-08	6.7E-08	3.1E-08	1.8E-10	4.4E-09	2.7E-09	2.4E-09	5.3E-10	1.0E-08
81	651822.56	4290016.22	651822.56	4290016.22	17.58558	0.0008197	2.8E-07	8.6E-07	5.0E-07	4.5E-07	2.1E-07	1.2E-09	2.9E-08	1.8E-08	1.6E-08	3.5E-09	6.8E-08
82	651872.56	4290066.22	651872.56	4290066.22	10.5956	0.0004939	1.7E-07	5.2E-07	3.0E-07	2.7E-07	1.2E-07	7.3E-10	1.8E-08	1.1E-08	9.8E-09	2.1E-09	4.1E-08
83	651872.56	4290116.22	651872.56	4290116.22	9.76625	0.0004552	1.6E-07	4.8E-07	2.8E-07	2.5E-07	1.1E-07	6.8E-10	1.6E-08	9.9E-09	9.0E-09	2.0E-09	3.8E-08
84	651872.56	4290166.22	651872.56	4290166.22	9.41498	0.0004388	1.5E-07	4.6E-07	2.7E-07	2.4E-07	1.1E-07	6.5E-10	1.6E-08	9.6E-09	8.7E-09	1.9E-09	3.6E-08
85	651872.56	4290216.22	651872.56	4290216.22	8.72773	0.0004068	1.4E-07	4.3E-07	2.5E-07	2.2E-07	1.0E-07	6.0E-10	1.5E-08	8.9E-09	8.0E-09	1.8E-09	3.4E-08
86	651872.56	4290266.22	651872.56	4290266.22	7.97671	0.0003718	1.3E-07	3.9E-07	2.2E-07	2.0E-07	9.3E-08	5.5E-10	1.3E-08	8.1E-09	7.3E-09	1.6E-09	3.1E-08
87	651922.56	4290066.22	651922.56	4290066.22	6.28925	0.0002931	1.0E-07	3.1E-07	1.8E-07	1.6E-07	7.3E-08	4.3E-10	1.1E-08	6.4E-09	5.8E-09	1.3E-09	2.4E-08
88	651922.56	4290116.22	651922.56	4290116.22	6.05671	0.0002823	9.8E-08	3.0E-07	1.7E-07	1.5E-07	7.1E-08	4.2E-10	1.0E-08	6.1E-09	5.6E-09	1.2E-09	2.3E-08
89	651922.56	4290166.22	651922.56	4290166.22	5.88662	0.0002744	9.5E-08	2.9E-07	1.7E-07	1.5E-07	6.9E-08	4.1E-10	9.8E-09	6.0E-09	5.4E-09	1.2E-09	2.3E-08
90	651922.56	4290216.22	651922.56	4290216.22	5.44197	0.0002537	8.8E-08	2.7E-07	1.5E-07	1.4E-07	6.3E-08	3.8E-10	9.1E-09	5.5E-09	5.0E-09	1.1E-09	2.1E-08
91	651922.56	4290266.22	651922.56	4290266.22	5.0596	0.0002358	8.2E-08	2.5E-07	1.4E-07	1.3E-07	5.9E-08	3.5E-10	8.5E-09	5.1E-09	4.7E-09	1.0E-09	2.0E-08
92	651972.56	4290066.22	651972.56	4290066.22	4.26817	0.0001989	6.9E-08	2.1E-07	1.2E-07	1.1E-07	5.0E-08	3.0E-10	7.1E-09	4.3E-09	3.9E-09	8.6E-10	1.7E-08
93	651972.56	4290116.22	651972.56	4290116.22	4.22777	0.0001971	6.8E-08	2.1E-07	1.2E-07	1.1E-07	4.9E-08	2.9E-10	7.1E-09	4.3E-09	3.9E-09	8.5E-10	1.6E-08
94	651972.56	4290166.22	651972.56	4290166.22	4.03714	0.0001882	6.5E-08	2.0E-07	1.1E-07	1.0E-07	4.7E-08	2.8E-10	6.7E-09	4.1E-09	3.7E-09	8.1E-10	1.6E-08
95	651972.56	4290216.22	651972.56	4290216.22	3.76232	0.0001754	6.1E-08	1.8E-07	1.1E-07	9.6E-08	4.4E-08	2.6E-10	6.3E-09	3.8E-09	3.5E-09	7.6E-10	1.5E-08
96	651972.56	4290266.22	651972.56	4290266.22	3.52934	0.0001645	5.7E-08	1.7E-07	1.0E-07	9.0E-08	4.1E-08	2.4E-10	5.9E-09	3.6E-09	3.2E-09	7.1E-10	1.4E-08
97	652022.56	4290066.22	652022.56	4290066.22	3.16023	0.0001473	5.1E-08	1.5E-07	8.9E-08	8.1E-08	3.7E-08	2.2E-10	5.3E-09	3.2E-09	2.9E-09	6.3E-10	1.2E-08
98	652022.56	4290116.22	652022.56	4290116.22	3.15917	0.0001473	5.1E-08	1.5E-07	8.9E-08	8.1E-08	3.7E-08	2.2E-10	5.3E-09	3.2E-09	2.9E-09	6.3E-10	1.2E-08
99	652022.56	4290166.22	652022.56	4290166.22	2.99307	0.0001395	4.8E-08	1.5E-07	8.4E-08	7.7E-08	3.5E-08	2.1E-10	5.0E-09	3.0E-09	2.8E-09	6.0E-10	1.2E-08
100	652022.56	4290216.22	652022.56	4290216.22	2.8139	0.0001312	4.5E-08	1.4E-07	7.9E-08	7.2E-08	3.3E-08	1.9E-10	4.7E-09	2.9E-09	2.6E-09	5.6E-10	1.1E-08
101	652022.56	4290266.22	652022.56	4290266.22	2.64634	0.0001233	4.3E-08	1.3E-07	7.5E-08	6.8E-08	3.1E-08	1.8E-10	4.4E-09	2.7E-09	2.4E-09	5.3E-10	1.0E-08
102	652072.56	4290066.22	652072.56	4290066.22	2.4609	0.0001147	4.0E-08	1.2E-07	6.9E-08	6.3E-08	2.9E-08	1.7E-10	4.1E-09	2.5E-09	2.3E-09	4.9E-10	9.5E-09
103	652072.56	4290116.22	652072.56	4290116.22	2.45384	0.0001144	4.0E-08	1.2E-07	6.9E-08	6.3E-08	2.9E-08	1.7E-10	4.1E-09	2.5E-09	2.3E-09	4.9E-10	9.5E-09
104	652072.56	4290166.22	652072.56	4290166.22	2.34666	0.0001094	3.8E-08	1.1E-07	6.6E-08	6.0E-08	2.7E-08	1.6E-10	3.9E-09	2.4E-09	2.2E-09	4.7E-10	9.1E-09
105	652072.56	4290216.22	652072.56	4290216.22	2.23654	0.0001042	3.6E-08	1.1E-07	6.3E-08	5.7E-08	2.6E-08	1.5E-10	3.7E-09	2.3E-09	2.1E-09	4.5E-10	8.7E-09
106	652072.56	4290266.22	652072.56	4290266.22	2.07891	9.69E-05	3.4E-08	1.0E-07	5.9E-08	5.3E-08	2.4E-08	1.4E-10	3.5E-09	2.1E-09	1.9E-09	4.2E-10	8.1E-09
107	651473.15	4289591.47	651473.15	4289591.47	2.51794	0.0001174	4.1E-08	1.2E-07	7.1E-08	6.4E-08	2.9E-08	1.7E-10	4.2E-09	2.6E-09	2.3E-09	5.1E-10	9.8E-09
108	651523.15	4289591.47	651523.15	4289591.47	2.79014	0.0001301	4.5E-08	1.4E-07	7.9E-08	7.1E-08	3.3E-08	1.9E-10	4.7E-09	2.8E-09	2.6E-09	5.6E-10	1.1E-08
109	651573.15	4289591.47	651573.15	4289591.47	3.08165	0.0001436	5.0E-08	1.5E-07	8.7E-08	7.9E-08	3.6E-08	2.1E-10	5.1E-09	3.1E-09	2.8E-09	6.2E-10	1.2E-08
110	651623.15	4289591.47	651623.15	4289591.47	3.34782	0.000156	5.4E-08	1.6E-07	9.4E-08	8.6E-08	3.9E-08	2.3E-10	5.6E-09	3.4E-09	3.1E-09	6.7E-10	1.3E-08
111	651673.15	4289591.47	651673.15	4289591.47	3.57176	0.0001665	5.8E-08	1.7E-07	1.0E-07	9.1E-08	4.2E-08	2.5E-10	6.0E-09	3.6E-09	3.3E-09	7.2E-10	1.4E-08
112	651723.15	4289591.47	651723.15	4289591.47	3.71605	0.0001732	6.0E-08	1.8E-07	1.0E-07	9.5E-08	4.3E-08	2.6E-10	6.2E-09	3.8E-09	3.4E-09	7.5E-10	1.4E-08
113	651473.15	4289641.47	651473.15	4289641.47	2.77318	0.0001293	4.5E-08	1.4E-07	7.8E-08	7.1E-08	3.2E-08	1.9E-10	4.6E-09	2.8E-09	2.6E-09	5.6E-10	1.1E-08
114	651523.15	4289641.47	651523.15	4289641.47	3.11946	0.0001454	5.0E-08	1.5E-07	8.8E-08	8.0E-08	3.6E-08	2.2E-10	5.2E-09	3.2E-09	2.9E-09	6.3E-10	1.2E-08
115	651573.15	4289641.47	651573.15	4289641.47	3.49441	0.0001629	5.6E-08	1.7E-07	9.9E-08	8.9E-08	4.1E-08	2.4E-10	5.8E-09	3.5E-09	3.2E-09	7.0E-10	1.4E-08
116	651623.15	4289641.47	651623.15	4289641.47	3.81654	0.0001779	6.2E-08	1.9E-07	1.1E-07	9.8E-08	4.5E-08	2.6E-10	6.4E-09	3.9E-09	3.5E-09	7.7E-10	1.5E-08
117	651673.15	4289641.47	651673.15	4289641.47	4.10171	0.0001912	6.6E-08	2.0E-07	1.2E-07	1.0E-07	4.8E-08	2.8E-10	6.9E-09	4.2E-09	3.8E-09	8.2E-10	1.6E-08
118	651723.15	4289641.47	651723.15	4289641.47	4.27088	0.0001991	6.9E-08	2.1E-07	1.2E-07	1.1E-07	5.0E-08	3.0E-10	7.1E-09	4.3E-09	3.9E-09	8.6E-10	1.7E-08
119	651773.15	4289641.47	651773.15	4289641.47	4.33133	0.0002019	7.0E-08	2.1E-07	1.2E-07	1.1E-07	5.1E-08	3.0E-10	7.2E-09	4.4E-09	4.0E-09	8.7E-10	1.7E-08
120	651473.15	4289691.47	651473.15	4289691.47	3.15051	0.0001468	5.1E-08	1.5E-07	8.9E-08	8.1E-08	3.7E-08	2.2E-10	5.3E-09	3.2E-09	2.9E-09	6.3E-10	1.2E-08
121	651523.15	4289691.47	651523.15	4289691.47	3.62391	0.0001689	5.8E-08	1.8E-07	1.0E-07	9.3E-08	4.2E-08	2.5E-10	6.1E-09	3.7E-09	3.3E-09	7.3E-10	1.4E-08
122	651573.15	4289691.47	651573.15	4289691.47	4.08451	0.0001904	6.6E-08	2.0E-07	1.2E-07	1.0E-07	4.8E-08	2.8E-10	6.8E-09	4.1E-09	3.8E-09	8.2E-10	1.6E-08
123	651623.15	4289691.47	651623.15	4289691.47	4.40883	0.0002055	7.1E-08	2.1E-07	1.2E-07	1.1E-07	5.1E-08	3.0E-10	7.4E-09	4.5E-09	4.1E-09	8.8E-10	1.7E-08
124	651673.15	4289691.47	651673.15	4289691.47	4.76952	0.0002223	7.7E-08	2.3E-07	1.3E-07	1.2E-07	5.6E-08	3.3E-10	8.0E-09	4.8E-09	4.4E-09	9.6E-10	1.8E-08
125	651723.15	4289691.47	651723.15	4289691.47	4.96463	0.0002314	8.0E-08	2.4E-07	1.4E-07	1.3E-07	5.8E-08	3.4E-10	8.3E-09	5.0E-09	4.6E-09	1.0E-09	1.9E-08
126	651773.15	4289691.47	651773.15	4289691.47	5.07222	0.0002364	8.2E-08	2.5E-07	1.4E-07	1.3E-07	5.9E-08	3.5E-10	8.5E-09	5.1E-09	4.7E-09	1.0E-09	2.0E-08
127	651473.15	4289741.47	651473.15	4289741.47	3.56112	0.000166	5.7E-08	1.7E-07	1.0E-07	9.1E-08	4.2E-08	2.5E-10	5.9E-09	3.6E-09	3.3E-09	7.1E-10	1.4E-08
128	651523.15	4289741.47	651523.15	4289741.47	4.11173	0.0001917	6.6E-08	2.0E-07	1.2E-07	1.1E-07	4.8E-08	2.8E-10	6.9E-09	4.2E-09	3.8E-09	8.3E-10	1.6E-08
129	651573.15	4289741.47	651573.15	4289741.47	4.69726	0.0002189	7.6E-08	2.3E-07	1.3E-07	1.2E-07	5.5E-08	3.2E-10	7.8E-09	4.8E-09	4.3E-09	9.4E-10	1.8E-08
130	651623.15	4289741.47	651623.15	4289741.47	5.21343	0.000243	8.4E-08	2.5E-07	1.5E-07	1.3E-07	6.1E-08	3.6E-10	8.7E-09	5.3E-09	4.8E-09	1.0E-09	2.0E-08
131	651673.15	4289741.47	651673.15	4289741.47	5.63215	0.0002625	9.1E-08	2.7E-07	1.6E-07	1.4E-07	6.6E-08	3.9E-10	9.4E-09	5.7E-09	5.2E-09	1.1E-09	2.2E-08
132	651723.15	4289741.47	651723.15	4289741.47	5.93425	0.0002766	9.6E-08	2.9E-07	1.7E-07	1.5E-07	6.9E-08	4.1E-10	9.9E-09	6.0E-09	5.5E-09	1.2E-09	2.3E-08
133	651773.15	4289741.47	651773.15	4289741.47	6.03932	0.0002815	9.7E-08	2.9E-07	1.7E-07	1.5E-07	7.0E-08	4.2E-10	1.0E-08	6.1E-09	5.6E-09	1.2E-09	2.3E-08
134	65147																

Worker Operational Risk - Fueling (Benzene)

Fueling
Emissions Rate (g/s): 5.04E-04

Discrete Receptor ID				Concentration [µg/m ³] at Unmitigated		Worker	Worker
X	Y	X, Y		Fueling	Fueling	Dose	Risk
1	651391.97	4289982.91	651391.97, 4289982.91	5.50604	2.78E-03	1.8E-06	6.6E-08
2	651391.97	4290032.91	651391.97, 4290032.91	6.71377	0.0033859	2.2E-06	8.0E-08
3	651391.97	4290082.91	651391.97, 4290082.91	8.35037	0.0042113	2.8E-06	1.0E-07
4	651391.97	4290132.91	651391.97, 4290132.91	10.7929	0.0054431	3.6E-06	1.3E-07
5	651391.97	4290182.91	651391.97, 4290182.91	13.3275	0.0067214	4.4E-06	1.6E-07
6	651391.97	4290232.91	651391.97, 4290232.91	13.5122	0.0068145	4.5E-06	1.6E-07
7	651391.97	4290282.91	651391.97, 4290282.91	12.5628	0.0063357	4.2E-06	1.5E-07
8	651441.97	4290032.91	651441.97, 4290032.91	7.8465	0.0039572	2.6E-06	9.4E-08
9	651441.97	4290082.91	651441.97, 4290082.91	10.2786	0.0051837	3.4E-06	1.2E-07
10	651441.97	4290132.91	651441.97, 4290132.91	14.2593	0.0071913	4.8E-06	1.7E-07
11	651441.97	4290182.91	651441.97, 4290182.91	18.1382	0.0091476	6.1E-06	2.2E-07
12	651441.97	4290232.91	651441.97, 4290232.91	18.9303	0.009547	6.3E-06	2.3E-07
13	651441.97	4290282.91	651441.97, 4290282.91	17.2697	0.0087096	5.8E-06	2.1E-07
14	651491.97	4290032.91	651491.97, 4290032.91	9.45121	0.0047665	3.2E-06	1.1E-07
15	651491.97	4290082.91	651491.97, 4290082.91	12.3798	0.0062435	4.1E-06	1.5E-07
16	651491.97	4290132.91	651491.97, 4290132.91	17.9381	0.0090467	6.0E-06	2.1E-07
17	651491.97	4290182.91	651491.97, 4290182.91	25.3351	0.0127772	8.5E-06	3.0E-07
18	651491.97	4290232.91	651491.97, 4290232.91	28.0323	0.0141374	9.4E-06	3.3E-07
19	651491.97	4290282.91	651491.97, 4290282.91	24.9962	0.0126062	8.3E-06	3.0E-07
20	651541.97	4290032.91	651541.97, 4290032.91	11.8566	0.0059796	4.0E-06	1.4E-07
21	651541.97	4290082.91	651541.97, 4290082.91	15.6917	0.0079137	5.2E-06	1.9E-07
22	651591.97	4290032.91	651591.97, 4290032.91	16.0121	0.0080753	5.3E-06	1.9E-07
23	651591.97	4290082.91	651591.97, 4290082.91	21.7389	0.0109635	7.3E-06	2.6E-07
24	651641.97	4290032.91	651641.97, 4290032.91	22.3083	0.0112506	7.4E-06	2.7E-07
25	651641.97	4290082.91	651641.97, 4290082.91	32.9863	0.0166359	1.1E-05	3.9E-07
26	651691.97	4290032.91	651691.97, 4290032.91	28.2204	0.0142323	9.4E-06	3.4E-07
27	651691.97	4290082.91	651691.97, 4290082.91	46.6336	0.0235185	1.6E-05	5.6E-07
28	651741.97	4290032.91	651741.97, 4290032.91	28.6691	0.0144586	9.6E-06	3.4E-07
29	651741.97	4290082.91	651741.97, 4290082.91	46.1734	0.0232865	1.5E-05	5.5E-07
30	651791.97	4290032.91	651791.97, 4290032.91	23.4323	0.0118175	7.8E-06	2.8E-07
31	651791.97	4290082.91	651791.97, 4290082.91	30.5388	0.0154015	1.0E-05	3.6E-07
32	651731.05	4290251.32	651731.05, 4290251.32	150.908	0.0761072	5.0E-05	1.8E-06
33	651731.05	4290263.32	651731.05, 4290263.32	126.654	0.0638748	4.2E-05	1.5E-06
34	651743.05	4290251.32	651743.05, 4290251.32	91.1079	0.0459481	3.0E-05	1.1E-06
35	651743.05	4290263.32	651743.05, 4290263.32	81.4579	0.0410814	2.7E-05	9.7E-07
36	651755.05	4290251.32	651755.05, 4290251.32	60.648	0.0305864	2.0E-05	7.2E-07
37	651755.05	4290263.32	651755.05, 4290263.32	55.9827	0.0282336	1.9E-05	6.7E-07
38	651767.05	4290251.32	651767.05, 4290251.32	43.3404	0.0218577	1.4E-05	5.2E-07
39	651767.05	4290263.32	651767.05, 4290263.32	40.7002	0.0205262	1.4E-05	4.9E-07
40	651779.05	4290251.32	651779.05, 4290251.32	32.6195	0.0164509	1.1E-05	3.9E-07
41	651444.44	4290354.01	651444.44, 4290354.01	14.6618	0.0073943	4.9E-06	1.7E-07
42	651444.44	4290404.01	651444.44, 4290404.01	13.6321	0.0068751	4.5E-06	1.6E-07
43	651494.44	4290354.01	651494.44, 4290354.01	20.9184	0.0105497	7.0E-06	2.5E-07
44	651494.44	4290404.01	651494.44, 4290404.01	21.0347	0.0106083	7.0E-06	2.5E-07
45	651494.44	4290454.01	651494.44, 4290454.01	21.6327	0.0109099	7.2E-06	2.6E-07
46	651494.44	4290504.01	651494.44, 4290504.01	20.2856	0.0102306	6.8E-06	2.4E-07
47	651544.44	4290354.01	651544.44, 4290354.01	36.3967	0.0183558	1.2E-05	4.3E-07

48	651544.44	4290404.01	651544.44, 4290404.01	36.8733	0.0185962	1.2E-05	4.4E-07
49	651544.44	4290454.01	651544.44, 4290454.01	32.4359	0.0163583	1.1E-05	3.9E-07
50	651544.44	4290504.01	651544.44, 4290504.01	25.8	0.0130116	8.6E-06	3.1E-07
51	651594.44	4290354.01	651594.44, 4290354.01	77.8009	0.0392371	2.6E-05	9.3E-07
52	651594.44	4290404.01	651594.44, 4290404.01	57.6	0.0290492	1.9E-05	6.9E-07
53	651594.44	4290454.01	651594.44, 4290454.01	38.6496	0.019492	1.3E-05	4.6E-07
54	651594.44	4290504.01	651594.44, 4290504.01	25.9198	0.013072	8.6E-06	3.1E-07
55	651644.44	4290354.01	651644.44, 4290354.01	108.195	0.0545656	3.6E-05	1.3E-06
56	651644.44	4290404.01	651644.44, 4290404.01	53.7657	0.0271155	1.8E-05	6.4E-07
57	651644.44	4290454.01	651644.44, 4290454.01	30.8666	0.0155668	1.0E-05	3.7E-07
58	651644.44	4290504.01	651644.44, 4290504.01	19.6556	0.0099128	6.6E-06	2.3E-07
59	651694.44	4290354.01	651694.44, 4290354.01	57.5461	0.029022	1.9E-05	6.9E-07
60	651694.44	4290404.01	651694.44, 4290404.01	30.382	0.0153224	1.0E-05	3.6E-07
61	651694.44	4290454.01	651694.44, 4290454.01	19.0778	0.0096215	6.4E-06	2.3E-07
62	651694.44	4290504.01	651694.44, 4290504.01	13.0676	0.0065903	4.4E-06	1.6E-07
63	651744.44	4290354.01	651744.44, 4290354.01	28.6545	0.0144512	9.6E-06	3.4E-07
64	651744.44	4290404.01	651744.44, 4290404.01	18.2305	0.0091941	6.1E-06	2.2E-07
65	651744.44	4290454.01	651744.44, 4290454.01	12.6253	0.0063672	4.2E-06	1.5E-07
66	651744.44	4290504.01	651744.44, 4290504.01	9.2509	0.0046655	3.1E-06	1.1E-07
67	651794.44	4290354.01	651794.44, 4290354.01	15.4326	0.0077831	5.1E-06	1.8E-07
68	651794.44	4290404.01	651794.44, 4290404.01	11.9065	0.0060048	4.0E-06	1.4E-07
69	651794.44	4290454.01	651794.44, 4290454.01	9.11868	0.0045988	3.0E-06	1.1E-07
70	651794.44	4290504.01	651794.44, 4290504.01	7.05906	0.0035601	2.4E-06	8.4E-08
71	651844.44	4290354.01	651844.44, 4290354.01	8.51744	0.0042956	2.8E-06	1.0E-07
72	651844.44	4290404.01	651844.44, 4290404.01	7.40397	0.003734	2.5E-06	8.8E-08
73	651844.44	4290454.01	651844.44, 4290454.01	6.40779	0.0032316	2.1E-06	7.6E-08
74	651844.44	4290504.01	651844.44, 4290504.01	5.39638	0.0027215	1.8E-06	6.4E-08
75	651894.44	4290354.01	651894.44, 4290354.01	5.38078	0.0027137	1.8E-06	6.4E-08
76	651894.44	4290404.01	651894.44, 4290404.01	4.81389	0.0024278	1.6E-06	5.7E-08
77	651894.44	4290454.01	651894.44, 4290454.01	4.31239	0.0021749	1.4E-06	5.1E-08
78	651944.44	4290354.01	651944.44, 4290354.01	3.67088	0.0018513	1.2E-06	4.4E-08
79	651944.44	4290404.01	651944.44, 4290404.01	3.37195	0.0017006	1.1E-06	4.0E-08
80	651994.44	4290354.01	651994.44, 4290354.01	2.63836	0.0013306	8.8E-07	3.1E-08
81	651822.56	4290016.22	651822.56, 4290016.22	17.5856	0.0088689	5.9E-06	2.1E-07
82	651872.56	4290066.22	651872.56, 4290066.22	10.5956	0.0053436	3.5E-06	1.3E-07
83	651872.56	4290116.22	651872.56, 4290116.22	9.76625	0.0049254	3.3E-06	1.2E-07
84	651872.56	4290166.22	651872.56, 4290166.22	9.41498	0.0047482	3.1E-06	1.1E-07
85	651872.56	4290216.22	651872.56, 4290216.22	8.72773	0.0044016	2.9E-06	1.0E-07
86	651872.56	4290266.22	651872.56, 4290266.22	7.97671	0.0040229	2.7E-06	9.5E-08
87	651922.56	4290066.22	651922.56, 4290066.22	6.28925	0.0031718	2.1E-06	7.5E-08
88	651922.56	4290116.22	651922.56, 4290116.22	6.05671	0.0030546	2.0E-06	7.2E-08
89	651922.56	4290166.22	651922.56, 4290166.22	5.88662	0.0029688	2.0E-06	7.0E-08
90	651922.56	4290216.22	651922.56, 4290216.22	5.44197	0.0027445	1.8E-06	6.5E-08
91	651922.56	4290266.22	651922.56, 4290266.22	5.0596	0.0025517	1.7E-06	6.0E-08
92	651972.56	4290066.22	651972.56, 4290066.22	4.26817	0.0021526	1.4E-06	5.1E-08
93	651972.56	4290116.22	651972.56, 4290116.22	4.22777	0.0021322	1.4E-06	5.0E-08
94	651972.56	4290166.22	651972.56, 4290166.22	4.03714	0.002036	1.3E-06	4.8E-08
95	651972.56	4290216.22	651972.56, 4290216.22	3.76232	0.0018974	1.3E-06	4.5E-08
96	651972.56	4290266.22	651972.56, 4290266.22	3.52934	0.0017799	1.2E-06	4.2E-08
97	652022.56	4290066.22	652022.56, 4290066.22	3.16023	0.0015938	1.1E-06	3.8E-08
98	652022.56	4290116.22	652022.56, 4290116.22	3.15917	0.0015933	1.1E-06	3.8E-08
99	652022.56	4290166.22	652022.56, 4290166.22	2.99307	0.0015095	1.0E-06	3.6E-08
100	652022.56	4290216.22	652022.56, 4290216.22	2.8139	0.0014191	9.4E-07	3.4E-08
101	652022.56	4290266.22	652022.56, 4290266.22	2.64634	0.0013346	8.8E-07	3.2E-08
102	652072.56	4290066.22	652072.56, 4290066.22	2.4609	0.0012411	8.2E-07	2.9E-08
103	652072.56	4290116.22	652072.56, 4290116.22	2.45384	0.0012375	8.2E-07	2.9E-08

104	652072.56	4290166.22	652072.56, 4290166.22	2.34666	0.0011835	7.8E-07	2.8E-08
105	652072.56	4290216.22	652072.56, 4290216.22	2.23654	0.0011279	7.5E-07	2.7E-08
106	652072.56	4290266.22	652072.56, 4290266.22	2.07891	0.0010484	6.9E-07	2.5E-08
107	651473.15	4289591.47	651473.15, 4289591.47	2.51794	0.0012699	8.4E-07	3.0E-08
108	651523.15	4289591.47	651523.15, 4289591.47	2.79014	0.0014071	9.3E-07	3.3E-08
109	651573.15	4289591.47	651573.15, 4289591.47	3.08165	0.0015542	1.0E-06	3.7E-08
110	651623.15	4289591.47	651623.15, 4289591.47	3.34782	0.0016884	1.1E-06	4.0E-08
111	651673.15	4289591.47	651673.15, 4289591.47	3.57176	0.0018013	1.2E-06	4.3E-08
112	651723.15	4289591.47	651723.15, 4289591.47	3.71605	0.0018741	1.2E-06	4.4E-08
113	651473.15	4289641.47	651473.15, 4289641.47	2.77318	0.0013986	9.3E-07	3.3E-08
114	651523.15	4289641.47	651523.15, 4289641.47	3.11946	0.0015732	1.0E-06	3.7E-08
115	651573.15	4289641.47	651573.15, 4289641.47	3.49441	0.0017623	1.2E-06	4.2E-08
116	651623.15	4289641.47	651623.15, 4289641.47	3.81654	0.0019248	1.3E-06	4.5E-08
117	651673.15	4289641.47	651673.15, 4289641.47	4.10171	0.0020686	1.4E-06	4.9E-08
118	651723.15	4289641.47	651723.15, 4289641.47	4.27088	0.0021539	1.4E-06	5.1E-08
119	651773.15	4289641.47	651773.15, 4289641.47	4.33133	0.0021844	1.4E-06	5.2E-08
120	651473.15	4289691.47	651473.15, 4289691.47	3.15051	0.0015889	1.1E-06	3.8E-08
121	651523.15	4289691.47	651523.15, 4289691.47	3.62391	0.0018276	1.2E-06	4.3E-08
122	651573.15	4289691.47	651573.15, 4289691.47	4.08451	0.0020599	1.4E-06	4.9E-08
123	651623.15	4289691.47	651623.15, 4289691.47	4.40883	0.0022235	1.5E-06	5.3E-08
124	651673.15	4289691.47	651673.15, 4289691.47	4.76952	0.0024054	1.6E-06	5.7E-08
125	651723.15	4289691.47	651723.15, 4289691.47	4.96463	0.0025038	1.7E-06	5.9E-08
126	651773.15	4289691.47	651773.15, 4289691.47	5.07222	0.0025581	1.7E-06	6.0E-08
127	651473.15	4289741.47	651473.15, 4289741.47	3.56112	0.001796	1.2E-06	4.2E-08
128	651523.15	4289741.47	651523.15, 4289741.47	4.11173	0.0020737	1.4E-06	4.9E-08
129	651573.15	4289741.47	651573.15, 4289741.47	4.69726	0.002369	1.6E-06	5.6E-08
130	651623.15	4289741.47	651623.15, 4289741.47	5.21343	0.0026293	1.7E-06	6.2E-08
131	651673.15	4289741.47	651673.15, 4289741.47	5.63215	0.0028404	1.9E-06	6.7E-08
132	651723.15	4289741.47	651723.15, 4289741.47	5.93425	0.0029928	2.0E-06	7.1E-08
133	651773.15	4289741.47	651773.15, 4289741.47	6.03932	0.0030458	2.0E-06	7.2E-08
134	651473.15	4289791.47	651473.15, 4289791.47	3.97848	0.0020065	1.3E-06	4.7E-08
135	651523.15	4289791.47	651523.15, 4289791.47	4.67851	0.0023595	1.6E-06	5.6E-08
136	651573.15	4289791.47	651573.15, 4289791.47	5.44205	0.0027446	1.8E-06	6.5E-08
137	651623.15	4289791.47	651623.15, 4289791.47	6.20703	0.0031304	2.1E-06	7.4E-08
138	651673.15	4289791.47	651673.15, 4289791.47	6.86042	0.0034599	2.3E-06	8.2E-08
139	651723.15	4289791.47	651723.15, 4289791.47	7.30959	0.0036864	2.4E-06	8.7E-08
140	651773.15	4289791.47	651773.15, 4289791.47	7.26572	0.0036643	2.4E-06	8.7E-08
141	651473.15	4289891.47	651473.15, 4289891.47	5.19214	0.0026185	1.7E-06	6.2E-08
142	651523.15	4289891.47	651523.15, 4289891.47	6.26592	0.0031601	2.1E-06	7.5E-08
143	651573.15	4289891.47	651573.15, 4289891.47	7.69483	0.0038807	2.6E-06	9.2E-08
144	651623.15	4289891.47	651623.15, 4289891.47	9.29433	0.0046874	3.1E-06	1.1E-07
145	651673.15	4289891.47	651673.15, 4289891.47	10.6998	0.0053962	3.6E-06	1.3E-07
146	651723.15	4289891.47	651723.15, 4289891.47	11.4744	0.0057868	3.8E-06	1.4E-07
147	651773.15	4289891.47	651773.15, 4289891.47	11.1796	0.0056382	3.7E-06	1.3E-07

Worker Operational Risk - Fueling (Ethylbenzene)

Fueling

Emissions Rate (g/s): 4.17E-04

Discrete Receptor ID				Concentration		Worker	Worker
				[µg/m³] at 1 g/s	Unmitigated		
X	Y	X, Y	Fueling	Fueling			
1	651391.97	4289982.91	651391.97, 4289982.91	5.50604	0.00229772	2.1E-06	6.6E-09
2	651391.97	4290032.91	651391.97, 4290032.91	6.71377	0.00280172	2.6E-06	8.1E-09
3	651391.97	4290082.91	651391.97, 4290082.91	8.35037	0.00348469	3.2E-06	1.0E-08
4	651391.97	4290132.91	651391.97, 4290132.91	10.79285	0.00450396	4.2E-06	1.3E-08
5	651391.97	4290182.91	651391.97, 4290182.91	13.32745	0.00556168	5.2E-06	1.6E-08
6	651391.97	4290232.91	651391.97, 4290232.91	13.51216	0.00563876	5.2E-06	1.6E-08
7	651391.97	4290282.91	651391.97, 4290282.91	12.56278	0.00524257	4.9E-06	1.5E-08
8	651441.97	4290032.91	651441.97, 4290032.91	7.8465	0.00327442	3.0E-06	9.4E-09
9	651441.97	4290082.91	651441.97, 4290082.91	10.27855	0.00428934	4.0E-06	1.2E-08
10	651441.97	4290132.91	651441.97, 4290132.91	14.25929	0.00595054	5.5E-06	1.7E-08
11	651441.97	4290182.91	651441.97, 4290182.91	18.13818	0.00756924	7.0E-06	2.2E-08
12	651441.97	4290232.91	651441.97, 4290232.91	18.93027	0.00789979	7.3E-06	2.3E-08
13	651441.97	4290282.91	651441.97, 4290282.91	17.26971	0.00720682	6.7E-06	2.1E-08
14	651491.97	4290032.91	651491.97, 4290032.91	9.45121	0.00394408	3.7E-06	1.1E-08
15	651491.97	4290082.91	651491.97, 4290082.91	12.37979	0.00516621	4.8E-06	1.5E-08
16	651491.97	4290132.91	651491.97, 4290132.91	17.93808	0.00748574	6.9E-06	2.2E-08
17	651491.97	4290182.91	651491.97, 4290182.91	25.33512	0.0105726	9.8E-06	3.0E-08
18	651491.97	4290232.91	651491.97, 4290232.91	28.03231	0.01169816	1.1E-05	3.4E-08
19	651491.97	4290282.91	651491.97, 4290282.91	24.99615	0.01043114	9.7E-06	3.0E-08
20	651541.97	4290032.91	651541.97, 4290032.91	11.85658	0.00494787	4.6E-06	1.4E-08
21	651541.97	4290082.91	651541.97, 4290082.91	15.69165	0.00654828	6.1E-06	1.9E-08
22	651591.97	4290032.91	651591.97, 4290032.91	16.01205	0.00668199	6.2E-06	1.9E-08
23	651591.97	4290082.91	651591.97, 4290082.91	21.73887	0.00907184	8.4E-06	2.6E-08
24	651641.97	4290032.91	651641.97, 4290032.91	22.30826	0.00930946	8.6E-06	2.7E-08
25	651641.97	4290082.91	651641.97, 4290082.91	32.9863	0.01376551	1.3E-05	4.0E-08
26	651691.97	4290032.91	651691.97, 4290032.91	28.22035	0.01177663	1.1E-05	3.4E-08
27	651691.97	4290082.91	651691.97, 4290082.91	46.63357	0.01946065	1.8E-05	5.6E-08
28	651741.97	4290032.91	651741.97, 4290032.91	28.6691	0.0119639	1.1E-05	3.4E-08
29	651741.97	4290082.91	651741.97, 4290082.91	46.17341	0.01926862	1.8E-05	5.5E-08
30	651791.97	4290032.91	651791.97, 4290032.91	23.43225	0.00977851	9.1E-06	2.8E-08
31	651791.97	4290082.91	651791.97, 4290082.91	30.53883	0.01274415	1.2E-05	3.7E-08
32	651731.05	4290251.32	651731.05, 4290251.32	150.90848	0.06297559	5.8E-05	1.8E-07
33	651731.05	4290263.32	651731.05, 4290263.32	126.6537	0.05285384	4.9E-05	1.5E-07
34	651743.05	4290251.32	651743.05, 4290251.32	91.10786	0.03802021	3.5E-05	1.1E-07
35	651743.05	4290263.32	651743.05, 4290263.32	81.45794	0.0339932	3.1E-05	9.8E-08
36	651755.05	4290251.32	651755.05, 4290251.32	60.648	0.02530901	2.3E-05	7.3E-08
37	651755.05	4290263.32	651755.05, 4290263.32	55.98274	0.02336215	2.2E-05	6.7E-08
38	651767.05	4290251.32	651767.05, 4290251.32	43.34039	0.01808637	1.7E-05	5.2E-08
39	651767.05	4290263.32	651767.05, 4290263.32	40.70024	0.01698461	1.6E-05	4.9E-08
40	651779.05	4290251.32	651779.05, 4290251.32	32.61948	0.01361243	1.3E-05	3.9E-08
41	651444.44	4290354.01	651444.44, 4290354.01	14.66177	0.0061185	5.7E-06	1.8E-08
42	651444.44	4290404.01	651444.44, 4290404.01	13.63214	0.00568883	5.3E-06	1.6E-08
43	651494.44	4290354.01	651494.44, 4290354.01	20.91842	0.00872946	8.1E-06	2.5E-08
44	651494.44	4290404.01	651494.44, 4290404.01	21.03466	0.00877797	8.1E-06	2.5E-08
45	651494.44	4290454.01	651494.44, 4290454.01	21.63269	0.00902753	8.4E-06	2.6E-08
46	651494.44	4290504.01	651494.44, 4290504.01	20.28558	0.00846537	7.8E-06	2.4E-08
47	651544.44	4290354.01	651544.44, 4290354.01	36.39668	0.01518869	1.4E-05	4.4E-08
48	651544.44	4290404.01	651544.44, 4290404.01	36.87328	0.01538758	1.4E-05	4.4E-08
49	651544.44	4290454.01	651544.44, 4290454.01	32.43587	0.01353581	1.3E-05	3.9E-08
50	651544.44	4290504.01	651544.44, 4290504.01	25.79998	0.01076659	1.0E-05	3.1E-08

51	651594.44	4290354.01	651594.44, 4290354.01	77.8009	0.03246708	3.0E-05	9.3E-08
52	651594.44	4290404.01	651594.44, 4290404.01	57.59996	0.02403703	2.2E-05	6.9E-08
53	651594.44	4290454.01	651594.44, 4290454.01	38.64956	0.01612884	1.5E-05	4.6E-08
54	651594.44	4290504.01	651594.44, 4290504.01	25.91976	0.01081657	1.0E-05	3.1E-08
55	651644.44	4290354.01	651644.44, 4290354.01	108.19499	0.04515083	4.2E-05	1.3E-07
56	651644.44	4290404.01	651644.44, 4290404.01	53.76567	0.02243694	2.1E-05	6.5E-08
57	651644.44	4290454.01	651644.44, 4290454.01	30.86655	0.01288092	1.2E-05	3.7E-08
58	651644.44	4290504.01	651644.44, 4290504.01	19.65557	0.00820246	7.6E-06	2.4E-08
59	651694.44	4290354.01	651694.44, 4290354.01	57.54614	0.02401457	2.2E-05	6.9E-08
60	651694.44	4290404.01	651694.44, 4290404.01	30.382	0.01267871	1.2E-05	3.6E-08
61	651694.44	4290454.01	651694.44, 4290454.01	19.07784	0.00796137	7.4E-06	2.3E-08
62	651694.44	4290504.01	651694.44, 4290504.01	13.06756	0.00545322	5.1E-06	1.6E-08
63	651744.44	4290354.01	651744.44, 4290354.01	28.65449	0.0119578	1.1E-05	3.4E-08
64	651744.44	4290404.01	651744.44, 4290404.01	18.23052	0.00760778	7.0E-06	2.2E-08
65	651744.44	4290454.01	651744.44, 4290454.01	12.62525	0.00526864	4.9E-06	1.5E-08
66	651744.44	4290504.01	651744.44, 4290504.01	9.2509	0.00386049	3.6E-06	1.1E-08
67	651794.44	4290354.01	651794.44, 4290354.01	15.43263	0.00644019	6.0E-06	1.9E-08
68	651794.44	4290404.01	651794.44, 4290404.01	11.90651	0.0049687	4.6E-06	1.4E-08
69	651794.44	4290454.01	651794.44, 4290454.01	9.11868	0.00380531	3.5E-06	1.1E-08
70	651794.44	4290504.01	651794.44, 4290504.01	7.05906	0.00294582	2.7E-06	8.5E-09
71	651844.44	4290354.01	651844.44, 4290354.01	8.51744	0.00355441	3.3E-06	1.0E-08
72	651844.44	4290404.01	651844.44, 4290404.01	7.40397	0.00308975	2.9E-06	8.9E-09
73	651844.44	4290454.01	651844.44, 4290454.01	6.40779	0.00267403	2.5E-06	7.7E-09
74	651844.44	4290504.01	651844.44, 4290504.01	5.39638	0.00225196	2.1E-06	6.5E-09
75	651894.44	4290354.01	651894.44, 4290354.01	5.38078	0.00224545	2.1E-06	6.5E-09
76	651894.44	4290404.01	651894.44, 4290404.01	4.81389	0.00200888	1.9E-06	5.8E-09
77	651894.44	4290454.01	651894.44, 4290454.01	4.31239	0.0017996	1.7E-06	5.2E-09
78	651944.44	4290354.01	651944.44, 4290354.01	3.67088	0.00153189	1.4E-06	4.4E-09
79	651944.44	4290404.01	651944.44, 4290404.01	3.37195	0.00140715	1.3E-06	4.0E-09
80	651994.44	4290354.01	651994.44, 4290354.01	2.63836	0.00110101	1.0E-06	3.2E-09
81	651822.56	4290016.22	651822.56, 4290016.22	17.58558	0.00733864	6.8E-06	2.1E-08
82	651872.56	4290066.22	651872.56, 4290066.22	10.5956	0.00442165	4.1E-06	1.3E-08
83	651872.56	4290116.22	651872.56, 4290116.22	9.76625	0.00407555	3.8E-06	1.2E-08
84	651872.56	4290166.22	651872.56, 4290166.22	9.41498	0.00392896	3.6E-06	1.1E-08
85	651872.56	4290216.22	651872.56, 4290216.22	8.72773	0.00364217	3.4E-06	1.0E-08
86	651872.56	4290266.22	651872.56, 4290266.22	7.97671	0.00332876	3.1E-06	9.6E-09
87	651922.56	4290066.22	651922.56, 4290066.22	6.28925	0.00262457	2.4E-06	7.6E-09
88	651922.56	4290116.22	651922.56, 4290116.22	6.05671	0.00252752	2.3E-06	7.3E-09
89	651922.56	4290166.22	651922.56, 4290166.22	5.88662	0.00245654	2.3E-06	7.1E-09
90	651922.56	4290216.22	651922.56, 4290216.22	5.44197	0.00227099	2.1E-06	6.5E-09
91	651922.56	4290266.22	651922.56, 4290266.22	5.0596	0.00211142	2.0E-06	6.1E-09
92	651972.56	4290066.22	651972.56, 4290066.22	4.26817	0.00178115	1.6E-06	5.1E-09
93	651972.56	4290116.22	651972.56, 4290116.22	4.22777	0.00176429	1.6E-06	5.1E-09
94	651972.56	4290166.22	651972.56, 4290166.22	4.03714	0.00168474	1.6E-06	4.8E-09
95	651972.56	4290216.22	651972.56, 4290216.22	3.76232	0.00157005	1.5E-06	4.5E-09
96	651972.56	4290266.22	651972.56, 4290266.22	3.52934	0.00147283	1.4E-06	4.2E-09
97	652022.56	4290066.22	652022.56, 4290066.22	3.16023	0.0013188	1.2E-06	3.8E-09
98	652022.56	4290116.22	652022.56, 4290116.22	3.15917	0.00131835	1.2E-06	3.8E-09
99	652022.56	4290166.22	652022.56, 4290166.22	2.99307	0.00124904	1.2E-06	3.6E-09
100	652022.56	4290216.22	652022.56, 4290216.22	2.8139	0.00117427	1.1E-06	3.4E-09
101	652022.56	4290266.22	652022.56, 4290266.22	2.64634	0.00110434	1.0E-06	3.2E-09
102	652072.56	4290066.22	652072.56, 4290066.22	2.4609	0.00102696	9.5E-07	3.0E-09
103	652072.56	4290116.22	652072.56, 4290116.22	2.45384	0.00102401	9.5E-07	2.9E-09
104	652072.56	4290166.22	652072.56, 4290166.22	2.34666	0.00097928	9.1E-07	2.8E-09
105	652072.56	4290216.22	652072.56, 4290216.22	2.23654	0.00093333	8.6E-07	2.7E-09
106	652072.56	4290266.22	652072.56, 4290266.22	2.07891	0.00086755	8.0E-07	2.5E-09
107	651473.15	4289591.47	651473.15, 4289591.47	2.51794	0.00105076	9.7E-07	3.0E-09
108	651523.15	4289591.47	651523.15, 4289591.47	2.79014	0.00116435	1.1E-06	3.4E-09
109	651573.15	4289591.47	651573.15, 4289591.47	3.08165	0.001286	1.2E-06	3.7E-09

110	651623.15	4289591.47	651623.15, 4289591.47	3.34782	0.00139708	1.3E-06	4.0E-09
111	651673.15	4289591.47	651673.15, 4289591.47	3.57176	0.00149053	1.4E-06	4.3E-09
112	651723.15	4289591.47	651723.15, 4289591.47	3.71605	0.00155074	1.4E-06	4.5E-09
113	651473.15	4289641.47	651473.15, 4289641.47	2.77318	0.00115728	1.1E-06	3.3E-09
114	651523.15	4289641.47	651523.15, 4289641.47	3.11946	0.00130178	1.2E-06	3.7E-09
115	651573.15	4289641.47	651573.15, 4289641.47	3.49441	0.00145825	1.4E-06	4.2E-09
116	651623.15	4289641.47	651623.15, 4289641.47	3.81654	0.00159268	1.5E-06	4.6E-09
117	651673.15	4289641.47	651673.15, 4289641.47	4.10171	0.00171168	1.6E-06	4.9E-09
118	651723.15	4289641.47	651723.15, 4289641.47	4.27088	0.00178228	1.7E-06	5.1E-09
119	651773.15	4289641.47	651773.15, 4289641.47	4.33133	0.00180751	1.7E-06	5.2E-09
120	651473.15	4289691.47	651473.15, 4289691.47	3.15051	0.00131474	1.2E-06	3.8E-09
121	651523.15	4289691.47	651523.15, 4289691.47	3.62391	0.00151229	1.4E-06	4.4E-09
122	651573.15	4289691.47	651573.15, 4289691.47	4.08451	0.00170451	1.6E-06	4.9E-09
123	651623.15	4289691.47	651623.15, 4289691.47	4.40883	0.00183985	1.7E-06	5.3E-09
124	651673.15	4289691.47	651673.15, 4289691.47	4.76952	0.00199037	1.8E-06	5.7E-09
125	651723.15	4289691.47	651723.15, 4289691.47	4.96463	0.00207179	1.9E-06	6.0E-09
126	651773.15	4289691.47	651773.15, 4289691.47	5.07222	0.00211669	2.0E-06	6.1E-09
127	651473.15	4289741.47	651473.15, 4289741.47	3.56112	0.00148609	1.4E-06	4.3E-09
128	651523.15	4289741.47	651523.15, 4289741.47	4.11173	0.00171587	1.6E-06	4.9E-09
129	651573.15	4289741.47	651573.15, 4289741.47	4.69726	0.00196021	1.8E-06	5.6E-09
130	651623.15	4289741.47	651623.15, 4289741.47	5.21343	0.00217562	2.0E-06	6.3E-09
131	651673.15	4289741.47	651673.15, 4289741.47	5.63215	0.00235035	2.2E-06	6.8E-09
132	651723.15	4289741.47	651723.15, 4289741.47	5.93425	0.00247642	2.3E-06	7.1E-09
133	651773.15	4289741.47	651773.15, 4289741.47	6.03932	0.00252027	2.3E-06	7.3E-09
134	651473.15	4289791.47	651473.15, 4289791.47	3.97848	0.00166026	1.5E-06	4.8E-09
135	651523.15	4289791.47	651523.15, 4289791.47	4.67851	0.00195239	1.8E-06	5.6E-09
136	651573.15	4289791.47	651573.15, 4289791.47	5.44205	0.00227102	2.1E-06	6.5E-09
137	651623.15	4289791.47	651623.15, 4289791.47	6.20703	0.00259025	2.4E-06	7.5E-09
138	651673.15	4289791.47	651673.15, 4289791.47	6.86042	0.00286292	2.7E-06	8.2E-09
139	651723.15	4289791.47	651723.15, 4289791.47	7.30959	0.00305036	2.8E-06	8.8E-09
140	651773.15	4289791.47	651773.15, 4289791.47	7.26572	0.00303206	2.8E-06	8.7E-09
141	651473.15	4289891.47	651473.15, 4289891.47	5.19214	0.00216673	2.0E-06	6.2E-09
142	651523.15	4289891.47	651523.15, 4289891.47	6.26592	0.00261483	2.4E-06	7.5E-09
143	651573.15	4289891.47	651573.15, 4289891.47	7.69483	0.00321113	3.0E-06	9.2E-09
144	651623.15	4289891.47	651623.15, 4289891.47	9.29433	0.00387862	3.6E-06	1.1E-08
145	651673.15	4289891.47	651673.15, 4289891.47	10.6998	0.00446513	4.1E-06	1.3E-08
146	651723.15	4289891.47	651723.15, 4289891.47	11.47438	0.00478837	4.4E-06	1.4E-08
147	651773.15	4289891.47	651773.15, 4289891.47	11.17961	0.00466536	4.3E-06	1.3E-08

Worker Operational Risk - Fueling (Naphthalene)

Fueling

Emissions Rate (g/s): 4.66E-05

Discrete Receptor ID				Concentration		Unmitigated	Worker	Worker
				[µg/m^3] at 1 g/s				
X	Y	X, Y	Fueling	Fueling	Dose	Risk		
1	651391.97	4289982.91	651391.97, 4289982.91	5.50604	0.0002566	1.7E-07	7.3E-09	
2	651391.97	4290032.91	651391.97, 4290032.91	6.71377	0.0003129	2.1E-07	8.9E-09	
3	651391.97	4290082.91	651391.97, 4290082.91	8.35037	0.0003892	2.6E-07	1.1E-08	
4	651391.97	4290132.91	651391.97, 4290132.91	10.79285	0.0005031	3.3E-07	1.4E-08	
5	651391.97	4290182.91	651391.97, 4290182.91	13.32745	0.0006212	4.1E-07	1.8E-08	
6	651391.97	4290232.91	651391.97, 4290232.91	13.51216	0.0006298	4.2E-07	1.8E-08	
7	651391.97	4290282.91	651391.97, 4290282.91	12.56278	0.0005856	3.9E-07	1.7E-08	
8	651441.97	4290032.91	651441.97, 4290032.91	7.8465	0.0003657	2.4E-07	1.0E-08	
9	651441.97	4290082.91	651441.97, 4290082.91	10.27855	0.0004791	3.2E-07	1.4E-08	
10	651441.97	4290132.91	651441.97, 4290132.91	14.25929	0.0006646	4.4E-07	1.9E-08	
11	651441.97	4290182.91	651441.97, 4290182.91	18.13818	0.0008454	5.6E-07	2.4E-08	
12	651441.97	4290232.91	651441.97, 4290232.91	18.93027	0.0008824	5.8E-07	2.5E-08	
13	651441.97	4290282.91	651441.97, 4290282.91	17.26971	0.000805	5.3E-07	2.3E-08	
14	651491.97	4290032.91	651491.97, 4290032.91	9.45121	0.0004405	2.9E-07	1.2E-08	
15	651491.97	4290082.91	651491.97, 4290082.91	12.37979	0.000577	3.8E-07	1.6E-08	
16	651491.97	4290132.91	651491.97, 4290132.91	17.93808	0.0008361	5.5E-07	2.4E-08	
17	651491.97	4290182.91	651491.97, 4290182.91	25.33512	0.0011809	7.8E-07	3.3E-08	
18	651491.97	4290232.91	651491.97, 4290232.91	28.03231	0.0013066	8.6E-07	3.7E-08	
19	651491.97	4290282.91	651491.97, 4290282.91	24.99615	0.0011651	7.7E-07	3.3E-08	
20	651541.97	4290032.91	651541.97, 4290032.91	11.85658	0.0005526	3.7E-07	1.6E-08	
21	651541.97	4290082.91	651541.97, 4290082.91	15.69165	0.0007314	4.8E-07	2.1E-08	
22	651591.97	4290032.91	651591.97, 4290032.91	16.01205	0.0007463	4.9E-07	2.1E-08	
23	651591.97	4290082.91	651591.97, 4290082.91	21.73887	0.0010133	6.7E-07	2.9E-08	
24	651641.97	4290032.91	651641.97, 4290032.91	22.30826	0.0010398	6.9E-07	2.9E-08	
25	651641.97	4290082.91	651641.97, 4290082.91	32.9863	0.0015375	1.0E-06	4.4E-08	
26	651691.97	4290032.91	651691.97, 4290032.91	28.22035	0.0013154	8.7E-07	3.7E-08	
27	651691.97	4290082.91	651691.97, 4290082.91	46.63357	0.0021736	1.4E-06	6.2E-08	
28	651741.97	4290032.91	651741.97, 4290032.91	28.6691	0.0013363	8.8E-07	3.8E-08	
29	651741.97	4290082.91	651741.97, 4290082.91	46.17341	0.0021522	1.4E-06	6.1E-08	
30	651791.97	4290032.91	651791.97, 4290032.91	23.43225	0.0010922	7.2E-07	3.1E-08	
31	651791.97	4290082.91	651791.97, 4290082.91	30.53883	0.0014234	9.4E-07	4.0E-08	
32	651731.05	4290251.32	651731.05, 4290251.32	150.90848	0.0070339	4.7E-06	2.0E-07	
33	651731.05	4290263.32	651731.05, 4290263.32	126.6537	0.0059034	3.9E-06	1.7E-07	
34	651743.05	4290251.32	651743.05, 4290251.32	91.10786	0.0042466	2.8E-06	1.2E-07	
35	651743.05	4290263.32	651743.05, 4290263.32	81.45794	0.0037968	2.5E-06	1.1E-07	
36	651755.05	4290251.32	651755.05, 4290251.32	60.648	0.0028268	1.9E-06	8.0E-08	
37	651755.05	4290263.32	651755.05, 4290263.32	55.98274	0.0026094	1.7E-06	7.4E-08	
38	651767.05	4290251.32	651767.05, 4290251.32	43.34039	0.0020201	1.3E-06	5.7E-08	
39	651767.05	4290263.32	651767.05, 4290263.32	40.70024	0.0018971	1.3E-06	5.4E-08	
40	651779.05	4290251.32	651779.05, 4290251.32	32.61948	0.0015204	1.0E-06	4.3E-08	
41	651444.44	4290354.01	651444.44, 4290354.01	14.66177	0.0006834	4.5E-07	1.9E-08	
42	651444.44	4290404.01	651444.44, 4290404.01	13.63214	0.0006354	4.2E-07	1.8E-08	
43	651494.44	4290354.01	651494.44, 4290354.01	20.91842	0.000975	6.5E-07	2.8E-08	
44	651494.44	4290404.01	651494.44, 4290404.01	21.03466	0.0009804	6.5E-07	2.8E-08	
45	651494.44	4290454.01	651494.44, 4290454.01	21.63269	0.0010083	6.7E-07	2.9E-08	
46	651494.44	4290504.01	651494.44, 4290504.01	20.28558	0.0009455	6.3E-07	2.7E-08	
47	651544.44	4290354.01	651544.44, 4290354.01	36.39668	0.0016965	1.1E-06	4.8E-08	
48	651544.44	4290404.01	651544.44, 4290404.01	36.87328	0.0017187	1.1E-06	4.9E-08	
49	651544.44	4290454.01	651544.44, 4290454.01	32.43587	0.0015119	1.0E-06	4.3E-08	
50	651544.44	4290504.01	651544.44, 4290504.01	25.79998	0.0012026	8.0E-07	3.4E-08	

51	651594.44	4290354.01	651594.44, 4290354.01	77.8009	0.0036263	2.4E-06	1.0E-07
52	651594.44	4290404.01	651594.44, 4290404.01	57.59996	0.0026848	1.8E-06	7.6E-08
53	651594.44	4290454.01	651594.44, 4290454.01	38.64956	0.0018015	1.2E-06	5.1E-08
54	651594.44	4290504.01	651594.44, 4290504.01	25.91976	0.0012081	8.0E-07	3.4E-08
55	651644.44	4290354.01	651644.44, 4290354.01	108.19499	0.005043	3.3E-06	1.4E-07
56	651644.44	4290404.01	651644.44, 4290404.01	53.76567	0.0025061	1.7E-06	7.1E-08
57	651644.44	4290454.01	651644.44, 4290454.01	30.86655	0.0014387	9.5E-07	4.1E-08
58	651644.44	4290504.01	651644.44, 4290504.01	19.65557	0.0009162	6.1E-07	2.6E-08
59	651694.44	4290354.01	651694.44, 4290354.01	57.54614	0.0026823	1.8E-06	7.6E-08
60	651694.44	4290404.01	651694.44, 4290404.01	30.382	0.0014161	9.4E-07	4.0E-08
61	651694.44	4290454.01	651694.44, 4290454.01	19.07784	0.0008892	5.9E-07	2.5E-08
62	651694.44	4290504.01	651694.44, 4290504.01	13.06756	0.0006091	4.0E-07	1.7E-08
63	651744.44	4290354.01	651744.44, 4290354.01	28.65449	0.0013356	8.8E-07	3.8E-08
64	651744.44	4290404.01	651744.44, 4290404.01	18.23052	0.0008497	5.6E-07	2.4E-08
65	651744.44	4290454.01	651744.44, 4290454.01	12.62525	0.0005885	3.9E-07	1.7E-08
66	651744.44	4290504.01	651744.44, 4290504.01	9.2509	0.0004312	2.9E-07	1.2E-08
67	651794.44	4290354.01	651794.44, 4290354.01	15.43263	0.0007193	4.8E-07	2.0E-08
68	651794.44	4290404.01	651794.44, 4290404.01	11.90651	0.000555	3.7E-07	1.6E-08
69	651794.44	4290454.01	651794.44, 4290454.01	9.11868	0.000425	2.8E-07	1.2E-08
70	651794.44	4290504.01	651794.44, 4290504.01	7.05906	0.000329	2.2E-07	9.3E-09
71	651844.44	4290354.01	651844.44, 4290354.01	8.51744	0.000397	2.6E-07	1.1E-08
72	651844.44	4290404.01	651844.44, 4290404.01	7.40397	0.0003451	2.3E-07	9.8E-09
73	651844.44	4290454.01	651844.44, 4290454.01	6.40779	0.0002987	2.0E-07	8.5E-09
74	651844.44	4290504.01	651844.44, 4290504.01	5.39638	0.0002515	1.7E-07	7.1E-09
75	651894.44	4290354.01	651894.44, 4290354.01	5.38078	0.0002508	1.7E-07	7.1E-09
76	651894.44	4290404.01	651894.44, 4290404.01	4.81389	0.0002244	1.5E-07	6.4E-09
77	651894.44	4290454.01	651894.44, 4290454.01	4.31239	0.000201	1.3E-07	5.7E-09
78	651944.44	4290354.01	651944.44, 4290354.01	3.67088	0.0001711	1.1E-07	4.9E-09
79	651944.44	4290404.01	651944.44, 4290404.01	3.37195	0.0001572	1.0E-07	4.5E-09
80	651994.44	4290354.01	651994.44, 4290354.01	2.63836	0.000123	8.1E-08	3.5E-09
81	651822.56	4290016.22	651822.56, 4290016.22	17.58558	0.0008197	5.4E-07	2.3E-08
82	651872.56	4290066.22	651872.56, 4290066.22	10.5956	0.0004939	3.3E-07	1.4E-08
83	651872.56	4290116.22	651872.56, 4290116.22	9.76625	0.0004552	3.0E-07	1.3E-08
84	651872.56	4290166.22	651872.56, 4290166.22	9.41498	0.0004388	2.9E-07	1.2E-08
85	651872.56	4290216.22	651872.56, 4290216.22	8.72773	0.0004068	2.7E-07	1.2E-08
86	651872.56	4290266.22	651872.56, 4290266.22	7.97671	0.0003718	2.5E-07	1.1E-08
87	651922.56	4290066.22	651922.56, 4290066.22	6.28925	0.0002931	1.9E-07	8.3E-09
88	651922.56	4290116.22	651922.56, 4290116.22	6.05671	0.0002823	1.9E-07	8.0E-09
89	651922.56	4290166.22	651922.56, 4290166.22	5.88662	0.0002744	1.8E-07	7.8E-09
90	651922.56	4290216.22	651922.56, 4290216.22	5.44197	0.0002537	1.7E-07	7.2E-09
91	651922.56	4290266.22	651922.56, 4290266.22	5.0596	0.0002358	1.6E-07	6.7E-09
92	651972.56	4290066.22	651972.56, 4290066.22	4.26817	0.0001989	1.3E-07	5.6E-09
93	651972.56	4290116.22	651972.56, 4290116.22	4.22777	0.0001971	1.3E-07	5.6E-09
94	651972.56	4290166.22	651972.56, 4290166.22	4.03714	0.0001882	1.2E-07	5.3E-09
95	651972.56	4290216.22	651972.56, 4290216.22	3.76232	0.0001754	1.2E-07	5.0E-09
96	651972.56	4290266.22	651972.56, 4290266.22	3.52934	0.0001645	1.1E-07	4.7E-09
97	652022.56	4290066.22	652022.56, 4290066.22	3.16023	0.0001473	9.7E-08	4.2E-09
98	652022.56	4290116.22	652022.56, 4290116.22	3.15917	0.0001473	9.7E-08	4.2E-09
99	652022.56	4290166.22	652022.56, 4290166.22	2.99307	0.0001395	9.2E-08	4.0E-09
100	652022.56	4290216.22	652022.56, 4290216.22	2.8139	0.0001312	8.7E-08	3.7E-09
101	652022.56	4290266.22	652022.56, 4290266.22	2.64634	0.0001233	8.2E-08	3.5E-09
102	652072.56	4290066.22	652072.56, 4290066.22	2.4609	0.0001147	7.6E-08	3.3E-09
103	652072.56	4290116.22	652072.56, 4290116.22	2.45384	0.0001144	7.6E-08	3.2E-09
104	652072.56	4290166.22	652072.56, 4290166.22	2.34666	0.0001094	7.2E-08	3.1E-09
105	652072.56	4290216.22	652072.56, 4290216.22	2.23654	0.0001042	6.9E-08	3.0E-09
106	652072.56	4290266.22	652072.56, 4290266.22	2.07891	9.69E-05	6.4E-08	2.7E-09
107	651473.15	4289591.47	651473.15, 4289591.47	2.51794	0.0001174	7.8E-08	3.3E-09
108	651523.15	4289591.47	651523.15, 4289591.47	2.79014	0.0001301	8.6E-08	3.7E-09
109	651573.15	4289591.47	651573.15, 4289591.47	3.08165	0.0001436	9.5E-08	4.1E-09

110	651623.15	4289591.47	651623.15, 4289591.47	3.34782	0.000156	1.0E-07	4.4E-09
111	651673.15	4289591.47	651673.15, 4289591.47	3.57176	0.0001665	1.1E-07	4.7E-09
112	651723.15	4289591.47	651723.15, 4289591.47	3.71605	0.0001732	1.1E-07	4.9E-09
113	651473.15	4289641.47	651473.15, 4289641.47	2.77318	0.0001293	8.6E-08	3.7E-09
114	651523.15	4289641.47	651523.15, 4289641.47	3.11946	0.0001454	9.6E-08	4.1E-09
115	651573.15	4289641.47	651573.15, 4289641.47	3.49441	0.0001629	1.1E-07	4.6E-09
116	651623.15	4289641.47	651623.15, 4289641.47	3.81654	0.0001779	1.2E-07	5.0E-09
117	651673.15	4289641.47	651673.15, 4289641.47	4.10171	0.0001912	1.3E-07	5.4E-09
118	651723.15	4289641.47	651723.15, 4289641.47	4.27088	0.0001991	1.3E-07	5.6E-09
119	651773.15	4289641.47	651773.15, 4289641.47	4.33133	0.0002019	1.3E-07	5.7E-09
120	651473.15	4289691.47	651473.15, 4289691.47	3.15051	0.0001468	9.7E-08	4.2E-09
121	651523.15	4289691.47	651523.15, 4289691.47	3.62391	0.0001689	1.1E-07	4.8E-09
122	651573.15	4289691.47	651573.15, 4289691.47	4.08451	0.0001904	1.3E-07	5.4E-09
123	651623.15	4289691.47	651623.15, 4289691.47	4.40883	0.0002055	1.4E-07	5.8E-09
124	651673.15	4289691.47	651673.15, 4289691.47	4.76952	0.0002223	1.5E-07	6.3E-09
125	651723.15	4289691.47	651723.15, 4289691.47	4.96463	0.0002314	1.5E-07	6.6E-09
126	651773.15	4289691.47	651773.15, 4289691.47	5.07222	0.0002364	1.6E-07	6.7E-09
127	651473.15	4289741.47	651473.15, 4289741.47	3.56112	0.000166	1.1E-07	4.7E-09
128	651523.15	4289741.47	651523.15, 4289741.47	4.11173	0.0001917	1.3E-07	5.4E-09
129	651573.15	4289741.47	651573.15, 4289741.47	4.69726	0.0002189	1.4E-07	6.2E-09
130	651623.15	4289741.47	651623.15, 4289741.47	5.21343	0.000243	1.6E-07	6.9E-09
131	651673.15	4289741.47	651673.15, 4289741.47	5.63215	0.0002625	1.7E-07	7.4E-09
132	651723.15	4289741.47	651723.15, 4289741.47	5.93425	0.0002766	1.8E-07	7.8E-09
133	651773.15	4289741.47	651773.15, 4289741.47	6.03932	0.0002815	1.9E-07	8.0E-09
134	651473.15	4289791.47	651473.15, 4289791.47	3.97848	0.0001854	1.2E-07	5.3E-09
135	651523.15	4289791.47	651523.15, 4289791.47	4.67851	0.0002181	1.4E-07	6.2E-09
136	651573.15	4289791.47	651573.15, 4289791.47	5.44205	0.0002537	1.7E-07	7.2E-09
137	651623.15	4289791.47	651623.15, 4289791.47	6.20703	0.0002893	1.9E-07	8.2E-09
138	651673.15	4289791.47	651673.15, 4289791.47	6.86042	0.0003198	2.1E-07	9.1E-09
139	651723.15	4289791.47	651723.15, 4289791.47	7.30959	0.0003407	2.3E-07	9.7E-09
140	651773.15	4289791.47	651773.15, 4289791.47	7.26572	0.0003387	2.2E-07	9.6E-09
141	651473.15	4289891.47	651473.15, 4289891.47	5.19214	0.000242	1.6E-07	6.9E-09
142	651523.15	4289891.47	651523.15, 4289891.47	6.26592	0.0002921	1.9E-07	8.3E-09
143	651573.15	4289891.47	651573.15, 4289891.47	7.69483	0.0003587	2.4E-07	1.0E-08
144	651623.15	4289891.47	651623.15, 4289891.47	9.29433	0.0004332	2.9E-07	1.2E-08
145	651673.15	4289891.47	651673.15, 4289891.47	10.6998	0.0004987	3.3E-07	1.4E-08
146	651723.15	4289891.47	651723.15, 4289891.47	11.47438	0.0005348	3.5E-07	1.5E-08
147	651773.15	4289891.47	651773.15, 4289891.47	11.17961	0.0005211	3.4E-07	1.5E-08

Acute Risk - Fueling (Benzene)

Emissions Rate (g/s):
OnSite Fueling
5.04E-04

Discrete Receptor ID				Concentration [µg/m³] at 1 g/s	1-hour Concentration [ug/m³]
X	Y	X, Y			
1	651391.97	4289983	651391.97, 4289982.91	316.32631	1.60E-01
2	651391.97	4290033	651391.97, 4290032.91	342.48602	1.73E-01
3	651391.97	4290083	651391.97, 4290082.91	383.19325	1.93E-01
4	651391.97	4290133	651391.97, 4290132.91	403.70565	2.04E-01
5	651391.97	4290183	651391.97, 4290182.91	454.45606	2.29E-01
6	651391.97	4290233	651391.97, 4290232.91	521.91829	2.63E-01
7	651391.97	4290283	651391.97, 4290282.91	508.19305	2.56E-01
8	651441.97	4290033	651441.97, 4290032.91	390.32496	1.97E-01
9	651441.97	4290083	651441.97, 4290082.91	484.56954	2.44E-01
10	651441.97	4290133	651441.97, 4290132.91	519.01189	2.62E-01
11	651441.97	4290183	651441.97, 4290182.91	611.44051	3.08E-01
12	651441.97	4290233	651441.97, 4290232.91	668.87595	3.37E-01
13	651441.97	4290283	651441.97, 4290282.91	607.52901	3.06E-01
14	651491.97	4290033	651491.97, 4290032.91	496.83914	2.51E-01
15	651491.97	4290083	651491.97, 4290082.91	554.41124	2.80E-01
16	651491.97	4290133	651491.97, 4290132.91	656.36011	3.31E-01
17	651491.97	4290183	651491.97, 4290182.91	787.43426	3.97E-01
18	651491.97	4290233	651491.97, 4290232.91	894.33619	4.51E-01
19	651491.97	4290283	651491.97, 4290282.91	835.37434	4.21E-01
20	651541.97	4290033	651541.97, 4290032.91	541.15331	2.73E-01
21	651541.97	4290083	651541.97, 4290082.91	703.20682	3.55E-01
22	651591.97	4290033	651591.97, 4290032.91	725.51281	3.66E-01
23	651591.97	4290083	651591.97, 4290082.91	801.50891	4.04E-01
24	651641.97	4290033	651641.97, 4290032.91	855.62568	4.32E-01
25	651641.97	4290083	651641.97, 4290082.91	1090.23701	5.50E-01
26	651691.97	4290033	651691.97, 4290032.91	803.70497	4.05E-01
27	651691.97	4290083	651691.97, 4290082.91	1149.56569	5.80E-01
28	651741.97	4290033	651741.97, 4290032.91	806.54334	4.07E-01
29	651741.97	4290083	651741.97, 4290082.91	1081.84964	5.46E-01
30	651791.97	4290033	651791.97, 4290032.91	775.49877	3.91E-01
31	651791.97	4290083	651791.97, 4290082.91	1082.86273	5.46E-01
32	651731.05	4290251	651731.05, 4290251.32	3749.18621	1.89E+00
33	651731.05	4290263	651731.05, 4290263.32	3225.92507	1.63E+00
34	651743.05	4290251	651743.05, 4290251.32	2993.25105	1.51E+00
35	651743.05	4290263	651743.05, 4290263.32	2623.28614	1.32E+00
36	651755.05	4290251	651755.05, 4290251.32	2483.39715	1.25E+00
37	651755.05	4290263	651755.05, 4290263.32	2244.7156	1.13E+00
38	651767.05	4290251	651767.05, 4290251.32	2085.13112	1.05E+00
39	651767.05	4290263	651767.05, 4290263.32	1968.62041	9.93E-01
40	651779.05	4290251	651779.05, 4290251.32	1820.76767	9.18E-01
41	651444.44	4290354	651444.44, 4290354.01	594.67587	3.00E-01
42	651444.44	4290404	651444.44, 4290404.01	508.33598	2.56E-01
43	651494.44	4290354	651494.44, 4290354.01	733.80001	3.70E-01
44	651494.44	4290404	651494.44, 4290404.01	665.59991	3.36E-01
45	651494.44	4290454	651494.44, 4290454.01	604.15242	3.05E-01
46	651494.44	4290504	651494.44, 4290504.01	439.17671	2.21E-01
47	651544.44	4290354	651544.44, 4290354.01	1019.81059	5.14E-01
48	651544.44	4290404	651544.44, 4290404.01	886.26421	4.47E-01
49	651544.44	4290454	651544.44, 4290454.01	558.0956	2.81E-01
50	651544.44	4290504	651544.44, 4290504.01	455.73054	2.30E-01
51	651594.44	4290354	651594.44, 4290354.01	1412.57617	7.12E-01
52	651594.44	4290404	651594.44, 4290404.01	824.99043	4.16E-01
53	651594.44	4290454	651594.44, 4290454.01	660.53782	3.33E-01
54	651594.44	4290504	651594.44, 4290504.01	479.18147	2.42E-01
55	651644.44	4290354	651644.44, 4290354.01	1342.33643	6.77E-01
56	651644.44	4290404	651644.44, 4290404.01	953.82688	4.81E-01
57	651644.44	4290454	651644.44, 4290454.01	686.57327	3.46E-01
58	651644.44	4290504	651644.44, 4290504.01	577.97742	2.91E-01
59	651694.44	4290354	651694.44, 4290354.01	1470.56141	7.42E-01
60	651694.44	4290404	651694.44, 4290404.01	991.43435	5.00E-01
61	651694.44	4290454	651694.44, 4290454.01	729.32613	3.68E-01
62	651694.44	4290504	651694.44, 4290504.01	564.21551	2.85E-01
63	651744.44	4290354	651744.44, 4290354.01	1151.54329	5.81E-01
64	651744.44	4290404	651744.44, 4290404.01	874.48109	4.41E-01
65	651744.44	4290454	651744.44, 4290454.01	653.61314	3.30E-01

66	651744.44	4290504	651744.44, 4290504.01	521.70076	2.63E-01
67	651794.44	4290354	651794.44, 4290354.01	956.34454	4.82E-01
68	651794.44	4290404	651794.44, 4290404.01	801.75639	4.04E-01
69	651794.44	4290454	651794.44, 4290454.01	561.69	2.83E-01
70	651794.44	4290504	651794.44, 4290504.01	462.77895	2.33E-01
71	651844.44	4290354	651844.44, 4290354.01	733.17346	3.70E-01
72	651844.44	4290404	651844.44, 4290404.01	638.41764	3.22E-01
73	651844.44	4290454	651844.44, 4290454.01	550.99098	2.78E-01
74	651844.44	4290504	651844.44, 4290504.01	443.78087	2.24E-01
75	651894.44	4290354	651894.44, 4290354.01	590.09813	2.98E-01
76	651894.44	4290404	651894.44, 4290404.01	506.74917	2.56E-01
77	651894.44	4290454	651894.44, 4290454.01	464.67146	2.34E-01
78	651944.44	4290354	651944.44, 4290354.01	482.48093	2.43E-01
79	651944.44	4290404	651944.44, 4290404.01	471.24373	2.38E-01
80	651994.44	4290354	651994.44, 4290354.01	420.81974	2.12E-01
81	651822.56	4290016	651822.56, 4290016.22	657.87091	3.32E-01
82	651872.56	4290066	651872.56, 4290066.22	673.33612	3.40E-01
83	651872.56	4290116	651872.56, 4290116.22	793.74945	4.00E-01
84	651872.56	4290166	651872.56, 4290166.22	893.74691	4.51E-01
85	651872.56	4290216	651872.56, 4290216.22	947.87725	4.78E-01
86	651872.56	4290266	651872.56, 4290266.22	796.20769	4.02E-01
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88	651922.56	4290116	651922.56, 4290116.22	604.93604	3.05E-01
89	651922.56	4290166	651922.56, 4290166.22	601.43277	3.03E-01
90	651922.56	4290216	651922.56, 4290216.22	724.29925	3.65E-01
91	651922.56	4290266	651922.56, 4290266.22	590.3125	2.98E-01
92	651972.56	4290066	651972.56, 4290066.22	429.88104	2.17E-01
93	651972.56	4290116	651972.56, 4290116.22	518.01367	2.61E-01
94	651972.56	4290166	651972.56, 4290166.22	493.80707	2.49E-01
95	651972.56	4290216	651972.56, 4290216.22	580.50643	2.93E-01
96	651972.56	4290266	651972.56, 4290266.22	485.96994	2.45E-01
97	652022.56	4290066	652022.56, 4290066.22	372.42881	1.88E-01
98	652022.56	4290116	652022.56, 4290116.22	392.62914	1.98E-01
99	652022.56	4290166	652022.56, 4290166.22	399.72727	2.02E-01
100	652022.56	4290216	652022.56, 4290216.22	463.9135	2.34E-01
101	652022.56	4290266	652022.56, 4290266.22	403.65511	2.04E-01
102	652072.56	4290066	652072.56, 4290066.22	342.84422	1.73E-01
103	652072.56	4290116	652072.56, 4290116.22	309.10097	1.56E-01
104	652072.56	4290166	652072.56, 4290166.22	320.28422	1.62E-01
105	652072.56	4290216	652072.56, 4290216.22	351.532	1.77E-01
106	652072.56	4290266	652072.56, 4290266.22	348.83981	1.76E-01
107	651473.15	4289591	651473.15, 4289591.47	349.83981	1.76E-01
108	651523.15	4289591	651523.15, 4289591.47	350.83981	1.77E-01
109	651573.15	4289591	651573.15, 4289591.47	351.83981	1.77E-01
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111	651673.15	4289591	651673.15, 4289591.47	353.83981	1.78E-01
112	651723.15	4289591	651723.15, 4289591.47	354.83981	1.79E-01
113	651473.15	4289641	651473.15, 4289641.47	355.83981	1.79E-01
114	651523.15	4289641	651523.15, 4289641.47	356.83981	1.80E-01
115	651573.15	4289641	651573.15, 4289641.47	357.83981	1.80E-01
116	651623.15	4289641	651623.15, 4289641.47	358.83981	1.81E-01
117	651673.15	4289641	651673.15, 4289641.47	359.83981	1.81E-01
118	651723.15	4289641	651723.15, 4289641.47	360.83981	1.82E-01
119	651773.15	4289641	651773.15, 4289641.47	361.83981	1.82E-01
120	651473.15	4289691	651473.15, 4289691.47	362.83981	1.83E-01
121	651523.15	4289691	651523.15, 4289691.47	363.83981	1.83E-01
122	651573.15	4289691	651573.15, 4289691.47	364.83981	1.84E-01
123	651623.15	4289691	651623.15, 4289691.47	365.83981	1.85E-01
124	651673.15	4289691	651673.15, 4289691.47	366.83981	1.85E-01
125	651723.15	4289691	651723.15, 4289691.47	367.83981	1.86E-01
126	651773.15	4289691	651773.15, 4289691.47	368.83981	1.86E-01
127	651473.15	4289741	651473.15, 4289741.47	369.83981	1.87E-01
128	651523.15	4289741	651523.15, 4289741.47	370.83981	1.87E-01
129	651573.15	4289741	651573.15, 4289741.47	371.83981	1.88E-01
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131	651673.15	4289741	651673.15, 4289741.47	373.83981	1.89E-01
132	651723.15	4289741	651723.15, 4289741.47	374.83981	1.89E-01
133	651773.15	4289741	651773.15, 4289741.47	375.83981	1.90E-01
134	651473.15	4289791	651473.15, 4289791.47	376.83981	1.90E-01
135	651523.15	4289791	651523.15, 4289791.47	377.83981	1.91E-01
136	651573.15	4289791	651573.15, 4289791.47	378.83981	1.91E-01
137	651623.15	4289791	651623.15, 4289791.47	379.83981	1.92E-01
138	651673.15	4289791	651673.15, 4289791.47	380.83981	1.92E-01

139	651723.15	4289791 651723.15, 4289791.47	381.83981	1.93E-01
140	651773.15	4289791 651773.15, 4289791.47	382.83981	1.93E-01
141	651473.15	4289891 651473.15, 4289891.47	383.83981	1.94E-01
142	651523.15	4289891 651523.15, 4289891.47	384.83981	1.94E-01
143	651573.15	4289891 651573.15, 4289891.47	385.83981	1.95E-01
144	651623.15	4289891 651623.15, 4289891.47	386.83981	1.95E-01
145	651673.15	4289891 651673.15, 4289891.47	387.83981	1.96E-01
146	651723.15	4289891 651723.15, 4289891.47	388.83981	1.96E-01
147	651773.15	4289891 651773.15, 4289891.47	389.83981	1.97E-01

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** AERMOD Input Produced by:
** AERMOD View Ver. 13.1.0
** Lakes Environmental Software Inc.
** Date: 8/31/2026
** File: C:\Lakes\AERMOD View\WM_Roseville\WM_Roseville.ADI
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*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE WM_Roseville
  MODELOPT DFAULT CONC
  AVERTIME 1 PERIOD
  URBANOPT 442081
  POLLUTID TOG
  RUNORNOT RUN
  ERRORFIL WM_Roseville.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
  LOCATION PAREA1      AREAPOLY   651654.448   4290250.397       63.040
** DESCRSRC Fueling
** Source Parameters **
  SRCPARAM PAREA1      0.0008419929      1.000      8
  AREAVERT PAREA1      651654.448   4290250.397   651654.680   4290237.410
  AREAVERT PAREA1      651691.342   4290238.395   651691.787   4290203.946
  AREAVERT PAREA1      651709.171   4290203.946   651708.456   4290238.820
  AREAVERT PAREA1      651699.788   4290238.618   651699.711   4290251.721
  URBANSRC ALL
  SRCGROUP ALL
SO FINISHED
**
*****
** AERMOD Receptor Pathway
*****
**
**
RE STARTING
  INCLUDED WM_Roseville.rou
RE FINISHED
**
*****
** AERMOD Meteorology Pathway
*****
**
**
ME STARTING
  SURFFILE KMYV_724838_93205\KMYV_2015_2016_2018-2020_ADJU.SFC
  PROFFILE KMYV_724838_93205\KMYV_2015_2016_2018-2020_ADJU.PFL
  SURFDATA 93205 2015
  UAIRDATA 23230 2015 OAKLAND/WSO_AP
  PROFBASE 18.9 METERS
ME FINISHED
**
*****
** AERMOD Output Pathway
*****
**
**
OU STARTING
  RECTABLE ALLAVE 1ST
  RECTABLE 1 1ST
** Auto-Generated Plotfiles
  PLOTFILE 1 ALL 1ST WM_Roseville.AD\01H1GALL.PLT 31
  PLOTFILE PERIOD ALL WM_Roseville.AD\PE00GALL.PLT 32
  SUMMFILE WM_Roseville.sum
OU FINISHED

```

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 18.90 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0

Emission Units = GRAMS/SEC
Output Units = MICROGRAMS/M**3

; Emission Rate Unit Factor = 0.10000E+07

**Approximate Storage Requirements of Model = 3.5 MB of RAM.

**Input Runstream File: aermod.inp
**Output Print File: aermod.out

**Detailed Error/Message File: WM_Roseville.err

**File for Summary of Results: WM_Roseville.sum

*** AERMOD - VERSION 24142 *** WM_Roseville 08/31/26
*** AERMET - VERSION 19191 *** 22:08:27
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*** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ_U*

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X Y (METERS) (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
PAREA1	0	0.84199E-03	651654.4 4290250.4	63.0	1.00	8	0.00	YES		NO
*** AERMOD - VERSION 24142 ***			*** WM_Roseville						***	08/31/26
*** AERMET - VERSION 19191 ***			***						***	22:08:27
										PAGE 3

*** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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ALL PAREA1 ,
*** AERMOD - VERSION 24142 *** WM_Roseville 08/31/26
*** AERMET - VERSION 19191 *** 22:08:27
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*** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
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442081. PAREA1 ,
*** AERMOD - VERSION 24142 *** WM_Roseville 08/31/26
*** AERMET - VERSION 19191 *** 22:08:27
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*** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(651392.0, 4289982.9, 58.7, 58.7, 0.0);	(651392.0, 4290032.9, 58.3, 58.3, 0.0);
(651392.0, 4290082.9, 54.9, 63.5, 0.0);	(651392.0, 4290132.9, 55.4, 63.5, 0.0);
(651392.0, 4290182.9, 59.3, 62.7, 0.0);	(651392.0, 4290232.9, 59.6, 62.1, 0.0);
(651392.0, 4290282.9, 59.8, 59.8, 0.0);	(651442.0, 4290032.9, 59.4, 59.4, 0.0);
(651442.0, 4290082.9, 60.2, 60.2, 0.0);	(651442.0, 4290132.9, 63.4, 63.4, 0.0);
(651442.0, 4290182.9, 63.3, 63.3, 0.0);	(651442.0, 4290232.9, 63.0, 63.0, 0.0);
(651442.0, 4290282.9, 62.5, 62.5, 0.0);	(651492.0, 4290032.9, 59.9, 59.9, 0.0);
(651492.0, 4290082.9, 60.5, 60.5, 0.0);	(651492.0, 4290132.9, 63.4, 63.4, 0.0);
(651492.0, 4290182.9, 63.4, 63.4, 0.0);	(651492.0, 4290232.9, 63.4, 63.4, 0.0);
(651492.0, 4290282.9, 62.9, 62.9, 0.0);	(651542.0, 4290032.9, 60.1, 60.1, 0.0);
(651542.0, 4290082.9, 60.6, 60.6, 0.0);	(651592.0, 4290032.9, 60.6, 60.6, 0.0);
(651592.0, 4290082.9, 60.9, 60.9, 0.0);	(651642.0, 4290032.9, 60.9, 60.9, 0.0);
(651642.0, 4290082.9, 60.5, 60.5, 0.0);	(651692.0, 4290032.9, 61.3, 61.3, 0.0);
(651692.0, 4290082.9, 61.2, 61.2, 0.0);	(651742.0, 4290032.9, 61.3, 61.3, 0.0);
(651742.0, 4290082.9, 61.4, 61.4, 0.0);	(651792.0, 4290032.9, 61.2, 61.2, 0.0);
(651792.0, 4290082.9, 61.3, 61.3, 0.0);	(651731.1, 4290251.3, 63.1, 63.1, 0.0);
(651731.1, 4290263.3, 63.1, 63.1, 0.0);	(651743.1, 4290251.3, 63.1, 63.1, 0.0);
(651743.1, 4290263.3, 63.0, 63.0, 0.0);	(651755.1, 4290251.3, 63.1, 63.1, 0.0);
(651755.1, 4290263.3, 63.0, 63.0, 0.0);	(651767.1, 4290251.3, 63.0, 63.0, 0.0);
(651767.1, 4290263.3, 63.0, 63.0, 0.0);	(651779.1, 4290251.3, 62.9, 62.9, 0.0);
(651444.4, 4290354.0, 63.9, 63.9, 0.0);	(651444.4, 4290404.0, 65.3, 65.3, 0.0);
(651494.4, 4290354.0, 65.3, 65.3, 0.0);	(651494.4, 4290404.0, 65.7, 65.7, 0.0);
(651494.4, 4290454.0, 65.1, 65.1, 0.0);	(651494.4, 4290504.0, 66.3, 66.3, 0.0);
(651544.4, 4290354.0, 65.5, 65.5, 0.0);	(651544.4, 4290404.0, 65.2, 65.2, 0.0);

(651544.4, 4290454.0,	65.2,	65.2,	0.0);	(651544.4, 4290504.0,	66.7,	66.7,	0.0);
(651594.4, 4290354.0,	65.8,	65.8,	0.0);	(651594.4, 4290404.0,	65.2,	65.2,	0.0);
(651594.4, 4290454.0,	65.6,	65.6,	0.0);	(651594.4, 4290504.0,	66.8,	66.8,	0.0);
(651644.4, 4290354.0,	66.2,	66.2,	0.0);	(651644.4, 4290404.0,	65.8,	65.8,	0.0);
(651644.4, 4290454.0,	65.3,	65.3,	0.0);	(651644.4, 4290504.0,	65.8,	65.8,	0.0);
(651694.4, 4290354.0,	66.6,	66.6,	0.0);	(651694.4, 4290404.0,	66.6,	66.6,	0.0);
(651694.4, 4290454.0,	65.9,	65.9,	0.0);	(651694.4, 4290504.0,	66.1,	66.1,	0.0);
(651744.4, 4290354.0,	66.1,	66.1,	0.0);	(651744.4, 4290404.0,	66.7,	66.7,	0.0);
(651744.4, 4290454.0,	66.5,	66.5,	0.0);	(651744.4, 4290504.0,	66.7,	66.7,	0.0);
(651794.4, 4290354.0,	63.8,	63.8,	0.0);	(651794.4, 4290404.0,	64.5,	64.5,	0.0);
(651794.4, 4290454.0,	65.2,	65.2,	0.0);	(651794.4, 4290504.0,	66.1,	66.1,	0.0);
(651844.4, 4290354.0,	65.3,	65.3,	0.0);	(651844.4, 4290404.0,	64.8,	64.8,	0.0);
(651844.4, 4290454.0,	64.5,	64.5,	0.0);	(651844.4, 4290504.0,	65.4,	65.4,	0.0);
(651894.4, 4290354.0,	66.9,	66.9,	0.0);	(651894.4, 4290404.0,	66.5,	66.5,	0.0);
(651894.4, 4290454.0,	67.3,	67.3,	0.0);	(651944.4, 4290354.0,	69.1,	69.1,	0.0);
(651944.4, 4290404.0,	69.6,	69.6,	0.0);	(651994.4, 4290354.0,	71.2,	71.2,	0.0);
(651822.6, 4290016.2,	61.1,	61.1,	0.0);	(651872.6, 4290066.2,	62.9,	62.9,	0.0);
(651872.6, 4290116.2,	63.8,	63.8,	0.0);	(651872.6, 4290166.2,	65.0,	65.0,	0.0);
(651872.6, 4290216.2,	66.6,	66.6,	0.0);	(651872.6, 4290266.2,	65.2,	65.2,	0.0);
(651922.6, 4290066.2,	64.3,	64.3,	0.0);	(651922.6, 4290116.2,	65.4,	65.4,	0.0);
(651922.6, 4290166.2,	67.2,	67.2,	0.0);	(651922.6, 4290216.2,	68.6,	68.6,	0.0);

*** AERMOD - VERSION 24142 *** ** WM_Roseville
 *** AERMET - VERSION 19191 *** **
 *** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ_U*
 *** DISCRETE CARTESIAN RECEPTORS ***
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
 (METERS)

(651922.6, 4290266.2,	68.0,	68.0,	0.0);	(651972.6, 4290066.2,	65.1,	65.1,	0.0);
(651972.6, 4290116.2,	66.1,	66.1,	0.0);	(651972.6, 4290166.2,	68.9,	68.9,	0.0);
(651972.6, 4290216.2,	69.8,	69.8,	0.0);	(651972.6, 4290266.2,	69.6,	69.6,	0.0);
(652022.6, 4290066.2,	65.0,	65.0,	0.0);	(652022.6, 4290116.2,	65.7,	65.7,	0.0);
(652022.6, 4290166.2,	68.5,	68.5,	0.0);	(652022.6, 4290216.2,	69.7,	69.7,	0.0);
(652022.6, 4290266.2,	70.2,	70.2,	0.0);	(652072.6, 4290066.2,	65.4,	65.4,	0.0);
(652072.6, 4290116.2,	65.0,	65.0,	0.0);	(652072.6, 4290166.2,	65.5,	65.5,	0.0);
(652072.6, 4290216.2,	66.9,	66.9,	0.0);	(652072.6, 4290266.2,	70.2,	70.2,	0.0);
(651473.2, 4289591.5,	49.5,	49.5,	0.0);	(651523.2, 4289591.5,	49.9,	49.9,	0.0);
(651573.2, 4289591.5,	51.0,	51.0,	0.0);	(651623.2, 4289591.5,	52.4,	52.4,	0.0);
(651673.2, 4289591.5,	53.7,	53.7,	0.0);	(651723.2, 4289591.5,	53.9,	53.9,	0.0);
(651473.2, 4289641.5,	49.8,	49.8,	0.0);	(651523.2, 4289641.5,	50.8,	56.3,	0.0);
(651573.2, 4289641.5,	52.3,	52.3,	0.0);	(651623.2, 4289641.5,	53.0,	53.0,	0.0);
(651673.2, 4289641.5,	54.4,	54.4,	0.0);	(651723.2, 4289641.5,	54.3,	54.3,	0.0);
(651773.2, 4289641.5,	55.0,	55.0,	0.0);	(651473.2, 4289691.5,	53.4,	53.4,	0.0);
(651523.2, 4289691.5,	55.8,	55.8,	0.0);	(651573.2, 4289691.5,	56.5,	56.5,	0.0);
(651623.2, 4289691.5,	54.0,	54.0,	0.0);	(651673.2, 4289691.5,	55.0,	55.0,	0.0);
(651723.2, 4289691.5,	54.6,	54.6,	0.0);	(651773.2, 4289691.5,	56.7,	56.7,	0.0);
(651473.2, 4289741.5,	56.0,	56.0,	0.0);	(651523.2, 4289741.5,	56.6,	56.6,	0.0);
(651573.2, 4289741.5,	57.1,	57.1,	0.0);	(651623.2, 4289741.5,	56.2,	56.2,	0.0);
(651673.2, 4289741.5,	55.8,	55.8,	0.0);	(651723.2, 4289741.5,	56.3,	56.3,	0.0);
(651773.2, 4289741.5,	58.7,	58.7,	0.0);	(651473.2, 4289791.5,	56.0,	56.0,	0.0);
(651523.2, 4289791.5,	56.8,	56.8,	0.0);	(651573.2, 4289791.5,	57.1,	57.1,	0.0);
(651623.2, 4289791.5,	57.5,	57.5,	0.0);	(651673.2, 4289791.5,	58.2,	58.2,	0.0);
(651723.2, 4289791.5,	59.8,	59.8,	0.0);	(651773.2, 4289791.5,	59.9,	59.9,	0.0);
(651473.2, 4289891.5,	57.9,	57.9,	0.0);	(651523.2, 4289891.5,	58.3,	58.3,	0.0);
(651573.2, 4289891.5,	58.8,	58.8,	0.0);	(651623.2, 4289891.5,	59.7,	59.7,	0.0);
(651673.2, 4289891.5,	60.3,	60.3,	0.0);	(651723.2, 4289891.5,	60.8,	60.8,	0.0);
(651773.2, 4289891.5,	61.4,	61.4,	0.0);				

*** AERMOD - VERSION 24142 *** ** WM_Roseville
 *** AERMET - VERSION 19191 *** **
 *** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ_U*
 *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
 (1=YES; 0=NO)

1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,
*** AERMOD - VERSION 24142 *** ** WM_Roseville *** 08/31/26
*** AERMET - VERSION 19191 *** ** *** 22:08:27
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*** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: KMYV_724838_93205\KMYV_2015_2016_2018-2020_ADJU.SFC Met Version: 19191
Profile file: KMYV_724838_93205\KMYV_2015_2016_2018-2020_ADJU.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 93205 Upper air station no.: 23230
Name: UNKNOWN Name: OAKLAND/WSO_AP
Year: 2015 Year: 2015

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS	WD	HT	REF	TA	HT
15	01	01	1	01	-17.0	0.169	-9.000	-9.000	-999.	166.	31.3	0.02	0.76	1.00	2.76	150.	10.0	274.2	2.0			
15	01	01	1	02	-11.2	0.135	-9.000	-9.000	-999.	120.	20.1	0.02	0.76	1.00	2.30	111.	10.0	274.2	2.0			
15	01	01	1	03	-5.5	0.094	-9.000	-9.000	-999.	69.	13.6	0.02	0.76	1.00	1.62	80.	10.0	272.5	2.0			
15	01	01	1	04	-4.1	0.081	-9.000	-9.000	-999.	55.	11.8	0.02	0.76	1.00	1.38	72.	10.0	270.4	2.0			
15	01	01	1	05	-4.6	0.085	-9.000	-9.000	-999.	60.	12.4	0.02	0.76	1.00	1.47	65.	10.0	271.4	2.0			
15	01	01	1	06	-4.8	0.087	-9.000	-9.000	-999.	62.	12.6	0.02	0.76	1.00	1.50	71.	10.0	270.9	2.0			
15	01	01	1	07	-1.5	0.059	-9.000	-9.000	-999.	35.	12.5	0.02	0.76	1.00	0.70	167.	10.0	271.4	2.0			
15	01	01	1	08	-3.8	0.078	-9.000	-9.000	-999.	53.	11.5	0.02	0.76	1.00	1.33	69.	10.0	270.4	2.0			
15	01	01	1	09	-2.0	0.081	-9.000	-9.000	-999.	55.	24.3	0.02	0.76	0.41	1.35	78.	10.0	274.9	2.0			
15	01	01	1	10	32.8	0.121	0.658	0.010	315.	101.	-4.9	0.02	0.76	0.28	1.43	107.	10.0	277.5	2.0			
15	01	01	1	11	63.3	0.218	0.876	0.009	386.	244.	-14.9	0.02	0.76	0.24	2.81	159.	10.0	279.2	2.0			
15	01	01	1	12	80.3	0.275	0.972	0.008	416.	346.	-23.5	0.02	0.76	0.22	3.68	165.	10.0	280.4	2.0			
15	01	01	1	13	82.8	0.225	1.004	0.007	445.	257.	-12.5	0.02	0.76	0.22	2.86	155.	10.0	280.9	2.0			
15	01	01	1	14	70.7	0.225	1.001	0.006	516.	256.	-14.7	0.02	0.76	0.23	2.90	155.	10.0	281.4	2.0			
15	01	01	1	15	44.7	0.227	0.868	0.006	531.	260.	-23.9	0.02	0.76	0.26	3.05	162.	10.0	282.0	2.0			
15	01	01	1	16	7.4	0.204	0.478	0.006	534.	221.	-103.8	0.02	0.76	0.36	2.98	181.	10.0	282.0	2.0			
15	01	01	1	17	-7.1	0.110	-9.000	-9.000	-999.	91.	16.9	0.02	0.76	0.62	1.89	215.	10.0	280.4	2.0			
15	01	01	1	18	-1.4	0.058	-9.000	-9.000	-999.	34.	12.6	0.02	0.76	1.00	0.67	143.	10.0	277.5	2.0			
15	01	01	1	19	-6.5	0.102	-9.000	-9.000	-999.	78.	14.9	0.02	0.76	1.00	1.76	74.	10.0	276.4	2.0			
15	01	01	1	20	-12.0	0.140	-9.000	-9.000	-999.	126.	21.7	0.02	0.76	1.00	2.36	77.	10.0	276.4	2.0			
15	01	01	1	21	-7.1	0.108	-9.000	-9.000	-999.	85.	16.2	0.03	0.76	1.00	1.76	50.	10.0	275.4	2.0			
15	01	01	1	22	-6.5	0.102	-9.000	-9.000	-999.	78.	14.9	0.02	0.76	1.00	1.76	72.	10.0	274.9	2.0			
15	01	01	1	23	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.02	0.76	1.00	0.00	0.	10.0	273.1	2.0			
15	01	01	1	24	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.02	0.76	1.00	0.00	0.	10.0	273.1	2.0			

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB	TMP	sigmaA	sigmaW	sigmaV
15	01	01	01	10.0	1	150.	2.76	274.3	99.0	-99.00	-99.00	

F indicates top of profile (=1) or below (=0)

*** AERMOD - VERSION 24142 *** ** WM_Roseville *** 08/31/26
*** AERMET - VERSION 19191 *** ** *** 22:08:27
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*** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF TOG IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
651391.97	4289982.91	5.50604	651391.97	4290032.91	6.71377
651391.97	4290082.91	8.35037	651391.97	4290132.91	10.79285
651391.97	4290182.91	13.32745	651391.97	4290232.91	13.51216
651391.97	4290282.91	12.56278	651441.97	4290032.91	7.84650
651441.97	4290082.91	10.27855	651441.97	4290132.91	14.25929
651441.97	4290182.91	18.13818	651441.97	4290232.91	18.93027
651441.97	4290282.91	17.26971	651491.97	4290032.91	9.45121
651491.97	4290082.91	12.37979	651491.97	4290132.91	17.93808
651491.97	4290182.91	25.33512	651491.97	4290232.91	28.03231
651491.97	4290282.91	24.99615	651541.97	4290032.91	11.85658
651541.97	4290082.91	15.69165	651591.97	4290032.91	16.01205
651591.97	4290082.91	21.73887	651641.97	4290032.91	22.30826
651641.97	4290082.91	32.98630	651691.97	4290032.91	28.22035
651691.97	4290082.91	46.63357	651741.97	4290032.91	28.66910
651741.97	4290082.91	46.17341	651791.97	4290032.91	23.43225
651791.97	4290082.91	30.53883	651731.05	4290251.32	150.90848
651731.05	4290263.32	126.65370	651743.05	4290251.32	91.10786
651743.05	4290263.32	81.45794	651755.05	4290251.32	60.64800
651755.05	4290263.32	55.98274	651767.05	4290251.32	43.34039

651767.05	4290263.32	40.70024	651779.05	4290251.32	32.61948
651444.44	4290354.01	14.66177	651444.44	4290404.01	13.63214
651494.44	4290354.01	20.91842	651494.44	4290404.01	21.03466
651494.44	4290454.01	21.63269	651494.44	4290504.01	20.28558
651544.44	4290354.01	36.39668	651544.44	4290404.01	36.87328
651544.44	4290454.01	32.43587	651544.44	4290504.01	25.79998
651594.44	4290354.01	77.80090	651594.44	4290404.01	57.59996
651594.44	4290454.01	38.64956	651594.44	4290504.01	25.91976
651644.44	4290354.01	108.19499	651644.44	4290404.01	53.76567
651644.44	4290454.01	30.86655	651644.44	4290504.01	19.65557
651694.44	4290354.01	57.54614	651694.44	4290404.01	30.38200
651694.44	4290454.01	19.07784	651694.44	4290504.01	13.06756
651744.44	4290354.01	28.65449	651744.44	4290404.01	18.23052
651744.44	4290454.01	12.62525	651744.44	4290504.01	9.25090
651794.44	4290354.01	15.43263	651794.44	4290404.01	11.90651
651794.44	4290454.01	9.11868	651794.44	4290504.01	7.05906
651844.44	4290354.01	8.51744	651844.44	4290404.01	7.40397
651844.44	4290454.01	6.40779	651844.44	4290504.01	5.39638
651894.44	4290354.01	5.38078	651894.44	4290404.01	4.81389
651894.44	4290454.01	4.31239	651944.44	4290354.01	3.67088
651944.44	4290404.01	3.37195	651994.44	4290354.01	2.63836

*** AERMOD - VERSION 24142 *** WM_Roseville
 *** AERMET - VERSION 19191 ***
 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL
 INCLUDING SOURCE(S): PARE1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF TOG			IN MICROGRAMS/M**3		
X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
651822.56	4290016.22	17.58558	651872.56	4290066.22	10.59560
651872.56	4290116.22	9.76625	651872.56	4290166.22	9.41498
651872.56	4290216.22	8.72773	651872.56	4290266.22	7.97671
651922.56	4290066.22	6.28925	651922.56	4290116.22	6.05671
651922.56	4290166.22	5.88662	651922.56	4290216.22	5.44197
651922.56	4290266.22	5.05960	651972.56	4290066.22	4.26817
651972.56	4290116.22	4.22777	651972.56	4290166.22	4.03714
651972.56	4290216.22	3.76232	651972.56	4290266.22	3.52934
652022.56	4290066.22	3.16023	652022.56	4290116.22	3.15917
652022.56	4290166.22	2.99307	652022.56	4290216.22	2.81390
652022.56	4290266.22	2.64634	652072.56	4290066.22	2.46090
652072.56	4290116.22	2.45384	652072.56	4290166.22	2.34666
652072.56	4290216.22	2.23654	652072.56	4290266.22	2.07891
651473.15	4289591.47	2.51794	651523.15	4289591.47	2.79014
651573.15	4289591.47	3.08165	651623.15	4289591.47	3.34782
651673.15	4289591.47	3.57176	651723.15	4289591.47	3.71605
651473.15	4289641.47	2.77318	651523.15	4289641.47	3.11946
651573.15	4289641.47	3.49441	651623.15	4289641.47	3.81654
651673.15	4289641.47	4.10171	651723.15	4289641.47	4.27088
651773.15	4289641.47	4.33133	651473.15	4289691.47	3.15051
651523.15	4289691.47	3.62391	651573.15	4289691.47	4.08451
651623.15	4289691.47	4.40883	651673.15	4289691.47	4.76952
651723.15	4289691.47	4.96463	651773.15	4289691.47	5.07222
651473.15	4289741.47	3.56112	651523.15	4289741.47	4.11173
651573.15	4289741.47	4.69726	651623.15	4289741.47	5.21343
651673.15	4289741.47	5.63215	651723.15	4289741.47	5.93425
651773.15	4289741.47	6.03932	651473.15	4289791.47	3.97848
651523.15	4289791.47	4.67851	651573.15	4289791.47	5.44205
651623.15	4289791.47	6.20703	651673.15	4289791.47	6.86042
651723.15	4289791.47	7.30959	651773.15	4289791.47	7.26572
651473.15	4289891.47	5.19214	651523.15	4289891.47	6.26592
651573.15	4289891.47	7.69483	651623.15	4289891.47	9.29433
651673.15	4289891.47	10.69980	651723.15	4289891.47	11.47438
651773.15	4289891.47	11.17961			

*** AERMOD - VERSION 24142 *** WM_Roseville
 *** AERMET - VERSION 19191 ***
 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL
 INCLUDING SOURCE(S): PARE1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF TOG			IN MICROGRAMS/M**3		
X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)

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651391.97	4289982.91	316.32631	(16053106)	651391.97	4290032.91	342.48602	(15070106)
651391.97	4290082.91	383.19325	(15092607)	651391.97	4290132.91	403.70565	(20111208)
651391.97	4290182.91	454.45606	(19111308)	651391.97	4290232.91	521.91829	(19110308)
651391.97	4290282.91	508.19305	(15010309)	651441.97	4290032.91	390.32496	(16053106)
651441.97	4290082.91	484.56954	(18091007)	651441.97	4290132.91	519.01189	(15103108)
651441.97	4290182.91	611.44051	(20052406)	651441.97	4290232.91	668.87595	(19110308)
651441.97	4290282.91	607.52901	(18090507)	651491.97	4290032.91	496.83914	(18010109)
651491.97	4290082.91	554.41124	(15070106)	651491.97	4290132.91	656.36011	(15092607)
651491.97	4290182.91	787.43426	(20052406)	651491.97	4290232.91	894.33619	(19110308)
651491.97	4290282.91	835.37434	(18090507)	651541.97	4290032.91	541.15331	(19111008)
651541.97	4290082.91	703.20682	(18010109)	651591.97	4290032.91	725.51281	(19122809)
651591.97	4290082.91	801.50891	(19111008)	651641.97	4290032.91	855.62568	(18010309)
651641.97	4290082.91	1090.23701	(20010309)	651691.97	4290032.91	803.70497	(16012409)
651691.97	4290082.91	1149.56569	(16012409)	651741.97	4290032.91	806.54334	(18122109)
651741.97	4290082.91	1081.84964	(16021520)	651791.97	4290032.91	775.49877	(20011509)
651791.97	4290082.91	1082.86273	(16120909)	651731.05	4290251.32	3749.18621	(16050607)
651731.05	4290263.32	3225.92507	(16050607)	651743.05	4290251.32	2993.25105	(19110617)
651743.05	4290263.32	2623.28614	(20062206)	651755.05	4290251.32	2483.39715	(19110617)
651755.05	4290263.32	2244.71560	(16073006)	651767.05	4290251.32	2085.13112	(18121517)
651767.05	4290263.32	1968.62041	(19110617)	651779.05	4290251.32	1820.76767	(18121517)
651444.44	4290354.01	594.67587	(19060506)	651444.44	4290404.01	508.33598	(16022308)
651494.44	4290354.01	733.80001	(19012517)	651494.44	4290404.01	665.59991	(15120616)
651494.44	4290454.01	604.15242	(18123009)	651494.44	4290504.01	439.17671	(15011009)
651544.44	4290354.01	1019.81059	(15120616)	651544.44	4290404.01	886.26421	(18123009)
651544.44	4290454.01	558.09560	(15011009)	651544.44	4290504.01	455.73054	(20122109)
651594.44	4290354.01	1412.57617	(18123009)	651594.44	4290404.01	824.99043	(20122109)
651594.44	4290454.01	660.53782	(20122109)	651594.44	4290504.01	479.18147	(18020219)
651644.44	4290354.01	1342.33643	(18020219)	651644.44	4290404.01	953.82688	(15060706)
651644.44	4290454.01	686.57327	(20122809)	651644.44	4290504.01	577.97742	(15122709)
651694.44	4290354.01	1470.56141	(18121109)	651694.44	4290404.01	991.43435	(18121109)
651694.44	4290454.01	729.32613	(18121109)	651694.44	4290504.01	564.21551	(18121109)
651744.44	4290354.01	1151.54329	(16060106)	651744.44	4290404.01	874.48109	(18061906)
651744.44	4290454.01	653.61314	(18061906)	651744.44	4290504.01	521.70076	(18090907)
651794.44	4290354.01	956.34454	(19010809)	651794.44	4290404.01	801.75639	(20052906)
651794.44	4290454.01	561.69000	(16060106)	651794.44	4290504.01	462.77895	(19110217)
651844.44	4290354.01	733.17346	(16111608)	651844.44	4290404.01	638.41764	(19010809)
651844.44	4290454.01	550.99098	(20052906)	651844.44	4290504.01	443.78087	(16060106)
651894.44	4290354.01	590.09813	(20062206)	651894.44	4290404.01	506.74917	(15122317)
651894.44	4290454.01	464.67146	(19010809)	651944.44	4290354.01	482.48093	(19071306)
651944.44	4290404.01	471.24373	(20022618)	651994.44	4290354.01	420.81974	(18030408)

*** AERMOD - VERSION 24142 *** *** WM_Roseville
 *** AERMET - VERSION 19191 *** ***
 *** MODELOPTS: RegDFault CONC ELEV URBAN ADJ_U*
 *** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): PAREA1 ,
 *** DISCRETE CARTESIAN RECEPTOR POINTS ***
 ** CONC OF TOG IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
651822.56	4290016.22	657.87091	(20052506)	651872.56	4290066.22	673.33612	(16010809)
651872.56	4290116.22	793.74945	(20041007)	651872.56	4290166.22	893.74691	(15022608)
651872.56	4290216.22	947.87725	(19011809)	651872.56	4290266.22	796.20769	(18011105)
651922.56	4290066.22	549.93733	(15012717)	651922.56	4290116.22	604.93604	(16122409)
651922.56	4290166.22	601.43277	(20100107)	651922.56	4290216.22	724.29925	(20061006)
651922.56	4290266.22	590.31250	(18020719)	651972.56	4290066.22	429.88104	(16122409)
651972.56	4290116.22	518.01367	(15010509)	651972.56	4290166.22	493.80707	(15111408)
651972.56	4290216.22	580.50643	(20061006)	651972.56	4290266.22	485.96994	(18011320)
652022.56	4290066.22	372.42881	(16122409)	652022.56	4290116.22	392.62914	(19011009)
652022.56	4290166.22	399.72727	(20051522)	652022.56	4290216.22	463.91350	(20061006)
652022.56	4290266.22	403.65511	(16051006)	652072.56	4290066.22	342.84422	(15010509)
652072.56	4290116.22	309.10097	(19041621)	652072.56	4290166.22	320.28422	(15031407)
652072.56	4290216.22	351.53200	(20061006)	652072.56	4290266.22	348.83981	(16051006)
651473.15	4289591.47	160.37587	(20010309)	651523.15	4289591.47	186.35222	(18010309)
651573.15	4289591.47	171.71862	(15110508)	651623.15	4289591.47	164.78434	(15022508)
651673.15	4289591.47	161.09239	(18021208)	651723.15	4289591.47	181.28408	(16012409)
651473.15	4289641.47	190.51386	(20010309)	651523.15	4289641.47	197.92093	(18010309)
651573.15	4289641.47	191.73943	(18122009)	651623.15	4289641.47	182.96001	(15022508)
651673.15	4289641.47	180.03104	(18021208)	651723.15	4289641.47	201.76485	(16012409)
651773.15	4289641.47	196.75233	(18052906)	651473.15	4289691.47	214.83881	(20010309)
651523.15	4289691.47	204.48936	(18010309)	651573.15	4289691.47	231.11734	(18010309)
651623.15	4289691.47	203.49622	(15022508)	651673.15	4289691.47	203.10945	(18021208)
651723.15	4289691.47	226.06187	(16012409)	651773.15	4289691.47	215.63066	(19062306)
651473.15	4289741.47	219.62065	(18013017)	651523.15	4289741.47	238.49065	(20010309)
651573.15	4289741.47	272.24862	(18010309)	651623.15	4289741.47	237.74350	(15110508)
651673.15	4289741.47	231.61998	(18021208)	651723.15	4289741.47	257.28573	(16012409)
651773.15	4289741.47	255.08543	(19062306)	651473.15	4289791.47	267.17062	(19122809)
651523.15	4289791.47	288.43384	(20010309)	651573.15	4289791.47	309.08566	(18010309)
651623.15	4289791.47	282.93483	(15110508)	651673.15	4289791.47	269.93668	(18021208)

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651723.15 4289791.47 304.01014 (18052906) 651773.15 4289791.47 299.57831 (19062306)
651473.15 4289891.47 279.64733 (19111008) 651523.15 4289891.47 373.86185 (19122809)
651573.15 4289891.47 392.58904 (20010309) 651623.15 4289891.47 412.62938 (18010309)
651673.15 4289891.47 378.10613 (19011319) 651723.15 4289891.47 440.27906 (18052906)
651773.15 4289891.47 393.71412 (19062306)
^ *** AERMOD - VERSION 24142 *** *** WM_Roseville *** 08/31/26
*** AERMET - VERSION 19191 *** *** 22:08:27
*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U* PAGE 13

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*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS ***

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** CONC OF TOG          IN MICROGRAMS/M**3          **

GROUP ID                AVERAGE CONC                RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE NETWORK
-----
ALL      1ST HIGHEST VALUE IS 150.90848 AT ( 651731.05, 4290251.32, 63.15, 63.15, 0.00) DC
          2ND HIGHEST VALUE IS 126.65370 AT ( 651731.05, 4290263.32, 63.08, 63.08, 0.00) DC
          3RD HIGHEST VALUE IS 108.19499 AT ( 651644.44, 4290354.01, 66.20, 66.20, 0.00) DC
          4TH HIGHEST VALUE IS 91.10786 AT ( 651743.05, 4290251.32, 63.12, 63.12, 0.00) DC
          5TH HIGHEST VALUE IS 81.45794 AT ( 651743.05, 4290263.32, 63.04, 63.04, 0.00) DC
          6TH HIGHEST VALUE IS 77.80090 AT ( 651594.44, 4290354.01, 65.82, 65.82, 0.00) DC
          7TH HIGHEST VALUE IS 60.64800 AT ( 651755.05, 4290251.32, 63.09, 63.09, 0.00) DC
          8TH HIGHEST VALUE IS 57.59996 AT ( 651594.44, 4290404.01, 65.19, 65.19, 0.00) DC
          9TH HIGHEST VALUE IS 57.54614 AT ( 651694.44, 4290354.01, 66.58, 66.58, 0.00) DC
          10TH HIGHEST VALUE IS 55.98274 AT ( 651755.05, 4290263.32, 63.01, 63.01, 0.00) DC

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*** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
^ *** AERMOD - VERSION 24142 *** *** WM_Roseville *** 08/31/26
*** AERMET - VERSION 19191 *** *** 22:08:27
*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U* PAGE 14

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*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

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** CONC OF TOG          IN MICROGRAMS/M**3          **

GROUP ID                AVERAGE CONC                DATE                RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE NETWORK
-----
ALL      HIGH 1ST HIGH VALUE IS 3749.18621 ON 16050607: AT ( 651731.05, 4290251.32, 63.15, 63.15, 0.00) DC

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*** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
^ *** AERMOD - VERSION 24142 *** *** WM_Roseville *** 08/31/26
*** AERMET - VERSION 19191 *** *** 22:08:27
*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U* PAGE 15

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*** Message Summary : AERMOD Model Execution ***

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----- Summary of Total Messages -----
A Total of      0 Fatal Error Message(s)
A Total of      4 Warning Message(s)
A Total of    1073 Informational Message(s)

A Total of    43848 Hours Were Processed

A Total of      309 Calm Hours Identified

A Total of      764 Missing Hours Identified ( 1.74 Percent)

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***** FATAL ERROR MESSAGES *****
*** NONE ***

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***** WARNING MESSAGES *****
ME W186 68 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 68 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

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MX W450 17545 CHKDAT: Record Out of Sequence in Meteorological File at: 18010101
MX W450 17545 CHKDAT: Record Out of Sequence in Meteorological File at: 1 year gap

*** AERMOD Finishes Successfully ***



June 8, 2026

Jack Varozza, PE, TE, QSD/P
Senior Engineer
Development Services Department – Engineering Division
City of Roseville

RE: *Circulation Analysis Memorandum for the Proposed Walmart Fuel Station at 1400 Lead Hill Boulevard in the City of Roseville*

Kimley-Horn and Associates, Inc. has prepared a circulation analysis memorandum for the proposed Walmart Fuel Station at 1400 Lead Hill Boulevard in the City of Roseville, California. The memorandum has been prepared to evaluate the on-site traffic related impacts associated with the construction of the proposed fuel station including site ingress and egress, shared drive aisle usage, and queueing, particularly as it relates to the overall circulation of vehicles on-site.

PROJECT DESCRIPTION

The applicant proposes to construct a fuel station with 20 fueling positions and a 1,556 square-foot convenience store in the northeast portion of the existing Walmart Supercenter parking lot at the project address. The proposed project is bound by Lead Hill Boulevard to the north, existing parking to the south and west, and a shared drive aisle to the east. The shared drive aisle is within private right of way, and also provides access to the multi-use retail building to the east. The project site plan is shown on Figure 1.

Proposed project ingress and egress will be facilitated externally via one signalized full-access driveway on Lead Hill Boulevard, one unsignalized right-in, right-out driveway on Lead Hill Boulevard, and one unsignalized right-in, right-out driveway on Rocky Ridge Drive. Internal to the site, two primary driveways are proposed along the shared drive aisle to the east, and four access points to the existing parking lot to the west are proposed. It should be noted that the current site plan depicts the driveway access as analyzed in this memorandum.

ANALYSIS BACKGROUND

As previously mentioned, the proposed fuel station provides two access points along the shared commercial drive aisle. Per discussion with City staff, a circulation analysis is required to evaluate the adequacy of vehicle storage at these access points, and to verify that queues would not spill into the drive aisle nor onto Lead Hill Boulevard. The throat depth of the existing unsignalized right-in, right-out driveway along Lead Hill Boulevard must also be evaluated. Conditions at all three intersections will be evaluated under Existing and Existing Plus Project conditions. The intersections are numbered and shown in their existing local setting in Figure 2.





NOT TO SCALE

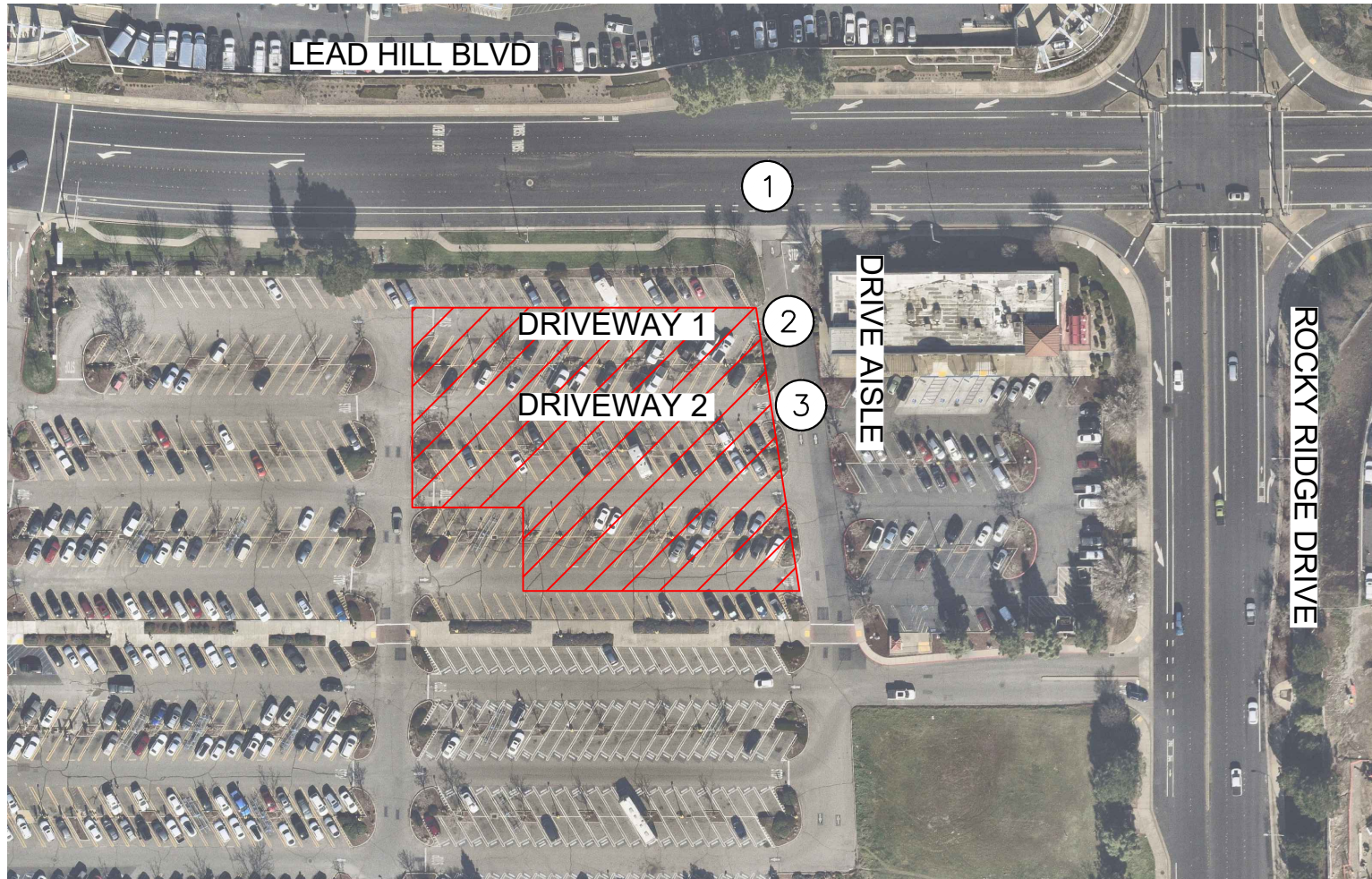


FIGURE 2
VICINITY MAP AND STUDY INTERSECTIONS

LEGEND:

(X) = Study Intersection

[Red Hatched Box] = Project Site

QUEUEING ANALYSIS

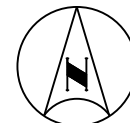
A queueing analysis was conducted to calculate the vehicle queues expected at Intersections #1 through #3. Existing and Existing Plus Project conditions were evaluated to determine the impact of the proposed project on vehicle queues, and subsequently on-site circulation.

Existing Conditions

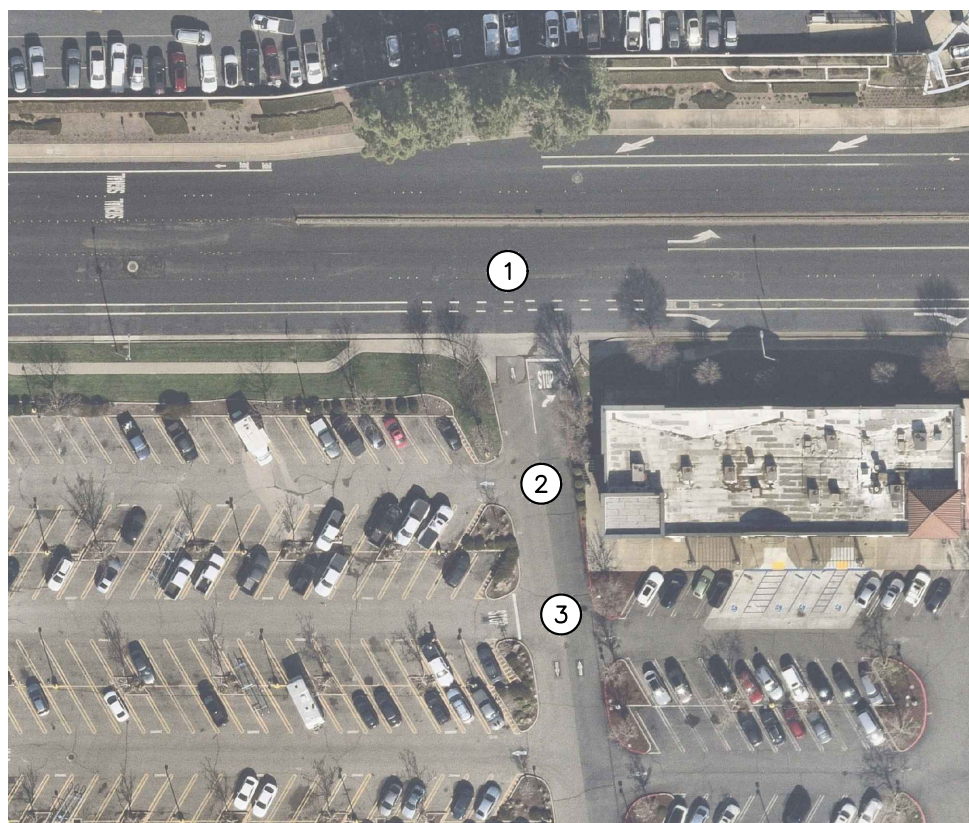
To determine existing conditions at 1400 Lead Hill Boulevard, peak hour turning movement counts were collected at each of the three study intersections. Counts were collected on Thursday, April 9, 2026 for typical morning peak (7:00am – 9:00am) and evening peak (4:00pm – 6:00pm) periods. Turning movement count data is provided in Appendix A. In order to maintain a conservative analysis, the highest volumes observed during one consecutive hour in each of the peak periods were utilized for this analysis. Processed turning movement counts utilized in the analysis are provided in Appendix B. Existing volumes are shown on Figure 3.

To assess vehicle queues expected at Intersections #1, #2, and #3, a queuing analysis was conducted using the SimTraffic microsimulation model, with assumptions and factors modified to reflect existing conditions on site. The analysis encompassed both average and 95th percentile queues during the morning and evening peak hours. The 95th percentile queue indicates the queue length at which 95% of queues will be shorter; in other words, a typical worst-case queue.

SimTraffic queuing analysis worksheets are provided in Appendix C. A summary of average and 95th percentile queue lengths for each approach is provided on Table 1. Review of Table 1 shows that the maximum 95th percentile queue for the northbound approach at Intersection #1 was 45 feet (AM), while the maximum eastbound queues leaving the existing Walmart parking lot were 0 feet at Driveway 1 and 35 feet (PM) at Driveway 2.



NOT TO SCALE



1. Lead Hill Boulevard at Commercial Drive Aisle	2. Commercial Drive Aisle at Walmart Driveway 1	3. Commercial Drive Aisle at Walmart Driveway 2

**FIGURE 3
EXISTING CONDITIONS
TRAFFIC VOLUMES**

LEGEND:

(X) = Study Intersection

XX(YY) = AM(PM) Peak Hour
Turning Movement
Volumes

TABLE 1
SUMMARY OF AVERAGE AND 95TH PERCENTILE QUEUEING
EXISTING CONDITIONS

Intersection	Movement	Queue Length (feet/lane)		Queue Length (feet/lane)	
		AM Peak		PM Peak	
		Average	95th Percentile	Average	95th Percentile
1 - Lead Hill Boulevard at Commercial Drive Aisle	NB	13	38	20	45
	EB	-	-	-	-
2 - Commercial Drive Aisle at Walmart Driveway 1	NB	-	-	2	12
	SB	-	-	0	4
	EB	Future Movement		Future Movement	
	WB	-	-	-	-
3 - Commercial Drive Aisle at Walmart Driveway 2	NB	-	-	0	3
	SB	-	-	1	10
	EB	4	19	13	35
	WB	-	-	4	21

Existing Plus Project Conditions

Peak hour trips for the proposed project were calculated using the trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition. Trip rates are based on the following ITE Land Use (LU) Category:

- LU 944 – Gasoline/Service Station

It is recognized that not all inbound and outbound trips to the proposed project will be “new” trips on the roadway system in the vicinity of the project site. Some trips to the project site will consist of “pass-by” trips -- motorists who are already traveling on the surrounding roadways from one place to another. Common pass-by trips for a gas station would be individuals who stop at the project site on the way to work, home, or school.

Based on the latest version of the ITE Trip Generation Manual, 12th Edition, a pass-by rate of 63% in the morning peak hour and 57% in the evening peak hour were applied to the trips for the proposed land use. Since the ITE Trip Generation Manual does not provide pass-by rates for daily trip generation, the average of the AM and the PM pass-by trip rate of 60% was applied.

The resulting trip rates and the project trip generation estimates are shown on Table 2. The project is estimated to generate approximately 88 trips in the morning peak hour (44 inbound, 44 outbound) and 130 trips in the evening peak hour (65 inbound, 65 outbound).

Subsequently, these trips were distributed through the study intersections based on traffic patterns derived from existing counts, local roadway geometry, and the proposed land use. Distribution assumptions are shown in Figure 4 for dedicated origin-destination project trips, and in Figure 5 for pass-by trips. It should be noted that origin-destination trips from the site toward the west, as well as pass-by trips arriving from the south/east and departing to the west would likely utilize the existing parking lot west of the proposed fuel station to access the project, by way of the traffic signal along Lead Hill Boulevard. All volume calculations for origin-destination project trips, pass-by project trips, total project trips, and Existing Plus Project trips are provided in Appendix B. Existing Plus Project volumes are shown on Figure 6.

To assess vehicle queues expected at Intersections #1, #2, and #3 under Existing Plus Project conditions, a queuing analysis was again conducted using the SimTraffic microsimulation model. SimTraffic queuing analysis worksheets are provided in Appendix C. A summary of average and 95th percentile queue lengths for each approach under Existing Plus Project conditions is provided on Table 3.

Review of Table 3 shows that the maximum 95th percentile queue for the northbound approach at Intersection #1 was 45 feet (AM), while the maximum eastbound queues leaving the fuel station were 60 feet (PM) at Intersection #3. Relative to Existing conditions, this results in no net increase for the northbound approach at Intersection #1, and an increase of 25 feet for the eastbound approach at Intersection #3.

TABLE 2
SUMMARY OF PROJECT TRIP GENERATION
ROSEVILLE WALMART FUEL STATION

Land Use	ITE Code	Unit	Trip Generation Rates ¹						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Gasoline/Service Station	944	Fueling Position	172.01	5.90	5.90	11.80	7.585	7.585	15.17
Land Use	Quantity	Unit	Trip Generation Estimates						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Gasoline/Service Station	20	Fueling Position	3,440	118	118	236	152	152	304
<i>Pass-by Trips (60% Daily, 63% AM, 57% PM)</i> ^{1,2}			-2,064	-74	-74	-148	-87	-87	-174
<i>Net Trips</i>			1,376	44	44	88	65	65	130
Total Project Trips			1,376	44	44	88	65	65	130

¹ Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition

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



NOT TO SCALE

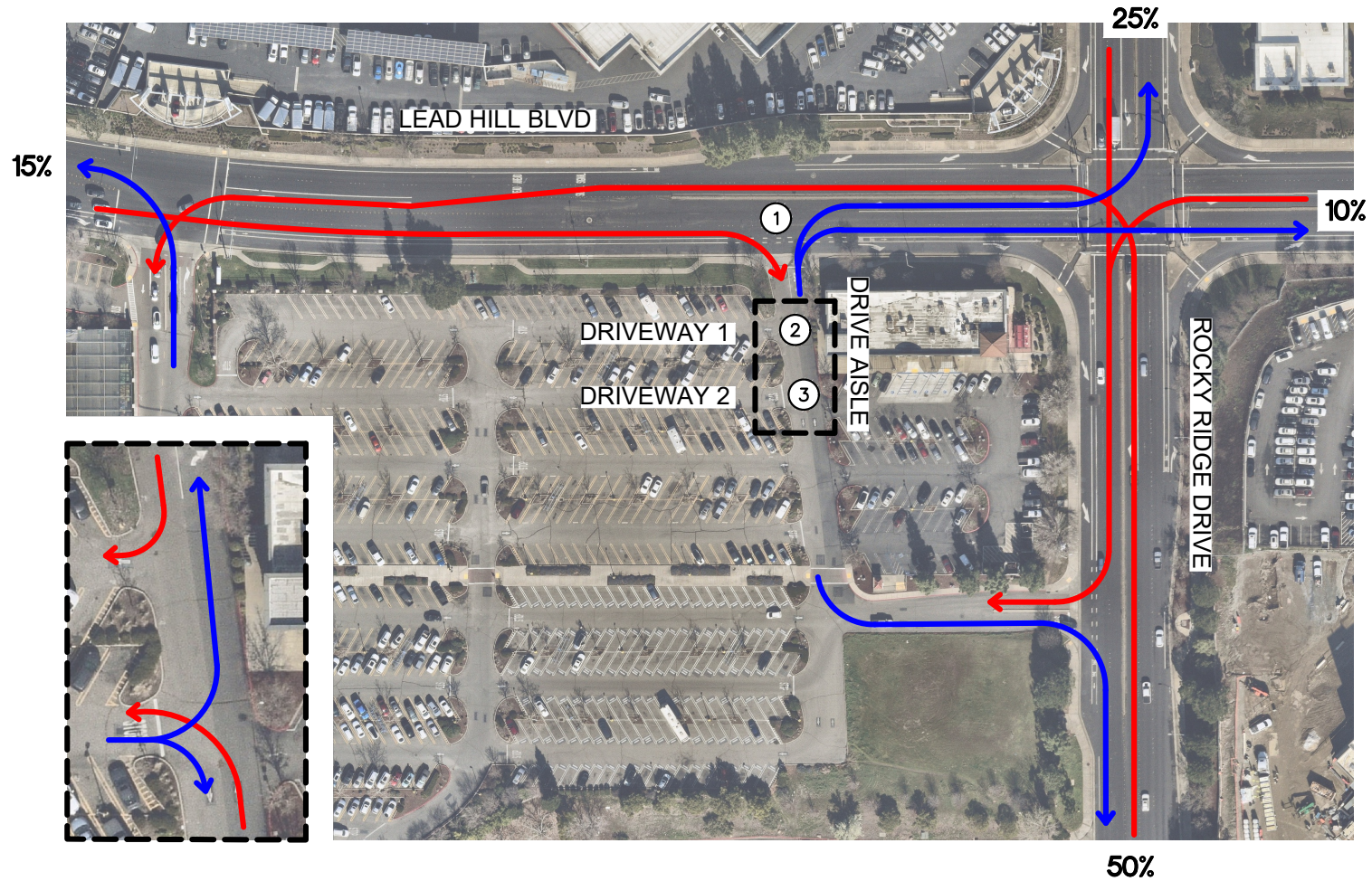


FIGURE 4
ORIGIN-DESTINATION
PROJECT TRIP DISTRIBUTION

LEGEND:



= Study Intersection

XX%

= Trip Distribution



= Outbound Trips



= Inbound Trips



NOT TO SCALE

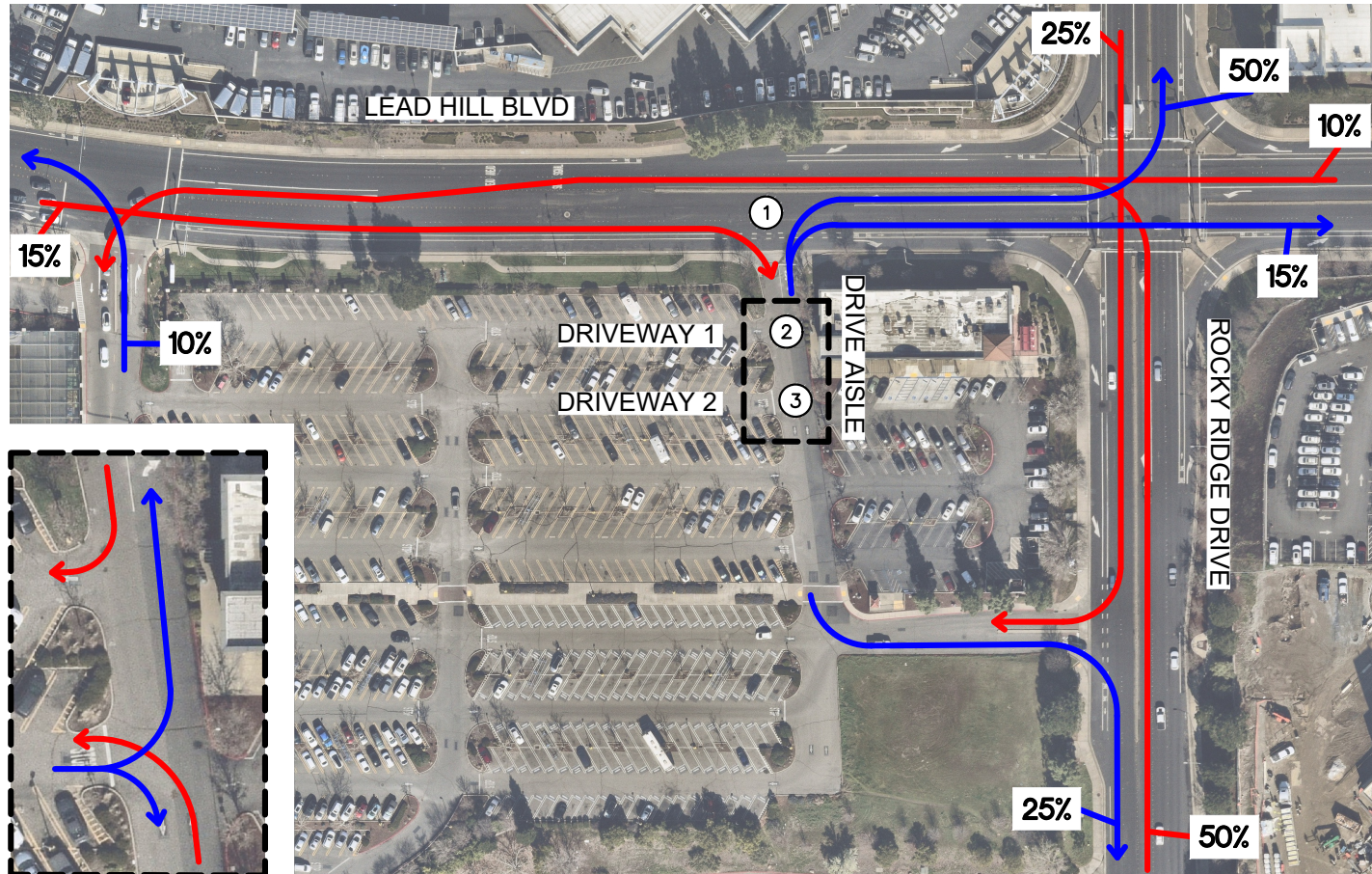


FIGURE 5
PASS-BY
PROJECT TRIP DISTRIBUTION

LEGEND:



= Study Intersection

XX%

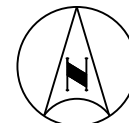
= Trip Distribution



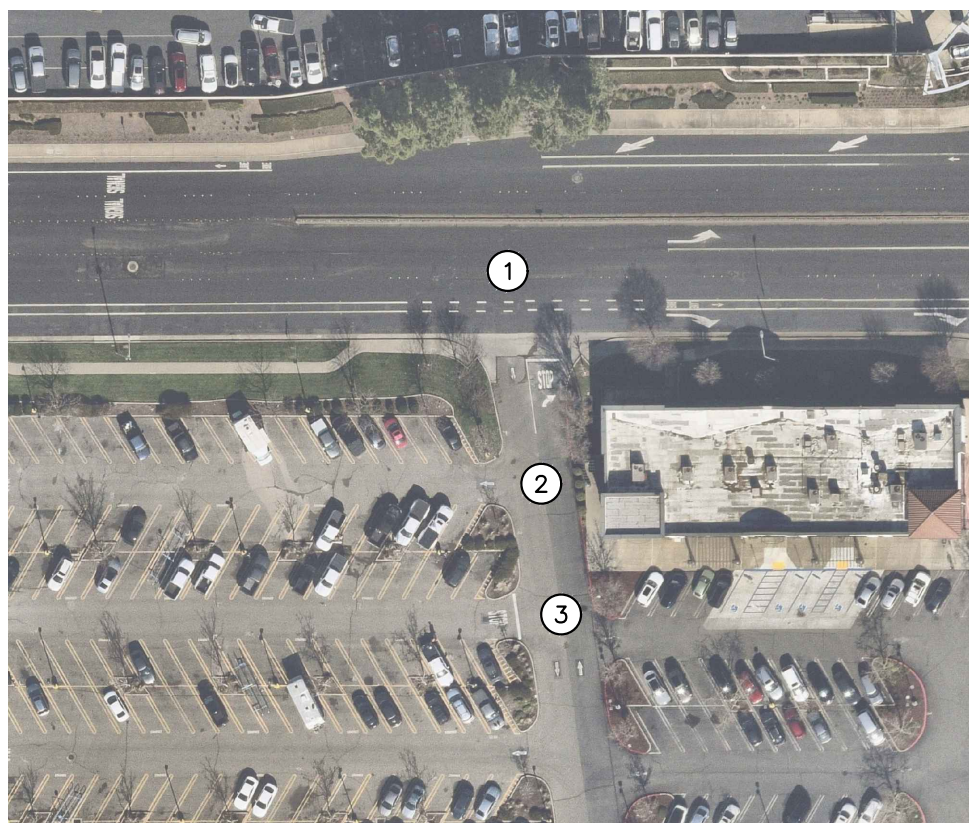
= Outbound Trips



= Inbound Trips



NOT TO SCALE



1. Lead Hill Boulevard at Commercial Drive Aisle	2. Commercial Drive Aisle at Walmart Driveway 1	3. Commercial Drive Aisle at Walmart Driveway 2
← 476(787) 490(544) → 21(39) ↘ 79(110) ↗	↖ 18(25) ↗ 4(12) 82(114) ↑	↖ 0(0) ↗ 4(4) ↖ 0(0) ↗ 0(1) 67(84) ↖ 0(12) ↗ 42(56) ↘ 35(46) ↗ 16(25) ↘ 0(14) ↙

**FIGURE 6
EXISTING PLUS PROJECT
TRAFFIC VOLUMES**

LEGEND:

(X) = Study Intersection

XX(YY) = AM(PM) Peak Hour
Turning Movement
Volumes

TABLE 3
SUMMARY OF AVERAGE AND 95TH PERCENTILE QUEUEING
EXISTING PLUS PROJECT CONDITIONS

Intersection	Movement	Queue Length (feet/lane)		Queue Length (feet/lane)	
		AM Peak		PM Peak	
		Average	95th Percentile	Average	95th Percentile
1 - Lead Hill Boulevard at Commercial Drive Aisle	NB	30	45	30	42
	EB	-	-	0	4
2 - Commercial Drive Aisle at Walmart Driveway 1	NB	4	22	8	31
	SB	-	-	-	-
	EB	-	-	-	-
	WB				
3 - Commercial Drive Aisle at Walmart Driveway 2	NB	0	4	1	12
	SB	-	-	0	6
	EB	31	48	36	60
	WB	-	-	6	25

EVALUATION OF QUEUES/CIRCULATION

Based on the queueing analysis results, it was shown that proposed 95th percentile queues would increase 0 feet for the northbound approach at Intersection #1, and 25 feet for the eastbound approach at Intersection #3, relative to existing conditions.

For the northbound approach at Intersection #1, the existing driveway throat depth is approximately 45 feet, measured from the stop bar to the first Walmart driveway access, Driveway 1. The queueing analysis demonstrated a 95th percentile queue of 45 feet under Existing conditions, and 45 feet under Existing Plus Project conditions, roughly equaling the available throat depth. When passenger vehicle queue length is translated to number of vehicles, based on an average per-vehicle length of 25 feet (to account for the vehicle itself and the space between the next vehicle) the 95th percentile queues under both Existing and Existing Plus Project conditions equal approximately 2 vehicles. Therefore, it is assumed the project would not have a significant effect on northbound queues at Intersection #1, and the existing throat depth would remain sufficient.

Under Existing conditions, Driveway 1 (Intersection #2) operates as a one-way ingress driveway; per the project site plan and feedback from City staff, Driveway 1 is proposed to remain ingress-only for customers of the fuel station and the Walmart Supercenter. Driveway 2 (Intersection #3) would allow ingress and egress, which differs from the egress-only existing driveway.

In order to allow for efficient site access, circulation, and departure, southbound queues at Intersection #2 must not obstruct vehicles entering the site via eastbound right turn at Intersection #1. Per the project site plan, the throat depth of the receiving driveway (measured from northbound stop bar to the beginning of fuel station curb return) is approximately 35 feet; under Existing Plus Project conditions, there was no southbound 95th percentile queue, meaning the proposed fuel station would not cause queueing/access issues at Intersection #2.

As Driveway 2 (Intersection #3) proposes the only eastbound egress in the project vicinity, throat depth and potential access obstruction must be evaluated on-site. Per the project site plan, the Driveway 2 stop bar is located approximately 80 feet from the first fuel pump; under Existing Plus Project conditions, the largest eastbound 95th percentile queue was 60 feet. Accordingly, eastbound queues at Driveway 2 would not obstruct fuel access, and provide sufficient clearance for a vehicle to drive between the queue and the fuel pumps.

CONCLUSION

Based on the analysis presented in this memorandum, the proposed Walmart Fuel Station is not expected to result in significant on-site queueing and circulation impacts under Existing Plus Project conditions. The queueing analysis indicates that while 95th percentile queues would increase at the three study intersections due to fuel station project trips, the projected queues would remain manageable and would not affect internal circulation. At Intersection #1, no increase was measured for peak 95th percentile queues, and the existing throat depth is considered adequate to accommodate both Existing and Existing Plus Project queues. At Driveway 1 (Intersection #2), southbound 95th percentile queues are not anticipated, allowing for unobstructed access into the project. At Driveway 2 (Intersection #3), the projected eastbound queue of 60 feet would remain below the available storage distance to the first fuel pumps and would not obstruct access to fueling areas. Therefore, the proposed site circulation layout is expected to provide adequate vehicle storage and maintain acceptable circulation conditions for the fuel station and surrounding on-site drive aisles.

Appendix A

Turning Movement Counts

City of Roseville
N/S: Access Driveway
E/W: Lead Hill Boulevard
Weather: Clear

File Name : 01_RSV_Ac DW_LH AM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 1

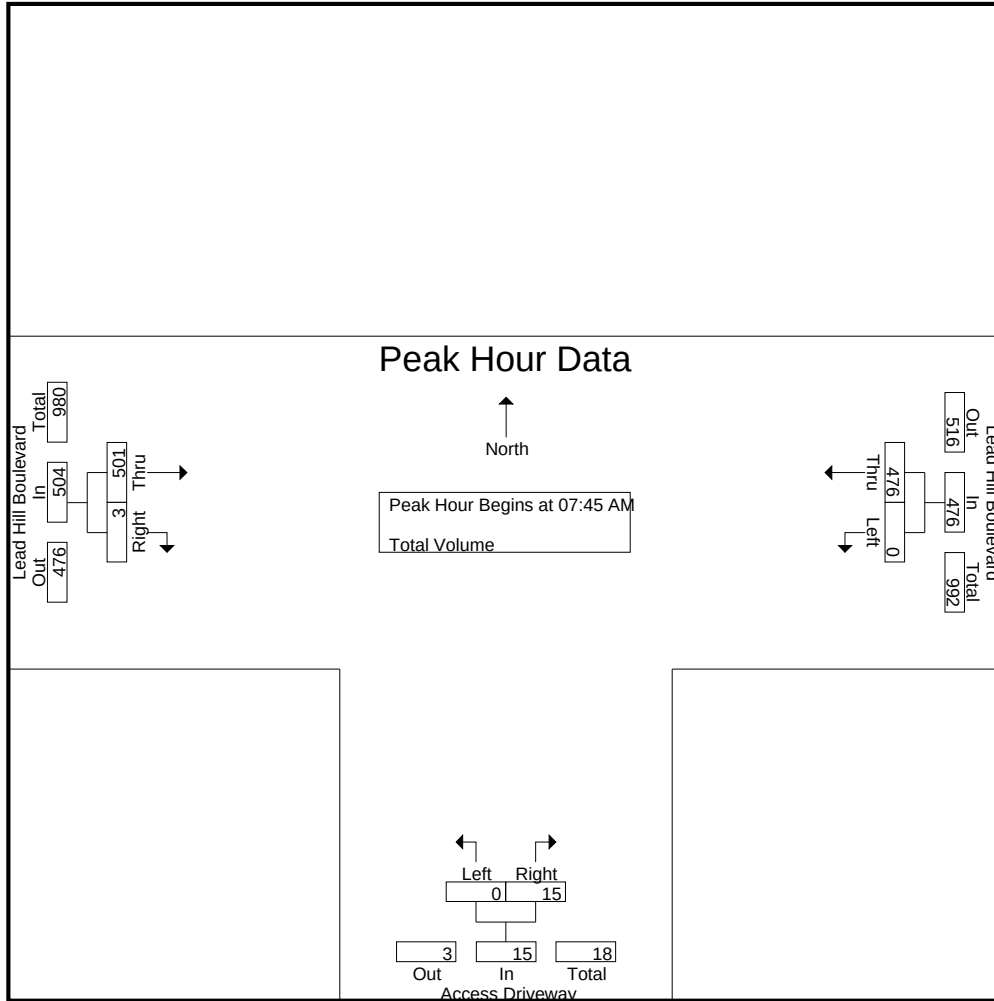
Groups Printed- Total Volume

	Lead Hill Boulevard Westbound			Access Driveway Northbound			Lead Hill Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	58	58	0	0	0	56	0	56	114
07:15 AM	0	94	94	0	0	0	88	1	89	183
07:30 AM	0	104	104	0	3	3	102	0	102	209
07:45 AM	0	128	128	0	4	4	132	0	132	264
Total	0	384	384	0	7	7	378	1	379	770
08:00 AM	0	110	110	0	6	6	99	0	99	215
08:15 AM	0	107	107	0	3	3	132	3	135	245
08:30 AM	0	131	131	0	2	2	138	0	138	271
08:45 AM	0	110	110	0	5	5	116	1	117	232
Total	0	458	458	0	16	16	485	4	489	963
Grand Total	0	842	842	0	23	23	863	5	868	1733
Apprch %	0	100		0	100		99.4	0.6		
Total %	0	48.6	48.6	0	1.3	1.3	49.8	0.3	50.1	

	Lead Hill Boulevard Westbound			Access Driveway Northbound			Lead Hill Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	128	128	0	4	4	132	0	132	264
08:00 AM	0	110	110	0	6	6	99	0	99	215
08:15 AM	0	107	107	0	3	3	132	3	135	245
08:30 AM	0	131	131	0	2	2	138	0	138	271
Total Volume	0	476	476	0	15	15	501	3	504	995
% App. Total	0	100		0	100		99.4	0.6		
PHF	.000	.908	.908	.000	.625	.625	.908	.250	.913	.918

City of Roseville
N/S: Access Driveway
E/W: Lead Hill Boulevard
Weather: Clear

File Name : 01_RSV_Ac DW_LH AM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:30 AM			07:45 AM		
+0 mins.	0	128	128	0	3	3	132	0	132
+15 mins.	0	110	110	0	4	4	99	0	99
+30 mins.	0	107	107	0	6	6	132	3	135
+45 mins.	0	131	131	0	3	3	138	0	138
Total Volume	0	476	476	0	16	16	501	3	504
% App. Total	0	100		0	100		99.4	0.6	
PHF	.000	.908	.908	.000	.667	.667	.908	.250	.913

City of Roseville
N/S: Access Driveway
E/W: Lead Hill Boulevard
Weather: Clear

File Name : 01_RSV_Ac DW_LH PM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 1

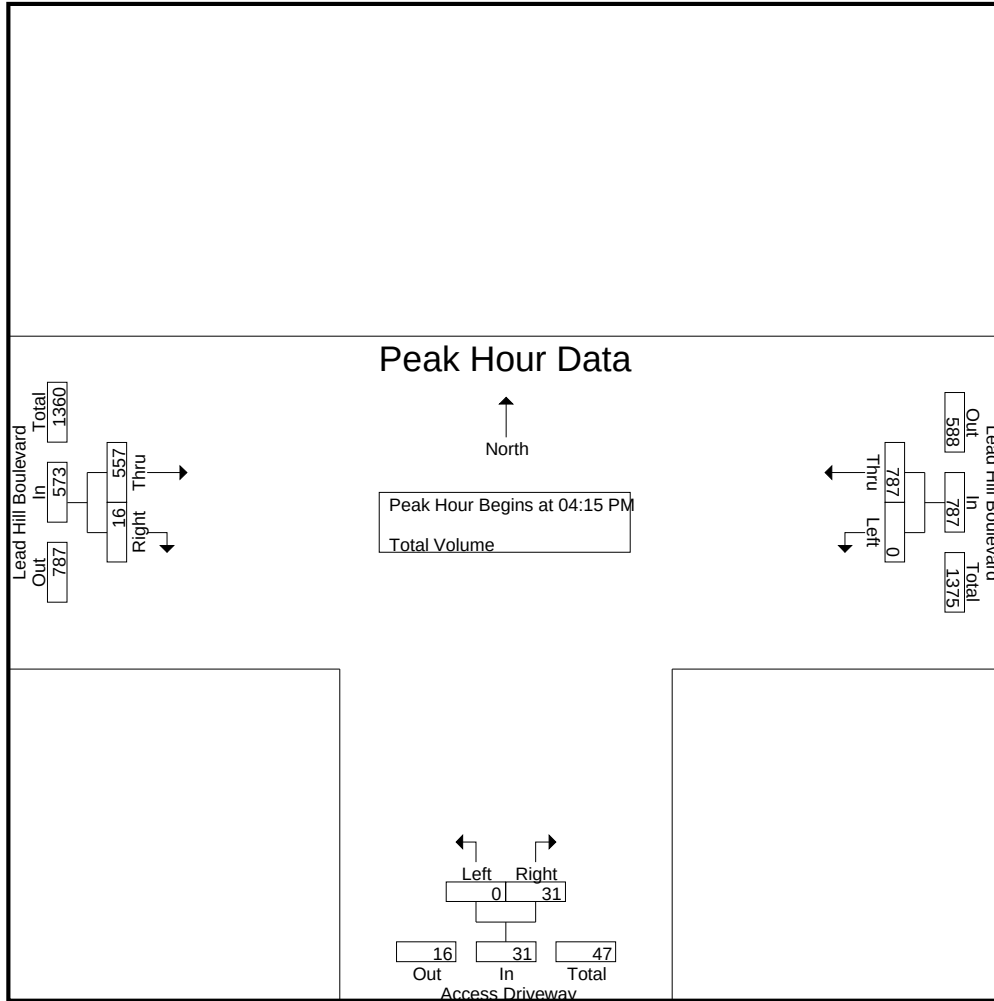
Groups Printed- Total Volume

	Lead Hill Boulevard Westbound			Access Driveway Northbound			Lead Hill Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	194	194	0	13	13	124	2	126	333
04:15 PM	0	168	168	0	7	7	137	5	142	317
04:30 PM	0	224	224	0	7	7	131	4	135	366
04:45 PM	0	208	208	0	8	8	152	3	155	371
Total	0	794	794	0	35	35	544	14	558	1387
05:00 PM	0	187	187	0	9	9	137	4	141	337
05:15 PM	0	165	165	0	3	3	112	5	117	285
05:30 PM	0	151	151	0	2	2	109	5	114	267
05:45 PM	0	119	119	0	6	6	100	3	103	228
Total	0	622	622	0	20	20	458	17	475	1117
Grand Total	0	1416	1416	0	55	55	1002	31	1033	2504
Apprch %	0	100		0	100		97	3		
Total %	0	56.5	56.5	0	2.2	2.2	40	1.2	41.3	

	Lead Hill Boulevard Westbound			Access Driveway Northbound			Lead Hill Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	168	168	0	7	7	137	5	142	317
04:30 PM	0	224	224	0	7	7	131	4	135	366
04:45 PM	0	208	208	0	8	8	152	3	155	371
05:00 PM	0	187	187	0	9	9	137	4	141	337
Total Volume	0	787	787	0	31	31	557	16	573	1391
% App. Total	0	100		0	100		97.2	2.8		
PHF	.000	.878	.878	.000	.861	.861	.916	.800	.924	.937

City of Roseville
N/S: Access Driveway
E/W: Lead Hill Boulevard
Weather: Clear

File Name : 01_RSV_Ac DW_LH PM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:15 PM		
+0 mins.	0	194	194	0	13	13	137	5	142
+15 mins.	0	168	168	0	7	7	131	4	135
+30 mins.	0	224	224	0	7	7	152	3	155
+45 mins.	0	208	208	0	8	8	137	4	141
Total Volume	0	794	794	0	35	35	557	16	573
% App. Total	0	100		0	100		97.2	2.8	
PHF	.000	.886	.886	.000	.673	.673	.916	.800	.924

City of Roseville
N/S: Access Driveway
E/W: Walmart Drive Aisle 1
Weather: Clear

File Name : 02_RSV_Ac DW_WDA 1 AM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 1

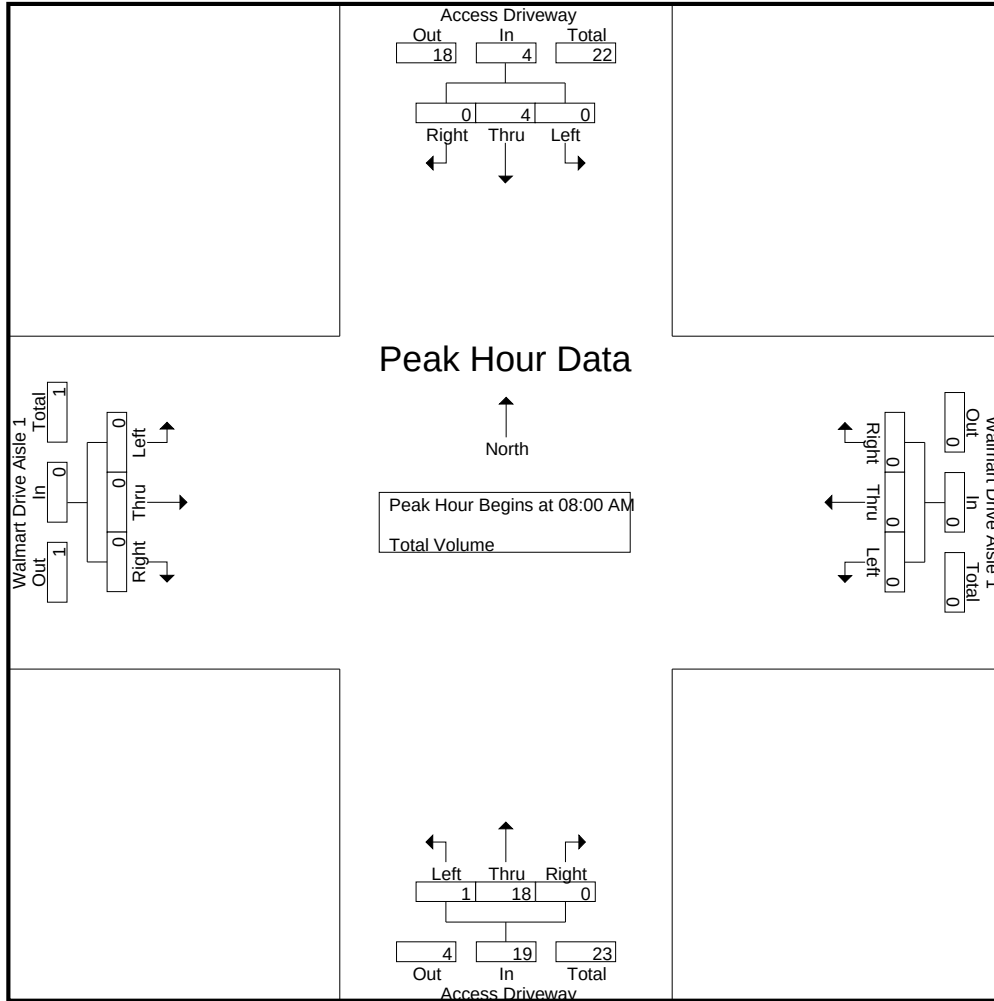
Groups Printed- Total Volume

	Access Driveway Southbound				Walmart Drive Aisle 1 Westbound				Access Driveway Northbound				Walmart Drive Aisle 1 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4
Total	0	1	0	1	0	0	0	0	0	6	0	6	0	0	0	0	7
08:00 AM	0	0	0	0	0	0	0	0	0	7	0	7	0	0	0	0	7
08:15 AM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:45 AM	0	1	0	1	0	0	0	0	1	6	0	7	0	0	0	0	8
Total	0	4	0	4	0	0	0	0	1	18	0	19	0	0	0	0	23
Grand Total	0	5	0	5	0	0	0	0	1	24	0	25	0	0	0	0	30
Apprch %	0	100	0		0	0	0		4	96	0		0	0	0		
Total %	0	16.7	0	16.7	0	0	0	0	3.3	80	0	83.3	0	0	0	0	

	Access Driveway Southbound				Walmart Drive Aisle 1 Westbound				Access Driveway Northbound				Walmart Drive Aisle 1 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	7	0	7	0	0	0	0	7
08:15 AM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:45 AM	0	1	0	1	0	0	0	0	1	6	0	7	0	0	0	0	8
Total Volume	0	4	0	4	0	0	0	0	1	18	0	19	0	0	0	0	23
% App. Total	0	100	0		0	0	0		5.3	94.7	0		0	0	0		
PHF	.000	.333	.000	.333	.000	.000	.000	.000	.250	.643	.000	.679	.000	.000	.000	.000	.719

City of Roseville
N/S: Access Driveway
E/W: Walmart Drive Aisle 1
Weather: Clear

File Name : 02_RSV_Ac DW_WDA 1 AM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				08:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	7	0	7	0	0	0	0
+15 mins.	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	1	6	0	7	0	0	0	0
Total Volume	0	4	0	4	0	0	0	0	1	18	0	19	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	5.3	94.7	0	0	0	0	0	0
PHF	.000	.333	.000	.333	.000	.000	.000	.000	.250	.643	.000	.679	.000	.000	.000	.000

City of Roseville
N/S: Access Driveway
E/W: Walmart Drive Aisle 1
Weather: Clear

File Name : 02_RSV_Ac DW_WDA 1 PM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 1

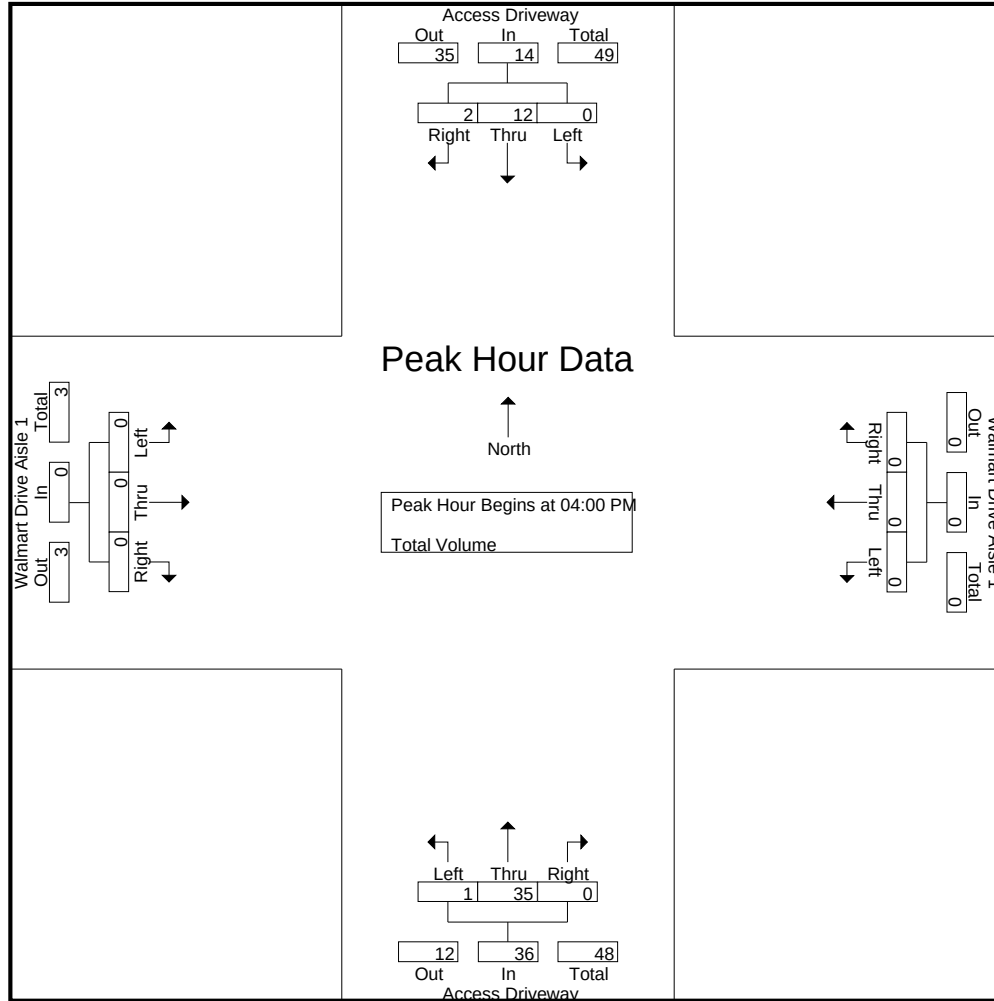
Groups Printed- Total Volume

	Access Driveway Southbound				Walmart Drive Aisle 1 Westbound				Access Driveway Northbound				Walmart Drive Aisle 1 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	0	2	0	0	0	0	1	13	0	14	0	0	0	0	16
04:15 PM	0	3	2	5	0	0	0	0	0	7	0	7	0	0	0	0	12
04:30 PM	0	4	0	4	0	0	0	0	0	7	0	7	0	0	0	0	11
04:45 PM	0	3	0	3	0	0	0	0	0	8	0	8	0	0	0	0	11
Total	0	12	2	14	0	0	0	0	1	35	0	36	0	0	0	0	50
05:00 PM	0	4	0	4	0	0	0	0	0	9	0	9	0	0	0	0	13
05:15 PM	0	6	0	6	0	0	0	0	0	3	0	3	0	0	0	0	9
05:30 PM	0	5	0	5	0	0	0	0	1	2	0	3	0	0	0	0	8
05:45 PM	0	3	0	3	0	0	0	0	0	6	0	6	0	0	0	0	9
Total	0	18	0	18	0	0	0	0	1	20	0	21	0	0	0	0	39
Grand Total	0	30	2	32	0	0	0	0	2	55	0	57	0	0	0	0	89
Apprch %	0	93.8	6.2		0	0	0		3.5	96.5	0		0	0	0		
Total %	0	33.7	2.2	36	0	0	0	0	2.2	61.8	0	64	0	0	0	0	

	Access Driveway Southbound				Walmart Drive Aisle 1 Westbound				Access Driveway Northbound				Walmart Drive Aisle 1 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	2	0	2	0	0	0	0	1	13	0	14	0	0	0	0	16
04:15 PM	0	3	2	5	0	0	0	0	0	7	0	7	0	0	0	0	12
04:30 PM	0	4	0	4	0	0	0	0	0	7	0	7	0	0	0	0	11
04:45 PM	0	3	0	3	0	0	0	0	0	8	0	8	0	0	0	0	11
Total Volume	0	12	2	14	0	0	0	0	1	35	0	36	0	0	0	0	50
% App. Total	0	85.7	14.3		0	0	0		2.8	97.2	0		0	0	0		
PHF	.000	.750	.250	.700	.000	.000	.000	.000	.250	.673	.000	.643	.000	.000	.000	.000	.781

City of Roseville
N/S: Access Driveway
E/W: Walmart Drive Aisle 1
Weather: Clear

File Name : 02_RSV_Ac DW_WDA 1 PM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	3	0	3	0	0	0	0	1	13	0	14	0	0	0	0
+15 mins.	0	4	0	4	0	0	0	0	0	7	0	7	0	0	0	0
+30 mins.	0	6	0	6	0	0	0	0	0	7	0	7	0	0	0	0
+45 mins.	0	5	0	5	0	0	0	0	0	8	0	8	0	0	0	0
Total Volume	0	18	0	18	0	0	0	0	1	35	0	36	0	0	0	0
% App. Total	0	100	0		0	0	0		2.8	97.2	0		0	0	0	
PHF	.000	.750	.000	.750	.000	.000	.000	.000	.250	.673	.000	.643	.000	.000	.000	.000

City of Roseville
N/S: Access Driveway
E/W: Walmart Drive Aisle 2
Weather: Clear

File Name : 03_RSV_Ac DW_WDA 2 AM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 1

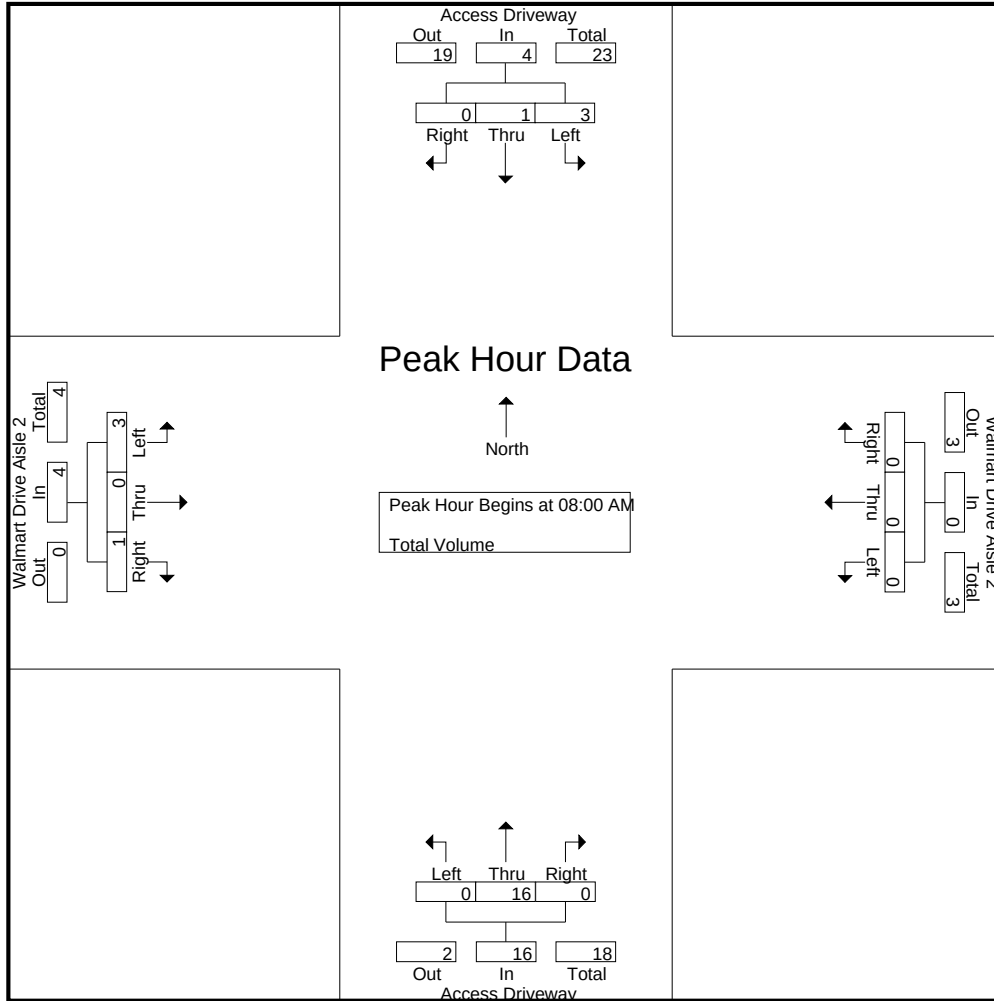
Groups Printed- Total Volume

	Access Driveway Southbound				Walmart Drive Aisle 2 Westbound				Access Driveway Northbound				Walmart Drive Aisle 2 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	1	0	0	1	0	2	0	2	0	0	1	1	4
07:45 AM	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4
Total	1	0	0	1	1	0	0	1	0	6	0	6	0	0	1	1	9
08:00 AM	0	0	0	0	0	0	0	0	0	5	0	5	2	0	0	2	7
08:15 AM	2	1	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:45 AM	1	0	0	1	0	0	0	0	0	6	0	6	1	0	1	2	9
Total	3	1	0	4	0	0	0	0	0	16	0	16	3	0	1	4	24
Grand Total	4	1	0	5	1	0	0	1	0	22	0	22	3	0	2	5	33
Apprch %	80	20	0		100	0	0		0	100	0		60	0	40		
Total %	12.1	3	0	15.2	3	0	0	3	0	66.7	0	66.7	9.1	0	6.1	15.2	

	Access Driveway Southbound				Walmart Drive Aisle 2 Westbound				Access Driveway Northbound				Walmart Drive Aisle 2 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	5	0	5	2	0	0	2	7
08:15 AM	2	1	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:45 AM	1	0	0	1	0	0	0	0	0	6	0	6	1	0	1	2	9
Total Volume	3	1	0	4	0	0	0	0	0	16	0	16	3	0	1	4	24
% App. Total	75	25	0		0	0	0		0	100	0		75	0	25		
PHF	.375	.250	.000	.333	.000	.000	.000	.000	.000	.667	.000	.667	.375	.000	.250	.500	.667

City of Roseville
N/S: Access Driveway
E/W: Walmart Drive Aisle 2
Weather: Clear

File Name : 03_RSV_Ac DW_WDA 2 AM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	5	0	5	2	0	0	2
+15 mins.	2	1	0	3	0	0	0	0	0	3	0	3	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	1	0	2	0	2	0	0	0	0
+45 mins.	1	0	0	1	0	0	0	0	0	6	0	6	1	0	1	2
Total Volume	3	1	0	4	1	0	0	1	0	16	0	16	3	0	1	4
% App. Total	75	25	0		100	0	0		0	100	0		75	0	25	
PHF	.375	.250	.000	.333	.250	.000	.000	.250	.000	.667	.000	.667	.375	.000	.250	.500

City of Roseville
N/S: Access Driveway
E/W: Walmart Drive Aisle 2
Weather: Clear

File Name : 03_RSV_Ac DW_WDA 2 PM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 1

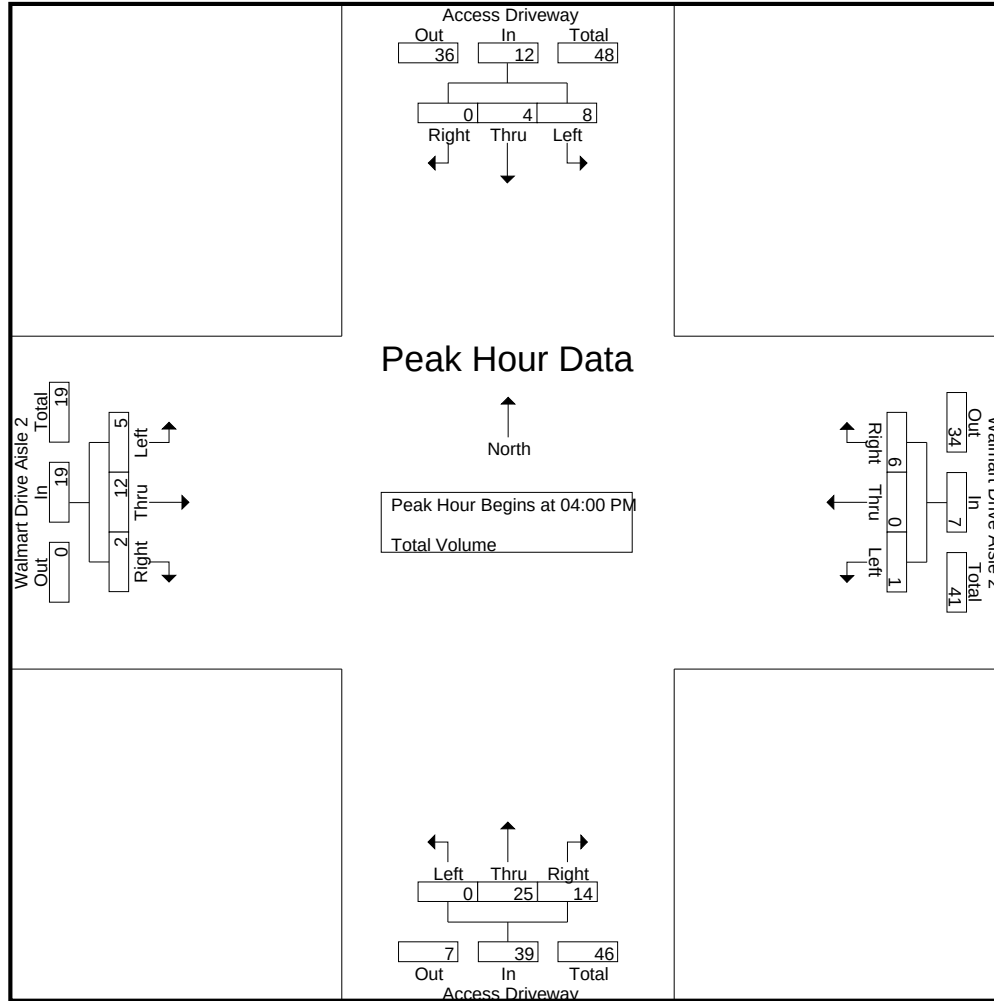
Groups Printed- Total Volume

	Access Driveway Southbound				Walmart Drive Aisle 2 Westbound				Access Driveway Northbound				Walmart Drive Aisle 2 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	0	0	2	0	0	3	3	0	9	4	13	2	2	1	5	23
04:15 PM	2	1	0	3	0	0	1	1	0	5	5	10	1	3	0	4	18
04:30 PM	3	1	0	4	1	0	0	1	0	5	2	7	2	2	0	4	16
04:45 PM	1	2	0	3	0	0	2	2	0	6	3	9	0	5	1	6	20
Total	8	4	0	12	1	0	6	7	0	25	14	39	5	12	2	19	77
05:00 PM	4	0	0	4	0	0	0	0	0	7	4	11	2	2	1	5	20
05:15 PM	5	1	0	6	0	0	0	0	0	2	3	5	1	3	1	5	16
05:30 PM	3	2	0	5	0	0	1	1	0	1	0	1	1	2	0	3	10
05:45 PM	3	0	0	3	0	0	0	0	0	5	1	6	1	1	1	3	12
Total	15	3	0	18	0	0	1	1	0	15	8	23	5	8	3	16	58
Grand Total	23	7	0	30	1	0	7	8	0	40	22	62	10	20	5	35	135
Apprch %	76.7	23.3	0		12.5	0	87.5		0	64.5	35.5		28.6	57.1	14.3		
Total %	17	5.2	0	22.2	0.7	0	5.2	5.9	0	29.6	16.3	45.9	7.4	14.8	3.7	25.9	

	Access Driveway Southbound				Walmart Drive Aisle 2 Westbound				Access Driveway Northbound				Walmart Drive Aisle 2 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	2	0	0	2	0	0	3	3	0	9	4	13	2	2	1	5	23
04:15 PM	2	1	0	3	0	0	1	1	0	5	5	10	1	3	0	4	18
04:30 PM	3	1	0	4	1	0	0	1	0	5	2	7	2	2	0	4	16
04:45 PM	1	2	0	3	0	0	2	2	0	6	3	9	0	5	1	6	20
Total Volume	8	4	0	12	1	0	6	7	0	25	14	39	5	12	2	19	77
% App. Total	66.7	33.3	0		14.3	0	85.7		0	64.1	35.9		26.3	63.2	10.5		
PHF	.667	.500	.000	.750	.250	.000	.500	.583	.000	.694	.700	.750	.625	.600	.500	.792	.837

City of Roseville
N/S: Access Driveway
E/W: Walmart Drive Aisle 2
Weather: Clear

File Name : 03_RSV_Ac DW_WDA 2 PM
Site Code : 10826309
Start Date : 4/9/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:00 PM				04:00 PM				04:30 PM			
+0 mins.	1	2	0	3	0	0	3	3	0	9	4	13	2	2	0	4
+15 mins.	4	0	0	4	0	0	1	1	0	5	5	10	0	5	1	6
+30 mins.	5	1	0	6	1	0	0	1	0	5	2	7	2	2	1	5
+45 mins.	3	2	0	5	0	0	2	2	0	6	3	9	1	3	1	5
Total Volume	13	5	0	18	1	0	6	7	0	25	14	39	5	12	3	20
% App. Total	72.2	27.8	0		14.3	0	85.7		0	64.1	35.9		25	60	15	
PHF	.650	.625	.000	.750	.250	.000	.500	.583	.000	.694	.700	.750	.625	.600	.750	.833

Appendix B

Volume Worksheets

EX AM

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
1		0	0	15	0	0	0	0	501	3	0	476	0
2		1	18	0	0	4	0	0	0	0	0	0	0
3		0	16	0	0	1	3	3	0	1	0	0	0

EX PM

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
1		0	0	31	0	0	0	0	557	16	0	787	0
2		1	35	0	0	12	2	0	0	0	0	0	0
3		0	25	14	8	4	0	5	12	2	1	0	6

IN	OUT	TOTAL
44	44	88
CHECK		TOTAL
44	44	88

5

IN	OUT	TOTAL
65	65	130
CHECK		TOTAL
65	65	130

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

IN	OUT	TOTAL
74	74	148
CHECK		TOTAL
74	74	148

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

IN	OUT	TOTAL
87	87	174
CHECK		TOTAL
87	87	174

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

TOTAL PROJ AM	
----------------------	--

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1		0	0	64	0	0	0	0	-11	18	0	0
2		0	64	0	0	0	18	0	0	0	0	0
3		34	0	0	0	0	0	64	0	41	0	0

IN	OUT	TOTAL
118	118	236
CHECK		TOTAL
118	118	236

			Trip Generation Rates ¹						
	ITE			AM Peak Hour			PM Peak Hour		
Land Use	Code	Unit	Daily	In	Out	Total	In	Out	Total
Gasoline/Service Station	944	Fueling Position	172.01	5.90	5.90	11.80	7.585	7.585	15.17
			Trip Generation Estimates						
				AM Peak Hour			PM Peak Hour		
Land Use	Quantity	Unit	Daily	In	Out	Total	In	Out	Total
Gasoline/Service Station	20	Fueling Position	3,440	118	118	236	152	152	304
Pass-by Trips (60% Daily, 63% AM, 57% PM) ^{1,2}			-2,064	-74	-74	-148	-87	-87	-174
Net Trips			1,376	44	44	88	65	65	130
Total Project Trips			1,376	44	44	88	65	65	130

¹ Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition

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

TOTAL PROJ PM

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	0	0	79	0	0	0	0	0	-13	23	0	0
2	0	79	0	0	0	0	23	0	0	0	0	0
3	45	0	0	0	0	0	0	79	0	54	0	0

IN	OUT	TOTAL
152	152	304
CHECK		TOTAL
152	152	304

			Trip Generation Rates ¹						
	ITE			AM Peak Hour			PM Peak Hour		
Land Use	Code	Unit	Daily	In	Out	Total	In	Out	Total
Gasoline/Service Station	944	Fueling Position	172.01	5.90	5.90	11.80	7.585	7.585	15.17
			Trip Generation Estimates						
				AM Peak Hour			PM Peak Hour		
Land Use	Quantity	Unit	Daily	In	Out	Total	In	Out	Total
Gasoline/Service Station	20	Fueling Position	3,440	118	118	236	152	152	304
Pass-by Trips (60% Daily, 63% AM, 57% PM) ^{1,2}			-2,064	-74	-74	-148	-87	-87	-174
Net Trips			1,376	44	44	88	65	65	130
Total Project Trips			1,376	44	44	88	65	65	130

¹ Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition

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

EX PP AM

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
1		0	0	79	0	0	0	0	490	21	0	476	0
2		0	82	0	0	4	18	0	0	0	0	0	0
3		35	16	0	0	1	3	67	0	42	0	0	0

NBL at 2 added to NBL at 3

EX PP PM

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
1		0	0	110	0	0	0	0	544	39	0	787	0
2		0	114	0	0	12	25	0	0	0	0	0	0
3		46	25	14	8	4	0	84	12	56	1	0	6

NBL at 2 added to NBL at 3

Appendix C

SimTraffic Queueing Reports

Queuing and Blocking Report

Baseline

05/07/2026

Intersection: 1: Drive Aisle & Lead Hill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	13
95th Queue (ft)	38
Link Distance (ft)	7
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Drive Aisle & Driveway 1

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Drive Aisle & Driveway 2

Movement	EB
Directions Served	LTR
Maximum Queue (ft)	28
Average Queue (ft)	4
95th Queue (ft)	19
Link Distance (ft)	462
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Queuing and Blocking Report

Baseline

05/07/2026

Intersection: 1: Drive Aisle & Lead Hill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	43
Average Queue (ft)	20
95th Queue (ft)	45
Link Distance (ft)	7
Upstream Blk Time (%)	2
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Drive Aisle & Driveway 1

Movement	NB	SB
Directions Served	LT	TR
Maximum Queue (ft)	25	6
Average Queue (ft)	2	0
95th Queue (ft)	12	4
Link Distance (ft)	18	7
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Drive Aisle & Driveway 2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	28	4	24
Average Queue (ft)	13	4	0	1
95th Queue (ft)	35	21	3	10
Link Distance (ft)	462	200	284	18
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 1

Queuing and Blocking Report

Baseline

05/08/2026

Intersection: 1: Drive Aisle & Lead Hill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	48
Average Queue (ft)	28
95th Queue (ft)	47
Link Distance (ft)	19
Upstream Blk Time (%)	6
Queuing Penalty (veh)	5
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Drive Aisle & Driveway 1

Movement	EB	NB
Directions Served	LR	T
Maximum Queue (ft)	71	6
Average Queue (ft)	29	0
95th Queue (ft)	53	4
Link Distance (ft)	471	18
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Drive Aisle & Driveway 2

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	52	28
Average Queue (ft)	21	1
95th Queue (ft)	43	12
Link Distance (ft)	462	284
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 5

Queuing and Blocking Report

Baseline

05/08/2026

Intersection: 1: Drive Aisle & Lead Hill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	56
Average Queue (ft)	31
95th Queue (ft)	45
Link Distance (ft)	7
Upstream Blk Time (%)	6
Queuing Penalty (veh)	6
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Drive Aisle & Driveway 1

Movement	EB	NB	SB
Directions Served	LR	T	TR
Maximum Queue (ft)	72	31	9
Average Queue (ft)	33	2	0
95th Queue (ft)	56	15	6
Link Distance (ft)	471	18	7
Upstream Blk Time (%)		0	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Drive Aisle & Driveway 2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	47	28	30	20
Average Queue (ft)	26	4	1	1
95th Queue (ft)	42	21	11	7
Link Distance (ft)	462	200	284	18
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 7