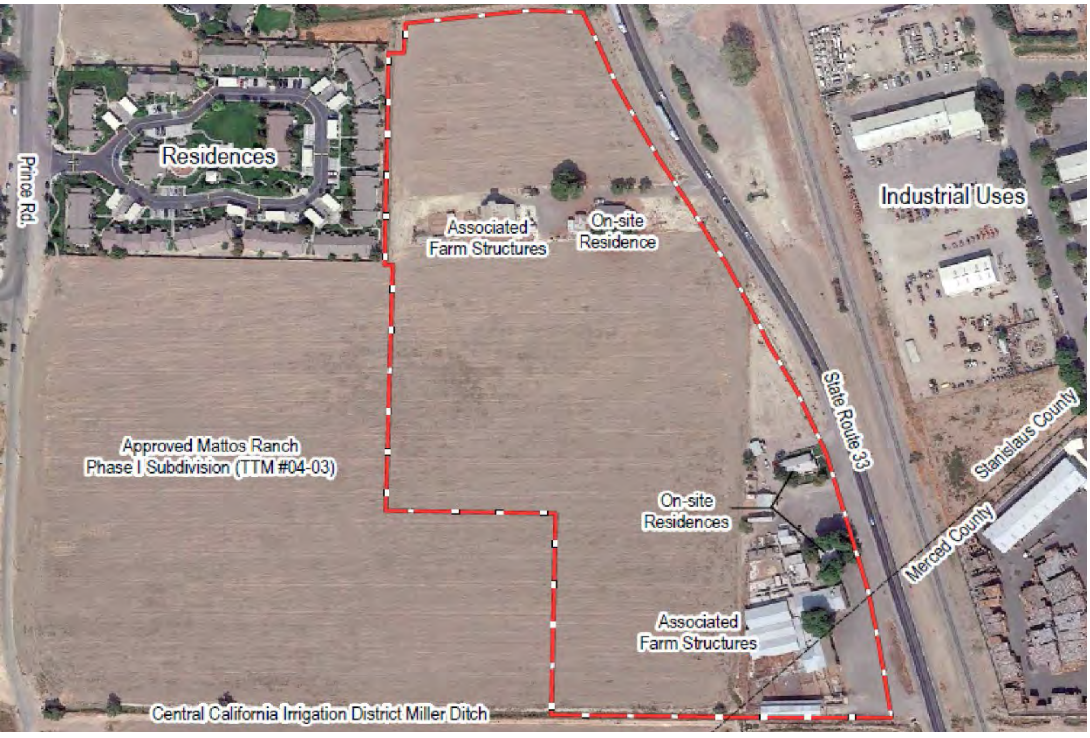
Public Review Initial Study/Mitigated Negative Declaration

Mattos Ranch Subdivision Phase 2

City of Newman

February 2023



Prepared by

EMC Planning Group

PROPOSED MITIGATED NEGATIVE DECLARATION

MATTOS RANCH SUBDIVISION PHASE 2

CITY OF NEWMAN

PREPARED FOR

City of Newman

Michael E. Holland, City Manager

938 Fresno Street

Newman, CA 95360

Tel 209.862.3725

PREPARED BY

EMC Planning Group Inc.

601 Abrego Street

Monterey, CA 93940

Tel 831.649.1799

Fax 831.649.8399

Teri Wissler Adam, Senior Principal

wissler@emcplanning.com

www.emcplanning.com

February 2023

PROPOSED MITIGATED NEGATIVE DECLARATION

In Compliance with the California Environmental Quality Act (CEQA)

Project Name	Mattos Ranch Subdivision Phase 2
Lead Agency	City of Newman
Project Proponent	George Souza 2101 Hallowell Road Newman, CA 95360
Project Location	2135, 2205, and 2215 N Street (State Route 33) in the City of Newman
Project Description	The proposed project consists of Phase 2 of the Mattos Ranch Subdivision, involving a General Plan Amendment (Community Commercial to Medium Density Residential), a Rezone from Highway Commercial (C-8) to Planned Development (PD), and a Vesting Tentative Tract Map to subdivide 6.1 acres into 43 single-family residential lots. The proposed project would also be amending the designation and zoning of the site in the City of Newman Highway 33 Specific Plan Update (January 2022). The proposed project also includes a commercial component adjacent to the east of the residential component, which includes 11.8 acres of commercial uses: six commercial spaces, six restaurant spaces, 540 parking spaces, 100,000 square feet of landscaping, and a two-acre storm drain basin.
Public Review Period	Begins– March 1, 2023 Ends – March 30, 2023
Written Comments To	City Hall, Community Development Department: 938 Fresno Street, Newman, CA 95360
Proposed Findings	The City of Newman is the custodian of the documents and other material that constitute the record of proceedings upon which this decision is based. The initial study indicates that the proposed project has the potential to result in significant adverse environmental impacts. However, the mitigation measures identified in the initial study would reduce the impacts to a less than

significant level. There is no substantial evidence, in light of the whole record before the lead agency, City of Newman, that the project, with mitigation measures incorporated, may have a significant effect on the environment. See the following project-specific mitigation measures:

Mitigation Measures

Agricultural Resources

AG-1 Prior to recordation of a final map, the project developer shall illustrate on the final map and improvement plans a concrete masonry unit wall along the southern boundary of the project site. The Public Works Department shall review and approve the material and design of the wall. The applicant shall consult with the Central California Irrigation District regarding any required setback from Miller Ditch and provide written verification from the district.

Air Quality

AQ-1 To reduce exposures to DPM emissions that increase cancer risks, the applicant shall prepare, and the contractor shall implement, an emissions reduction plan during construction that demonstrates a minimum 10 percent reduction in PM10 (assumed to be DPM) emissions. The emissions reduction plan shall be subject to the review and approval of the Director of the Community Development Department or his/her delegate. The plan shall include the following measures:

1. All off-road diesel construction equipment greater than 25 horsepower and operating at the site during demolition and earthwork phases for more than 20 hours over the job period shall at a minimum meet U.S. EPA Tier 2 or 3 engine standards with Level 3 particulate filtration or U.S. EPA Tier 4 engine standards.

2. The plan shall demonstrate quantifiable PM10 emissions reductions of at least 10 percent during construction.

Biological Resources

BIO-1 The U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011) shall be implemented prior to initiation of and during any construction activity on the project site to avoid unintended take of individual San Joaquin kit foxes.

Preconstruction/pre-activity surveys for San Joaquin kit fox shall be conducted no less than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity that may impact San Joaquin kit fox. The surveys shall include all work areas and a minimum 200-foot buffer of the project site. The preconstruction surveys shall identify kit fox habitat features on the project site,

evaluate use by kit fox and, if possible, assess the potential impacts of the proposed activity. The status of all dens shall be determined and mapped.

If a natal/pupping den is discovered within the project area or within 200 feet of the project boundary, the applicant shall consult with the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service to establish an appropriate avoidance buffer. The avoidance buffer shall be maintained until such time as the burrow is no longer active and/or an incidental take permit is determined to be required and is obtained.

In addition, the following measures shall be observed:

a. Project-related vehicles shall observe a 20-mph speed limit in all project areas; this is particularly important at night when kit foxes are most active. To the extent possible, night-time construction shall be minimized. Off-road traffic outside of designated project area shall be prohibited.

b. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of the project, all excavated, steep-walled holes or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under number 11 of the Construction and Operational Requirements in the Standardized Recommendations must be followed.

c. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the U.S. Fish and Wildlife Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.

d. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a week from a construction or project site.

e. No firearms shall be allowed on the project site during construction activities.

f. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets shall be permitted on site during construction activities.

g. Use of rodenticides and herbicides on the project site during construction shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the U.S. Fish and Wildlife Service. If rodent control must be conducted, zinc phosphide shall be used because of proven lower risk to kit fox.

h. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape.

i. Any contractor, employee, or agency personnel who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service.

j. The applicant shall submit weekly reports on construction monitoring activities to the City of Newman Community Development Department. An occupancy permit shall not be issued without receipt of the weekly reports.

BIO-2 To avoid loss of or harm to burrowing owl, the following measures shall be implemented:

Prior to issuance of a grading permit, and to avoid/minimize impacts to burrowing owls potentially occurring within the project site, the applicant shall retain a biologist qualified in ornithology to conduct surveys for burrowing owl. The qualified biologist shall conduct a two-visit (i.e., morning and evening) presence/absence survey at areas of suitable habitat on and adjacent to the project site boundary no less than 14 days prior to the start of construction or ground disturbance activities. Surveys shall be conducted according to the methods for take avoidance described in the Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC 1993) and the Staff Report on Burrowing Owl Mitigation (CDFW 2012). If no burrowing owls are found, a letter report confirming absence shall be prepared and submitted to the City of Newman Community Development Department and no further measures are required.

Because burrowing owls occupy habitat year-round, seasonal no-disturbance buffers, as outlined in the Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC 1993) and the Staff Report on Burrowing Owl Mitigation (CDFW 2012), shall be in place around occupied habitat prior to and during any ground disturbance activities. The following table includes buffer areas based on the time of year and level of disturbance (CDFW 2012), unless a qualified biologist approved by the California Department of Fish and Wildlife verifies through non-invasive measures that either: 1) birds have not begun egg laying and incubation; or 2) that juveniles from the

occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance Buffers (meters)		
		Low	Med	High
Nesting Sites	April 1 – Aug 15	200 m	500 m	500 m
Nesting Sites	Aug 16 – Oct 15	200 m	200 m	500 m
Nesting Sites	Oct 16 – Mar 31	50 m	100 m	500 m

If burrowing owl is found and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. Occupied burrows shall be replaced with artificial burrows at a ratio of one collapsed burrow to one constructed artificial burrow (1:1). Evicted burrowing owls may attempt to colonize or re-colonize an area that would be impacted, thus ongoing surveillance during project activities shall be conducted at a rate sufficient to detect burrowing owls if they return.

If surveys locate occupied burrows in or near construction areas, consultation with the California Department of Fish and Wildlife shall occur to interpret survey results and develop a project-specific avoidance and minimization approach. Once the absence of burrowing owl has been confirmed, a letter report shall be prepared and submitted to the City of Newman Community Development Department.

BIO-3 The following measures shall be implemented to avoid loss of or harm to Swainson's hawk and other raptors:

a. Tree and vegetation removal shall be completed during the nonbreeding season for raptors (September 16–January 31).

b. To avoid, minimize, and mitigate potential impacts on Swainson's hawk and other raptors nesting on or adjacent to the project site, retain a qualified biologist to conduct preconstruction surveys and identify active nests on and within 0.5 mile of the project site for construction activities conducted during the breeding season (March 1–August 31). The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction. Guidelines, provided in Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley (Swainson's Hawk Technical Advisory

Committee 2000) or updated, current guidance, shall be followed for surveys for Swainson's hawk. If no nests are found, a report documenting the results of the survey shall be submitted to the City of Newman Community Development Department and no further mitigation will be required.

c. Impacts on nesting Swainson's hawks and other raptors shall be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. No project activity shall commence within the buffer areas until a qualified biologist has determined, in coordination with California Department of Fish and Wildlife, the young have fledged, the nest is no longer active, or reducing the buffer would not result in nest abandonment. California Department of Fish and Wildlife guidelines recommend implementation of 0.25- or 0.5-mile-wide buffers for Swainson's hawk nests, but the size of the buffer may be decreased if a qualified biologist, in consultation with California Department of Fish and Wildlife, determine that such an adjustment would not be likely to adversely affect the nest.

The appropriate no-disturbance buffer for other raptor nests (i.e., species other than Swainson's hawk) shall be determined by a qualified biologist based on site-specific conditions, the species of nesting bird, nature of the project activity, visibility of the disturbance from the nest site, and other relevant circumstances.

Monitoring of all active raptor nests by a qualified biologist during construction activities will be required if the activity has potential to adversely affect the nest. If construction activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer shall be increased until the agitated behavior ceases. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined appropriate by a qualified biologist.

BIO-4 If there is an active nest within ten miles of the project site, the following measures shall be implemented to mitigate for the loss of Swainson's hawk foraging habitat:

a. Prior to ground-disturbing activities, suitable Swainson's hawk foraging habitat shall be preserved to ensure replacement of foraging habitat lost as a result of the project, as determined by a qualified biologist, in consultation with California Department of Fish and Wildlife.

b. The habitat value shall be based on Swainson's hawk nesting distribution and an assessment of habitat quality, availability, and use within Stanislaus and Merced counties. The mitigation ratio shall be consistent with the guidelines included in the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California (CDFG 1994). These guidelines specify that the mitigation ratio shall be 1:1 if there is an active nest within one mile of the project site, 0.75:1 if there is an active nest within five miles but greater than one mile away, and 0.5:1 if there is an active nest within 10 miles but greater than five miles away. If there is an active nest within one mile of the project site, the mitigation ratio can be reduced to 0.5:1 if all of the mitigation land can be actively managed for prey production. Such mitigation shall be accomplished through either the transfer of fee title or perpetual conservation easement. The mitigation land shall be located within the known foraging area within Stanislaus and Merced counties.

c. There are two active (within the past five years) Swainson's hawk nests within five miles of the project site (CNDDB Occurrences Nos. 2449 and 2451). To mitigate for the loss of foraging habitat for these nests, replacement foraging habitat shall be preserved at a mitigation ratio of 0.75:1 in consultation with California Department of Fish and Wildlife. Such mitigation shall be accomplished through either the transfer of fee title or perpetual conservation easement. The mitigation land shall be located within the known foraging area within Stanislaus and Merced counties.

If required, pre-construction Swainson's hawk surveys may be required to identify additional nests within ten miles of the project site. If additional nests are observed, foraging habitat shall be preserved following the mitigation ratios outlined above.

BIO-5 A qualified bat biologist shall perform a bat roost habitat assessment at least 30 days prior to the start of project activities, include building demolition. If bats or evidence of bats (guano, dead bats) are found to be absent and no suitable habitat exists, a letter report shall be submitted to the City of Newman Community Development Department and no further actions are required. If evidence of past roosting is found, suitable habitats shall be modified to render them unsuitable prior to project activities and a preconstruction survey shall occur within 14 days of the start of project activities. If live bats are found to be present, the qualified bat biologist shall determine whether bats are engaged in maternity roosting, or hibernation. If they are engaged in maternity or hibernation, direct and indirect project impacts shall be

avoided, and a no disturbance buffer of at least 100-feet shall be established until such time the bat biologist determines they may be humanely evicted. If active day roosting bats require eviction, the bat biologist shall prepare an eviction plan to submit to the lead agency and CDFW, if there is a state nexus. The eviction plan shall be implemented until it can be determined that all bats have vacated, at which point any remaining buffers may be removed and project activities may commence.

BIO-6 To avoid impacts to loggerhead shrike and other nesting birds during the nesting season (January 15 through September 15), all construction activities should be conducted between September 16 and January 14, which is outside of the bird nesting season. If construction or project-related work is scheduled during the nesting season (February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), a qualified biologist shall conduct nesting bird surveys.

a. Two surveys for active bird nests will occur within 14 days prior to start of construction, with the final survey conducted within 48 hours prior to construction. Appropriate minimum survey radii surrounding each work area are typically 250 feet for passerines, 500 feet for smaller raptors, and 1,000 feet for larger raptors. Surveys will be conducted at the appropriate times of day to observe nesting activities. Locations off the site to which access is not available may be surveyed from within the site or from public areas. If no nesting birds are found, a letter report confirming absence will be prepared and submitted to the City of Newman Community Development Department and no further mitigation is required.

b. If the qualified biologist documents active nests within the project site or in nearby surrounding areas, an appropriate buffer between each nest and active construction shall be established. The buffer shall be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist shall conduct baseline monitoring of each nest to characterize "normal" bird behavior and establish a buffer distance, which allows the birds to exhibit normal behavior. The qualified biologist shall monitor the nesting birds daily during construction activities and increase the buffer if birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, the qualified biologist or construction foreman shall have the authority to cease all construction work in the area until the young have fledged and the nest is no longer active. Once the absence of nesting birds has been confirmed, a letter

report will be prepared and submitted to the City of Newman Community Development Department.

BIO-7 Prior to initiation of ground disturbance or construction activities, the applicant shall protect waterways adjacent to the project site through the use of best management practices for erosion control and vehicle/equipment fueling. This will include the installation of silt fencing between the project site and adjacent waterways. The silt fencing will prevent soil from washing off the project site into waterways and exclude construction activities from the drainage channels.

Potential fuel spills and leaks from construction vehicle/equipment fueling operations shall be prevented from entering waterways. Designated fueling areas should be on a level grade and must be at least 50 feet from any waterway. The fueling area should be protected by a berm to prevent any runoff from leaving the fueling area.

Cultural Resources

CR-1 If any prehistoric or historic subsurface archaeological resources, including tribal cultural resources, are discovered during ground-disturbing activities:

a. All work within 50 meter (165 feet) of the resources shall be halted and a qualified archaeologist shall be consulted to assess the significance of the find according to CEQA Guidelines Section 15064.5.

b. If any find is determined to be significant, representatives from the City of Newman Community Development Department and the archaeologist shall meet to determine the appropriate avoidance measures or other appropriate mitigation.

c. All significant prehistoric cultural materials and or tribal cultural resources recovered shall be, returned to Native American tribes traditionally and culturally affiliated with the area.

d. In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the City shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations.

e. If avoidance is infeasible, other appropriate measures (e.g., data recovery) would be implemented.

f. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is being carried out.

CR-2 California Health and Safety Code Section 7050.5 and the CEQA Guidelines Section 15064.5(e) contain the mandated procedures of conduct following the discovery of human remains. According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The Stanislaus County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the Native American Heritage Commission within 24 hours, who would, in turn, notify the person the Native American Heritage Commission identifies as the Most Likely Descendant of any human remains. Further actions shall be determined, in part, by the desires of the Most Likely Descendant. The Most Likely Descendant has 48 hours to make recommendations regarding the disposition of the remains following notification from the Native American Heritage Commission of the discovery. If the Most Likely Descendant does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the Most Likely Descendant's recommendations, the owner or the descendent may request mediation by the Native American Heritage Commission.

Geology and Soils

GEO-1 The following language shall be included in all demolition and grading permits: "If paleontological resources are discovered during demolition and earthmoving activities, work shall stop within 100 feet of the find until a qualified paleontologist can assess if the find is unique and, if necessary, develop appropriate treatment measures in consultation with the City Community Development Department."

Greenhouse Gas Emissions

GHG-1 The applicant shall prepare a Greenhouse Gas (GHG) Reduction Plan which identifies one or more GHG reduction actions that will be taken to reduce GHG emissions 357.70 MT CO2e per year as a basis for fully mitigating GHG emissions from using natural gas in the non-residential components of the project. The GHG Reduction Plan shall prioritize on-site GHG reduction design features. Additional measures may be added by the applicant.

In lieu of or in addition to one or more of the on-site measures above, the applicant may make direct investments in off-site GHG reduction activities/programs in the vicinity. Examples of direct investments include building retrofit programs that pay for cool roofs, solar panels, solar water heaters, smart meters, energy efficient lighting energy efficient windows, and insulation. Other examples include financing programs

for installing electric vehicle charging stations, electrifying school buses, or planting local urban forests.

The applicant may choose to retain a qualified air quality / GHG professional to quantify the GHG reductions that would result from implementing the Reduction Plan based on substantial evidence to be included in the Reduction Plan.

If the applicant elects to quantify the GHG emissions reductions from on-site measures and/or investments in off-site reduction programs and the reductions are insufficient to reduce project emissions by a minimum of 357.70 MT CO2e per year, the applicant may secure the reduction balance by purchasing and retiring carbon offset credits. The carbon offset credits shall meet the following performance standards:

- Carbon offset credits shall be issued by a recognized, reputable and accredited registry that mandates the use of established protocols for quantifying and issuing the offset credits. Credits issued based on protocols approved by the California Air Resources Board should be prioritized. Examples of such registries include the Climate Action Reserve, American Carbon Registry, and Vierra.

- The carbon offset credits should be generated from projects developed in the United States. Credits from projects developed internationally should not be used unless the applicant demonstrates with substantial evidence that sufficient carbon offsets from projects in the United States are unavailable. International offsets must be quantified and issued using established protocols that are recognized in the United States and that are issued by recognized, reputable and accredited registries.

- All carbon offset credits purchased to reduce GHG emissions, must meet the criteria of being real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2).

Prior to issuing building permits for any non-residential portion of the project, the applicant shall submit the GHG Reduction Plan for review and approval of the City of Newman City Planner. If carbon offsets are proposed, prior to approval of an occupancy permit for the first non-residential portion of the project, the applicant shall provide an executed contract or other certification to the City Planner that the requisite volume carbon offset credits have been purchased.

GHG-2 The proposed project shall be designed to include electric vehicle support improvements to consistent with the latest adopted version the CALGreen Tier 2 standards. Inclusion of these design elements in the final project plans shall be verified by the City Building Official prior to issuance of a building permit.

Hazards and Hazardous Materials

HAZ-1 The proposed project is required to prepare a Phase I Environmental Site Assessment on the project site and submit for review and approval to the City of Newman's Community Development Department. The assessment shall include, but is not limited to:

- Results of the soil samples;
- Discussion of any environmental concerns onsite;
- Recommended mitigation measures, as necessary; and
- Confirmation of the need for a Phase 2 Environmental Site Assessment.

Noise

N-1 The following shall be implemented by the project developer during construction of the project, pursuant to General Plan Policy HS-6.9:

- Construction activities shall normally be limited to the hours of 7AM to 7PM Monday through Friday, and 8AM to 7PM on Saturday. Construction Use available noise suppression devices and properly maintain and muffle loud construction equipment.
- Avoid stating of construction equipment and unnecessary idling of equipment within 200 feet of noise-sensitive land uses.

N-2 Truck movement and deliveries, loading activities, and drive-thru operations shall be prohibited between 10PM and 7AM. The project developer shall also construct a sound wall to a minimum height of nine feet above project grade elevation at the western border separating the proposed residential lots from the proposed commercial uses.

PUBLIC REVIEW INITIAL STUDY

MATTOS RANCH SUBDIVISION PHASE 2

CITY OF NEWMAN

PREPARED FOR

City of Newman
Michael E. Holland, City Manager
938 Fresno Street
Newman, CA 95360
Tel 209.862.3725

PREPARED BY

EMC Planning Group Inc.
601 Abrego Street
Monterey, CA 93940
Tel 831.649.1799
Fax 831.649.8399
Teri Wissler Adam, Senior Principal
wissler@emcplanning.com
www.emcplanning.com

February 2023

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Appendices

Figures

Tables

A. BACKGROUND

Project Title	Mattos Ranch Subdivision Phase 2
Lead Agency Contact Person and Phone Number	Michael E. Holland, City Manager 209-862-3725
Date Prepared	February 2023
Study Prepared by	EMC Planning Group Inc. 601 Abrego Street Monterey, CA 93940
Project Location	2135, 2205, and 2215 N Street (State Route 33), Newman
Project Sponsor Name and Address	George Souza, Applicant/Developer 2102 Hallowell Road, Newman
General Plan Designation (Existing)	City of Newman: Community Commercial Merced County: Industrial
General Plan Designation (Proposed)	City of Newman: Medium Density Residential Merced County: Industrial
Zoning (Existing)	City of Newman: Highway Commercial (C-8) Merced County: General Agriculture (A-1)
Zoning (Proposed)	City of Newman: Planned Development (PD) Merced County: General Agriculture (A-1)

Setting

The project site is located at 2135, 2205, and 2215 N Street (State Route 33) in the City of Newman on approximately 20.1 acres consisting of the following APNs: City of Newman APNs are 026-016-048, 026-016-015, 026-016-016, and Merced County's APN 054-050-001. The project site is located at the southern end of the City of Newman with a small portion of the site located within unincorporated Merced County. The project site is located in the northwestern San Joaquin Valley about five miles east of Interstate 5 and immediately west of State Route 33.

The project site is surrounded by residential uses to the northwest and west (including the City-approved, but not yet built-out, medium-density residential Mattos Ranch Subdivision Phase 1); commercial uses to the north, State Route 33, railroad tracks, and industrial uses to the east; and the Central California Irrigation District Miller Ditch and agricultural uses to the south. The project site is currently developed with three homes and associated farming structures, as well as the West Side Auction building, with the remainder of the site in agricultural production. The project site is almost entirely within the City of Newman with a small southeastern portion (approximately one acre) located within Merced County. Therefore, the project site has a general plan land use designation of Community Commercial in the *Newman 2030 General Plan* ("City

general plan") and the one-acre southeastern portion of the project site is designated Industrial by the *2030 Merced County General Plan* ("County general plan"). The property is also designated as Highway Commercial on the City of Newman zoning map with the one-acre southeastern portion designated as General Agriculture by the Merced County zoning map.

Figure 1, Location Map, presents the regional location of the project site. Figure 2, Aerial Photograph, presents an aerial of the project site and surrounding land uses. Figure 3, Site Photographs, illustrates the existing setting of the project site.

Description of Project

The proposed project consists of Phase 2 of the Mattos Ranch Subdivision, which involves a General Plan Amendment (Community Commercial to Medium Density Residential), a Rezone from Highway Commercial (C-8) to Planned Development (PD), and a Vesting Tentative Tract Map to subdivide 6.1 acres into 43 single-family residential lots. The proposed project would also be amending the *City of Newman Highway 33 Specific Plan Update* (January 2022), which identifies the project site with a land use designation of Community Commercial and zoning of Highway Commercial (C-8). The residential component of the proposed project is shown in Figure 4, Vesting Tentative Subdivision Map.

The proposed project also includes a commercial component adjacent to the east of the residential component. Although no application has been received for development of the commercial component, the applicant has submitted a preliminary site plan so future development of the commercial site can be evaluated in this initial study. The commercial component includes 11.8 acres of commercial uses including six commercial spaces (three buildings totaling at 82,000 square feet) and six restaurant spaces (five buildings totaling at 25,000 square feet). The preliminary site plan also includes 540 parking spaces and 100,000 square feet of landscaping. A ten-foot perimeter landscape setback is proposed separating the commercial component from the residential component of the project and a 15-foot setback would be located on the eastern border of the commercial component along State Route 33. There are three entrances off State Route 33, the main entry centrally located along the eastern border of the commercial component and two secondary entrances near the northeast and southeast corners of the project site. An approximately two-acre storm drain basin, which includes residential and commercial tributary areas, is also proposed in the southern portion of the project site. The commercial component of the proposed project is shown in Figure 5, Conceptual Commercial Site Plan.

Appendix A includes the vesting tentative subdivision map and Appendix B includes the commercial conceptual site plan.

Other Public Agencies Whose Approval May Be Required

Regional Water Quality Control Board

United States Army Corps of Engineers

U.S. Fish and Wildlife Service

California Department of Fish and Wildlife

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

As of February 2022, no California Native American tribes traditionally and culturally affiliated with the project area have requested consultation pursuant to Public Resources Code section 21080.3.1 (Michael Holland, telephone conversation, February 2, 2022).

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

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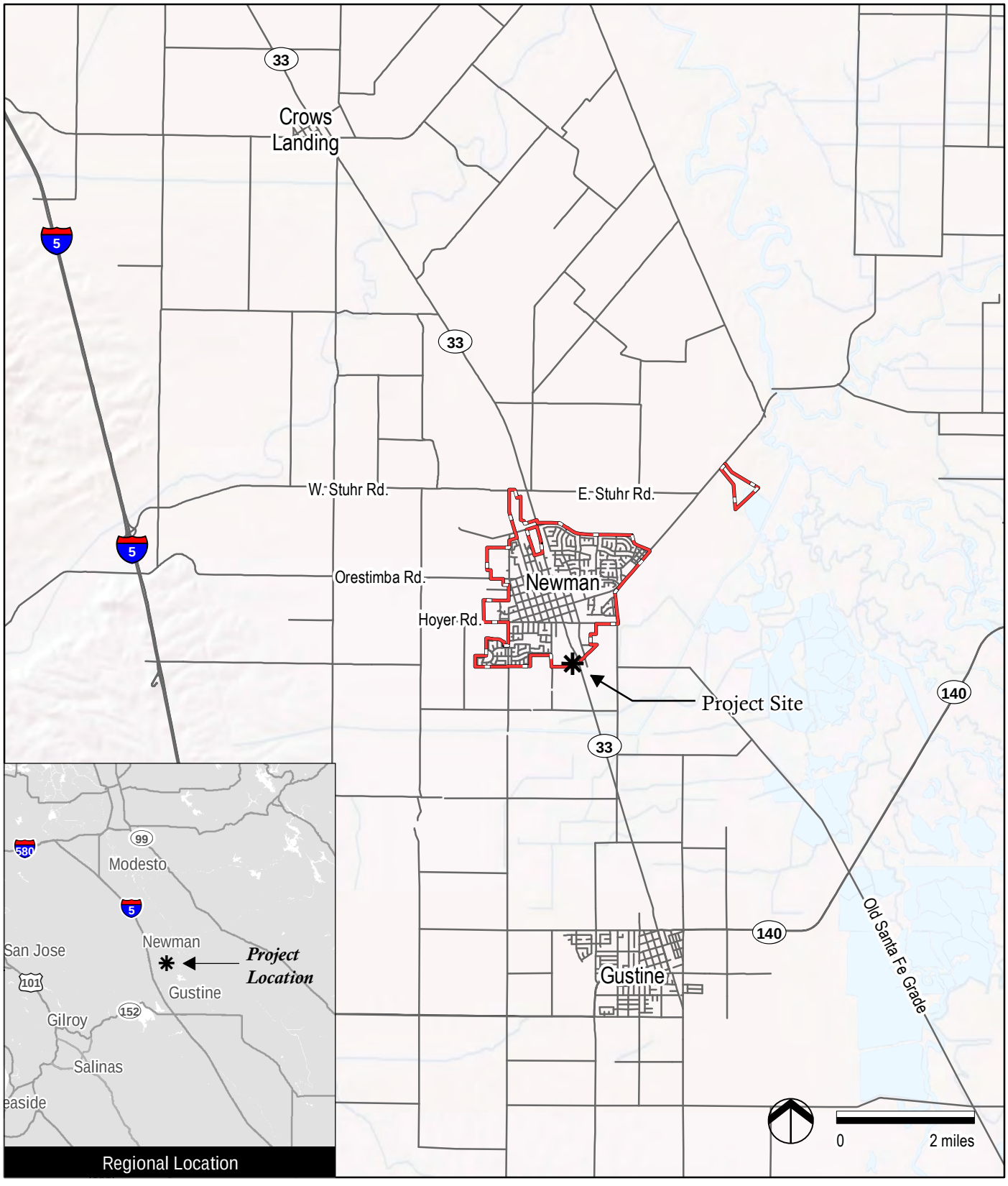

Source: ESRI 2014

Figure 1

Location Map

Mattos Ranch Subdivision Phase 2 Initial Study

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Source: Stanislaus County GIS 2022, Merced County GIS 2022, Google Earth 2022

Figure 2

Aerial Photograph

Mattos Ranch Subdivision Phase 2 Initial Study

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1 On State Route 33 at the northeastern border of the project site facing west at an existing, onsite residence and associated farming structures.

2 On the northeastern side of the project site facing south towards existing, onsite residences and associated farming structures.

Project Site

Source: Google Earth 2022
Photographs: EMC Planning Group 2022

3 At the southern end of the project site facing northwest.

4 At the northwest corner of the project site facing southeast.

Figure 3
Site Photographs

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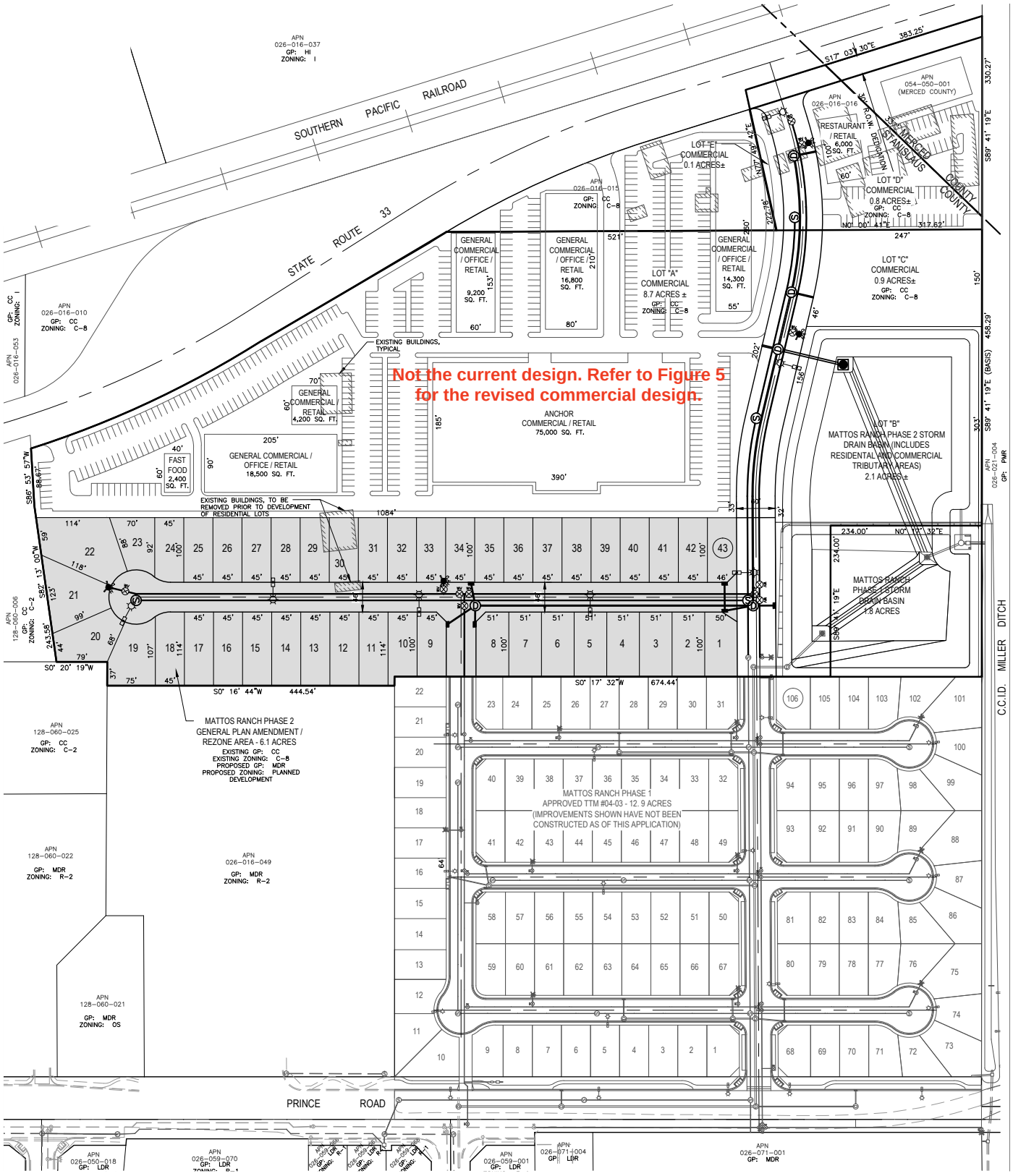

Source: Sousa Engineering 2021

Figure 4

Vesting Tentative Subdivision Map

Mattos Ranch Subdivision Phase 2 Initial Study

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0 80 feet

Source: rrm design group 2022

Figure 5

Conceptual Commercial Site Plan

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B. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- ☐ Aesthetics
- ☐ Agriculture and Forestry Resources
- ☐ Air Quality
- ☐ Biological Resources
- ☐ Cultural Resources
- ☐ Energy
- ☐ Geology/Soils
- ☐ Greenhouse Gas Emissions
- ☐ Hazards & Hazardous Materials
- ☐ Hydrology/Water Quality
- ☐ Land Use/Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population/Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation
- ☐ Tribal Cultural Resources
- ☐ Utilities/Service Systems
- ☐ Wildfire
- ☐ Mandatory Findings of Significance

C. 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 in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that 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" impact 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 (1) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (2) 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.

Michael E. Holland, City Manager _____ Date

D. Evaluation of Environmental Impacts

Notes

1. All answers 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.
2. Once it has been determined that a particular physical impact may occur, then the checklist answers indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
3. "Negative Declaration: Less-Than-Significant Impact with Mitigation Measures Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from section XVII, "Earlier Analyses," may be cross-referenced).
4. Earlier analyses are used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. [Section 15063(c)(3)(D)] In this case, a brief discussion would identify the following:
    a. "Earlier Analysis Used" identifies and states where such document is available for review.
    b. "Impact Adequately Addressed" identifies which effects from the checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and states whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. "Mitigation Measures"—For effects that are "Less-Than-Significant Impact with Mitigation Measures Incorporated," mitigation measures are described which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
5. Checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances, etc.) are incorporated. Each reference to a previously prepared or outside document, where appropriate, includes a reference to the page or pages where the statement is substantiated.
6. "Supporting Information Sources"—A source list is attached, and other sources used or individuals contacted are cited in the discussion.
7. The explanation of each issue identifies:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any to reduce the impact to less than significant.

1. AESTHETICS

Except as provided in Public Resources Code Section 21099 (Modernization of Transportation Analysis for Transit-Oriented Infill Projects), would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b.	Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c.	In non-urbanized areas, 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 publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d.	Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Comments:

a. According to the *Newman 2030 General Plan EIR* (City general plan EIR), the Diablo Mountain range to the west of the City of Newman and the surrounding agricultural lands greatly contribute to the visual character of Newman (p. 4.1-12).

The project site is surrounded by residential uses to the northwest and west (including the City-approved, but not yet built-out, medium-density residential Mattos Ranch Subdivision Phase 1); commercial uses to the north, State Route 33, railroad tracks, and industrial uses to the east; and the Central California Irrigation District Miller Ditch and agricultural uses to the south.

Existing views of the Diablo Mountain range are visible to travelers on State Route 33, but these views are minimal as the existing tree line and residences cover a portion of the views of mountain range. Refer back to the images found within Figure 3, Site Photographs. Although views from State Route 33 would be permanently altered with the development of the project, the proposed use of the site would be similar to the uses existing to the north (commercial uses) and west (residential uses).

The project site was anticipated by the City's general plan for urban uses and the impacts of such uses were evaluated by the City's general plan EIR. The City general plan EIR concludes that buildout of the City general plan would not result in significant impacts on scenic vistas in Newman. Therefore, the proposed project would not have a substantial adverse effect on a scenic vista.

b. According to the City general plan EIR, there are no state-designated scenic highways in or around the City of Newman. Therefore, the proposed project would not impact visual resources within a state-designated scenic highway.

c. The project site is located at the urban-rural edge, is surrounded by existing and approved urban development on three sides, and is designated by the City general plan and zoned for urban uses. Additionally, if the proposed project were approved, the applicant will be required to provide additional project plans that illustrate its compliance with applicable zoning and other regulations governing scenic quality through the Architectural and Site Plan Review process as identified in City zoning code Section 5.04.051, R-2S property development standards. Implementation of the Architectural and Site Plan Review process would ensure that the proposed project would not conflict with regulations governing scenic quality.

d. Existing light sources in the area include street lights, exterior lighting from nearby residences, and vehicle headlights from motorists driving along local roadways and State Route 33. Development of the proposed project with 43 single-family residences and commercial development would introduce a new source of light and glare to the site, which currently includes only three single-family residences and associated farming structures.

Although the proposed project would introduce new light to the site, the uses proposed are consistent with the City general plan designations for the site. Its proposed uses are also similar to adjacent uses and would be consistent with the residential and commercial neighborhood lighting. The proposed project would be required to include street lighting that would be similar to those existing throughout the City of Newman. The project's exterior surfaces on the residences and commercial buildings would also be required to include architectural elements that reduce the potential to introduce glare.

The City general plan EIR concluded that with enforcement of its existing regulations regarding light and glare in its Standard Conditions of Approval and City zoning code, impacts related to light and glare by urban development allowed under the City general plan would be less than significant.

2. AGRICULTURE AND FOREST RESOURCES

In determining whether impacts on agricultural resources are significant environmental effects and in assessing impacts on agriculture and farmland, 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. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	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 nonagricultural use?	☐	☐	☒	☐
b.	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use?	☐	☒	☐	☐

Comments:

a. The project site consists of 8.7 acres of unique farmland, 3.2 acres of prime farmland, and 8.2 acres of urban and built-up land (California Department of Conservation 2022). A California Agricultural Land Evaluation and Site Assessment Model (LESA model) has been prepared for the proposed project and was used to determine the level of significance of converting prime farmland and unique farmland to a non-agricultural land use. Figure 2 within the LESA (Appendix C) illustrates the farmland designations on the project site.

The LESA score is 47.91, with a land evaluation subscore of 30.54 and a site assessment subscore of 17.37. The conversion of agricultural land with a LESA score between 40 and 59 is considered significant only if the land evaluation and the site assessment subscores are each greater than or equal to 20 points. Therefore, the conversion of this farmland to non-agricultural uses is not considered a significant impact.

For more detail on the LESA model and results, refer to Appendix C.

b. The project site is not located on land subject to a Williamson Act Contract (City of Newman 2006).

Much of the agricultural land in the City of Newman's Sphere of Influence, which includes the project site, is designated for urban uses under the City general plan. With implementation of the proposed project (inclusive of the rezoning of the site), the project would be consistent with the City's zoning of the site for residential and commercial uses.

The proposed project is consistent with the City general plan, which supports agriculture use until development of the property through its policies NR-1.1 (continuation of agricultural uses on lands designated for urban uses until urban development is imminent) and NR-1.7 (calls for the City to continue to enforce its right-to-farm ordinance). The proposed project is also consistent with the City general plan designation for urban uses on the site.

c. Development of the project would result in the conversion of agricultural use to non-agricultural use. The project site, which is designated for urban uses by the City general plan, is also adjacent to agricultural land to the west that has approvals for a Medium Density Residential subdivision (Mattos Ranch Subdivision Phase I). Therefore, the conversion of this land to urban uses has been evaluated by the City general plan EIR and the City general plan anticipates its conversion to non-agricultural uses. The project site is also surrounded by existing low-density residential neighborhoods to the northwest.

As identified in checklist question "b" above, the project complies with City general plan policies NR-1.1 and NR-1.7, which encourage the continuation of agricultural uses on lands designated for urban use until urban development is imminent. The project is consistent with the City's general plan, which anticipates urban uses at the site. Therefore, development of the site has been planned for by the City and evaluated in the City general plan EIR.

However, the City general plan EIR identifies policies intended to protect agricultural lands in the future as growth occurs pursuant to the City general plan. The proposed project would be required to comply with City general plan policy NR-1.4, which requires that new development adjacent to agricultural lands use design solutions such as roads, setbacks, and other physical boundaries to create sufficient buffers. The site abuts agricultural land to the south with the California Central Irrigation District's Miller Ditch separating the site from the agricultural land. In addition, the City general plan identifies a future two-lane arterial road to be placed along the southern boundary of the project site (refer to Figure TC-1 of the general plan).

However, until such time that the two-lane arterial road is constructed, the project would require a design solution on the southern perimeter of the site to separate the proposed residential uses from the existing agricultural uses, in compliance with City general plan policy NR-1.4.

Mitigation Measure

AG-1 Prior to recordation of a final map, the project developer shall illustrate on the final map and improvement plans a concrete masonry unit wall along the southern boundary of the project site. The Public Works Department shall review and approve the material and design of the wall. The applicant shall consult with the Central California Irrigation District regarding any required setback from Miller Ditch and provide written verification from the district.

3. AIR QUALITY

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

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d.	Result in other emissions, such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☐	☒

Comments:

a. The project site is located in Stanislaus County and Merced County in the north central portion of the San Joaquin Valley Air Basin (air basin). The San Joaquin Valley Air Pollution Control District (air district) is the agency with primary responsible for assuring that national and state ambient air quality standards are attained and maintained in the air basin. CEQA requires that proposed projects be analyzed for conflicts with applicable air quality plans. An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a non-attainment area. The main purpose of an air quality plan is to bring the area into compliance with the requirements of the federal and State ambient air quality standards.

The air basin encompasses the San Joaquin Valley with Sierra Nevada Mountains to the east, the Coast Ranges to the west, and the Tehachapi mountains to the south. Airflow is considerably affected by summertime inversions at lower elevations than the surrounding topography and as a result can lead to a buildup of ozone and ozone precursor pollutants within the basin. Wintertime inversions trap air near the ground and can lead to the buildup of particulate matter air pollutants.

Attainment status is found on the air district website (SJVAPCD 2022a). The primary air pollutants of concern in the air basin are ozone and particulate matter, for which the air basin is in nonattainment. According to the air district, the air basin is in nonattainment for

the federal and state standards for ozone (eight-hour) and $PM_{2.5}$, and with the state standards for ozone (one hour) and PM_{10}. The air basin is either unclassified or in attainment with all other state and federal ambient air quality standards.

On August 19, 2021, the air district approved the *2018 $PM_{2.5}$ Plan for the San Joaquin Valley* (2018 $PM_{2.5}$ Plan), which revises the district's previous $PM_{2.5}$ attainment plan to establish a new attainment target for the 1997 annual $PM_{2.5}$ standard. The air basin would have met this standard by the projected attainment target of 2020, but for significant effect of wildfire smoke in addition to data collection issues at the air monitoring site in Bakersfield. Based on implementation of the control strategy in the 2018 $PM_{2.5}$ Plan, modeling has shown that the air basin is on track to attain the 1997 annual $PM_{2.5}$ standard by 2023, if not earlier (SJVAPCD 2018).

The air district has adopted thresholds, rules and regulations to implement the 2018 $PM_{2.5}$ Plan and address ozone and particulate matter emissions in the air basin. The air district's Indirect Source Review Rule (Rule 9510) addresses reduction measures for ozone precursor and PM_{10} emissions from new land use development projects. The rule is the result of state requirements outlined in the regions' portion of the state implementation plan in compliance with the Clean Air Act. The rule was amended in 2018 to ensure that all large development projects are subject to the rule.

New projects that would generate substantial air pollutant emissions are subject to this rule. The rule requires projects to mitigate both construction and operational period emissions by applying the air district-approved mitigation measures and paying fees to support programs that reduce emissions. Fees apply to the unmitigated portion of the emissions and are based on estimated costs to reduce the emissions from other sources plus administrative costs.

The air district controls fugitive dust PM_{10} emissions through Regulation VIII, the purpose of which is to reduce ambient concentrations of PM_{10} by requiring actions to prevent, reduce or mitigate anthropogenic (human caused) fugitive dust emissions. Emissions reduction measures also reduce $PM_{2.5}$ emissions. This applies to activities such as construction, bulk materials, open areas, paved and unpaved roads, material transport, and agricultural areas. Sources regulated are required to provide dust control plans that meet the regulation requirements. Fees are collected by the air district to cover costs for reviewing plans and conducting field inspections.

Air quality criteria pollutant emissions thresholds are found on the air district website. Guidance and methodology for analysis of air quality impacts are provided in the air district's *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI) (SJVAPCD 2015), which represents the latest guidance for addressing air quality impacts in the air basin. The air district screening criteria help determine if a project's construction and operations emissions would have the potential to violate ambient air quality standards. Projects with emissions that exceed the air district's thresholds have the potential to exceed the ambient air quality standards, which would be a potentially significant impact, and a potential conflict with the air district's air quality plan.

The air district's pre-screening thresholds for quantitative analysis are found in its *Small Project Analysis Level* (SPAL) screening tables (SJVAPCD 2022b). Projects that fit the descriptions and project sizes provided in the SPAL tables are deemed by the air district to have a less than significant impact on air quality and quantification of criteria air pollutants would not be necessary. The proposed project consists of 43 residential units and a 117,000 square foot commercial retail center that would generate over 9,000 vehicle trips per day (VRPA Technologies Inc. 2022), which exceeds the air district's pre-screening thresholds noted in the SPAL tables. Therefore, due largely to the estimated commercial component, the proposed project would have the potential to generate emissions that exceed the air district thresholds, and could potentially conflict with the air district's air quality plans.

Project operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) version 2020.4. Construction criteria pollutant emissions were estimated for the *Mattos Ranch Phase II Air Quality Health Risk Assessment* prepared by Illingworth and Rodkin (2022) (health risk assessment). It should be noted that the modeling conducted for the health risk assessment included larger commercial component, which has since been reduced by about 28,600 square feet. The CalEEMod modeling methodology, assumptions and results for operational criteria pollutants are included in Appendix D; the health risk assessment and accompanying model results are included in Appendix E. Construction and operational criteria pollutant emissions generated by the proposed project are discussed in greater detail in item b, below.

The modeled results show that the proposed project would not generate construction or operational criteria air pollutant emissions at a rate that would exceed air district annual thresholds. However, according to the health risk assessment, project construction and operational emissions would increase toxic air contaminant concentrations at nearby sensitive receptors that would correspond to increased health risks that exceed air district cancer and non-cancer risk thresholds. Implementation of mitigation measure AQ-1, presented in the health risk assessment of this air quality analysis (see item "c" below), would reduce this impact to less than significant. Therefore, the proposed project would not conflict with or jeopardize implementation of the air district air quality plan. Increased health risks from exposures to project construction and operational emissions are discussed in greater detail in item c, below.

b. The proposed project would generate criteria air pollutant emissions during construction and operations that would contribute to regional ambient air quality conditions. As noted previously, construction and operational air pollutant emissions were modeled using CalEEMod. Criteria pollutant emissions generated by the project during construction and operations are summarized and compared to air district thresholds in Table 1, Unmitigated Criteria Air Pollutant Emissions.

Table 1 Unmitigated Criteria Air Pollutant Emissions

Emissions Source	ROG[1]	NO_x[1]	CO[1]	SO_x[1]	Total PM_{10}[1,2]	Total $PM_{2.5}$[1,2]
Construction Year 1[3]	0.33	2.75	3.03	0.008	0.60	0.28
Construction Year 2[3]	1.95	0.99	1.30	0.003	0.16	0.07
Operations[4]	5.02	5.18	30.52	0.06	5.74	1.73
Air District Thresholds	10.00	10.00	100.00	27.00	15.00	15.00
Exceed Thresholds? (Yes/No)	NO	NO	NO	NO	NO	NO

SOURCE: Illingworth and Rodkin 2022, EMC Planning Group 2022, SJVAPCD 2022
NOTE:
1. Amounts are rounded and may vary.
2. Total PM_{10} and $PM_{2.5}$ volumes include exhaust and fugitive dust emissions.
3. Modeling conducted for the health risk assessment (Appendix E).
4. CalEEMod modeling (Appendix D).

Criteria pollutant emissions generated by the proposed project during construction or operations would not exceed air district thresholds and are less than significant.

Although the project's construction ozone and PM emissions would not exceed the air district's CEQA significance thresholds, the emissions volumes generated by the project would contribute NO_x and PM emissions for which the air basin is in nonattainment. This is a cumulatively considerable impact. Compliance with Rule 9510 and Regulation VIII is required to ensure that the project contributes its share of emission reductions in order to achieve the basin-wide reduction targets established in the air district's ozone and particulate matter attainment plans.

Under Rule 9510, construction exhaust emissions are mitigated by implementing measures that reduce NO_x emissions by 20 percent, and PM_{10} emissions by 45 percent; operational emissions are mitigated by implementing measures that reduce operational NO_x emissions by 33.3 percent, and PM_{10} emissions by 45 percent. These reductions are typically achieved by using newer or retrofitted construction fleets, reducing construction traffic, electrifying the construction site and stationary equipment, and implementing idling restrictions for equipment and trucks during both operations and construction.

Regulation VIII requires implementation of fugitive dust control measures. A dust control plan is required subject to review and approval by the air district prior to construction as part of the City's building permit application process. The dust control plan must outline control measures for each phase of construction, which may include all or a combination of the following measures, consistent with Regulation VIII:

- Effective dust suppression (e.g., watering) for land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill and demolition activities.
- Effective stabilization of all disturbed areas of a construction site, including storage piles, not used for seven or more days.

- Control of fugitive dust from on-site unpaved roads and off-site unpaved access roads.
- Removal of accumulations of mud or dirt at the end of the workday or once every 24 hours from public paved roads, shoulders and access ways adjacent to the site.
- Cease outdoor construction activities that disturb soils during periods with high winds.
- Record keeping for each day dust control measures are implemented.
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Landscape or replant vegetation in disturbed areas as quickly as possible.
- Prevent the tracking of dirt on public roadways. Limit access to the construction sites, so tracking of mud or dirt on to public roadways can be prevented. If necessary, use wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Suspend grading activity when winds (instantaneous gusts) exceed 25 mph or dust clouds cannot be prevented from extending beyond the site.
- Anyone who prepares or implements a dust control plan must attend a training course conducted by the air district. Construction sites are subject to air district inspections under this regulation.

The project is subject to compliance with Regulation VIII as part of the City's building permit review process. Compliance with Regulation VIII ensures that the proposed project's less than significant construction fugitive dust PM_{10} emissions are further reduced.

In sum, the proposed project would not generate construction or operational emissions that exceed air district thresholds. Compliance with Rule 9510 and Regulation VIII ensures that the project's contribution of NO_x and PM_{10} emissions to regional air quality would be less than cumulatively considerable.

c. Construction activity, delivery trucks, and operational traffic would expose nearby receptors to toxic air contaminants (TACs) concentrations that would result in increased health risks. Exposures that result in increased cancer risk or non-cancer health risks that exceed air district standards would be a significant impact.

TACs are pollutants that may be expected to result in an increase in mortality or serious illness or may pose a present or potential hazard to human health. Health effects include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases that lead to death. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuels combustion, and commercial operations (e.g., dry cleaners). Construction equipment and associated heavy-duty truck traffic generates diesel exhaust and fugitive dust ($PM_{2.5}$) that poses health risks for sensitive receptors. Diesel particulate matter (DPM), which is a known TAC, is a component of diesel exhaust. Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs.

Smoke from residential wood combustion can be a source of TACs. Wood smoke is typically emitted during wintertime when dispersion conditions are poor. Localized high TAC concentrations can result when cold stagnant air traps smoke near the ground and, with no wind; the pollution can persist for many hours, especially in sheltered valleys during winter. Wood smoke also contains a significant amount of PM_{10} and $PM_{2.5}$. Wood smoke is an irritant and is implicated in worsening asthma and other chronic lung problems.

The U.S. Centers for Disease Control and Prevention describes polycyclic aromatic hydrocarbons (PAHs) as a class of chemicals that occur naturally in coal, crude oil, and gasoline. They also are produced when coal, oil, gas, wood, garbage, and tobacco are burned. PAHs generated from these sources can bind to or form small particles in the air. High-temperature cooking will form PAHs in meat and in other foods. Some PAHs are carcinogenic and prolonged exposure can lead to increased health risks. The health effects from environmental exposure to low levels of PAHs are unknown. Large amounts of naphthalene in air can irritate eyes and breathing passages. Workers who have been exposed to large amounts of naphthalene from skin contact with the liquid form and from breathing naphthalene vapor have developed blood and liver abnormalities. (U.S. EPA 2022).

Children, the elderly, and the chronically or acutely ill are the most sensitive population groups that are more susceptible to adverse effects of air pollution than others. These sensitive receptors are commonly associated with specific land uses such as residential areas, elementary schools, retirement homes, and hospitals. The sensitive receptors nearest to the project site consist of single-family residences located to the northwest and new residences located immediately west that are part of the Mattos Ranch Phase 1 project that are assumed to be occupied at the time that construction of this project begins. Existing sensitive receptor locations are shown in Figure 2 of the health risk assessment included in Appendix E.

The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) have developed recommended methods for conducting health risk assessments. The Air Toxics Hot Spots Program Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments (2015 guidelines) are the most recent OEHHA risk assessment guidelines. These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines.

The air district adopted the OEHHA's 2015 guidelines as part of its Policy APR-1905 Risk Management Policy for Permitting New and Modified Sources and Policy APR-1906 Framework for Performing Health Risk Assessments. Air district significance thresholds for health risks are listed in Policy APR-1906 which was adopted in 2015 and revised in 2018. Per Policy APR-1906 in 2015 and the 2018 revisions, the air district single-source threshold for cancer risk is 20 cases per million; the threshold for non-cancer risks is less than 1.0. The cumulative threshold is 100 cases per million with a non-cancer risk threshold of 5.0.

Potential increased cancer risk from inhalation of TACs are calculated based on the average annual TAC concentration, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration over a 70-year lifetime period. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location, at a workplace, or at a school. The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, for a 70-year residential exposure period they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). The 95th percentile breathing rates are used for the third trimester, infant and child exposures, and an 80th percentile breathing rate for adults.

The health risk assessment (Appendix E) predicts emissions from the various sources of TACs by conducting dispersion modeling using historical meteorological data, and calculates health risks using OEHHA and air district recommended risk assessment methods for infant, child, and adult exposures for residential receptors and off-site workers.

Health risks were modeled from exposures to construction and operational emissions generated by the development of 43 residential units and a commercial retail component, which has since been reduced in size by about 28,600 square feet. Because the proposed commercial component was reduced in size after the health risk assessment was prepared, modeled operational emissions volumes are slightly greater than the proposed project and are considered to be a conservative estimate. For construction impacts the dispersion modeling utilized an area source to represent the location of on-site construction activities. Emissions volumes were distributed evenly across the area source. The discussion in the remainder of this section summarizes the findings and conclusions of the health risk assessment. Area-source and mobile-source emissions were evaluated. The assumptions, methodology, and model results are presented in greater detail in the health risk assessment (Appendix E).

Construction Health Risks and Hazards

Construction of the project is expected to occur over an 18-month period assumed to start in 2023. The health risk assessment evaluated potential health effects from construction DPM emissions exposures at nearby residences using CalEEMod version 2020.4 and AERMOD dispersion modeling. CalEEMod generates an estimate of project emissions and AERMOD is used to predict the off-site DPM concentrations resulting from project construction so that lifetime cancer risks could be predicted.

Due to the short duration of project construction activities, less than two years, infant exposures were assumed in calculating all cancer risks. Because an infant breathing rate is greater than for the 3rd trimester, the contribution to total cancer risk from an infant exposure is greater than if the initial exposure assumed a 3rd trimester exposure. Additionally, the OEHHA recommended values for the fraction of time spent at home were used.

The health risk assessment determined that the maximum-modeled unmitigated (uncontrolled) annual DPM concentration occurred at a residence located adjacent to the western boundary of the project site. The location where the maximum impact occurred is identified as the Maximally Exposed Individual (MEI) and is shown on Figure 2 of the health risk assessment. Based on the maximum average annual modeled DPM concentration, the maximum increased cancer risk at the MEI was calculated. Modeled results indicate that exposures to unmitigated construction emissions would result in an increased infant cancer risk at the MEI location of 18.4 cases per million; the maximum off-site worker cancer risk would be 0.3 cases per million.

The health risk assessment also evaluated potential non-cancer health effects due to chronic exposures to construction DPM emissions. Non-cancer health hazards are expressed in terms of a hazard index, which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The chronic inhalation REL for DPM is 5 μg/m3. The maximum modeled annual DPM concentration was 0.079 μg/m3, which is much lower than the 5 μg/m3 REL. The maximum computed hazard index based on this DPM concentration during construction was found to be less than 0.1 at all receptor locations.

Operational Health Risks and Hazards

On-site emission sources that can lead to increased health risks include project-related vehicles and operation of the restaurants (meat cooking). Off-site emission sources include project vehicle travel routes.

Local traffic generated by the project leads to operational community risk impacts. Specific sources of emissions include residential and retail customer traffic traveling to and from the project site. Impacts from these sources are addressed in the health risk assessment. These sources are assumed to be operational well into the future (i.e., 70 years). The year 2025 was assumed to be the first full year of operation and was used as the year of analysis for generating emission rates. Vehicle emission rates are anticipated to decrease in the future due to improvements in exhaust systems and turnover of the fleet from older, more polluting vehicles, to newer cleaner vehicles. Modeled mobile source air toxics are based on an estimated trip generation of 11,851 new trips to the site, does not include pass by trips, and are assumed to generate emissions 24 hours per day, 365 days per year, which yielded

conservative estimates of emissions volumes. The model also relied on vehicle distribution information from the traffic engineer for N Street (State Route 33), Prince Road, project driveways and internal roads.

The proposed fast-food restaurants would generate TACs from the cooking of meat. The air district identifies two TACs from meat cooking, PAHs without naphthalene and naphthalene. The health risk assessment estimated PAH and naphthalene emissions from meat cooking using default emission factors and emissions provided in the air district's guidance for dispersion modeling.

Total increased cancer risks from project operations were computed using the most recent methods recommended by the air district and OEHHA that include nearly continuous exposures with adjustments for infants and children. Based on modeled TAC concentrations, the modeled increased infant/child cancer risks from exposures to operational emissions would be 3.6 cases per million and the modeled increased cancer risks for workers would be 0.6 cases per million, both of which are below the air district thresholds. The acute and chronic hazard indexes from operational exposures to DPM and mobile source air toxics emissions would be less than 0.1 at all receptor locations.

Impact Summary

Modeling results for the unmitigated increased health risks during construction and operations are compared to air district thresholds in Table 2, Unmitigated Cancer and non-Cancer Health Risks.

Table 2 Unmitigated Cancer and Non-Cancer Health Risks

Emissions Exposures	Infant/Child Cancer Risk	Worker Cancer Risk	Hazard Index
Construction	18.39	0.27	<0.1
Operations	3.62	0.63	<0.1
Project lifetime	20.02	0.84	<0.1
Air District Single-Source Thresholds	20.0	20.0	1.0
Exceeds Thresholds?	*YES*	*NO*	*NO*

SOURCE: Illingworth and Rodkin 2022
NOTE: Amounts are rounded and; therefore, may vary.

The modeled maximum increased cancer risks for an infant exposure at the MEI over the lifetime of the project (construction and operations) were found to exceed the air district's 20 cases per million threshold for infant/child cancer risks, which is a significant impact. The health risk assessment determined that a ten percent reduction in construction emissions would reduce the cancer risk impacts to less than significant and recommended that all off-road diesel construction equipment greater than 25 horsepower and operating at the site during demolition and earthwork phases for more than 20 hours that meet U.S. EPA

Tier 2 or 3 engine standards with Level 3 particulate filtration would reduce emissions by ten percent. The health risk assessment also notes that the use of equipment that meets U.S. EPA Tier 4 (Tier 4) engine standards would also achieve the necessary reductions.

Emissions reductions resulting from the use of Tier 4 engines were applied and modeled during the demolition and earthwork phases of CalEEMod in the health risk assessment. The model results show a 33 percent reduction in PM_{10} (assumed to DPM) emissions, which corresponds with mitigated infant cancer risks of 8.60 cases per million during construction and an overall infant cancer risk of 10.2 cases per million. The mitigated risks are below the air district's 20 cases per million cancer risk and are less than significant with mitigation.

Implementation of the following mitigation measure would reduce construction equipment emissions exposures and related infant cancer risks to less than significant.

Mitigation Measure

AQ-1 To reduce exposures to DPM emissions that increase cancer risks, the applicant shall prepare, and the contractor shall implement, an emissions reduction plan during construction that demonstrates a minimum 10 percent reduction in PM_{10} (assumed to be DPM) emissions. The emissions reduction plan shall be subject to the review and approval of the Director of the Community Development Department or his/her delegate. The plan shall include the following measures:

1. All off-road diesel construction equipment greater than 25 horsepower and operating at the site during demolition and earthwork phases for more than 20 hours over the job period shall at a minimum meet U.S. EPA Tier 2 or 3 engine standards with Level 3 particulate filtration or U.S. EPA Tier 4 engine standards.

2. The plan shall demonstrate quantifiable PM_{10} emissions reductions of at least 10 percent during construction.

Implementation of this measure in addition to compliance with the provisions of Rule 9510 ensures that the cancer risks associated with exposures to construction equipment emissions are less than significant.

d. The proposed residential project is not the type of land use associated with the generation of objectionable odors during its operations. During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and would dissipate relatively quickly and thus would not likely to be noticeable for extended periods of time much beyond the project's site boundaries. The proposed project would not result in significant odor impacts.

4. BIOLOGICAL RESOURCES

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	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, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☒	☐	☐
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 US Fish and Wildlife Service?	☐	☐	☐	☒
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, filing, hydrological interruption, or other means?	☐	☒	☐	☐
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?	☐	☐	☐	☒
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Comments:

A reconnaissance-level biological field survey was conducted by EMC Planning Group biologist Patrick Furtado, M.S., on March 9, 2022, to document existing plant communities/wildlife habitats and evaluate the potential for special-status species to occur on the project site. Biological resources were documented in field notes, including species observed, dominant plant communities, significant wildlife habitat characteristics, and aquatic resources. Qualitative estimations of plant cover, structure, and spatial changes in species composition were used to determine plant communities and wildlife habitats, and habitat quality and disturbance levels were described.

Prior to conducting the survey, Mr. Furtado reviewed site plans, aerial photographs, natural resource database accounts, and other relevant scientific literature. This included searching the U.S. Fish and Wildlife Service (USFWS) *Endangered Species Database* (USFWS 2022), California Department of Fish and Wildlife (CDFW) *California Natural Diversity Database* (CDFW 2022), and California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants* (CNPS 2022) to identify special-status plants, wildlife, and habitats known to occur in the vicinity of the project site.

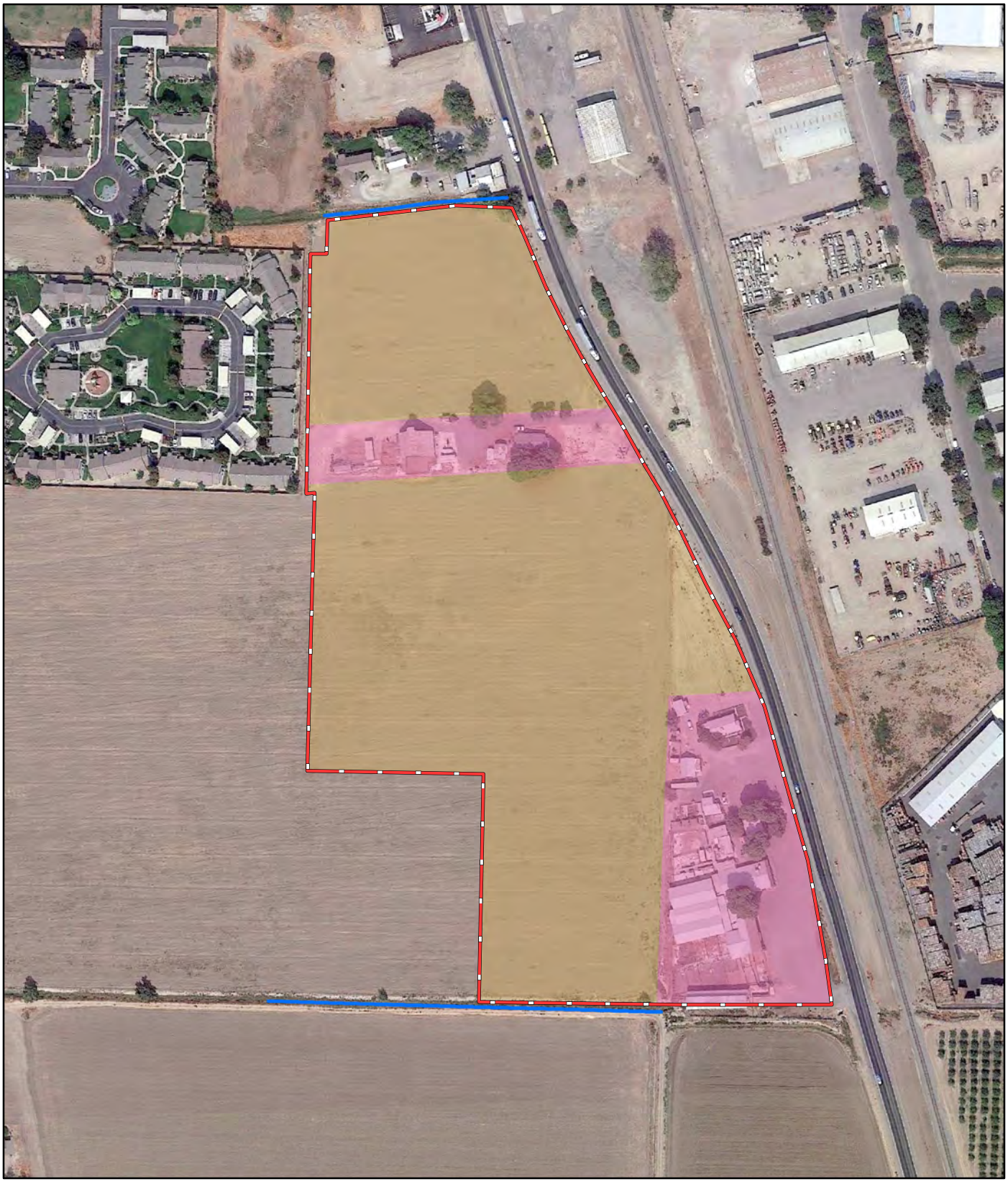
The approximately 20-acre project site is located in the southeastern portion of the City of Newman, approximately five miles east of Interstate 5 and adjacent to State Route 33. The project site is currently developed with three homes and associated farming structures with the remainder of the site in agricultural production. The project site is bounded by a residential neighborhood to the west, agricultural land to the west and south, a veterinary hospital to the north, and State Route 33 to the east.

Wildlife habitat quality on the project site is considered low due to the high level of disturbance from agricultural activities. At the time of the biological survey, the fields on the project site were planted in a cover crop of cultivated oats (*Avena sativa*). The borders of the agricultural fields contained scattered ruderal (weedy) plants, such as non-native cheeseweed (*Malva parviflora*), filaree (*Erodium botrys*), foxtail barley (*Hordeum murinum*), black mustard (*Brassica nigra*), and burclover (*Medicago polymorpha*). Plant cover required by many animal species is likely intensively removed through the regular application of herbicides.

Mature trees are found in several areas of the project site, or immediately adjacent to the project site. In the northeast corner, several ash (*Fraxinus* sp.) and walnut (*Juglans* sp.) trees grow adjacent to the drainage ditch located immediately north of the project boundary. In the middle of the project site, three Italian stone pine trees (*Pinus pinea*) grow along the gravel driveway. Adjacent to the residences in the southeastern corner of the project site, approximately ten mature trees are found, including several Italian stone pines.

Common wildlife species likely to occur on the project site include raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), and California ground squirrel (*Spermophilus beecheyi*). Small rodents including mice (*Mus musculus*, *Reithrodontomys megalotis*, and *Peromyscus maniculatus*) and California vole (*Microtus californicus*) may also occur, along with common reptiles such as western fence lizard (*Sceloporus occidentalis*) and Pacific gopher snake (*Pituophis catenifer*). Eurasian collared-dove (*Streptopelia decaocto*) and Cooper's hawk (*Accipiter cooperii*) were observed on the project site.

Agricultural irrigation/drainage ditches occur immediately north and south of the project site as shown on Figure 6, Habitat Map.



Source: ESRI 2022, EMC Planning Group 2022

Figure 6

Habitat Map

Mattos Ranch Subdivision Phase 2 Initial Study

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a. **Special-Status Species**. A search of the California Department of Fish and Wildlife (CDFW) *California Natural Diversity Database* was conducted for Newman and the surrounding eight U.S. Geological Survey (USGS) quadrangles in order to generate a list of potentially occurring special-status species for the project vicinity. Records of occurrence for special-status plants were reviewed for those quadrangles in the CNPS *Inventory of Rare and Endangered Plants of California*. A USFWS *Endangered Species Program* threatened and endangered species list was also generated for Stanislaus County, and the USFWS *Critical Habitat for Threatened & Endangered Species* online mapper was reviewed. Special-status species in this report are those listed as Endangered, Threatened, or Rare, or as candidates for listing by the USFWS and/or CDFW; as Species of Special Concern or Fully Protected species by the CDFW; or as Rare Plant Rank 1B or 2B species by CNPS. Appendix G, Special-Status Species in the Project Vicinity, presents tables with CNDDB results, which lists special-status species documented within the project vicinity, their listing status and suitable habitat description, and their potential to occur on the project site. Figure 7, California Natural Diversity Database Map, presents a map of CNDDB results and the special-status species documented within the vicinity.

Given the disturbed and agriculturally developed condition of the project site, the lack of native vegetation, and the site's isolation from high quality habitat areas, most special-status plant and animal species known to occur in the region are not expected to occur on the project site due to lack of suitable habitats.

Special-status plant and wildlife species recorded as occurring in the vicinity of the project site but are not likely to occur on the project site due to lack of suitable habitat include Delta button-celery (*Eryngium racemosum*), alkali milk-vetch (*Astragalus tener* var. *tener*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), tricolored blackbird (*Agelaius tricolor*), California horned lark (*Eremophila alpestris actia*), giant garter snake (*Thamnophis gigas*), western spadefoot (*Spea hammondii*), and western pond turtle (*Emys marmorata*).

Special-status wildlife species with a low potential to occur on the project site include San Joaquin kit fox (*Vulpes macrotis mutica*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), loggerhead shrike (*Lanius ludovicianus*), and protected nesting birds. These species are discussed further below.

San Joaquin Kit Fox. The San Joaquin kit fox is a federally-listed endangered species and a state-listed threatened species. The present range of the San Joaquin kit fox extends from the southern end of the San Joaquin Valley, north to Tulare County, and along the interior Coast Range valleys and foothills to central Contra Costa County. San Joaquin kit foxes typically inhabit annual grasslands or grassy open spaces with scattered shrubby vegetation but can also be found in some agricultural habitats and urban areas. This species needs loose-textured sandy soils for burrowing, and they also need areas that provide a suitable prey base, including black-tailed hare, desert cottontails, and California ground squirrels, as well as birds, reptiles, and carrion.

According to the CDFW, kit foxes have become established in urban settings of the Central Valley, such as Bakersfield, Taft, and Coalinga (Harrison et. al 2011). When kit foxes have easy access to trash and pet food, they often lose fear of people and urban environments. Observations of this species have been documented approximately five miles to the southwest of the project site (Occurrence No. 414, CNDDB 2022) and approximately five miles to the southeast of the project site (Occurrence No. 600, CNDDB 2022).

The likelihood of this species occurring on the project site is considered low. Loss of or harm to individual kit foxes could result if they are present on the site or seek shelter during construction within artificial structures, such as stored pipes or exposed trenches. Loss or harm to San Joaquin kit fox is considered a significant adverse impact. Implementation of the following mitigation measure would reduce the potential impact to San Joaquin kit fox to a less-than-significant level.

Mitigation Measure

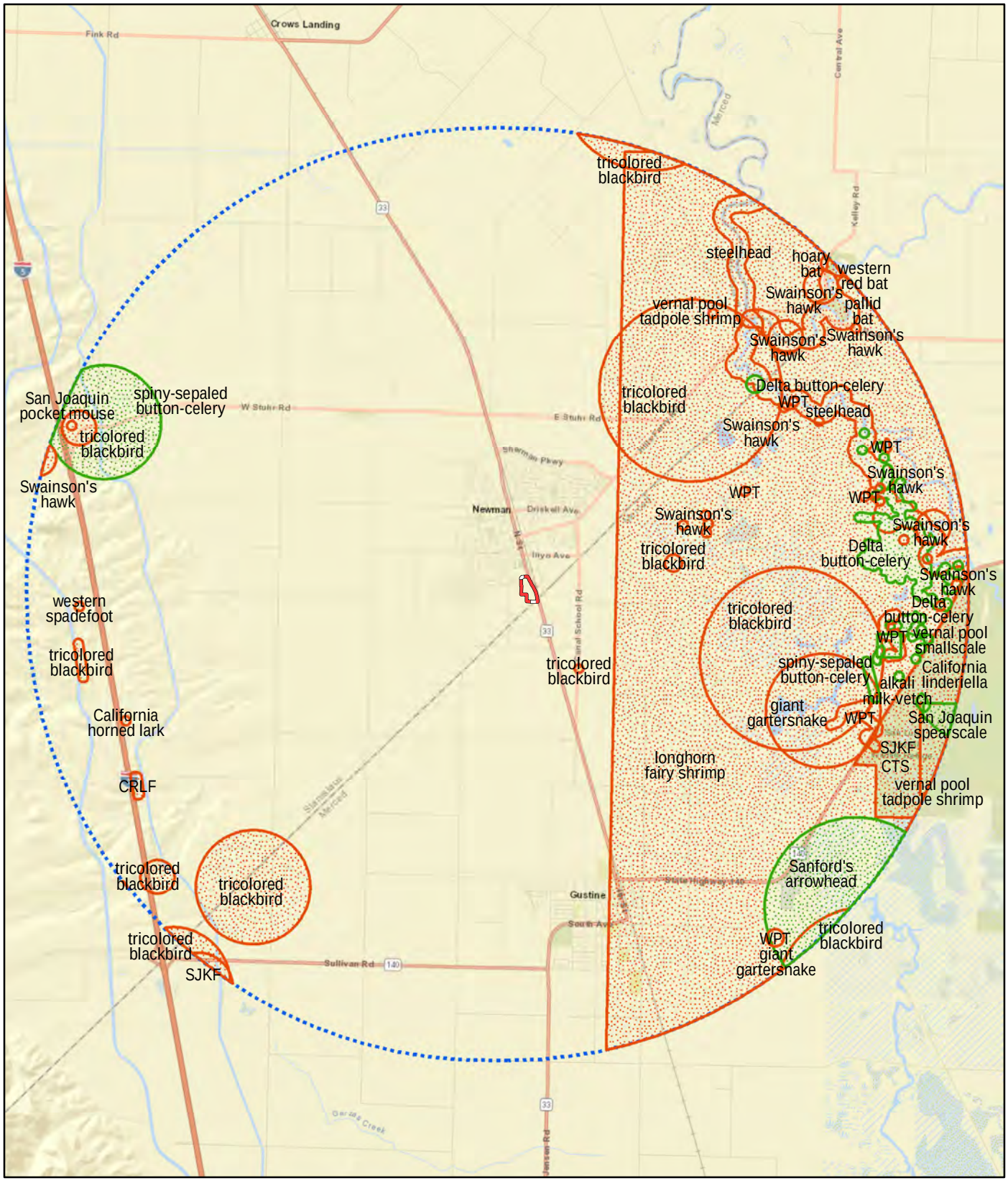
BIO-1 The U.S. Fish and Wildlife Service *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011) shall be implemented prior to initiation of and during any construction activity on the project site to avoid unintended take of individual San Joaquin kit foxes.

Preconstruction/pre-activity surveys for San Joaquin kit fox shall be conducted no less than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity that may impact San Joaquin kit fox. The surveys shall include all work areas and a minimum 200-foot buffer of the project site. The preconstruction surveys shall identify kit fox habitat features on the project site, evaluate use by kit fox and, if possible, assess the potential impacts of the proposed activity. The status of all dens shall be determined and mapped.

If a natal/pupping den is discovered within the project area or within 200 feet of the project boundary, the applicant shall consult with the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service to establish an appropriate avoidance buffer. The avoidance buffer shall be maintained until such time as the burrow is no longer active and/or an incidental take permit is determined to be required and is obtained.

In addition, the following measures shall be observed:

a. Project-related vehicles shall observe a 20-mph speed limit in all project areas; this is particularly important at night when kit foxes are most active. To the extent possible, night-time construction shall be minimized. Off-road traffic outside of designated project area shall be prohibited.



0 1.5 Miles

Project Site
5-Mile Radius
Special-Status Plants
Special-Status Wildlife

Source: ESRI 2022, CNDDB 2022

CRLF: California Red-Legged Frog
CTS: California Tiger Salamander
SJKF: San Joaquin Kit Fox
WPT: Western Pond Turtle

Figure 7

California Natural Diversity Database Map

Mattos Ranch Subdivision Phase 2 Initial Study

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b. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of the project, all excavated, steep-walled holes or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under number 11 of the Construction and Operational Requirements in the Standardized Recommendations must be followed.

c. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the U.S. Fish and Wildlife Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.

d. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a week from a construction or project site.

e. No firearms shall be allowed on the project site during construction activities.

f. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets shall be permitted on site during construction activities.

g. Use of rodenticides and herbicides on the project site during construction shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the U.S. Fish and Wildlife Service. If rodent control must be conducted, zinc phosphide shall be used because of proven lower risk to kit fox.

h. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape.

i. Any contractor, employee, or agency personnel who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service.

j. The applicant shall submit weekly reports on construction monitoring activities to the City of Newman Community Development Department. An occupancy permit shall not be issued without receipt of the weekly reports.

Implementation of this mitigation measure would reduce the potential significant impact to San Joaquin kit fox to a less-than-significant level by requiring pre-construction surveys for kit fox and the implementation of avoidance, minimization, and mitigation measures should they be found on the project site.

Burrowing Owl. Burrowing owl is a California Species of Special Concern. Burrowing owls live and breed in burrows in the ground, especially in abandoned California ground squirrel burrows. Optimal habitat conditions include large open, dry and nearly level grasslands or prairies with short to moderate vegetation height and cover, areas of bare ground, and populations of burrowing mammals. This species has been observed approximately nine miles southwest of the project site (Occurrence No. 199, CNDDB 2022) and approximately 13 miles northwest of the project site within the City of Patterson (Occurrence No. 588, CNDDB 2022). The project site's agricultural/ruderal habitat provides marginally suitable foraging habitat for burrowing owl, and scattered ground squirrel burrows observed on the site could be utilized for nesting habitat. In agricultural environments, burrowing owls nest along roadsides and water conveyance structures (open canals, ditches, drains) surrounded by crops. If burrowing owl is present on or adjacent to the project site, construction activities could result in the loss or disturbance of individual animals. This would be a significant adverse environmental impact. Implementation of the following mitigation measures would reduce the potential impact to burrowing owl to a less-than-significant level.

Mitigation Measure

BIO-2 To avoid loss of or harm to burrowing owl, the following measures shall be implemented:

a. Prior to issuance of a grading permit, and to avoid/minimize impacts to burrowing owls potentially occurring within the project site, the applicant shall retain a biologist qualified in ornithology to conduct surveys for burrowing owl. The qualified biologist shall conduct a two-visit (i.e., morning and evening) presence/absence survey at areas of suitable habitat on and adjacent to the project site boundary no less than 14 days prior to the start of construction or ground disturbance activities. Surveys shall be conducted according to the methods for take avoidance described in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and the Staff Report on Burrowing Owl Mitigation (CDFW 2012). If no burrowing owls are found, a letter report confirming absence shall be prepared and submitted to the City of Newman Community Development Department and no further measures are required.

b. Because burrowing owls occupy habitat year-round, seasonal no-disturbance buffers, as outlined in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012), shall

be in place around occupied habitat prior to and during any ground disturbance activities. The following table includes buffer areas based on the time of year and level of disturbance (CDFW 2012), unless a qualified biologist approved by the California Department of Fish and Wildlife verifies through non-invasive measures that either: 1) birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	**Time of Year**	**Level of Disturbance Buffers (meters)**		
		Low	**Med**	**High**
Nesting Sites	April 1 – Aug 15	200 m	500 m	500 m
Nesting Sites	Aug 16 – Oct 15	200 m	200 m	500 m
Nesting Sites	Oct 16 – Mar 31	50 m	100 m	500 m

c. If burrowing owl is found and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. Occupied burrows shall be replaced with artificial burrows at a ratio of one collapsed burrow to one constructed artificial burrow (1:1). Evicted burrowing owls may attempt to colonize or re-colonize an area that would be impacted, thus ongoing surveillance during project activities shall be conducted at a rate sufficient to detect burrowing owls if they return.

d. If surveys locate occupied burrows in or near construction areas, consultation with the California Department of Fish and Wildlife shall occur to interpret survey results and develop a project-specific avoidance and minimization approach. Once the absence of burrowing owl has been confirmed, a letter report shall be prepared and submitted to the City of Newman Community Development Department.

Implementation of this mitigation measure would reduce the potential significant impact to burrowing owl to a less-than-significant level by requiring pre-construction surveys for active nests/burrows and the implementation of avoidance, minimization, and mitigation measures should they be found on the project site.

Swainson's hawk. Swainson's hawk is listed as a threatened species under the California Endangered Species Act (CESA). Swainson's hawk is a long-distance migrator. Their nesting grounds occur in northwestern Canada, the western U.S., and Mexico and most populations

migrate to wintering grounds in the open pampas and agricultural areas of South America (Argentina, Uruguay, southern Brazil). This round-trip journey may exceed 14,000 miles. The birds return to the nesting grounds and establish nesting territories in early March.

Swainson's hawk nests in the Central Valley of California are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. These open fields and pastures are their primary foraging areas. Suitable foraging habitat for Swainson's hawk is found in the open agricultural fields at the project site and potential nesting habitat can be found on and adjacent to the project site. Nine observations of this species have been recorded within five miles of the project site (CNDDB 2022).

Construction activities at the project site could result in the disturbance of nesting sites occupied by Swainson's hawk on or adjacent to the project site, if present. The change in land use from agricultural to developed uses would cause a loss of Swainson's hawk foraging habitat at the project site. Loss or harm to Swainson's hawk or its foraging habitat is considered a significant adverse impact. The California Department of Fish and Game's (now California Department of Fish and Wildlife) *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California* (CDFG 1994) provides guidance on how impacts on Swainson's hawk are to be mitigated. Implementation of the following mitigation measures would reduce the potential impact to Swainson's hawk to a less-than-significant level.

Mitigation Measures

BIO-3 The following measures shall be implemented to avoid loss of or harm to Swainson's hawk and other raptors:

a. Tree and vegetation removal shall be completed during the nonbreeding season for raptors (September 16–January 31).

b. To avoid, minimize, and mitigate potential impacts on Swainson's hawk and other raptors nesting on or adjacent to the project site, retain a qualified biologist to conduct preconstruction surveys and identify active nests on and within 0.5 mile of the project site for construction activities conducted during the breeding season (March 1–August 31). The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction. Guidelines, provided in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley* (Swainson's Hawk Technical Advisory Committee 2000) or updated, current guidance, shall be followed for surveys for Swainson's hawk. If no nests are found, a report documenting the results of the survey shall be submitted to the City of Newman Community Development Department and no further mitigation will be required.

c. Impacts on nesting Swainson's hawks and other raptors shall be avoided by establishing appropriate buffers around active nest sites identified during

preconstruction raptor surveys. No project activity shall commence within the buffer areas until a qualified biologist has determined, in coordination with California Department of Fish and Wildlife, the young have fledged, the nest is no longer active, or reducing the buffer would not result in nest abandonment. California Department of Fish and Wildlife guidelines recommend implementation of 0.25- or 0.5-mile-wide buffers for Swainson's hawk nests, but the size of the buffer may be decreased if a qualified biologist, in consultation with California Department of Fish and Wildlife, determine that such an adjustment would not be likely to adversely affect the nest.

The appropriate no-disturbance buffer for other raptor nests (i.e., species other than Swainson's hawk) shall be determined by a qualified biologist based on site-specific conditions, the species of nesting bird, nature of the project activity, visibility of the disturbance from the nest site, and other relevant circumstances.

Monitoring of all active raptor nests by a qualified biologist during construction activities will be required if the activity has potential to adversely affect the nest. If construction activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer shall be increased until the agitated behavior ceases. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined appropriate by a qualified biologist.

BIO-4 If there is an active nest within ten miles of the project site, the following measures shall be implemented to mitigate for the loss of Swainson's hawk foraging habitat:

a. Prior to ground-disturbing activities, suitable Swainson's hawk foraging habitat shall be preserved to ensure replacement of foraging habitat lost as a result of the project, as determined by a qualified biologist, in consultation with California Department of Fish and Wildlife.

b. The habitat value shall be based on Swainson's hawk nesting distribution and an assessment of habitat quality, availability, and use within Stanislaus and Merced counties. The mitigation ratio shall be consistent with the guidelines included in the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (CDFG 1994). These guidelines specify that the mitigation ratio shall be 1:1 if there is an active nest within one mile of the project site, 0.75:1 if there is an active nest within five miles but greater than one mile away, and 0.5:1 if there is an active nest within 10 miles but greater than five miles away. If there is an active nest within one mile of the project site, the mitigation ratio can be reduced to 0.5:1 if all of the mitigation land can be actively managed for prey production. Such mitigation shall be accomplished through either the transfer of fee title or perpetual conservation easement. The mitigation land shall be located within the known foraging area within Stanislaus and Merced counties.

c. There are two active (within the past five years) Swainson's hawk nests within five miles of the project site (CNDDB Occurrences Nos. 2449 and 2451). To mitigate for the loss of foraging habitat for these nests, replacement foraging habitat shall be preserved at a mitigation ratio of 0.75:1 in consultation with California Department of Fish and Wildlife. Such mitigation shall be accomplished through either the transfer of fee title or perpetual conservation easement. The mitigation land shall be located within the known foraging area within Stanislaus and Merced counties.

If required, pre-construction Swainson's hawk surveys may be required to identify additional nests within ten miles of the project site. If additional nests are observed, foraging habitat shall be preserved following the mitigation ratios outlined above.

Implementation of these mitigation measures would reduce the potential significant impact to Swainson's hawk to a less-than-significant level by requiring foraging habitat mitigation and pre-construction surveys for Swainson's hawk nests on or near the project site.

Bats. Trees in the project area and/or buildings or structures on or adjacent to the project site could provide roosting habitat for special-status bat species known to occur in the vicinity of the project site: hoary bat, pallid bat, and western red bat. These bat species inhabit a wide variety of habitats including grasslands, woodlands, and forests. All three species roost in dense foliage of medium to large trees. Construction activities at the project site could result in the disturbance of roost and natal sites occupied by special-status bats on or adjacent to the project site, if present. Loss or harm to special-status bats is considered a significant adverse impact. Implementation of the following mitigation measure would reduce the potential impact to special-status bat species to a less-than-significant level.

Mitigation Measure

BIO-5 A qualified bat biologist shall perform a bat roost habitat assessment at least 30 days prior to the start of project activities, include building demolition. If bats or evidence of bats (guano, dead bats) are found to be absent and no suitable habitat exists, a letter report shall be submitted to the City of Newman Community Development Department and no further actions are required. If evidence of past roosting is found, suitable habitats shall be modified to render them unsuitable prior to project activities and a preconstruction survey shall occur within 14 days of the start of project activities. If live bats are found to be present, the qualified bat biologist shall determine whether bats are engaged in maternity roosting, or hibernation. If they are engaged in maternity or hibernation, direct and indirect project impacts shall be avoided, and a no disturbance buffer of at least 100-feet shall be established until such time the bat biologist determines they may be humanely evicted. If active day roosting bats require eviction, the bat biologist shall prepare an eviction plan to submit to the lead agency and CDFW, if there is a state nexus. The eviction plan shall be implemented until it can be determined that all bats have vacated, at which point any remaining buffers may be removed and project activities may commence.

Implementation of this mitigation measure would reduce the potential significant impact to special-status bat species to a less-than-significant level by requiring pre-construction surveys for bats and potential roosting sites and, if found, avoiding any disturbance.

Nesting Birds. Protected nesting bird species, such as loggerhead shrike, and raptor species, such as white-tailed kite, have the potential to nest in buildings or structures, on open ground, or in any type of vegetation, including trees, during the nesting bird season (January 15 through September 15). The project site and surrounding properties contain a variety of trees, shrubs, and open grassland areas suitable for nesting. Construction activities, including ground disturbance, can impact nesting birds protected under the federal Migratory Bird Treaty Act and California Fish and Game Code, should nesting birds be present during construction. If protected bird species are nesting on or adjacent to the project site during the bird nesting season, then noise-generating construction activities could result in the loss of fertile eggs, nestlings, or otherwise lead to the abandonment of nests. Implementation of the following mitigation measure would reduce the potential impact to nesting birds, including loggerhead shrike, to a less-than-significant level.

Mitigation Measure

BIO-6 To avoid impacts to loggerhead shrike and other nesting birds during the nesting season (January 15 through September 15), all construction activities should be conducted between September 16 and January 14, which is outside of the bird nesting season. If construction or project-related work is scheduled during the nesting season (February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), a qualified biologist shall conduct nesting bird surveys.

a. Two surveys for active bird nests will occur within 14 days prior to start of construction, with the final survey conducted within 48 hours prior to construction. Appropriate minimum survey radii surrounding each work area are typically 250 feet for passerines, 500 feet for smaller raptors, and 1,000 feet for larger raptors. Surveys will be conducted at the appropriate times of day to observe nesting activities. Locations off the site to which access is not available may be surveyed from within the site or from public areas. If no nesting birds are found, a letter report confirming absence will be prepared and submitted to the City of Newman Community Development Department and no further mitigation is required.

b. If the qualified biologist documents active nests within the project site or in nearby surrounding areas, an appropriate buffer between each nest and active construction shall be established. The buffer shall be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist shall conduct baseline monitoring of each nest to characterize "normal" bird behavior and establish a buffer distance, which allows the birds to exhibit normal behavior. The qualified biologist shall

monitor the nesting birds daily during construction activities and increase the buffer if birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, the qualified biologist or construction foreman shall have the authority to cease all construction work in the area until the young have fledged and the nest is no longer active. Once the absence of nesting birds has been confirmed, a letter report will be prepared and submitted to the City of Newman Community Development Department.

Implementation of this mitigation measure would reduce the potential significant impact to nesting birds to a less-than-significant level by requiring pre-construction surveys for active bird nests and the implementation of avoidance, minimization, and mitigation measures should they be found on the project site.

b. **Riparian Habitat or Sensitive Natural Communities**. There were no riparian habitat or sensitive natural communities observed at the project site.

c. **Waters of the United States**. A review of the National Wetlands Inventory online database was conducted to identify potential jurisdictional aquatic features on or adjacent to the project site (USFWS 2022). No National Wetlands Inventory wetlands occur on or adjacent to the project site.

Agricultural irrigation/drainage ditches border both the northern and southern boundaries of the project site. Neither of these drainage ditches are within the project boundary. Drainage channels are defined by their ordinary high-water marks on channel banks and their connection to other waterways or aquatic features.

Both drainage ditches contained water, some wetland vegetation, and appear to originate offsite and flow offsite. As these drainage ditches may have connectivity to tributaries or natural streams, they may be subject to USACE jurisdiction under the Clean Water Act. However, both drainages would likely be considered jurisdictional by the Central Valley Regional Water Quality Control Board and California Department of Fish and Wildlife.

Project development could impact these adjacent waterways and result in the loss of jurisdictional wetlands and other waters of the U.S. Loss of wetlands is considered a significant adverse impact. Implementation of the following mitigation measure would reduce construction impacts to wetlands and other waters of the U.S. to a less-than-significant level.

Mitigation Measure

BIO-7 Prior to initiation of ground disturbance or construction activities, the applicant shall protect waterways adjacent to the project site through the use of best management practices for erosion control and vehicle/equipment fueling. This will include the

installation of silt fencing between the project site and adjacent waterways. The silt fencing will prevent soil from washing off the project site into waterways and exclude construction activities from the drainage channels.

Potential fuel spills and leaks from construction vehicle/equipment fueling operations shall be prevented from entering waterways. Designated fueling areas should be on a level grade and must be at least 50 feet from any waterway. The fueling area should be protected by a berm to prevent any runoff from leaving the fueling area.

Implementation of this mitigation measure shall ensure that impacts to potentially jurisdictional wetlands and waterways adjacent to the project site are mitigated to a less-than-significant level by requiring best management practices for erosion control and vehicle fueling.

d. **Wildlife Movement.** Terrestrial species must navigate a habitat landscape that meets their needs for breeding, feeding and shelter. Natural and semi-natural components of the landscape must be large enough and connected enough to meet the needs of all species that use them. Wildlife movement corridors provide connectivity between habitat areas, enhancing species richness and diversity, and usually also provide cover, water, food, and breeding sites.

The project site is not located within any previously defined essential connectivity areas and is also adjacent to existing developed areas (CDFW 2022). The project site is not likely to facilitate major wildlife movement due to current active disturbance. As such, the proposed project would have no impact on wildlife movement.

e. **Local Biological Resource Policies/Ordinances.** The City of Newman 2030 General Plan has goals in place for conserving local biological resources. The Natural Resources Element provides direction regarding the conservation, development, and use of natural resources in and around Newman, including agricultural land, water quality, vegetation and wildlife, and air quality.

Mitigation measures contained in this section will mitigate impacts to biological resources to a less-than-significant level. With these considerations, the proposed project would not conflict with local regulations related to biological resources.

Trees. The City of Newman Street Tree Ordinance (Chapter 11.04) regulates trees growing within the public rights-of-way. The proposed project does not include the removal of any street trees; therefore, the proposed project would not conflict with local regulations.

f. **Conservation Plans.** There are no critical habitat boundaries, habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans applicable to the proposed project site.

5. CULTURAL RESOURCES

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5?	☐	☐	☐	☒
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5?	☐	☒	☐	☐
c.	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Comments:

This section is based off of the archival database record search conducted through the Central California Information Center, file number 12063IN, and the archaeological pedestrian survey conducted by EMC Planning Group Inc.'s archaeologist Kaitlin Ruppert, on February 16, 2022.

a. The Central California Information Center database search revealed that the "Town of Newman" is considered to be a historic resource (P-50-0021-88). There were three other resources from the database search, all were located within a quarter-mile radius of the project site. None were determined to be significant historic resources.

b. The archaeological pedestrian survey revealed that there is no trace evidence of prehistoric archaeological resources such as shell fragments, groundstone, debitage, or charring from hearths. In addition, there is no evidence of historic archaeological resources such as ceramics, cans, or historic glass. However, there is the potential during project-related excavation and construction for the discovery of unknown archaeological resources, which is considered a significant impact. Implementation of the following mitigation measures would reduce this potential, significant impact to a less-than-significant level.

Mitigation Measure

CR-1 If any prehistoric or historic subsurface archaeological resources, including tribal cultural resources, are discovered during ground-disturbing activities:

a. All work within 50 meter (165 feet) of the resources shall be halted and a qualified archaeologist shall be consulted to assess the significance of the find according to CEQA Guidelines Section 15064.5.

b. If any find is determined to be significant, representatives from the City of Newman Community Development Department and the archaeologist shall meet to determine the appropriate avoidance measures or other appropriate mitigation.

c. All significant prehistoric cultural materials and or tribal cultural resources recovered shall be, returned to Native American tribes traditionally and culturally affiliated with the area.

d. In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the City shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations.

e. If avoidance is infeasible, other appropriate measures (e.g., data recovery) would be implemented.

f. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is being carried out.

c. Although there are no formal cemeteries or Native American burial grounds known to exist at the site, there is a potential that construction activities could accidentally uncover human remains. Disturbance of Native American skeletal remains during the project's construction would be a significant, adverse environmental impact. However, implementation of the following mitigation measure would ensure potential impacts are less than significant.

Mitigation Measure

CR-2 California Health and Safety Code Section 7050.5 and the CEQA Guidelines Section 15064.5(e) contain the mandated procedures of conduct following the discovery of human remains. According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The Stanislaus County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the Native American Heritage Commission within 24 hours, who would, in turn, notify the person the Native American Heritage Commission identifies as the Most Likely Descendant of any human remains. Further actions shall be determined, in part, by the desires of the Most Likely Descendant. The Most Likely Descendant has 48 hours to make recommendations regarding the disposition of the remains following notification from the Native American Heritage Commission of the discovery. If the Most Likely Descendant does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the Most Likely Descendant's recommendations, the owner or the descendent may request mediation by the Native American Heritage Commission.

6. ENERGY

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Result in a potentially significant environmental impact due to wasteful, inefficient, or 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 efficiency?	☐	☐	☐	☒

Comments:

a. Energy impacts are assessed based on the proposed project energy demand profile and on its relationship to the state's energy efficiency regulations and the Town's land use planning regulations. Both are summarized below.

Projected Energy Use. The proposed project would increase demand for electricity, natural gas and transportation fuel. A summary of projected energy demand is provided below.

Regarding electricity demand, according to the California Energy Commission Energy Consumption Data Management System, in 2020, total electricity consumption in Stanislaus County was 5,055,970,952 kilowatt-hours (kWh). Section 5.3, Energy by Land Use – Electricity, in the project CalEEMod results included in Appendix D show projected electricity demand would be approximately 2,863,070 kWh per year. Projected electricity demand would be approximately 0.6 percent of countywide demand in 2020.

Regarding natural gas, the Energy Consumption Data Management System database shows that in 2020, total natural gas consumption in Stanislaus County was 198,619,200 therms. Section 5.2, Energy by Land Use – Natural Gas, in the project CalEEMod results included in Appendix D show that projected natural gas demand would be about 7,697,230 BTU per year or approximately 7.69 therms per year. This is less than .00001 percent of countywide demand in 2020. As described in Section 8, Greenhouse Gas Emissions, of this initial study, a mitigation measure has been included that would prohibit use of natural gas in the residential portion of the proposed project. Per the CalEEMod results in Appendix D, the residential component demand is projected at 10,336 therms. Total project demand would, therefore, be reduced to 66,636 therms.

The proposed project would generate traffic trips. With increased traffic volume and vehicle miles traveled relative to an undeveloped site, transportation fuel consumption would increase. Table 4.2, Trip Summary Information in the CalEEMod results included in Appendix D show projected annual vehicle miles traveled at 14,611,421. The Emissions

Factor Model was used to calculate fuel demand based on the vehicle miles traveled. The model uses vehicle miles traveled as an input, with one of the outputs being transportation fuel demand. The results, included in Appendix F, show that annual fuel demand would be about 677,284 gallons.

The analysis in Section 17, Transportation, concludes that the proposed project would have a less-than-significant impact from vehicle miles traveled. This suggests that transportation fuel demand may be lower than would be expected for a project whose vehicle miles traveled impact is significant.

Regulatory Requirements. A multitude of state regulations and legislative acts are aimed at improving vehicle fuel efficiency, energy efficiency, and enhancing energy conservation. For example, the Pavley I standards focus on transportation fuel efficiency. The gradual increased use of electric cars powered with cleaner electricity will reduce consumption of fossil fuel. Vehicle miles traveled are expected to decline with the continuing implementation of Senate Bill 743, resulting in less vehicle travel and less fuel consumption. In the renewable energy use sector, representative legislation for the use of renewable energy includes, but is not limited to, Senate Bill 350 and Executive Order B-16-12. In the building energy use sector, representative legislation and standards for reducing natural gas and electricity consumption include, but are not limited to, Assembly Bill 2021, CALGreen, and the California Building Standards Code.

The California Building Standards Code is enforceable at the project-level. The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the California Building Standards Code, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The California Energy Code is updated every three years by the California Energy Commission as the Building Energy Efficiency Standards to allow consideration and possible incorporation of new energy efficiency technologies and construction methods. The most recent version of the Building Energy Efficiency Standards was approved in 2022 and is scheduled to become effective on January 1, 2023. The Green Building Standards Code (CALGreen), which requires all new buildings in the state to be more energy efficient and environmentally responsible, was also most recently updated in July 2022 and scheduled to take effect on January 1, 2023. These comprehensive regulations are intended to achieve major reductions in interior and exterior building energy consumption.

A project could be considered to result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption of energy if its energy demand is extraordinary relative to common land use types, its gross energy demand is excessive relative to total demand in Stanislaus County, and/or it fails to comply with energy efficiency/conservation regulations that are within the applicant's control. The project is a common land use type. The project energy demand would not be excessive relative to total countywide demand or relative to other land use projects and would not inherently be a source of wasteful energy

demand. The project applicant would be required to comply with Title 24 of the current California Building Code with respect to energy efficiency. The proposed project would consume energy, but it would not be inefficient, wasteful, or unnecessary. Therefore, the impact would be less than significant.

b. There are no local or state renewable energy plans that apply to the proposed project. However, the California Building Standards Code requires that new development meet the Building Energy Efficiency Standards that are in effect at the time building permits are issued. For residential development of the type proposed, these standards require that each home include a solar photovoltaic system to ensure that each unit has net zero energy demand. For non-residential buildings, the standards require that they be solar ready. For both residential and non-residential development, the standards address a range of energy efficiency requirements for multiple building features including, but not limited to: building envelope, mechanical systems, lighting, electrical power distribution, heating and cooling, etc. Because the project would comply with the fundamental state regulations for energy efficiency, the project would not conflict with or obstruct a state or local plan for energy efficiency.

7. GEOLOGY AND SOILS

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	(1) 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?	☐	☐	☐	☒
	(2) Strong seismic ground shaking?	☐	☐	☐	☒
	(3) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
	(4) Landslides?	☐	☐	☐	☒
b.	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c.	Be located on a geologic 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?	☐	☐	☐	☒
d.	Be located on expansive soil, creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
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?	☐	☐	☐	☒
f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Comments:

The analysis presented below has been written against the backdrop of CEQA case law addressing the scope of analysis required for potential impacts resulting from existing environmental hazards found at the site or in the vicinity of a site for a proposed project. In California Building Industry

Association v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369, 377, the California Supreme Court held that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents" (italics added). The court reasoned that "ordinary CEQA analysis is concerned with a project's impact on the environment, rather than with the environment's impact on a project and its users or residents" (Id. at p. 378).

The court did not hold, however, that CEQA never requires consideration of the effects of existing environmental conditions on the future occupants or users of a proposed project. But the circumstances in which such conditions may be considered are narrow: "when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions" (Id. at pp. 377-378, italics added).

a. **Known Earthquake Fault**. The project site is not located within an earthquake fault zone designated by the Chief of the California Geological Survey pursuant to the Alquist-Priolo Act (California Department of Conservation 2022). The nearest fault to the project site is the San Joaquin Fault located approximately three miles west of the site. Therefore, the project would not exacerbate the potential substantial adverse effects involving rupture of a known earthquake fault.

Seismic Ground-Shaking. Faults in the region are capable of generating significant earthquakes producing ground shaking in the City of Newman. According to the City general plan EIR, ground-shaking seismic hazards in the City of Newman are lower than most of California (City of Newman 2006, p. 4.6-7). Further, the City general plan policies HS-1.3 and HS-1.4 require new construction to conform to the California Building Code, which includes seismic design and construction requirements. Therefore, with compliance of policies HS-1.3 and HS-1.4, the proposed project would not exacerbate the potential substantial adverse effects involving seismic ground-shaking.

Liquefaction. According to the California Department of Conservation's "EQ Zapp," the City of Newman and surrounding areas have not yet been mapped to identify the potential for soil liquefaction (California Department of Conservation 2022). However, the City general plan EIR concludes that areas in and around Newman most susceptible to liquefaction include areas along the San Joaquin River and where there are high groundwater levels (City of Newman 2006, p. 4.6-7). The project site is not located along the San Joaquin River nor do high groundwater levels exist on the site; therefore, the risk of the project exposing people or structures to liquefaction hazards is low. The proposed project would not exacerbate the potential for low liquefaction hazards on the project site.

Landslides. The project site is relatively flat and not adjacent to any slopes that could result in a landslide event. Therefore, the proposed project would not exacerbate potential adverse effects involving landslides.

b. **Soil Erosion.** According to the U.S. Department of Agriculture Soil Survey 2019, the following soils are present on the project site: El Solyo silty clay loam; Pedcat clay loam; Pedcat clay loam, leveled; and Dosamigos clay loam. Table 4.6-1 of the City general plan EIR identifies the El Solyo soil series as having moderate/high erosion potential; the Pedcat soil series having moderate erosion potential; and the Dosamigos soil series having moderate erosion potential. However, the City general plan policies HS-1.1 and HS-1.2 serve to reduce the potential for erosion associated with soil conditions by requiring soils and geotechnical reports for new development and policy HS-1.4 requires the adoption and enforcement of the most current California Building Code. In addition, the project is required to prepare an Erosion Control Plan and other drainage and grading plans as part of the project's improvement plans to be submitted for City Engineer approval prior to the approval of a Final Map. Therefore, the proposed project would not result in substantial soil erosion or the loss of topsoil.

c. **Unstable Geologic Unit or Soil**. Based on the City general plan, City general plan EIR and the *Groundwater Sustainability Plan for the San Joaquin River Exchange Contractors GSP Group in the Delta-Mendota Subbasin* (San Joaquin River Exchange Contractors GSP Group 2019, Appendix Q), there is no indication that unstable geologic units are located in the Newman. Therefore, the project would not be located on a geologic 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

d. **Expansive Soil.** According to the U.S. Department of Agriculture Soil Survey 2019, the following soils are present on the project site: El Solyo silty clay loam; Pedcat clay loam, Pedcat clay loam, leveled; and Dosamigos clay loam. Table 4.6-1 of the City general plan EIR identifies the El Solyo soil series as having moderate/high expansion potential; the Pedcat soil series having moderate/high expansion potential; and the Dosamigos soil series having moderate/high expansion potential. The proposed project would be required to comply with City general plan policies HS-1.3 and HS-1.4, which require new construction to conform to the California Building Code inclusive of seismic design and construction requirements. Final design of the proposed project would require review and approval by the City of Newman Building Department to confirm conformance with the California Building Code standards. Therefore, the proposed project would not create a direct or indirect risk to life or property associated with expansive soils.

e. **Septic Systems.** The proposed project would connect to the City's municipal wastewater treatment system.

f. **Unique Geologic Features.** The project site is relatively flat with no unique geologic features present (Google Earth 2022 and EMC Planning Group Site Investigation).

Paleontological Resources. According to the City general plan EIR (2006), the closest paleontological resources (i.e., fossils) to the City of Newman are located around the City of Gustine and City of Patterson, both of which are approximately four miles south and twelve miles north of the City of Newman, respectively. However, the 2016 Stanislaus County

General Plan EIR (Figure 3.6-5 General Paleontological Sensitivity Map of Stanislaus County) identifies the City of Newman in a high paleontological sensitivity zone. Therefore, it is possible that paleontological resources could be accidentally discovered during excavations or other related construction activities associated with development of the project site. Directly or indirectly destroying a unique paleontological site is considered a significant, adverse environmental impact. Implementation of the following mitigation measure would ensure this potential impact would be less than significant.

Mitigation Measure

GEO-1 The following language shall be included in all demolition and grading permits: "If paleontological resources are discovered during demolition and earthmoving activities, work shall stop within 100 feet of the find until a qualified paleontologist can assess if the find is unique and, if necessary, develop appropriate treatment measures in consultation with the City Community Development Department."

8. GREENHOUSE GAS EMISSIONS

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Comments:

a. The proposed project will generate greenhouse gas (GHG) emissions primarily from transportation, energy use, water and wastewater, and solid waste disposal sources. These emissions will contribute to the cumulative accumulation of GHG emissions in the atmosphere. Human activity has increased the intensity of the greenhouse effect by releasing increasing amounts of GHGs into the atmosphere. The GHG emissions that are already in the atmosphere will continue to cause climate change for years, just as the warming being experienced now is the result of emissions produced in the past.

Increased concentrations of GHGs in the atmosphere result in increased air, surface, and ocean temperatures. Many of the effects and impacts of climate change stem from resulting changes in temperature and meteorological responses to those changes. Effects of climate change include, but are not limited to: reduced snowpack, more frequent and extreme storm events, sea level rise, reduced water supply availability, diminished air quality, increased wildfire hazards, increased public health concerns, and ecosystem changes. These effects are global and cumulative. That is, the contribution of any single land use development project to any one or more of these effects cannot be isolated.

Federal, state, and local governments have adopted statutes, regulations, and plans to reduce GHG emissions from land use projects like the proposed project. California has been at the forefront of addressing climate change and employs a suite of statutes, regulations and guidance to implement the statutes, and executive orders for this purpose. The statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing California Air Resources Board to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the state; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by California Air Resources Board; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. Statues and guidance that is particularly germane to the proposed project is referenced below.

The City of Newman has not adopted a plan for reducing GHGs, nor has the City adopted a threshold of significance for GHGs. Lacking their own adopted guidance, local agencies commonly refer to guidance from regional air districts for assessing the impacts of GHGs. Such local and regional GHG reduction plans are commonly adopted to guide local agencies in reducing their fair share of GHG emissions to help meet state wide GHG reduction targets. Newman is located within the boundary of the San Joaquin Valley Air Pollution Control District (air district). The air district developed GHG analysis guidance in 2008. Given the evolution of climate change science, regulatory environment, and case law that has occurred since then, that guidance is no longer applicable.

Given the absence of a local or regional threshold of significance or plan for reducing GHGs, the City is referencing guidance provided by the adjacent air district, the Sacramento Metropolitan Air Quality Management District (SMAQMD), for determining the significance of GHG impacts of the proposed project. The SMAQMD guidance is found in Chapter 6, Greenhouse Gas Emissions, within its *Guide to Air Quality Assessment in Sacramento County* (Sacramento Metropolitan Air Quality Management District 2021). The "assessment guide" was originally adopted in 2009, but was most recently updated in 2021. Thus, it reflects current practice and the cumulative efforts of the state and the SMAQMD to manage GHG emissions from land use projects.

For addressing GHG impacts in CEQA documents, the assessment guide relies on the SMAQMD's CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plan (Sacramento Metropolitan Air Quality Management District 2020). The "thresholds guidance" document includes substantial evidence used to identify quantified construction and operational thresholds of significance and to identify best management practices (BMPs) for new land development projects, which if incorporated into a proposed project, would render its operational GHG impact less than significant. The thresholds are designed to reduce emissions from individual land use projects. The thresholds guidance is based largely on the air district's analysis of GHG emissions trends and on state level GHG reduction targets and strategies embedded in state statutes and executive orders, particularly the state's 2017 Scoping Plan, which includes state strategies for reducing GHG emissions to achieve the state wide GHG reduction target of 40 percent below 1990 levels by 2030 as codified in Senate Bill 32. It identifies a key role for local governments by recommending that they establish GHG reduction goals for both their municipal operations and the community consistent with those of the state. The proposed project would be operational well before 2030. Therefore, guidance for reducing emissions to meet the state 2030 target is particularly relevant.

Construction GHG Emissions. The SMAQMD threshold of significance for construction emissions is 1,100 metric tons of GHG equivalent (MT CO_2e) per year. Construction emissions for the proposed project were quantified using CalEEMod as described in the technical memo *Mattos Subdivision Project – Criteria Air Pollutant and Greenhouse Gas (GHG) Emissions Modeling: Methodology, Assumptions, and Results* in Appendix D. The technical memorandum also describes assumptions used in the modeling process. Section 2.1, Overall

Construction, in the CalEEMod results in Appendix D, shows that over the two-year construction period, the highest annual construction emissions volume is projected at 763.93 MT CO_2e. This is substantially below the threshold of significance. Therefore, construction GHG impacts would be less than significant.

Operational GHG Emissions. For operational emissions (emissions that would occur annually due to the long-term operation of a project), the significance determination is based on a multi-step process. First, operational emissions are to be quantified using CalEEMod. The technical memorandum in Appendix D identifies these results, which are replicated in Table 3, Net Annual Operational GHG Emissions. Refer to the technical memorandum for discussion of modeling assumptions and a description of carbon sequestration changes.

Table 3 Net Annual Operational GHG Emissions

Operational Emissions	Carbon Sequestration Potential	Total Project Emissions	Existing Emissions	Net Project Emissions
6,104.39	3.12	6,107.51	<195.57 >	5,911.94

SOURCE: EMC Planning Group 2022
NOTE:
1. All values are reported in MT CO_2e

Independent of a project's annual operational emissions volume, to be consistent with GHG emissions targets described in the thresholds guidance document, individual projects are to incorporate the following two BMPs:

1. No natural gas: Projects shall be designed and constructed without natural gas infrastructure; and
2. Electric vehicle (EV) ready: Projects shall meet the current California Green Building Code (CALGreen) Tier 2 standards for single-family, townhome and duplex projects, except all EV spaces shall instead be EV ready.

The applicant has indicated that it is infeasible to construct the commercial portions of the proposed project without natural gas infrastructure, but is proposing that this BMP can be employed for the residential portion of the project. Per Section 5.2, Energy by Land Use – Natural Gas, of the CalEEMod results in Appendix D, the residential portion of the project would generate 55.48 MT CO_2e of GHGs from natural gas combustion that would be avoided with the applicant's proposed measure.

The SMAQMD has established a quantified threshold of significance for operational GHG emissions of 1,100 MT CO_2e. As stated in the assessment guide, if after subtracting the GHG reduction volumes from implementing BMPs 1 and 2 from a project's annual operations emissions volume, the volume drops below 1,100 MT CO_2e, the project can be found to have a less-than-significant impact and no further analysis is required. Total project emissions would drop to 5,856.46 MT CO_2e with implementation of the applicant's proposed partial implementation of BMP 1. The emissions reduction from implementing

BMP 2 would be nominal relative to the total mobile source emissions of 5,339.24 MT CO_2e as reported in Section 2.2, Overall Operational, of the proposed project CalEEMod results. Therefore, with BMPs 1 and 2, annual operational emissions would still exceed the threshold of significance.

Where the project GHG emissions volume exceeds 1,100 MT CO_2e per year after implementing BMPs 1 and 2, a third BMP is required:

3. Residential projects shall achieve a 15 percent reduction in vehicle miles traveled (VMT) per resident.

The *Mattos Ranch 2 Vehicle Miles Traveled Analysis* (VRPA Technologies 2022) was prepared to evaluate the VMT impacts. The methodology used and conclusions of the analysis are described in detail in Section 17, Transportation, in this initial study. The analysis concludes that the VMT impact of the project is less than significant; no mitigation to reduce VMT is required.

The threshold guidance document states that projects that incorporate BMPs 1 and 2 and meet the BMP 3 requirement regarding VMT can be found to be consistent with the GHG reduction targets identified in the threshold document and described in the assessment guide, and therefore, found to have a less-than-significant GHG impact. The thresholds guidance document also states:

- If a project cannot incorporate the required BMPs, other reductions or purchasing and retiring GHG/carbon offsets from a registry approved by the SMAQMD may be required thresholds guidance document, p. 40); and
- If applicants cannot or choose not to incorporate the required BMPs, they can propose alternative GHG reduction strategies that achieve equivalent reductions, provided that they are surplus to reductions needed to achieve the State's targets. (thresholds guidance document, p. 43).

As described above, the project is consistent with BMP 3. However, the applicant has agreed to only partially implement BMP 1 regarding natural gas and has not yet committed to implementing BMP 2. Consequently, the project would have a significant impact from generating GHGs, as it does not meet the performance standards in the Sacramento Metropolitan Air Quality Management District's *CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*" document.

For the project to become consistent with the subject GHG reduction guidance, the applicant must address the inconsistencies. Regarding GHGs from natural gas, the project would generate a total of 413.19 MT CO_2e of GHGs from natural gas as shown in Section 5.2, Energy by Land Use – NaturalGas, of the CalEEMod results, or a total of 357.70 MT CO_2e after subtracting the natural gas emissions of 55.49 MT CO_2e from the residential portion of the site. This volume must be mitigated through alternative reduction means. Mitigation is also required to assure that the project design includes EV infrastructure

consistent with BMP 2. Implementation of the following mitigation measures would reduce the project's GHG impact to less than significant by ensuring that natural gas emissions are offset and that EV improvements per BMP 2 are incorporated into the proposed project.

Mitigation Measures

GHG-1 The applicant shall prepare a Greenhouse Gas (GHG) Reduction Plan which identifies one or more GHG reduction actions that will be taken to reduce GHG emissions 357.70 MT CO_2e per year as a basis for fully mitigating GHG emissions from using natural gas in the non-residential components of the project. The GHG Reduction Plan shall prioritize on-site GHG reduction design features. Additional measures may be added by the applicant.

In lieu of or in addition to one or more of the on-site measures above, the applicant may make direct investments in off-site GHG reduction activities/programs in the vicinity. Examples of direct investments include building retrofit programs that pay for cool roofs, solar panels, solar water heaters, smart meters, energy efficient lighting energy efficient windows, and insulation. Other examples include financing programs for installing electric vehicle charging stations, electrifying school buses, or planting local urban forests.

The applicant may choose to retain a qualified air quality / GHG professional to quantify the GHG reductions that would result from implementing the Reduction Plan based on substantial evidence to be included in the Reduction Plan.

If the applicant elects to quantify the GHG emissions reductions from on-site measures and/or investments in off-site reduction programs and the reductions are insufficient to reduce project emissions by a minimum of 357.70 MT CO_2e per year, the applicant may secure the reduction balance by purchasing and retiring carbon offset credits. The carbon offset credits shall meet the following performance standards:

- Carbon offset credits shall be issued by a recognized, reputable and accredited registry that mandates the use of established protocols for quantifying and issuing the offset credits. Credits issued based on protocols approved by the California Air Resources Board should be prioritized. Examples of such registries include the Climate Action Reserve, American Carbon Registry, and Vierra.
- The carbon offset credits should be generated from projects developed in the United States. Credits from projects developed internationally should not be used unless the applicant demonstrates with substantial evidence that sufficient carbon offsets from projects in the United States are unavailable. International offsets must be quantified and issued using established protocols that are recognized in the United States and that are issued by recognized, reputable and accredited registries.

- All carbon offset credits purchased to reduce GHG emissions, must meet the criteria of being real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2).

Prior to issuing building permits for any non-residential portion of the project, the applicant shall submit the GHG Reduction Plan for review and approval of the City of Newman City Planner. If carbon offsets are proposed, prior to approval of an occupancy permit for the first non-residential portion of the project, the applicant shall provide an executed contract or other certification to the City Planner that the requisite volume carbon offset credits have been purchased.

GHG-2 The proposed project shall be designed to include electric vehicle support improvements to consistent with the latest adopted version the CALGreen Tier 2 standards. Inclusion of these design elements in the final project plans shall be verified by the City Building Official prior to issuance of a building permit.

b. Given that the City does not have an adopted plan for reducing GHG emissions, the SMAQMD's guidance for assessing GHG emissions is considered to be the applicable plan for reducing GHG emissions. The SMAQMD guidance is based in significant part on demonstrating consistency with the 2017 Scoping Plan. The 2017 Scoping Plan identifies strategies for meeting the state's 2030 GHG emissions reduction target of 40 percent below 1990 levels by 2030 as codified in Senate Bill 32. Because the proposed project would be fully operational before 2030 and would implement the three BMPs identified in the SMAQMD guidance (with required implementation of mitigation measures GHG-1 and GHG-2), it would be consistent with that guidance, and by extension, with the 2017 Scoping Plan. Consequently, the proposed project would have no impact from conflict with the applicable plan for reducing GHG emissions.

9. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	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?	☐	☐	☐	☒
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?	☐	☒	☐	☐
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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, create a significant hazard to the public or the environment?	☐	☐	☐	☒
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 a public-use airport, result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Comments:

a. The proposed project is a residential and commercial subdivision that does not include the routine use storage, transport, and disposal of hazardous materials; therefore, the project would not create significant hazard to the public or environment.

b. The project site is currently in agricultural use and given this history, potential concern is noted regarding the use of pesticides, herbicides, and fertilizers.

The potential of an accidental release of hazardous materials from the site soils into the environment would be most likely to occur during the site grading activities and site remediation activities. This potential risk would be considered a significant environmental impact. The City general plan includes policy HS-4.4, which requires that a site assessment for hazardous and toxic soil contamination be prepared prior to approving development where it is deemed necessary based on the history of a property's land use.

The proposed project would be required to implement the following mitigation in order to ensure impacts related to the project's potential to release of hazardous materials into the environment during project implementation are reduced to a less-than-significant level.

Mitigation Measure

HAZ-1 The proposed project is required to prepare a Phase I Environmental Site Assessment on the project site and submit for review and approval to the City of Newman's Community Development Department. The assessment shall include, but is not limited to:

- Results of the soil samples;
- Discussion of any environmental concerns onsite;
- Recommended mitigation measures, as necessary; and
- Confirmation of the need for a Phase 2 Environmental Site Assessment.

With implementation of Mitigation Measure HAZ-1, the proposed project will comply with policy HS-4.4 and result in less than significant impacts related to the potential for accidental release of hazardous materials into the environment during implementation activities.

c. The project site is not located within one-quarter of a mile from a school, the nearest being Von Renner Elementary School approximately 0.3 miles northwest of the site. Additionally, the proposed project is a residential and commercial subdivision that does not include the routine use storage, transport, and disposal of hazardous materials; therefore, the project would not create significant hazard to schools in the vicinity.

d. The following lists were reviewed:

- Hazardous Materials Waste and Substances Sites from the Department of Toxic Substances Control EnviroStor Database (Department of Toxic Substances Control 2022);
- Leaking Underground Storage Tank Sites from the State Water Board's GeoTracker Database (State Water Resources Board 2023a);
- Solid Waste Disposal Sites Identified by Water Board with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit (California Environmental Protection Agency 2023a);
- "Active" Cease and Desist Order and Cleanup and Abatement Orders from Water Board (California Environmental Protection Agency 2023b); and

- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by the Department of Toxic Substances Control (California Environmental Protection Agency 2023c).

The project site is not located on any of these lists. Therefore, the proposed project is not 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 not create a significant hazard to the public or the environment.

e. The project site is not located within two miles of a public airport or public use airport; the nearest is the Gustine Municipal Airport located over four miles southeast of the site. Therefore, the project would not expose persons to a safety hazard related to airports.

f. The proposed project would comply with City general plan policies set in place to ensure that identified emergency routes are kept free of all traffic impediments resulting from new projects both during and after construction. Such policies include policy HS-5.4, which requires new neighborhoods in the City of Newman to have adequate emergency response times for new development. The proposed project would be required to comply with the City general plan policies and the City of Newman Fire and Building Departments shall review construction plans for roadway modifications and establish that the proposed road and driveways meet all ordinance and California Building Code requirements for emergency access.

Compliance with City general plan policies and the review and approval of project plans by the City of Newman Fire and Building Departments would ensure that the project does not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

g. The project site is surrounded by existing residential, commercial, and agricultural uses and is not near any wildlands resulting in the danger of wildfires to be considered low (City of Newman 2006, p. 4.7-11). Therefore, it is not likely that the proposed project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

Refer also to Section 20, Wildfire.

10. HYDROLOGY AND WATER QUALITY

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☐	☒
b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
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:				
(1)	Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(2)	Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
(3)	Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(4)	Impede or redirect flood flows?	☐	☐	☒	☐
d.	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e.	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Comments:

a. Implementation of the proposed project would result in the demolition of three existing single-family residences and associated farming structures to construct 43 single-family residences and commercial uses. Stormwater from the proposed project would be collected and directed to the proposed storm drainage basin where it is connected to the existing City storm drain facilities in Prince Road. The storm water collected in the City storm drain facilities would be discharged to the Newman Wasteway to the south, and eventually connect to the San Joaquin River and adjoining wetlands east of the city.

The Newman Wasteway and San Joaquin River are listed as impaired water bodies under section 303(d) of the federal Clean Water Act and stormwater discharge from the development would be regulated. The City has adopted stormwater management and discharge control ordinances (Chapter 11.12 of the zoning code) and the City general plan includes policies NR-2.2 (stating that new developments shall be designed and constructed using best management practices), NR-2.5 (which requires developers to prepare and implement sediment control and soil erosion plans featuring mitigation of sediment runoff), and NR-2.6 (stating that the City shall comply with the requirements of the National Pollutant Discharge Elimination System) that would all apply to the project.

Construction activities that would result in disturbance of one or more acres would be required to comply with the General Permit for Storm Water Discharges (General Construction Permit); the proposed project includes disturbance to approximately 20 acres and, therefore, would be subject to the General Construction Permit. Under the General Construction Permit, the preparation of a Storm Water Pollution Prevention Plan for the project site would be required. The Storm Water Pollution Prevention Plan includes best management practices for erosion and sediment control, site management, and runoff controls.

During the operational phase of the proposed project, urban pollutants can mix with the stormwater runoff from the project site potentially affecting the receiving waters. If a project creates or replaces more than 2,500 square feet of impervious surfaces, the project would be subject to the requirements of the National Pollutant Discharge Elimination System Phase II Small MS4 General Stormwater Permit. These requirements include the use of low impact design, which address the capture and reuse of runoff from impervious services, methods of stormwater harvesting, and the prevention of hydromodification. The use of low impact design measures would ensure that pollutants in stormwater are treated before being discharged from the project site, and would ensure that peak runoff from the site does not exceed existing volumes.

Implementation of City policies and procedures presented above would ensure the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

b. The City of Newman relies entirely on groundwater and is located within the Delta-Mendota Subbasin. Groundwater storage under the City of Newman is positively impacted through recharge from the San Joaquin River Exchange Contractors Groundwater Sustainability Agency (Newman's groundwater sustainability agency) whose contribution of recharge helps maintain adequate groundwater storage to offset storage reductions caused by development within the City of Newman (San Joaquin River Exchange Contractors GSP Group 2019). The proposed project's 2.1-acre storm drainage basin located at the southern end of the project site would be used to support groundwater recharge. As discussed in Section 19.0, Utilities and Service Systems, anticipated supplies of groundwater are sufficient to meet all demands through the year 2040 even under drought conditions (City of Newman 2016, p. 58). Refer to checklist question "b" of Section 19.0 for more detail.

Therefore, the proposed project's demand of groundwater would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge.

c. There are no streams or rivers located on the project site. However, the proposed project would increase the number of impervious surfaces. Therefore, the project would alter the existing drainage pattern of the site. Potential impacts from the increase in impervious surfaces are discussed below:

Erosion. Development of the proposed project may lead to siltation and/or erosion on- or offsite, though not at substantial levels. The project would be required to comply with City general plan policies HS-1.1, HS-1.2, and HS-1.4, which serve to reduce the potential for erosion associated with soil conditions by requiring soils and geotechnical reports for new development and complying with the California Building Code. Compliance with these City general plan policies would ensure this impact would remain less than significant.

Flooding. The proposed project would be required to prepare and implement an Erosion Control Plan and Storm Water Pollution Prevention Plan outlining the control measures and drainage facility designs that would be incorporated into the project plans; refer to the responses under checklist question "b" in Section 7, Geology and Soils, and under checklist question "a" above, which would ensure this impact would remain less than significant.

Runoff. According to the project's vesting tentative subdivision map, the project would connect into the existing drainage system on Prince Road through the City-approved Mattos Ranch Phase I development. The Storm Water Pollution Prevention Plan required by the General Construction Permit would outline how stormwater created onsite would be treated and directed towards the City of Newman's existing storm drainage system. According to the City general plan, the City plans to upgrade 750 to 1,000 feet of a major pipe at Inyo Avenue to a 60-inch diameter to increase drainage capacity for runoff (p. 4.8-6). However, this upgrade has not occurred yet (Kathryn Reyes, email message, February 1, 2022). The Storm Water Pollution Prevention Plan would also illustrate how best management practices and low impact design measures would be implemented on the project site ensuring this impact would remain less than significant.

Flood Flows. As discussed under checklist question "d" below, the project site is located within a 100-year flood hazard zone and, therefore, flood flows may be of concern in relation to development of the project site. However, the City general plan EIR concludes that with implementation of City general plan policies, development anticipated by the City general plan would have a less than significant impact with respect to flooding. See checklist question "d" below for City general plan policies and ordinances applicable to the project.

d. The project site is not located within a coastal area; therefore, tsunamis are not considered a hazard at the site. The project site is also not located within any dam inundation area as identified in the City general plan EIR Figure 4.8-2 and the potential risk of seiche is low in the City of Newman (City of Newman 2006, p. 4.18-15).

The project site is completely within the 100-year flood hazard zone (FEMA 2022). The City has adopted a floodplain management ordinance (Chapter 4.11 of the zoning code) to regulate construction within mapped flood zones. The project would also be subject to City general plan policies HS-2.1 and HS-2.5, which require that new residential development be constructed so that the lowest floor is at least 12 inches above the 100-year flood level and ensuring that all regulations adopted by the Federal Emergency Management Agency are complied with.

The proposed project would comply with the City general plan policies and ordinances related to flood hazards in residential developments in order to reduce any potential impacts to a less-than-significant level.

e. The Sustainable Groundwater Management Act is a State law requiring groundwater basins to be sustainable. The act enables eligible local agencies to form groundwater sustainability agencies, develop groundwater sustainability plans for designated basins in their jurisdiction by 2020, and achieve groundwater sustainability within 20 years of plan implementation. The San Joaquin River Exchange Contractors is the groundwater sustainability agency for the City of Newman. In December 2019, the *Groundwater Sustainability Plan for the San Joaquin River Exchange Contractors GSP Group in the Delta-Mendota Subbasin* was adopted.

The proposed project would not conflict with this plan because it is required via the General Construction Permit to prepare a Storm Water Pollution Prevention Plan that would illustrate the project's implementation of onsite treatment control measures that would detain storm water runoff onsite and ultimately drain to the San Joaquin River and adjoining wetlands, thereby allowing for groundwater recharge. The project would also implement the City general plan policies and ordinance discussed under checklist question "a" in order to reduce adverse impacts to groundwater recharge. As concluded in the discussion under checklist question "b," the proposed project would not contribute to a substantial depletion of groundwater supplies or interfere substantially with groundwater recharge, and, therefore, would not conflict with the sustainable groundwater management plan.

11. LAND USE AND PLANNING

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Physically divide an established community?	☐	☐	☐	☒
b.	Cause any significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐

Comments:

a. The proposed project is located within the Newman city limits and includes development of residential and commercial uses, similar to the uses found surrounding to the project site. The proposed project would not physically divide an established community.

b. For the portion of the project site within the City of Newman, the proposed project includes a general plan amendment of a portion of the site from Community Commercial to Medium Density Residential and a rezone from Highway Commercial (C-8) to Planned Development (PD). No changes are proposed to the general plan designation of the portion of the project site within Merced County, and none is necessary, as no buildings are proposed for construction at this location. With implementation of the proposed project (inclusive of rezoning and general plan amendment), the project would be consistent with the City's zoning and land use designation of the site for residential and commercial uses.

The proposed project also includes a subdivision map. The project's subdivision map would meet all required regulations and designs pursuant to the City's zoning code Chapter 6.02, General Subdivision Regulations and Design.

As concluded in Section 10, Hydrology and Water Quality, the proposed project would not conflict with the adopted groundwater sustainability plan through its implementation of stormwater control measures and best management practices.

There are no critical habitat boundaries, habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans applicable to the proposed project site. The proposed project is also consistent with the City general plan and, therefore, would not result in a significant impact on the habitat conservation plan.

As discussed in Section 13.0, Noise, the proposed project, as mitigated, would not conflict with general plan policies or municipal code requirements for reducing exposures to unacceptable noise due to construction activities.

For these reasons, the proposed project would not result in significant physical environmental impacts due to conflicts with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect.

12. MINERAL RESOURCES

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Result in loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land-use plan?	☐	☐	☐	☒

Comments:

a-b. According to the City general plan EIR, the City of Newman does not have designated important mineral resources recovery areas around Newman (City of Newman 2006, p. 4.6-4). Development in accordance with the City general plan would not directly affect any designated Aggregate Resource Areas or areas classified as MRZ-2 for concrete-grade aggregate, since such areas are well outside the City of Newman Sphere of Influence where development of the project site would occur. Therefore, the proposed project would not result in the loss of availability of a known or locally important mineral resources.

13. NOISE

Would the project result in:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
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 in applicable standards of other agencies?	☐	☒	☐	☐
b.	Generation of excessive ground-borne vibration or ground borne noise levels?	☐	☐	☐	☒
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, expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Comments:

a. WJV Acoustics prepared the *Acoustical Analysis – Mattos Ranch Subdivision, Phase 2 Newman, California* (acoustical analysis) on November 29, 2022 for the proposed project. The full acoustical analysis can be found in Appendix H.

Temporary Noise Levels – Construction. The proposed project would involve construction activities at various locations within and near the project site through the buildout period. Existing sensitive receptors could be located as close as 50 feet from construction activities. Construction noise is not considered to be a significant impact if construction is limited to the allowed hours and construction equipment is adequately maintained and muffled (WJV Acoustics 2022, p. 13).

The proposed project would be required to comply with the City's General Plan Policy HS-6.9, which is related to construction noise and timing and is outlined in Mitigation Measure N-1 presented below. Compliance with this mitigation would ensure that less than significant impacts occur in relation to temporary construction noise levels exceeding the City's established noise standards.

Mitigation Measure

N-1 The following shall be implemented by the project developer during construction of the project, pursuant to General Plan Policy HS-6.9:

- Construction activities shall normally be limited to the hours of 7AM to 7PM Monday through Friday, and 8AM to 7PM on Saturday. Construction Use available noise suppression devices and properly maintain and muffle loud construction equipment.

- Avoid stating of construction equipment and unnecessary idling of equipment within 200 feet of noise-sensitive land uses.

Permanent Noise Levels – Traffic Impacts to Onsite Receptors. The City's General Plan Noise Element establishes an exterior noise level standard of 60 dB L_{dn} for outdoor activity areas of single-family residential uses, which generally include backyards of single-family residences. The noise element also requires that interior noise levels attributable to exterior noise sources not exceed 45 dB L_{dn}.

The proposed residential land uses on the site would not be located in close proximity to any arterial roadways or State Route 33. Therefore, noise exposure levels would not exceed any applicable City exterior or interior noise levels at any of the proposed residential uses onsite (WJV Acoustics 2022, p. 16).

Permanent Noise Levels – Traffic Impacts to Offsite Sensitive Receptors. According to the acoustical analysis, a significant impact would occur if an increase in traffic noise associated with the project would result in noise levels exceeding the City's applicable noise level standards at the location(s) of the sensitive receptors. A significant impact would also occur if traffic noise levels were to increase by three dB at sensitive receptor locations where noise levels already exceed the City's applicable noise level standards (without the project), as three dB generally represents the threshold of perception in change for the human ear. The City's exterior noise level standard for residential land uses is 60 dB L_{dn} for single-family residences and 65 dB L_{dn} for multi-family residences.

The acoustical analysis modeled traffic noise at six receptor locations along several roadway segments with adjacent sensitive receptors and calculated traffic noise exposure levels for year 2024 with project, the year 2024 without project, the year 2044 cumulative with project, and the year 2044 cumulative without project. The acoustical analysis concluded that the project's contribution to 2024 traffic conditions noise levels would not result in exceedance of the City's standard for residential land uses nor result in an increase in three dB in any sensitive receptor locations where noise levels already exceed the City's noise level standards without the project. The acoustical analysis also concluded that the project's contribution to 2044 cumulative traffic conditions noise levels would not exceed the City's noise level standard for residential land uses nor result in an increase of three dB in any sensitive receptor locations where noise levels already exceed the City's noise level standards without the project.

Permanent Noise Levels – Operational Activities to Onsite Sources. Sensitive receptors (single-family residential land uses) are proposed along the western border of the commercial portion of the proposed project. No known tenants were proposed at the time of preparation of the acoustical analysis, but it is anticipated that there will be a mix of commercial retail and restaurant uses. Therefore, a wide variety of noise sources can be associated with these uses. Typical examples of stationary noise sources associated with such land uses include:

- HVAC/Mechanical equipment;
- Truck movement and deliveries;
- Parking lot activities (closing of car doors and trunks, stereos, alarms, etc.);
- Drive-Thru operations; and
- Loading Dock Activities.

The acoustical analysis evaluated each of the above uses to determine the potential noise levels that they were produce. Non-transportation noise level standards for the City are:

- Daytime (7AM to 10PM): L_{eq} 55 dBA and L_{max} 75 dBA
- Nighttime (10PM to 7AM): L_{eq} 45 dBA and L_{max} 65 dBA

Of the above-mentioned uses, the acoustical analysis determined that the truck deliveries, the drive-thru retail operations, and the loading dock activities could result in noise levels that would exceed City standards.

Truck Movement and Deliveries: Based on the information known about the project at the time of preparation of the acoustical analysis, it was anticipated that truck deliveries and onsite truck movements could occur at any time during the day and night. Truck movements could occur as close as 50 feet from proposed future residences.

Truck movements would be expected to produce noise levels in the range of 71 to 77 dBA at a distance of 50 feet. Noise levels associated with truck movements along the rear side of commercial spaces adjacent to proposed future residences could exceed the City of Newman daytime maximum noise level standard by up to two dB and the nighttime maximum noise level standard by up to 12 dB. Therefore, Mitigation Measure N-2 would be required in order to reduce impacts related to exceeding City noise level standards from truck movements to a less-than-significant level.

Mitigation Measure

N-2 Truck movement and deliveries, loading activities, and drive-thru operations shall be prohibited between 10PM and 7AM. The project developer shall also construct a sound wall to a minimum height of nine feet above project grade elevation at the western border separating the proposed residential lots from the proposed commercial uses.

Drive-Thru Operations: The proposed project could include multiple locations on the project site that would involve drive-thru operations (the plans indicate as many as three proposed drive-thru operations). The acoustical analysis states that a typical drive-thru ordering cycle includes five to ten seconds of loudspeaker use with typical maximum noise levels in the range of 60-62 dBA at approximately 40 feet. Vehicles moving through the drive-thru lane would produce noise levels in the range of 55-60 dBA at the same distance.

The closest proposed residences to the proposed retail drive-thru operations would be approximately 40 feet to the west. Therefore, the noise levels associate with this use could exceed the City's daytime noise level standards by up to 5 dB and nighttime noise level standards by up to 15 dB. Implementation Mitigation Measure N-2 would ensure that noise levels associated with the proposed drive-thru operations would be less than significant.

Loading Dock Activities: The project plans do not indicate whether loading docks would be placed at the rear of any of the retail spaces and do not provide frequency and timing of any potential deliveries. It is assumed that loading docks are present in any location on the project plans that indicate "loading zone." It is also assumed that deliveries and loading dock activities occur at any time during the day or night.

Based upon typical noise measurements for loading docks, the acoustical analysis concluded that the project's loading dock noise levels would be expected to be in the range of approximately 65 to 83 dBA at a distance of 50 feet, which is the distance of the nearest residential land use to the proposed commercial building. Such levels could exceed the applicable City maximum daytime noise level standards by up to 8 dB and nighttime maximum noise level standards by up to 18 dB. Therefore, implementation of the following Mitigation Measure N-2 would ensure that noise levels associated with loading dock activities would result in less than significant impacts.

b. According to the acoustical analysis, there are no state or federal standards that specifically address construction vibration. Some guidance is provided by the California Department of Transportation, which includes the criteria for determining annoyance potential and the damage potential threshold.

Vibration from construction activities could be detected at the closest sensitive land uses (located approximately 50 feet from the project site), especially during movements by heavy equipment or loaded trucks and during some paving activities. However, according to the acoustical analysis, the levels of vibration from construction of the proposed project felt by nearby sensitive receptors would not be expected to exceed any significant threshold levels for annoyance or damage (p.15). Therefore, the proposed project would not result in the generation of excessive ground-borne vibration or ground borne noise levels.

c. The project site is not located within two miles of a public airport or private airstrip. The Gustine Municipal Airport is located approximately four miles southeast of the project site (WJV Acoustics 2022, p. 20). The project site is also not located within the vicinity of an airport land use plan. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels.

14. POPULATION AND HOUSING

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☒	☐
b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Comments:

a. According to the US Census, the population of Newman was 12,351 in April 2020 (United States Census Bureau 2021).

The proposed project includes the demolition of three existing single-family homes and associated farming structures and the development of 43 single-family lots, as well as commercial development. The residential portion of the project would result in the addition of approximately 140 people to the City of Newman (40 net, additional single-family homes x 3.49 persons per household) (California Department of Finance 2021). The increase in 140 residents represent a minor increase in the City of Newman's overall population and would, therefore, not induce substantial unplanned population growth.

b. The project site is currently developed with three houses and associated farming structures, which would be demolished with the implementation of the proposed project. Therefore, the proposed project would not displace substantial numbers of existing people or housing and would not necessitate the construction of replacement housing elsewhere.

15. PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of or 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:

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	☐	☐	☐	☒
b. Police protection?	☐	☐	☐	☒
c. Schools?	☐	☐	☒	☐
d. Parks?	☐	☐	☐	☒
e. Other public facilities?	☐	☐	☐	☒

Comments:

a. The project site consists of three existing residences and associated farming structures, all of which are proposed to be demolished to construct 43 single-family homes and commercial development. Therefore, the proposed project would increase fire protection needs at the project site.

The Newman Fire Department currently serves the project site for fire protection and emergency medical services. The Newman Fire Department is located at 1162 N Street, approximately 0.7 miles north of the project site. The Newman Fire Department is a 20-member volunteer force (City of Newman 2022) and has an ISO rating of 04/4Y (Justin Hendrix, email message, April 20, 2022).

The proposed project would be constructed in accordance with current building codes and would be required to be maintained in accordance with applicable City policies to promote public and property safety. The project is also required to pay all development impacts fees as specified and pursuant to the City's municipal code, ordinances and resolutions. The fee assessment shall include all applicable fees for fire protection. Fees shall be paid at the time of the issuance of each permit.

Compliance with current building codes and applicable City policies, in addition to payment of development impact fees, would ensure that the proposed project would not significantly impact fire protection services requiring the construction of new or remodeled facilities.

b. The project site consists of three existing residences and associated farming structures, all of which are proposed to be demolished to construct 43 single-family homes and commercial development. Therefore, the proposed project would increase police protection needs at the project site.

Police services are provided by the Newman Police Department within the city limits and by the Stanislaus County Sheriff's Department in unincorporated areas. As reported in the City general plan EIR, both the Newman Police Department and the Stanislaus County Sheriff's Department provide frequent mutual aid and back-up services to each other. The police department headquarters, the Newman Police Department, is located at 1200 Main Street approximately 0.67 miles north of the project site.

The proposed project would be required to be maintained in accordance with applicable City policies to promote public and property safety. The project is also required to pay all development impacts fees as specified and pursuant to the City's municipal code, ordinances and resolutions. The fee assessment shall include all applicable fees for police protection. Fees shall be paid at the time of the issuance of each permit.

Compliance with applicable City policies, in addition to payment of development impact fees, would ensure that the proposed project would not significantly impact police protection services requiring the construction of new or remodeled facilities.

c. The Newman-Crows Landing Unified School District (school district) provides kindergarten through 12th grade education for students living in Newman and the surrounding communities and agricultural areas. The City of Newman has four elementary schools (the nearest being Von Renner Elementary located 0.3 miles north of the project site, which is the elementary school that the proposed project's students would attend), one middle school (Yolo Middle School located 0.88 miles northwest of the project site), and one high school (Orestimba High School located 1.2 miles northwest of the project site). The school district uses a student generation rate of 0.58 students per household for single-family units and 0.69 students per household for multi-family units (Caralyn Mendoza, email message, April 7, 2022). Therefore, the proposed development would generate approximately 24 new students (40 new single-family households x 0.58 students per household).

To accommodate the growth anticipated by the City general plan, construction of a new elementary school (Hurd Barrington Elementary School) occurred in 2011 with the capacity for approximately 600 students (transitional kindergarten to 5th grade). There was also construction of a new classroom building at Yolo Middle School that was completed in 2020 (Caralyn Mendoza, email message, January 25, 2022). There is a need for expanding the cafeteria and food distribution infrastructure, which the school district would be using developer fees and bond money to accomplish (plans are already underway in anticipation of this) (Caralyn Mendoza, email message, April 7, 2022).

Although the project could result in 24 new students to the school district, the school district indicated that they do have the classroom capacity to handle additional growth depending on what grades the generated students come in at. Recent discussions with the school district associated with a larger project (Caton Ranch) that would generate more students than the proposed project indicate their confidence that the existing middle school and high school facilities could accommodate additional growth (Caralyn Mendoza, email message, April 7, 2022).

In accordance with Senate Bill 50, the project developer would be required to pay development impact fees to the school district at the time of the building permit issuance. The school district would use collected funds towards new facilities to offset any impacts associated with new development. Pursuant to California Government Code Section 65996, payment of these fees is deemed to fully mitigate cumulative CEQA impacts of new development on school facilities. Therefore, payment of state-mandated impact fees would reduce any potentially cumulatively considerable environmental impacts by the project on school facilities to a less-than-significant level.

d. Due to the proposed project's increase in population, an increase in the use of nearby parks may occur. The proposed project would be required to provide approximately 0.7 acres of parkland, according to the City general plan policy RC-1.1 (140 new residents x [5 acres/1,000 residents]).

Because the project does not include parkland acreage in its design, it is required to contribute towards meeting the City's parkland of 5 acres per 1,000 residents by dedicating land, dedicating improvements, or paying in-lieu fees, or a combination of these, consistent with City general plan policy RC-1.2. The project would pay all development impacts fees as specified and pursuant to the City's municipal code, ordinances and resolutions. The fee assessment shall include all applicable fees for parks. Fees shall be paid at the time of the issuance of each permit.

Therefore, the proposed project would not have a significant impact on the City's parks and recreational facilities.

e. Due to the proposed project's increase in population, an increased demand for library services may occur. The City of Newman is a member of the Stanislaus County Library system, with its local branch (the Newman Public Library) located at 1305 Kern Street approximately 0.75 miles northwest of the project site.

The City general plan includes policies that address the provision of library services such as continuing to work with the Stanislaus County Library system to ensure that adequate funding is available to continue the level of service currently provided by the Newman Library (Policy PFS-11.1) and assisting the Stanislaus County Library with identifying new locations for additional library facilities if new facilities are needed as the City grows (Policy PFS-11.2).

Although the proposed project may result in the increase in use of the Newman Branch Library, this type of development at the site is consistent with the City general plan. In addition, the project is required to pay all development impacts fees as specified and pursuant to the City's municipal code, ordinances and resolutions. The fee assessment shall include all applicable fees for public facilities. Fees shall be paid at the time of the issuance of each permit

Therefore, the proposed project is not anticipated to result in significant impacts to the City's existing library facilities.

16. RECREATION

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	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 substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Comments:

a-b. A variety of different parks lands and facilities are provided by the City of Newman to serve the diverse needs of the community. The City's parks include large community parks, mid-sized neighborhood parks, and small mini-parks/playgrounds. The nearest park to the project site is Alfred A. "Bush" Rose, Jr. Park located 0.8 miles west of the project site and Merced Street Park located 0.6 miles northwest of the project site.

Refer to Section 15, Public Services, checklist question "d" for more information on potential impacts the proposed project could have on the City's parks and recreational facilities.

17. TRANSPORTATION

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b.	Conflict or be inconsistent with CEQA guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d.	Result in inadequate emergency access?	☐	☐	☐	☒

Comments:

a. The proposed project is consistent with the City general plan and, therefore, would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Additionally, the proposed project would be subject to all applicable City guidelines, standards, and specifications related to transit, bicycle, or pedestrian facilities.

b. The response to this checklist question is based on the *Mattos Ranch 2 Vehicle Miles Traveled (VMT) Analysis* (VMT analysis) (VRPA Technologies 2022) prepared for the proposed project and included in Appendix I.

Per the requirements of Senate Bill 743 (SB 743), VMT is the new performance measure used in CEQA transportation analysis. VMT became the required performance measure on July 1, 2020 replacing the previous performance measure which was level of service (LOS). The VMT generated by land development projects is compared to various screening criteria and significance thresholds to determine whether the level of VMT would be considered to be significant.

CEQA allows agencies to adopt formal methodologies and thresholds of significance that will be used for environmental evaluation or to use methodologies and thresholds of significance determined on a case-by-case basis. The City of Newman has not adopted methodologies and thresholds of significance for VMT analysis; therefore, the analysis conducted for this project was based on statewide guidance, as well as regional guidance, provided by other agencies located in the San Joaquin Valley.

Methodology

The methodology for VMT analysis was developed in consideration of statewide and regional guidance. The Governor's Office of Planning and Research (OPR) has provided statewide guidance for VMT analysis in its *Technical Advisory for Evaluating Transportation Impacts in CEQA*. Rather than relying on statewide guidance, many agencies throughout California have prepared guidance that takes into account factors specific to regional and/or local conditions. During preparation of the VMT analysis, regional guidance was not available through the Stanislaus Council of Governments or Stanislaus County. Therefore, regional guidance prepared within the San Joaquin Valley was considered.

Both the statewide VMT analysis guidance prepared by OPR and the VMT guidance provided by Fresno Council of Governments mention the use of a screening process to determine whether projects can be screened out of requiring a detailed VMT analysis and be presumed to have a less than significant impact. The Fresno Council of Governments recommends that a project may be screened out of requiring a detailed VMT analysis due to proximity to transit, project type (retail development of less than 50,000 square feet, affordable housing, or government/public service, small project size, or location within a low VMT area). However, none of these screening criteria are considered to apply to the proposed project.

In the case of projects that are not screened out, a VMT analysis is necessary and the methodology for the VMT analysis depends on the type of project. For mixed-use projects, Fresno COG recommends that the VMT analysis be based on the predominant land use or by analyzing each of the components of the project separately while taking into account any trips made internal to the site. Based on the trip generation provided in the VMT analysis, the retail portion of the site generates 9,647 out of the 10,111 daily trips, or 95.4 percent of the total trips generated at the site. Therefore, the project was analyzed as retail in the VMT analysis.

Retail projects are analyzed based on net change in VMT. Projects that result in a net increase in VMT would indicate a potentially significant impact while projects that result in a net decrease in VMT would have a less than significant impact. According to state guidance on the methodology for retail projects, new retail development typically redistributes shopping trips rather than creating new trips; therefore, estimating the total change in VMT is the best way to analyze a retail project's transportation impacts. The state's guidance indicates that local-serving retail development tends to shorten trips and reduce VMT (resulting in less than significant impacts) and regional-serving retail developments can lead to substitution of longer strips for shorter ones (resulting in the need for additional analysis to be conducted to determine the increase or decrease in VMT by a project).

The VMT analysis provided the following in its determination of whether the project is local-serving:

- For Newman residents, the proposed retail development is likely to provide some retail opportunities that are already available in Newman and some retail opportunities that

are only currently available in larger cities such as Turlock, Atwater, Merced, and Los Banos. In all of these cases new trips to the proposed development would be expected to occur if they would be more convenient (i.e., shorter) than trips that are made to other destinations. Therefore, new trips to the proposed retail development made by Newman residents would be expected to reduce VMT.

- For residents of rural areas adjacent to Newman, the proposed retail development is likely to provide some retail opportunities that are already available in Newman and some retail opportunities that are only currently available in larger cities mentioned above. In all of these cases, new trips to the proposed development would be expected to occur if they would be more convenient (i.e., shorter) than trips that are made to other destinations. Therefore, new trips to the proposed retail development made by residents of rural areas adjacent to Newman would be expected to reduce VMT.
- Residents of larger cities near Newman such as Turlock, Atwater, Merced, and Los Banos would be expected to have retail opportunities in their cities of residence that would be more convenient than the proposed retail center. Therefore, no change in trip-making and no change in VMT would be expected based on residents of the cities mentioned above.

Based on these reasons, the project is considered to be local-serving and result in a net decrease in VMT. Therefore, the proposed project would have a less than significant VMT impact.

c. The project site can be accessed from three locations; two locations through the Mattos Ranch Phase I approved project on the western border of the project site and three locations on the eastern side of the project site connecting to State Route 33. The two proposed roads within the site consist of widths ranging from 46 to 60 feet. The roadway improvements are required to conform to the City's Improvement Standards. Pursuant to the City's municipal code section 7.04.030.X, the project's cul-de-sac within the residential portion of the site is required to be at least 100 feet in diameter and the project shall comply with the regulations identified within the City's municipal code section 6.02.010, Streets and Highways.

Compliance with the City's Improvement Standards and municipal code would ensure that the proposed project would not increase hazards to vehicle safety due to geometric design features (e.g., sharp curves or dangerous intersection).

d. As previously identified, the project site can be accessed by State Route 33 on the east and two access points from the west, through the approved Mattos Ranch Phase I project. Future development on the site would be subject to City general plan policy HS-3.6, which ensures that new development provides for adequate fire equipment access, and policy TC-1.6, which requires that street widths for new or improved arterials, collector and local streets be limited to the minimum width necessary to adequately carry the volume of anticipated traffic and meet the City's Level of Service Policy of C while allowing for adequate bicycle and pedestrian facilities and emergency access. With the proposed roadway connectivity and adherence to Newman roadway design standards and guidelines, and compliance with City general plan policies, emergency vehicle access and circulation within the project site would be adequate. Therefore, the project would not result in inadequate emergency access.

18. TRIBAL CULTURAL RESOURCES

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, or 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:				
(1)	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), or	☐	☐	☐	☒
(2)	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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

Comments:

a. As of February 2022, no California Native American tribes traditionally and culturally affiliated with the project area have requested consultation pursuant to Public Resources Code section 21080.3.1 (Michael Holland, telephone conversation, February 2, 2022).

19. UTILITIES AND SERVICES SYSTEMS

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b.	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c.	Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e.	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Comments:

a. There is nothing in the project description that indicates the project would require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities.

b. The City of Newman's source of potable water is groundwater. Using the water demand factors from the water supply assessment prepared for the *Northwest Newman Master Plan Draft Environmental Impact Report SCH No. 2013032010* (April 2017), the project would demand 79,320 gpd [(43 single-family units x 500 gpd/unit) + (11.8 acres of commercial use x 4,900 gpd/ac)] or approximately 89 acre-feet per year. Table 4, Existing and Proposed Water Use, provides a breakdown comparison between existing residential and agricultural use water demand and with implementation of the proposed project.

Table 4 Existing and Proposed Water Use

Land Use		Dwelling Units/ Commercial Area	Agricultural Land	Water Factor	Water Demand
Existing	Residential	3 units	-	500 gpd/unit	1,500 gpd + 0 gpd
	Agriculture	-	14.6 acres	-	
Proposed	Residential	43 units	-	500 gpd/unit	21,500 gpd + 57,820 gpd
	Commercial	11.8 acres	-	4,900 gpd/ac	
				Increase	77,820 gpd

SOURCE: (Sousa Engineering 2021), (LESA 2022), (Justin Hendrix, email message, May 18, 2022)
NOTES: Totals are rounded.

Table 4 illustrates that the proposed project would demand approximately 77,820 gpd (or approximately 87 acre-feet per year) more than the amount of water that is demanded by the existing uses at the site. According to City staff, and discussed in the LESA Model found in Appendix C, the site has not received water for several years and uses dry farming techniques (Justin Hendrix, email message, May 18, 2022). The *2015 Urban Water Management Plan* (City of Newman 2016) states that the City's single-family residential uses are projected to use a total of 452 acre-feet of water in 2025 and the City's commercial uses are projected to use a total of 88 acre-feet of water in 2025 (p. 17).

The residential portion of the project would demand approximately 24 acre-feet of water per year (43 single-family units x 500 gpd/unit) and the commercial portion would demand approximately 65 acre-feet of water per year (11.8 acres of commercial use x 4,900 gpd/ac). As a result, the proposed project would make up approximately 5.3 percent of the single-family residential water use total projected for 2025 ([24 acre-feet per year / 452 acre-feet per year] x 100) and approximately 74 percent of the commercial water use total projected for 2025 ([65 acre-feet per year / 88 acre-feet per year] x 100).

The *2015 Urban Water Management Plan* determines its projections based on the City's adopted land use designations and anticipated uses. The project site was anticipated by the City general plan for only commercial uses. The proposed project would involve fewer commercial uses at the site (due to the proposed residential portion) than what was anticipated by the City general plan and, therefore, would result in less demand of commercial water than what was projected by the *2015 Urban Water Management Plan.* As a result, the proposed project's total water use needs would be met without requiring the construction of new or expanded water facilities.

As discussed in the City's *2015 Urban Water Management Plan*, based on the resiliency of the groundwater basin and as long as potable groundwater can be extracted by the City wells, it is not anticipated that a single or multiple dry year period will reduce the availability of water supply to the City (p. 57). Further, anticipated supplies of groundwater are sufficient to meet all demands through the year 2040 even under drought conditions (p. 58). Therefore, the proposed project will have sufficient water supplies available to serve its needs, and no

physical changes would be necessary. Therefore, sufficient water supplies would be available to serve the proposed project and reasonably foreseeable future development during normal, dry and multiple dry years.

c. Based upon the information provided on the one-page tentative map, it is unknown whether the existing three homes on the project site are connected to the City's wastewater system or are on septic. The proposed project would connect to the existing sanitary sewer line on Prince Road. The City's wastewater treatment facility, located approximately one mile northeast of the City of Newman, has a capacity of 1.25 million gallons per day (mgd) until improvements are made to the facility, which are awaiting grant approvals from the State (Justin Hendrix, email message, April 19, 2022). Table 5, Wastewater Generation, provides a comparison of the wastewater generated at the project site as it exists today and with implementation of the proposed project.

Table 5 Wastewater Generation

	Dwelling Units / Commercial Area	Factor	Wastewater Generation
Existing	3 units	214 gpd/unit	642 gpd
Proposed Project	43 units		9,202 gpd + 17,700 gpd = 26,902 gpd
	11.8 acres	1,500 gpd/ac	
		Increase	26,260 gpd

SOURCE: (Sousa Engineering 2021), (City of Newman 2008, Table 4-1)

The proposed project would generate approximately 26,902 gpd of wastewater (or approximately 0.03 mgd of wastewater), which is an increase of approximately 26,260 gpd of wastewater than the amount of wastewater currently generated on the site. However, the proposed project's wastewater generation would make up less than one percent of the capacity for the facility. Development of the project site with urban uses has been anticipated and wastewater generation has been evaluated by the City. The proposed project's wastewater generation would be adequately served by the City's wastewater treatment facility, and no physical changes would be required.

d-e. The proposed project would involve approximately 195 employees based on the square footage of commercial area proposed (107,000 square feet commercial /550 square feet) (Justin Hendrix, email message, June 17, 2022).

The Bertolotti Disposal Company serves as the waste hauler for the City of Newman and would collect the waste generated by the proposed project. Using CalRecycle's generation rates of 12.23 pounds of solid waste per household per day and 10.53 pounds of solid waste per employee per day, the project would generate 526 pounds of residential solid waste per unit per day (43 units x 12.23 pounds of solid waste per unit per day) or approximately 0.26 tons per day, and 2,053 pounds of commercial solid waste per employee per day

(195 employees x 10.53 pounds of solid waste per employee per day) or approximately 1.03 tons per day. In total, the proposed project would generate approximately 1.3 tons per day of solid waste.

Disposal would be collected and sent to the Fink Road Landfill located over 13 miles northwest of the project site. According to CalRecycle, the landfill has a permitted daily maximum of 2,400 tons of solid waste per day (CalRecycle 2022) and the proposed project's generation of 1.3 tons per day would make up a small amount of this total. In addition, the landfill has been recently approved to expand its design parameters, including capacity, to ensure accommodation of solid waste through its new estimated closure year of 2050 (CalRecycle 2020). Therefore, the proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure.

20. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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 wildfire?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Comments:

a-d. The project site is not located in or near a state responsibility area or lands classified as very high fire hazard severity zones (CalFire 2022). Therefore, the proposed project would not expose people or structures to a significant risk involving wildfires nor exacerbate the risk of wildfire and analysis is not necessary.

21. MANDATORY FINDINGS OF SIGNIFICANCE

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Does the project have the potential to substantially 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, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b.	Does the project have impacts that 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)	☐	☒	☐	☐
c.	Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Comments:

a. As discussed in Section 4.0, Biological Resources, special-status plant and wildlife species are recorded as occurring in the vicinity of the project site but are not likely to occur on the project site due to lack of suitable habitat. However, should special-status wildlife species be present on the site during construction activities, implementation of mitigation measures BIO-1 through BIO-6 would reduce impacts to a less-than-significant level.

b. As described in Section 3.0, Air Quality, the modeled maximum increased cancer risks for an infant exposure at the MEI over the lifetime of the project (construction and operations) were found to exceed the air district's 20 cases per million threshold for infant/child cancer risks. Implementation of Mitigation Measure AQ-1 would be required in order to reduce impacts to a less-than-significant level. Section 3.0, Air Quality, also concludes that the project's contribution to regional cumulative air quality impacts is less than cumulatively considerable.

The proposed development would result in temporary biological resource impacts during construction associated with special-status species. With implementation of Mitigation Measures BIO-1 through BIO-6, as described in Section 4.0, Biological Resources, construction impacts would be mitigated to a less-than-significant level. Because the nature of the identified impacts would be mitigated to a less-than-significant level, the proposed project would not have a cumulatively considerable impact on biological resources.

Section 5.0, Cultural Resources, concludes that earthmoving activities may result in the loss of unknown prehistoric or historic subsurface archaeological resources or disturbance of human remains onsite. Because the project would implement Mitigation Measures CR-1 and CR-2, the proposed project would not have a cumulatively considerable impact on cultural resources in the project area.

As discussed in Section 8.0, Greenhouse Gas Emissions, the proposed project will generate GHG emissions primarily from transportation, energy use, water and wastewater, and solid waste disposal sources. These emissions will contribute to the cumulative accumulation of GHG emissions is the atmosphere as its effects are not localized to areas where they are produced. Climate change is a global phenomenon resulting from the combined effects of GHG emissions produced worldwide. Consequently, the analysis of climate change impacts from production of GHGs is inherently cumulative in nature. (See *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 219.) Therefore, the project would result in less than cumulatively considerable GHG impacts.

The proposed project would result in temporary impacts related to construction activities that would be reduced to a less-than-significant level with implementation of Mitigation Measure N-1. Further, Section 13.0, Noise, discusses the project's operational commercial activities permanently impacting onsite sensitive receptors (i.e., proposed residences). Mitigation Measure N-2 would be required to ensure impacts remain less than significant.

c. The proposed project has the potential to expose sensitive receptors to construction TAC emissions that can lead to increased cancer risks that exceed the air district cancer risk thresholds. Implementation of Mitigation Measure AQ-1 would reduce this impact to less than significant. The project also has the potential to expose sensitive receptors to increased levels of noise temporarily and permanently. Mitigation Measures N-1 and N-2 would be required to ensure impacts remain less than significant.

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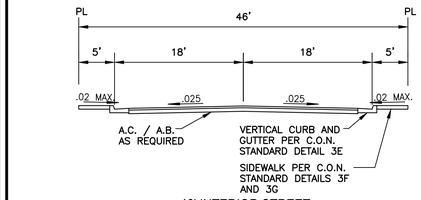
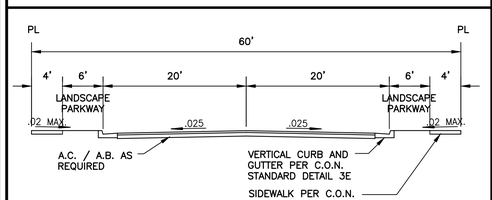
Vesting Tentative Subdivision Map

A

APPENDIX

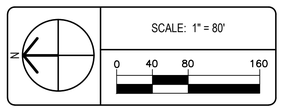


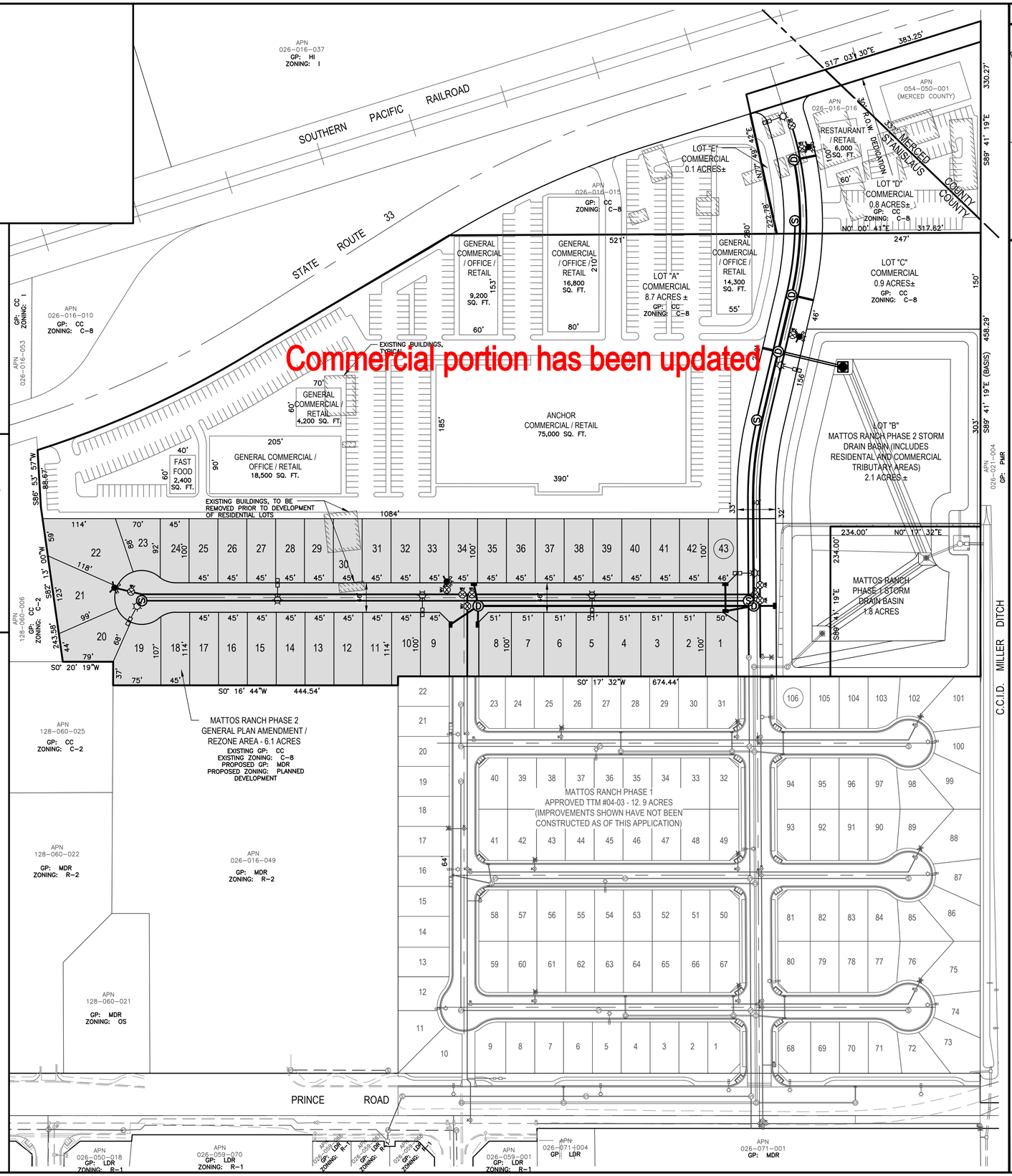
46' INTERIOR STREET
SCALE: 1" = 10'



60' COLLECTOR STREET
SCALE: 1" = 10'

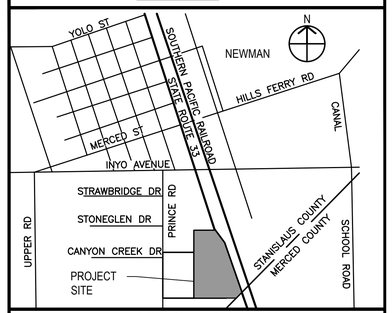
NOTE:
THE OWNER AND/OR DEVELOPER SHALL RETAIN ALL APPLICABLE ENTITLEMENT RIGHTS OF THE PREVIOUSLY APPROVED MATTOS RANCH TENTATIVE SUBDIVISION MAP (TTM 04-03) AND ASSOCIATED DEVELOPMENT AGREEMENT AND APPROVED IMPROVEMENT PLANS. SUBMITTAL OF THIS APPLICATION DOES NOT CONSTITUTE ANY WAIVER OF SECURED ENTITLEMENTS OR APPROVALS WHICH DO NOT REQUIRE REVISION OR RE-DESIGN TO SERVE THE PROPOSED RECONFIGURATION OF MATTOS RANCH PHASE 1 AS DEPICTED ON THIS MAP. MORE PARTICULARLY, THE IMPROVEMENTS FOR MATTOS RANCH PHASE 1 AS SHOWN ON THIS MAP CAN BE CONSTRUCTED AS DEPICTED ON THE APPROVED MATTOS RANCH IMPROVEMENT PLANS WITH REVISIONS REQUIRED ONLY FOR DRIVEWAYS, SANITARY SEWER SERVICE LATERALS, AND WATER SERVICE LATERALS, AND ANY RELOCATIONS TO FIRE HYDRANTS, MANHOLES, STREETLIGHTS, AND CATCH BASINS REQUIRED TO MAKE SAID REVISIONS.





Commercial portion has been updated

VICINITY MAP



PROJECT INFORMATION

PROPERTY OWNER: GEORGE SOUZA
2101 HALLOWELL ROAD
NEWMAN, CA 95360
(209)678-2288

APPLICANT/DEVELOPER: GEORGE SOUZA
2101 HALLOWELL ROAD
NEWMAN, CA 95360
(209)678-2288

PROPERTY INFORMATION: A.P.N. NOS. 026-016-048 AND 026-016-016

GROSS ACREAGE: 34.8 ACRES

NOTE: THE SITE LIES BETWEEN THE 80' AND 90' CONTOURS ON THE 2015 USGS "NEWMAN" QUADRANGLE MAP.

THE PROJECT SITE IS IN FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) SPECIAL FLOOD HAZARD AREA (SFHA) ZONE AH, AN AREA SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD WITH BASE FLOOD ELEVATION 89' (NAVD88). LOT PADS WILL BE REQUIRED TO BE BUILT TO AN ELEVATION THAT IS SATISFACTORY TO THE LOCAL AGENCY AND TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA). BUILDER SHALL SUBMIT LETTER OF MAP AMENDMENT / REVISION (LOMA/LOMR) APPLICATIONS TO FEMA PRIOR TO ISSUANCE OF INDIVIDUAL RESIDENTIAL BUILDING PERMITS.

DEVELOPMENT SUMMARY

TOTAL COMMERCIAL AREA*:	11.8 ACRES
TOTAL RESIDENTIAL AREA* (PHASE 1):	12.9 ACRES
TOTAL RESIDENTIAL AREA* (PHASE 2):	6.1 ACRES
STORM DRAIN BASIN AREA (PHASE 1):	1.8 ACRES
STORM DRAIN BASIN AREA (PHASE 2):	2.1 ACRES
ROAD DEDICATION ON ST. RTE. 33:	0.1 ACRES
TOTAL	34.8 ACRES

*AREAS INCLUDE INTERIOR STREETS

RESIDENTIAL SUMMARY:

TOTAL RESIDENTIAL LOTS:	PHASE 1 = 106, PHASE 2 = 43 (169 TOTAL)
GROSS SITE AREA:	PHASE 1 = 12.9 AC., PHASE 2 = 6.1 AC. (19.0 TOTAL)
DENSITY:	8.9 UNITS/ACRE

LEGEND

- EXISTING SANITARY SEWER LINE
- EXISTING STORM DRAIN LINE
- EXISTING WATER LINE
- EXISTING IRRIGATION LINE
- EXISTING OVERHEAD UTILITY LINE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SIGN
- EXISTING CURB INLET
- EXISTING CATCH BASIN
- EXISTING STORM DRAIN MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING STREETLIGHT
- EXISTING UTILITY POLE

PHASE 1	PHASE 2	
W	W	WATER LINE
S	S	SANITARY SEWER LINE
D	D	STORM DRAIN LINE
D	D	STORM DRAIN MANHOLE
S	S	SANITARY SEWER MANHOLE
		CALTRANS TYPE GCP INLET
		CURB INLET
		WATER VALVE
		BLOW OFF VALVE
		FIRE HYDRANT, BURY, AND GATE VALVE
		STREET LIGHT

GP	GENERAL PLAN
LDR	LOW DENSITY RESIDENTIAL
MDR	MEDIUM DENSITY RESIDENTIAL
CC	COMMUNITY COMMERCIAL
PMR	PLANNED MIXED RESIDENTIAL
HI	HEAVY INDUSTRIAL
R-1	SINGLE FAMILY RESIDENTIAL
R-2	DUPLEX RESIDENTIAL
R-2S	MEDIUM DENSITY SINGLE FAMILY RESIDENTIAL
C-2	GENERAL SERVICE COMMERCIAL
C-8	HIGHWAY COMMERCIAL
I	CONTROLLED MANUFACTURING

BASIS OF BEARINGS:
THE BEARING OF N 89° 41' 19" W, BEING THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 19, TOWNSHIP 7 SOUTH, RANGE 9 EAST, AS SHOWN ON BOOK 51 OF PARCEL MAPS, PAGE 50, STANISLAUS COUNTY RECORDS.

SHEET 1 OF 1

SOUSA ENGINEERING
INFRASTRUCTURE-DEVELOPMENT-AGRICULTURE
PH: (209)238-3151
WWW.SOUSAENG.COM
PO BOX 1613
OAKDALE, CA 95361

VESTING TENTATIVE SUBDIVISION MAP/ GENERAL PLAN AMENDMENT AND REZONE SITE MAP
MATTOS RANCH PHASE 2
NEWMAN, CA

DRAWN BY:	MS
DATE:	12/16/2021
FILE:	01_VTSM_20211116.dwg
JOB NO.:	2013-009

SYMBOL	REVISIONS DESCRIPTION	APPD.

Commercial Conceptual Site Plan

B

APPENDIX

STATISTICS

COMMERCIAL SITE AREA:	514,008 SF. = 11.8 ACRES
SIX COMMERCIAL SPACES	82,000 SF (THREE BUILDINGS)
SIX RESTAURANT SPACES	25,000 SF (FIVE BUILDINGS+ ATTACHED)
GRAND TOTAL	***8 BUILDINGS (107,000 SF)***
F.A.R (0.40 MAX ALLOWED)	***107,000/618,008 = 0.173 < 0.4***
REQUIRED PARKING:	
RESTAURANT (1/150SF)=	25,000 SF/150=167
COMMERCIAL (1/300 SF)=	82,000 SF/300 = 273 SPACES
GRAND TOTAL REQUIRED=	440 SPACES
PROVIDED PARKING:	540 SPACES
MAX. ALLOWED HEIGHT:	45 FT.
MAX. PROPOSED HEIGHT:	30 FT.
REQUIRED SETBACKS (ADJACENT TO PUBLIC WAY & RESIDENTIAL)	15' FRONT 15' SIDE 10' REAR
LANDSCAPE AREA MIN REQ= 10%	PROVIDING 100,000 = 16.2%

MATTOS RANCH COMMERCIAL PARK

CONCEPTUAL SITE PLAN

1" = 100' (12X18 SHEET)
0 20 40 80
1" = 50' (24X36 SHEET)

#2745-01-CO22
27 JULY 2022

A1

MATTOS RANCH COMMERCIAL PARK
CONCEPTUAL MASSING LAYOUT

#2745-01-CO22
27 JULY 2022

A2

LESA Model

C

APPENDIX

EMC PLANNING GROUP INC.
A LAND USE PLANNING & DESIGN FIRM

301 Lighthouse Avenue Suite C Monterey California 93940
Tel 831·649·1799 Fax 831·649·8399 www.emcplanning.com

To: **Sally Rideout, EMPA, Principal**

From: **Shoshana Lutz, Associate Planner**

CC: **File**

Date: **October 20, 2022**

Re: **Land Evaluation and Site Assessment (LESA) Model for the Mattos Ranch Project Site, Newman CA**

A California Agricultural Land Evaluation and Site Assessment Model (LESA model) has been prepared for the approximately 20-acre Mattos Ranch Subdivision Project (proposed project) located in the City of Newman, Stanislaus County. The proposed project is being analyzed in an initial study for the purposes of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21095). The proposed project includes both residential and commercial components, which make up the entirety of the 20-acre site. The commercial component is not being proposed at this time, but is being requested by the City of Newman to be analyzed in the initial study, which includes this LESA model. Figure 1, Location Map, presents the location of the project.

The project site is designated as Prime Farmland and Unique Farmland by the California Department of Conservation (2022). Figure 2, Important Farmlands Map, shows the extent of Prime Farmland on the project site. The LESA model was used to determine the level of significance of converting Prime Farmland and Unique Farmland to a non-agricultural land use, effectively resulting in the loss of Prime Farmland as a result of development of the project site. This memorandum includes a description of the LESA model, a summary of the LESA model results, and description of information resources used in the modeling process. Figures and the LESA model worksheets are attached.

MEMORANDUM

LESA Model Overview

The LESA model provides lead agencies with a methodology to consistently quantify the significant effects on the environment resulting from agricultural land conversions for the purposes of CEQA. As stated in Appendix G of the State CEQA Guidelines, "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" in assessing impacts to agricultural and farmland. The LESA model evaluates measures of soil resource quality, project size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, the factors are rated, weighted, and combined, resulting in a single numeric score. The score becomes the basis for making a determination of a project's potential significance for impacting agricultural land.

A LESA model is created by defining and measuring two separate sets of factors: Land Evaluation and Site Assessment. The Land Evaluation measures two factors based upon measures of soil resource quality as they relate to agricultural suitability. The Site Assessment consists of four factors to provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100-point scale. Land capability classifications and Storie index ratings are each weighted 25 percent, with project size, water resource availability and surrounding agricultural lands each weighted 15 percent. Lastly, surrounding protected resource lands are weighted five (5) percent. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this score that becomes the basis for making a determination of whether the loss of Prime Farmland is considered significant, based upon a range of established scoring thresholds.

According to the California Department of Conservation, conversion of agricultural land with a LESA score of 80 to 100 points may be considered a significant adverse impact. The conversion of agricultural land with a LESA score of between 60 and 79 may be considered significant if either the Land Evaluation or the Site Assessment subcategories have scores of 20 or better. The conversion of agricultural land with a LESA score of between 40 and 59 may be considered significant if both the Land Evaluation and the Site Assessment subcategories have scores of 20 or better.

USDA Land Capability Classification System. The basis for the classification of agricultural capabilities of lands in California (used by both the State of California and the federal government) is the USDA's Land Capability Classification system (LCC). The LCC uses soil and climatic data to categorize soil areas into groups with similar management options and problems by grouping fundamental soil components (map units) of the system into arable and non-arable categories. Mapped soils are grouped into classes (Class I through Class VIII) based on perceived and measured limitations and risks of agricultural utilization. For example, Class I soils have no limitations, Class II soils have some limitations, Class III soils have severe limitations, and Class IV very severe limitations. Classes V through VIII are not considered suitable for cultivation unless drastically modified. Subclass groupings are used to assign and assess the defining limitations of soil classes—erosion hazard, wetness, rooting zone limitations, and climatic limitations. The soil class designation is used by state and federal resource agencies to assess given land units as prime or non-prime land, a useful designation for inventorying and protecting the best agricultural lands of the state, and, for assessing farmlands which deserve protection and lands which may not be as important.

Storie Index. The LESA model data inputs include Storie Index soil ratings, which build upon the LCC and are rated based on soil characteristics that dictate the potential utilization and productive capacity of soils. The Storie Index provides a numeric rating (based upon a 100-point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The Storie Index rating is based on a combination of physical characteristics, such as soil profile, texture, slope, drainage, alkali content, nutrient levels, and erosion potential.

Resources Used

The California Agricultural LESA Model Instruction Manual identifies the step-by-step process required to determine the land evaluation score, site assessment score, and the final weighted LESA score. Resources utilized as inputs to the model included the Soil Survey for Stanislaus County, Western Part and for Merced County, Western Part; Assessor's Parcel Maps for the project site and those parcels located within the Zone of Influence; the California Department of Conservation's California Important Farmland Finder, and Geographic Information Systems data to verify the current land uses on the project site and within the zone of influence.

Model Data Inputs

On-site Soils. The soil type identified in the *Soil Survey of Monterey County, California* (USDA Soil Conservation Service 1978) for the approximately 20-acre project site consists of 6.23 acres of El Solyo silty clay loam (hnvh), 0.16 acres of Dosamigos clay loam (hnx9), 13.12 acres of Pedcat clay loam (hnxb), and 0.63 acres of Pedcat clay loam (Merced County portion) (hjnw). Figure 3, Soils Map, visually represents the soil types on the project site. The El Solyo series are Grade 1 soils with a Storie Index rating of 81, and have a Class II LCC rating. Soils in this series consist of very deep, well drained soils formed in alluvium that was derived from sedimentary and metamorphic rocks. This soil is found on alluvial fans, have slopes of 0 to 2 percent, and is used for irrigated row crops and deciduous orchards. The Dosamigos series are Grade 3 soils with a Storie Index rating of 60, and have a Class III LCC rating. Soils in this series consist of somewhat poorly drained soils that formed in mixed alluvium derived dominantly from sedimentary rocks. Soils of this series consist of slopes 0 to 2 percent and are used in irrigated cropland and is used for field crops, alfalfa, and pastureland. The Pedcat series within Stanislaus County are Grade 3 soils with a Storie Index rating of 47, and have a Class III LCC rating and the Pedcat series within Merced County are Grade 5 soils with a Storie Index rating of 14, and have a Class IV LCC rating. Soils in this series consist of very deep, poorly drained soils on low alluvial fans and fan remnants and is formed in mixed alluvium derived dominantly from sedimentary rocks. Soils of this series are typically found on slopes 0 to 5 and are used for livestock grazing and, where leveled, are used for irrigated pasture crops, including barley, oats, alfalfa, corn, and sugarbeet.

Site Irrigation and Water Availability. Irrigation and the availability of water is a key factor in determining whether farmland is considered viable long-term. The project site is currently dry-farmed because irrigated production is not feasible on the project site. The project site was annexed in 2000 and subsequently detached from the local irrigation district pursuant to the district's requirements. The project site received groundwater from a private well (not onsite) that has since been taken offline (Justin Hendrix, email message, May 18, 2022).

Zone of Influence. Surrounding agricultural lands and protected resource lands that influence the potential significance of converted agricultural lands are identified through the creation of a "Zone of Influence" (ZOI). The ZOI encompasses lands within one

quarter mile of a project site. The potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production is rated more highly than one that has a relatively small percentage of surrounding land in agricultural production. Figure 4, Zone of Influence, identifies agricultural land within one quarter mile of the project site, and includes parcels located within the Newman city limits, unincorporated Stanislaus County, and unincorporated Merced County. A review of Stanislaus County and Merced County land records reveals that there are no farmlands in both Stanislaus and Merced Counties that are subject to Williamson Act conservation easements within the proposed project's ZOI. Protected resource lands include lands such as Williamson Act conservation easements and public parks, none of which are within the proposed project's ZOI; only agricultural lands are present. The ZOI is approximately 329.29 acres and approximately 274.48 acres (approximately 83 percent) of the ZOI are agricultural parcels.

Results

Figures and LESA Worksheets for the model are attached to this memorandum. The LESA score is 47.91. According to the model, the Land Evaluation subtotal is 30.54 and the Site Assessment subtotal is 17.37.

Conclusion

The conversion of agricultural land with a LESA score of between 40 and 59 is considered significant only if the Land Evaluation and the Site Assessment subscores are each greater than or equal to 20 points. According to the model results, the conversion of land to non-agricultural uses as a result of the proposed project is not considered a significant impact.

Attachments

Attachment A	Figures 1 through 4
Attachment B	LESA Worksheet

Sources

California Department of Conservation. 1997. *California Agricultural Land Evaluation and Site Assessment Model – Instruction Manual*. Sacramento, CA.

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_____. "Dosamigos Series." Accessed on February 7, 2022. https://soilseries.sc.egov.usda.gov/OSD_Docs/D/DOSAMIGOS.html

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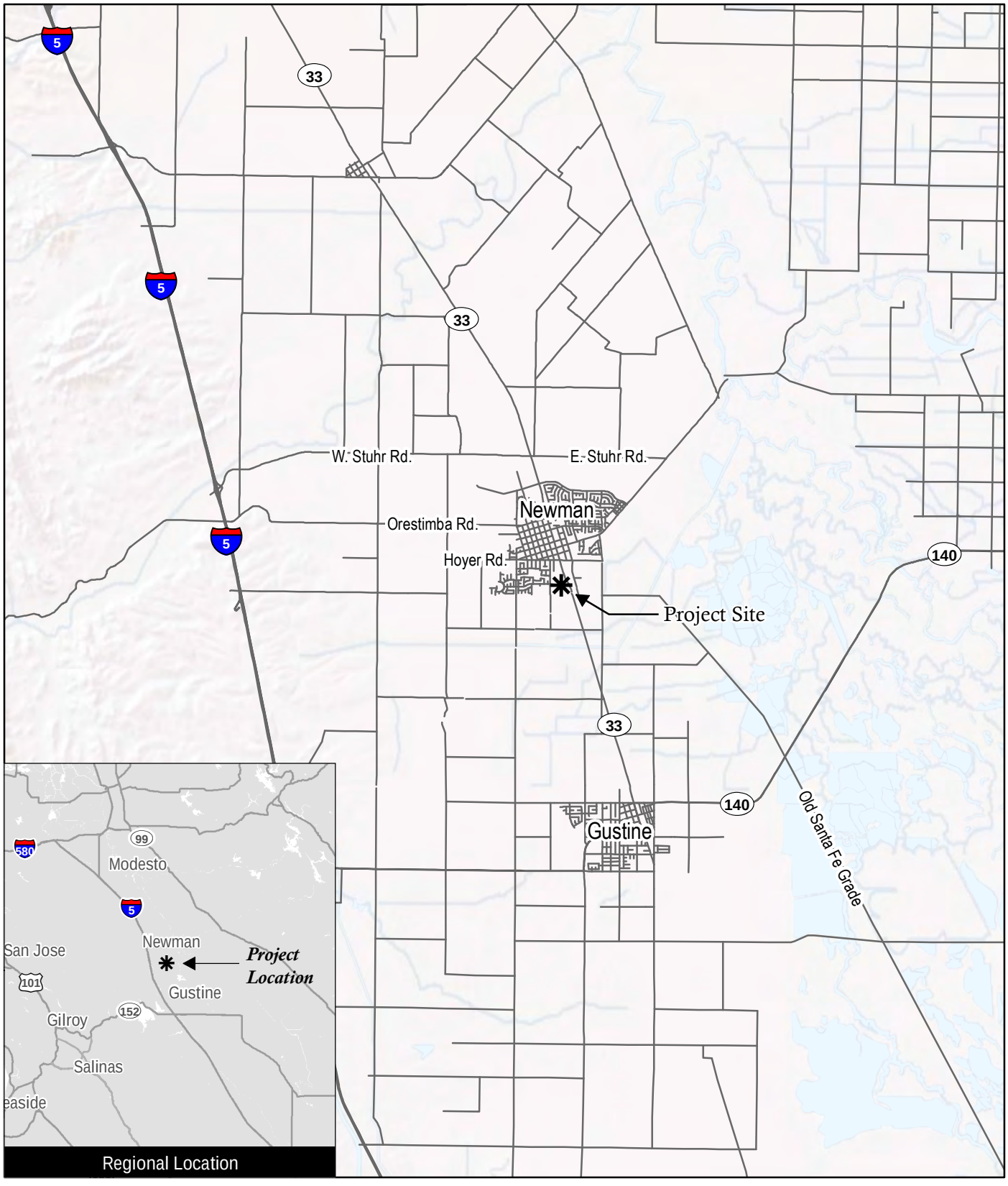
Figures 1 through 4

ATTACHMENT A



Source: ESRI 2014

Figure 1

Location Map

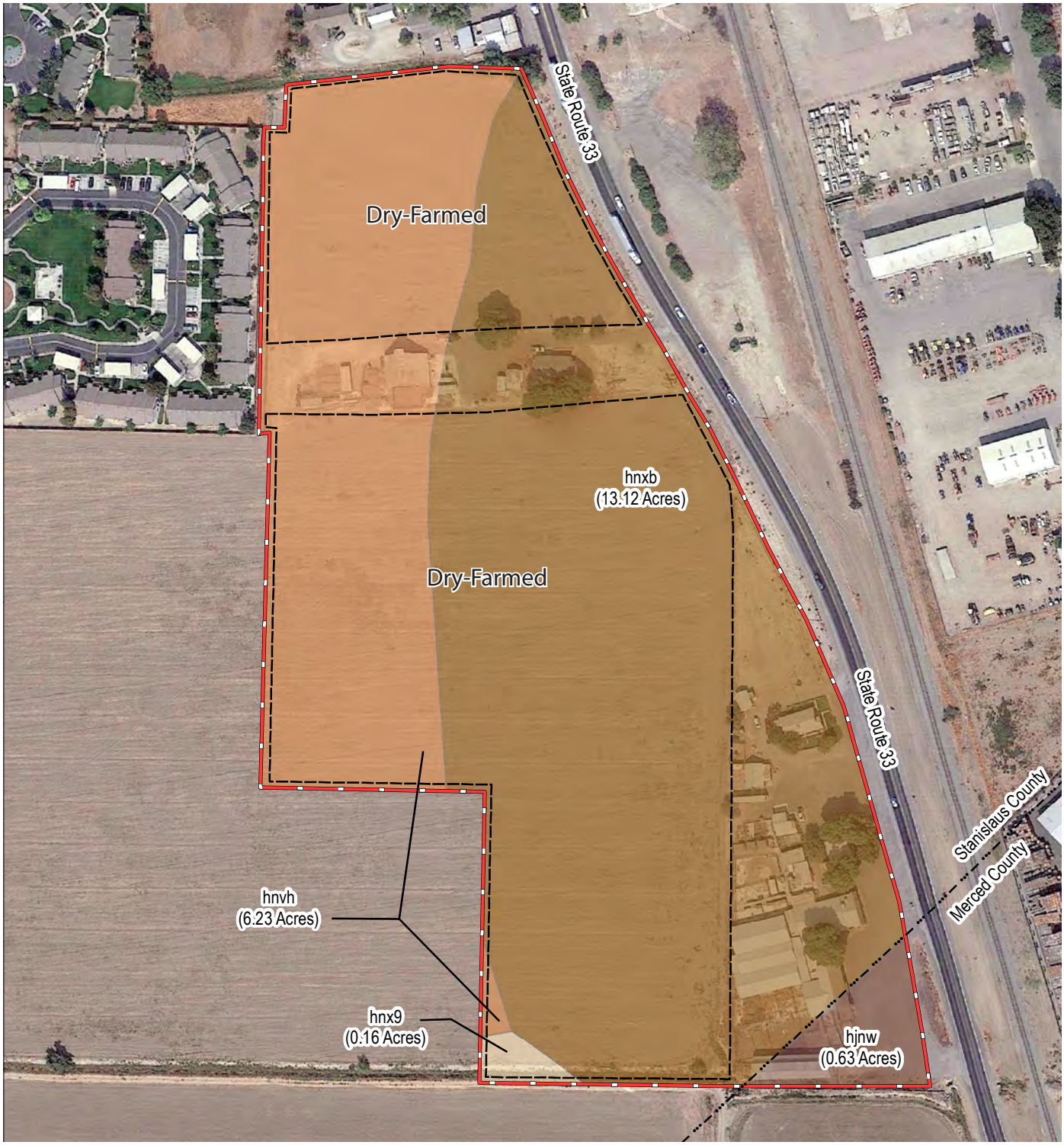
Mattos Ranch - LESA Model

Source: Stanislaus County GIS 2022, Merced County GIS 2022 , Google Earth 2022, California Department of Conservation 2018.

Figure 2

Important Farmlands Map

Mattos Ranch – LESA Model



0 200 feet

Source: USDA Soil Survey 2019, Google Earth 2022

Dry-Farmed Soils (14.56 Acres)

- hnvh (El Solyo silty clay loam, 0 to 2 percent slopes, rarely flooded)
- hnxb (Pedcat clay loam, 0 to 2 percent slopes, rarely flooded)
- hnx9 (Dosamigos clay loam, 0 to 2 percent slopes)

Developed Soils (5.58 Acres)

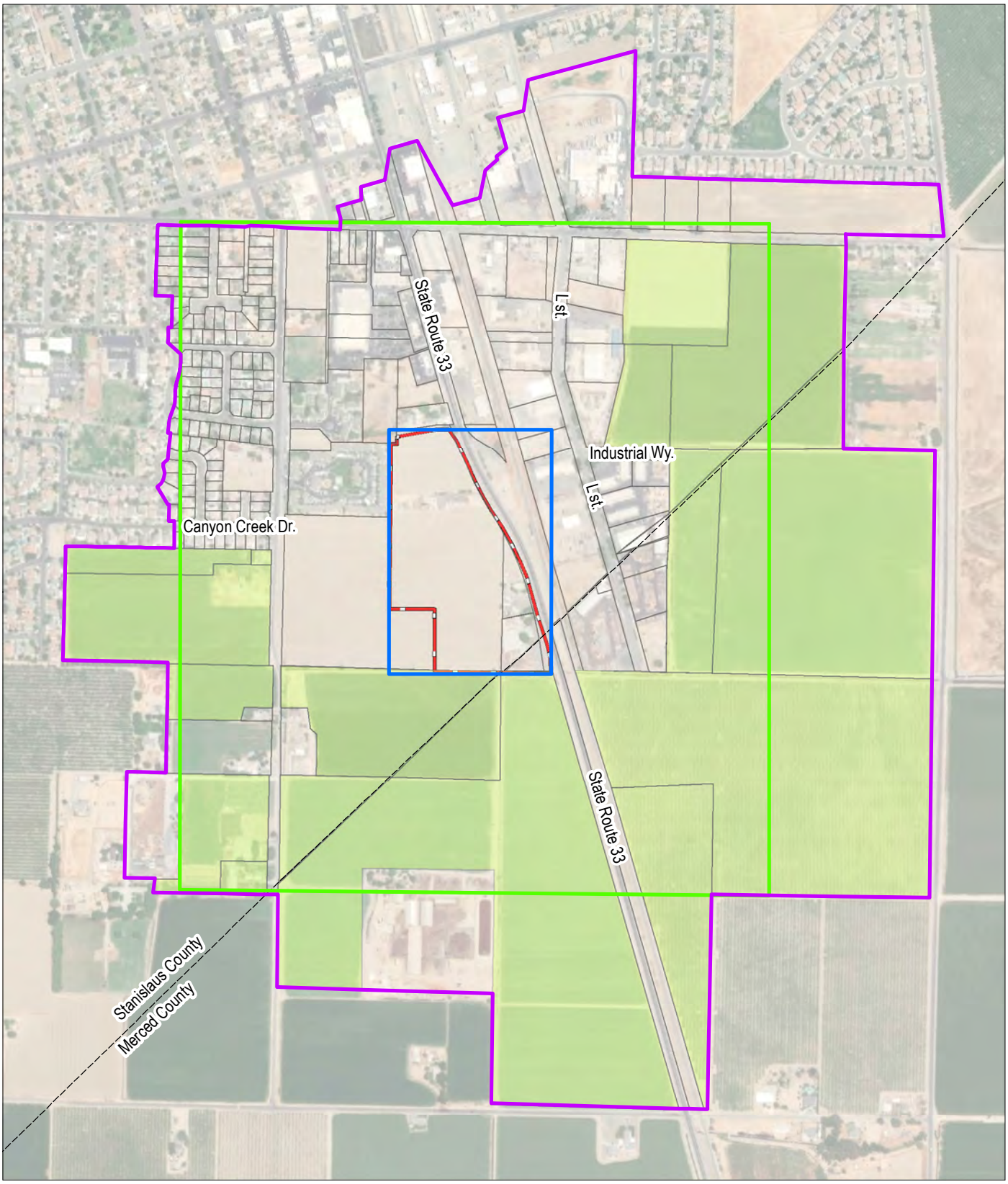
- hjnw (Pedcat clay loam, leveled, 0 to 2 percent slopes)
- hnvh (El Solyo silty clay loam, 0 to 2 percent slopes, rarely flooded)
- hnxb (Pedcat clay loam, 0 to 2 percent slopes, rarely flooded)

Project Site

Figure 3

Soils Map

Mattos Ranch - LESA Model



0 825 feet

Project Site
Project Zone of Influence
Rectangle A
Rectangle B

County Line
Parcel Within Zone of Influence
Agricultural Parcels within Zone of influence (274.48 Acres)

Source: Stanislaus County GIS 2021, Newman General Plan 2007
Merced County GIS 2021, Google Earth 2022
California Department of Conservation 2018.

Figure 4
Zone of Influence

Mattos Ranch – LESA Model

LESA Worksheet

B

ATTACHMENT

Land Evaluation Worksheet-Site - 1

Land Capability Classification (LCC) and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
hnvh	6.23	0.31	IIs	80	24.7	81	25.1
hnx9	0.16	0.01	IIIw	60	0.5	60	0.5
hnxb	13.12	0.65	IIIw	60	39.1	47	30.6
hjnw	0.63	0.03	IVw	40	1.3	14	0.4
		(Must Sum		***LCC***		***Storie Index***	
Totals	20.14	to 1.0)		***Total Score***	65.6	***Total Score***	56.6

Site Assessment Worksheet 1.

Project Size Score

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
	6.23		
		0.16	
		13.12	
			0.63
Total Acres	6.23	13.28	0.63
Project Size Scores	0	10	0

Highest Project Size Score 10

Site Assessment Worksheet 2. - Water Resources Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1 - irrigated	Irrigation District	0.79	20	15.8
2 - non-irrigated	Ground water	0.21	0	0
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	15.8

Site Assessment Worksheet 3.

Surrounding Agricultural Land and Surrounding Protected Resource Land

A	B	C	D	E	F	G
Zone of Influence						
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (A/B)	Percent Protected Resource Land (A/C)	Surrounding Agricultural Land Score (From Table)	Surrounding Protected Resource Land Score (From Table)
329.29	274.48	0	83%	0%	90	0

- Zone of influence: land within one quarter mile (1320 ft) of the project site.
- Percentage of land in agricultural use estimated using aerial photographs and site investigations.

Final LESA Score Sheet

LESA Worksheet (cont.) **Calculation of the Final LESA Score:**

(1) Multiply each factor score by the factor weight to determine the weighted score and enter in Weighted Factor Scores column.

NOTES

(2) Sum the weighted factor scores for the LE factors to determine the total LE score for the project.

(3) Sum the weighted factor scores for the SA factors to determine the total SA score for the project.
(4) Sum the total LE and SA scores to determine the Final LESA Score for the project.

	Factor Scores		Factor Weight	Weighted Factor Scores
LE Factors				
Land Capability Classification	<1>	*65.6*	0.25	16.39
Storie Index	<2>	*56.6*	0.25	14.15
LE Subtotal			***0.0***	30.54
SA Factors				
Project Size	<3>	*10.0*	0.15	1.50
Water Resource Availability	<4>	*15.8*	0.15	2.37
Surrounding Agricultural Land	<5>	*90.0*	0.15	13.50
Protected Resource Land	<6>	*0.0*	0.05	0.00
SA Subtotal			***0.0***	17.37
			Final LESA Score	47.91

CalEEMod Memo and Results

APPENDIX D

EMC PLANNING GROUP INC.
A LAND USE PLANNING & DESIGN FIRM
601 Abrego Street, Monterey,CA 93940
Tel: 831-649-1799 / Fax: 831-649-8399
www.emcplanning.com

To: **Shoshanal Lutz, Project Manager**

From: **Zane Mortensen, Planner**

Cc: **Sally Rideout File**

Date: **October 20, 2022**

Re: **Mattos Ranch Subdivision Project – Emissions Modeling Methodology, Assumptions, and Results**

PROJECT DESCRIPTION

The proposed Mattos Ranch Subdivision project (proposed project) is located on approximately 20 acres east of Prince Road, west of Highway 33, in the City of Newman, Stanislaus County. The project site is located within the San Joaquin Valley Air Basin, which is within the jurisdiction of the San Joaquin Valley Air Pollution Control District ("air district"). The proposed project would subdivide the property into residential and commercial lots. Much of the site is currently used for dry-farmed crop production. This assessment quantifies emissions from development of the uses identified on the proposed tentative map. A CEQA initial study is being prepared to evaluate the environmental impacts of the proposed project.

SCOPE OF ASSESSMENT

This assessment quantifies criteria air pollutant and greenhouse gas (GHG) emissions from operations of the uses identified in the proposed project plans for residential and commercial development (Sousa Engineering 2021; RRM Design Group, 2022). GHG emissions volumes generated by construction are also quantified in this assessment. Construction criteria air

pollutant emissions are quantified in the project health risk assessment prepared by Illingworth and Rodkin and, therefore, are not included in this assessment. The proposed project's operational criteria air pollutants and construction and operational GHG emissions are estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4 software, a modeling platform recommended by the California Air Resources Board (CARB) and accepted by the air district. The model results will inform the initial study discussion of GHG emissions. Model results are attached to this assessment.

METHODOLOGY

Emissions Model

The CalEEMod platform allows calculations of construction and operational criteria air pollutants and GHG emissions generated by land use projects. The model also calculates indirect emissions from processes "downstream" of the proposed project such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The CalEEMod software utilizes emissions models USEPA AP-42 emission factors, CARB vehicle emission models studies and studies commissioned by other California agencies.

CalEEMod is capable of estimating changes in the carbon sequestration potential of a site based on changes in natural vegetation communities and the net number of new trees that would be planted as part of the project. The model calculates a one-time only loss in the carbon sequestration potential of the site that would result from changes in land use such as converting vegetation to built or paved surfaces, and can provide an estimate of the change in the carbon sequestration potential that would result from planting new trees in an amount that is greater than the number of trees to be removed (net number of new trees). However, for this assessment, landscaping information for the proposed project is not yet available in detail sufficient to estimate the change in carbon sequestration potential resulting from new tree plantings on the site.

Project Characteristics

For modeling purposes, data inputs to the model take into account the type and size of proposed uses utilizing CalEEMod default land uses based on the size metrics shown on the

project plans and trip generation provided by the project traffic engineer. The size and type existing and proposed sources of criteria air pollutant and GHG emissions and their respective CalEEMod land use default categories used in the model are presented in Table 1, Project Characteristics.

Table 1 Project Characteristics

Project Components	CalEEMod Default Land Use[1]	Existing[2,3]	Proposed[3]
Single-family Residential	Single-family Residential	3 dwelling units	43 dwelling units
Warehouses	Warehouse Unrefrigerated no rail	25,693	-
Parking Lot	Parking Lot	-	540 spaces
Street Infrastructure	Other Asphalt Surfaces		190,000
Fast Food Restaurant	Fast Food Restaurant with Drive Thru	-	7,500
Commercial/Office/Retail	Strip Mall	-	52,000
Commercial/Retail	Supermarket	-	30,000
Restaurant/Retail	High Turnover (Sit Down Restaurant)	-	17,500
Landscaping	City Park	-	100,000
Cropland	Cropland	15.11 acres	0

SOURCE: Breeze Software 2020, Sousa Engineering 2021, VRPA Technologies, Inc. 2022., RRM Design Group 2022
NOTES:
1. CalEEMod default land use subtype. Descriptions of the model default land use categories and subtypes are found in the User's Guide for CalEEMod Version 2020.4 available online at: http://www.aqmd.gov/caleemod/user's-guide.
2. The size of existing buildings on the site are estimated Google Earth and included in CalEEMod demolition data inputs.
3. Reported in square feet unless otherwise noted.

Operational criteria air pollutant and operational GHG emissions estimates are quantified based on the project characteristics information presented in Table 1. Construction GHG emissions estimates are quantified using CalEEMod construction defaults, based on the size metrics presented in Table 1.

Modeling Scenarios

Two model scenarios are used in this assessment.

Existing Emissions Scenario

Existing operational GHG emissions are quantified based on the model's default emissions factors for the existing uses identified in Table 1, based on the present year, 2022.

Unmitigated Emissions Scenario

The "unmitigated" emissions scenario is used to derive estimates of operational criteria air pollutant and construction and operational GHG emissions resulting from the proposed project. GHG emissions that would be generated during the proposed project's demolition, construction, and operational activities are estimated in this scenario.

This model scenario also accounts for compliance with uniformly applied existing regulatory measures that reduce emissions. Several of these measures covered under this scenario are also California Pollution Control Officers Association (CAPCOA) emissions reduction measures found in the *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (CARB 2021), and are parenthetically referenced below.

Compliance with the following regulations during operations is assumed:

- Title 24 Residential Building Energy Efficiency Standards, which require 100 percent of electrical energy demand from renewable sources for certain low-rise residential uses including single-family and multi-family residential uses. The model's operational energy emission factors for electrical energy demand Title 24 and non-Title 24 (plug ins) for the proposed single-family housing uses are adjusted to reflect the standards;
- State Model Water Efficient Landscape Ordinance (MWELO) (CAPCOA WUW-4);
- Landscaping equipment is set to electric only to reflect phasing out of gas-powered landscaping tools potentially by 2024 (AB 1346). It is assumed that these or similar requirements will be in effect at buildout of the site (CAPCOA A-1); and
- Solid waste diversion of 75 percent is applied consistent with waste diversion targets identified in AB 341. It is assumed that these or similar requirements will be in effect at buildout of the site (CAPCOA SW-1).

Assumptions And Model Data Inputs

Assumptions

Unless otherwise noted, data inputs for the both model scenarios are based on the following primary assumptions:

1. Construction start date is assumed to be January 2023;
2. For modeling purposes operational emissions are estimated in 2025;
3. The proposed project would connect to the municipal domestic water and sanitary sewer systems; and
4. Changes to carbon sequestration potential were estimated based on the conversion of 15.11 acres of cropland.

Operational Emissions Data Inputs

The following adjustments were made to the model inputs in all scenarios:

- Each air district (or county) assigns trip lengths for urban and rural settings, which are incorporated into the CalEEMod defaults. The model's defaults were set to "rural" and the jurisdictional authority parameters are based on the model defaults for Stanislaus County; and
- As noted previously, the model default trip generation rate is adjusted based on the information provided by the project traffic engineer (VRPA Technologies 2022).

Construction Emissions Data Inputs

Construction criteria air pollutants were not modeled in this assessment. CalEEMod default construction parameters allow estimates of short-term construction GHG emissions based upon empirical data collected and analyzed by the CARB. GHG emissions were estimated using the model's construction defaults based on the size metrics as summarized in Table 1 and the primary assumptions listed previously.

Carbon Sequestration Potential Data Inputs

The proposed project would remove approximately 15.11 acres of cropland. Cropland is identified in the model as a natural community with carbon sequestration value; therefore, an estimate of the one-time loss in carbon sequestration value attributable to the loss of cropland is included in this assessment.

RESULTS

Model results for operational criteria pollutant emissions are reported in tons per year. The model results for construction and operational GHG emissions are reported in metric tons of carbon dioxide equivalents (MT CO_2e) per year. The results are presented in greater detail in the CalEEMod output files attached to this memorandum.

Criteria Pollutant Emissions

Unmitigated Emissions Scenario

Unmitigated operational criteria pollutant emissions are presented in Table 2, Unmitigated Operational Criteria Air Pollutant Emissions. Demolition and construction criteria pollutant emissions are estimated in the project health risk assessment.

Table 2 Unmitigated Operational Criteria Air Pollutant Emissions

Emissions	Reactive Organic Gases (ROG)	Nitrogen Oxides (NO_X)	Sulfur Oxides (SO_2)	Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)	Carbon Monoxide (CO)
Annual	5.02	5.18	0.06	5.74	1.73	30.52

SOURCE: EMC Planning Group 2022
NOTES: Results are expressed in tons per year and may vary due to rounding.

Greenhouse Gas Emissions

Existing Emissions Scenario

According to the CalEEMod results, the modeled existing residential use of the project site generates approximately 195.57 MT CO_2e per year.

Unmitigated Emissions Scenario

Construction GHG Emissions

From the CalEEMod results, modeled demolition and construction activity is estimated to generate a maximum volume of 763.93 MT CO_2e of unmitigated GHG emissions for any given year of construction.

Operational GHG Emissions

The modeled results indicate that the proposed project would generate annual unmitigated operational GHG emissions of 6,104.39 MT CO_2e. Unmitigated annual GHG emissions volume estimates are summarized in Table 3, Unmitigated Operational GHG Emissions.

Table 3 Unmitigated Operational GHG Emissions

Emissions Sources	CO_2e[1,2]
Area	46.66
Energy[3]	622.60
Mobile	5,339.24
Waste	70.75
Water[4]	25.14
Buildout	6,104.39

SOURCE: EMC Planning Group 2022
NOTES:
1. Results may vary due to rounding.
2. Expressed in MT CO_2e per year.

Carbon Sequestration Potential

The model results show that development of the site would result in a one-time loss of 93.68 MT CO_2e sequestration potential when the existing 15.11 acres of cropland is replaced by development. The annualized average of the one-time loss in carbon sequestration potential associated with the proposed project (30-year lifetime) would equate to 3.12 MT CO_2e per year. This amount is added to the project's annual operational GHG emissions.

Net Unmitigated GHG Emissions at Buildout

The net unmitigated GHG emissions are summarized in Table 4, Net Unmitigated Annual GHG Emissions.

Table 4 Net Unmitigated Annual GHG Emissions

Operational Emissions	Carbon Sequestration Potential	Total Project Emissions	Existing Emissions	Net Project Emissions
6,104.39	3.12	6,107.51	<195.57 >	5,911.94

SOURCE: EMC Planning Group 2022
NOTE: Results are expressed in MT CO_2e per year and may vary due to rounding.

SOURCES

1. Breeze Software, A division of Trinity Consultants. 2022. *California Emissions Estimator (CalEEMod) Version 2020.40*. http://www.aqmd.gov/caleemod/home
2. Breeze Software, A division of Trinity Consultants. May 2021. *CalEEMod User's Guide (Version 2020.4)*. http://www.aqmd.gov/caleemod/user's-guide
3. San Joaquin Valley Air Pollution Control District. March 15, 2015. *Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI).* http://www.valleyair.org/transportation/ceqa_idx.htm
4. VRPA Technologies Inc. October 6, 2022. *Draft Mattos Ranch 2 transportation Impact Study.* Fresno, CA.
5. Sousa Engineering. December 18, 2021. *Vesting Tentative Subdivision Map/General Plan Amendment and Rezone Site Map Mattos Ranch Phase 2.* Oakdale, CA.
6. RRM Design Group. August 26, 2022. *Mattos Ranch Commercial Park Conceptual Site Plan*,

Mattos Ranch - Existing Emissions - Stanislaus County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mattos Ranch - Existing Emissions

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	25.69	1000sqft	0.59	25,693.00	0
Single Family Housing	3.00	Dwelling Unit	0.97	5,297.00	9

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Land Use - Area adjusted to match existing conditions.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	5,400.00	5,297.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

Mattos Ranch - Existing Emissions - Stanislaus County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1645	4.3100e-003	0.2026	5.9000e-004		0.0295	0.0295		0.0295	0.0295	3.9214	1.3365	5.2579	0.0184	2.0000e-005	5.7248
Energy	2.8700e-003	0.0259	0.0204	1.6000e-004		1.9800e-003	1.9800e-003		1.9800e-003	1.9800e-003	0.0000	52.6781	52.6781	4.4700e-003	1.0000e-003	53.0869
Mobile	0.0555	0.1099	0.5635	1.1900e-003	0.1058	1.5900e-003	0.1074	0.0283	1.5000e-003	0.0298	0.0000	109.5689	109.5689	6.3100e-003	5.9100e-003	111.4881
Waste						0.0000	0.0000		0.0000	0.0000	5.5599	0.0000	5.5599	0.3286	0.0000	13.7745
Water						0.0000	0.0000		0.0000	0.0000	1.9468	3.1120	5.0588	0.2005	4.7800e-003	11.4952
Total	**0.2228**	**0.1401**	**0.7864**	**1.9400e-003**	**0.1058**	**0.0331**	**0.1388**	**0.0283**	**0.0330**	**0.0613**	**11.4281**	**166.6954**	**178.1235**	**0.5582**	**0.0117**	**195.5696**

4.0 Operational Detail - Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT
Single Family Housing	28.32	28.62	25.65	109,375
Unrefrigerated Warehouse-No Rail	44.71	44.71	44.71	172,719
Total	73.03	73.33	70.36	282,094

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	16.80	7.10	7.90	48.40	13.90	37.70	86	11	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unrefrigerated Warehouse-No Rail	14.70	6.60	6.60	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.497748	0.052311	0.166556	0.175213	0.036995	0.008646	0.013713	0.015467	0.000920	0.000307	0.026129	0.001451	0.004545
Unrefrigerated Warehouse-No Rail	0.497748	0.052311	0.166556	0.175213	0.036995	0.008646	0.013713	0.015467	0.000920	0.000307	0.026129	0.001451	0.004545

5.0 Energy Detail

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	72112.6	3.9000e-004	3.3200e-003	1.4100e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	3.8482	3.8482	7.0000e-005	7.0000e-005	3.8711
Unrefrigerated Warehouse-No Rail	460162	2.4800e-003	0.0226	0.0190	1.4000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.5560	24.5560	4.7000e-004	4.5000e-004	24.7019
Total		**2.8700e-003**	**0.0259**	**0.0204**	**1.6000e-004**		**1.9800e-003**	**1.9800e-003**		**1.9800e-003**	**1.9800e-003**	**0.0000**	**28.4042**	**28.4042**	**5.4000e-004**	**5.2000e-004**	**28.5730**

5.3 Energy by Land Use - Electricity

Unmitigated

Mattos Ranch - Existing Emissions - Stanislaus County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	23921.9	2.2133	3.6000e-004	4.0000e-005	2.2352
Unrefrigerated Warehouse-No Rail	238431	22.0605	3.5700e-003	4.3000e-004	22.2787
Total		**24.2739**	**3.9300e-003**	**4.7000e-004**	**24.5139**

6.0 Area Detail

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1210					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0199	4.0500e-003	0.1800	5.9000e-004		0.0294	0.0294		0.0294	0.0294	3.9214	1.2996	5.2211	0.0184	2.0000e-005	5.6871
Landscaping	7.0000e-004	2.6000e-004	0.0226	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	0.0369	0.0369	4.0000e-005	0.0000	0.0378
Total	**0.1645**	**4.3100e-003**	**0.2026**	**5.9000e-004**		**0.0295**	**0.0295**		**0.0295**	**0.0295**	**3.9214**	**1.3365**	**5.2579**	**0.0184**	**2.0000e-005**	**5.7248**

Mattos Ranch - Existing Emissions - Stanislaus County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.0 Water Detail

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.195462 / 0.123226	0.1998	6.3900e-003	1.5000e-004	0.4052
Unrefrigerated Warehouse-No Rail	5.94081 / 0	4.8590	0.1941	4.6300e-003	11.0901
Total		**5.0588**	**0.2005**	**4.7800e-003**	**11.4952**

8.0 Waste Detail

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	3.24	0.6577	0.0389	0.0000	1.6294
Unrefrigerated Warehouse-No Rail	24.15	4.9022	0.2897	0.0000	12.1451

Mattos Ranch - Existing Emissions - Stanislaus County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Total		**5.5599**	**0.3286**	**0.0000**	**13.7745**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mattos Ranch Phase 2 Incl. Commercial

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	190.00	1000sqft	4.36	190,000.00	0
Parking Lot	540.00	Space	4.86	216,000.00	0
City Park	0.02	Acre	0.02	1,000.00	0
Fast Food Restaurant with Drive Thru	7.50	1000sqft	0.17	7,500.00	0
High Turnover (Sit Down Restaurant)	17.50	1000sqft	0.40	17,500.00	0
Single Family Housing	43.00	Dwelling Unit	6.10	77,400.00	123
Strip Mall	52.00	1000sqft	1.19	52,000.00	0
Supermarket	30.00	1000sqft	0.69	30,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Land Use - Revised per site plan provided by RRM design on 8/26/22.

Vehicle Trips - weekday Trip rates provided by VRPA Technologies (updated 10/06/22)

Energy Use - 100% Electrical demand from renewable sources per Title 24 BEES

Water And Wastewater - Project would connect to municipal system

Table Name	Column Name	Default Value	New Value

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	T24E	209.15	0.00
tblLandUse	LandUseSquareFeet	871.20	1,000.00
tblLandUse	LotAcreage	13.96	6.10
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	616.12	90.16
tblVehicleTrips	ST_TR	122.40	90.16
tblVehicleTrips	ST_TR	9.54	10.80
tblVehicleTrips	ST_TR	42.04	90.16
tblVehicleTrips	ST_TR	177.62	90.16
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	472.58	90.16
tblVehicleTrips	SU_TR	142.64	90.16
tblVehicleTrips	SU_TR	8.55	10.80
tblVehicleTrips	SU_TR	20.43	90.16
tblVehicleTrips	SU_TR	166.47	90.16
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	470.95	90.16
tblVehicleTrips	WD_TR	112.18	90.16
tblVehicleTrips	WD_TR	9.44	10.80
tblVehicleTrips	WD_TR	44.32	90.16
tblVehicleTrips	WD_TR	106.78	90.16
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWater	AerobicPercent	87.46	97.79
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3508	2.7496	3.3084	8.3300e-003	0.4499	0.1115	0.5614	0.1393	0.1042	0.2436	0.0000	752.3840	752.3840	0.1031	0.0301	763.9253
2024	1.7037	0.9931	1.4357	3.6300e-003	0.1726	0.0379	0.2105	0.0465	0.0355	0.0820	0.0000	329.9254	329.9254	0.0371	0.0144	335.1514
Maximum	**1.7037**	**2.7496**	**3.3084**	**8.3300e-003**	**0.4499**	**0.1115**	**0.5614**	**0.1393**	**0.1042**	**0.2436**	**0.0000**	**752.3840**	**752.3840**	**0.1031**	**0.0301**	**763.9253**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	tons/yr										MT/yr					
Area	1.0335	0.0375	1.3827	3.8000e-003		0.1868	0.1868		0.1868	0.1868	24.6606	19.0009	43.6615	0.1159	3.4000e-004	46.6613
Energy	0.0415	0.3743	0.2947	2.2600e-003		0.0287	0.0287		0.0287	0.0287	0.0000	618.1060	618.1060	0.0414	0.0116	622.5973
Mobile	3.9400	4.7732	28.8398	0.0553	5.4717	0.0525	5.5242	1.4640	0.0492	1.5132	0.0000	5,235.9140	5,235.9140	0.3862	0.3143	5,339.2434
Waste						0.0000	0.0000		0.0000	0.0000	28.5568	0.0000	28.5568	1.6877	0.0000	70.7482
Water						0.0000	0.0000		0.0000	0.0000	6.3471	10.4257	16.7729	0.1676	0.0140	25.1373
Total	**5.0150**	**5.1849**	**30.5172**	**0.0614**	**5.4717**	**0.2680**	**5.7397**	**1.4640**	**0.2646**	**1.7286**	**59.5645**	**5,883.4466**	**5,943.0111**	**2.3988**	**0.3403**	**6,104.3874**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-93.6820
Total	**-93.6820**

4.0 Operational Detail - Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT
City Park	0.00	0.00	0.00	
Fast Food Restaurant with Drive Thru	676.20	676.20	676.20	583,722

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

High Turnover (Sit Down Restaurant)	1,577.80	1,577.80	1577.80	1,782,784
Other Asphalt Surfaces	0.00	0.00	0.00	
Parking Lot	0.00	0.00	0.00	
Single Family Housing	464.40	464.40	464.40	1,815,263
Strip Mall	4,688.32	4,688.32	4688.32	7,482,413
Supermarket	2,704.80	2,704.80	2704.80	2,947,240
Total	10,111.52	10,111.52	10,111.52	14,611,421

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6
Fast Food Restaurant with Drive	14.70	6.60	6.60	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down	14.70	6.60	6.60	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Single Family Housing	16.80	7.10	7.90	48.40	13.90	37.70	86	11	3
Strip Mall	14.70	6.60	6.60	16.60	64.40	19.00	45	40	15
Supermarket	14.70	6.60	6.60	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0.003656
Fast Food Restaurant with Drive Thru	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0.003656
High Turnover (Sit Down Restaurant)	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0.003656
Other Asphalt Surfaces	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0.003656
Parking Lot	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0.003656
Single Family Housing	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0.003656
Strip Mall	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0.003656
Supermarket	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0.003656

5.0 Energy Detail

5.2 Energy by Land Use - NaturalGas

Unmitigated

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	1.57545e+006	8.5000e-003	0.0772	0.0649	4.6000e-004		5.8700e-003	5.8700e-003		5.8700e-003	5.8700e-003	0.0000	84.0720	84.0720	1.6100e-003	1.5400e-003	84.5716
High Turnover (Sit Down Restaurant)	3.67605e+006	0.0198	0.1802	0.1514	1.0800e-003		0.0137	0.0137		0.0137	0.0137	0.0000	196.1680	196.1680	3.7600e-003	3.6000e-003	197.3338
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.03361e+006	5.5700e-003	0.0476	0.0203	3.0000e-004		3.8500e-003	3.8500e-003		3.8500e-003	3.8500e-003	0.0000	55.1576	55.1576	1.0600e-003	1.0100e-003	55.4854
Strip Mall	551720	2.9700e-003	0.0271	0.0227	1.6000e-004		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	29.4419	29.4419	5.6000e-004	5.4000e-004	29.6168
Supermarket	860400	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	45.9142	45.9142	8.8000e-004	8.4000e-004	46.1871
Total		**0.0415**	**0.3743**	**0.2947**	**2.2500e-003**		**0.0287**	**0.0287**		**0.0287**	**0.0287**	**0.0000**	**410.7538**	**410.7538**	**7.8700e-003**	**7.5300e-003**	**413.1947**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	212025	19.6174	3.1700e-003	3.8000e-004	19.8113

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

High Turnover (Sit Down Restaurant)	494725	45.7738	7.4100e-003	9.0000e-004	46.2264
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	75600	6.9948	1.1300e-003	1.4000e-004	7.0640
Single Family Housing	69180.1	6.4008	1.0400e-003	1.3000e-004	6.4641
Strip Mall	411840	38.1050	6.1600e-003	7.5000e-004	38.4818
Supermarket	977700	90.4605	0.0146	1.7700e-003	91.3550
Total		**207.3523**	**0.0335**	**4.0700e-003**	**209.4026**

6.0 Area Detail

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1555					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7464					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1262	0.0345	1.1358	3.7900e-003		0.1855	0.1855		0.1855	0.1855	24.6606	18.6279	43.2885	0.1156	3.4000e-004	46.2813
Landscaping	5.3800e-003	2.9600e-003	0.2469	1.0000e-005		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	0.3730	0.3730	2.8000e-004	0.0000	0.3800
Total	**1.0335**	**0.0375**	**1.3827**	**3.8000e-003**		**0.1868**	**0.1868**		**0.1868**	**0.1868**	**24.6606**	**19.0009**	**43.6615**	**0.1159**	**3.4000e-004**	**46.6613**

7.0 Water Detail

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.022376	7.2500e-003	0.0000	0.0000	7.3200e-003
Fast Food Restaurant with Drive Thru	2.2765 / 0.136445	1.9893	0.0213	1.7700e-003	3.0494
High Turnover (Sit Down Restaurant)	5.31184 / 0.318371	4.6418	0.0496	4.1400e-003	7.1152
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.80162 / 1.6585	2.9309	0.0262	2.1900e-003	4.2403
Strip Mall	3.85177 / 2.21676	4.0090	0.0361	3.0200e-003	5.8089
Supermarket	3.69805 / 0.107396	3.1946	0.0345	2.8800e-003	4.9162
Total		**16.7729**	**0.1676**	**0.0140**	**25.1373**

8.0 Waste Detail

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	21.5975	4.3841	0.2591	0.0000	10.8614
High Turnover (Sit Down Restaurant)	52.0625	10.5682	0.6246	0.0000	26.1823
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	11.07	2.2471	0.1328	0.0000	5.5671
Strip Mall	13.65	2.7708	0.1638	0.0000	6.8646
Supermarket	42.3	8.5865	0.5075	0.0000	21.2727
Total		**28.5568**	**1.6877**	**0.0000**	**70.7482**

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-93.6820	0.0000	0.0000	-93.6820

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cropland	15.11 / 0	-93.6820	0.0000	0.0000	-93.6820
Total		**-93.6820**	**0.0000**	**0.0000**	**-93.6820**

Air Quality Health Risk Assessment

E

APPENDIX

MATTOS RANCH PHASE II

AIR QUALITY HEALTH RISK ASSESSMENT

Newman, California

April 14, 2022

Prepared for:

Sally Rideout, EMPA
EMC Planning Group
301 Lighthouse Avenue, Suite C
Monterey, CA 93940
rideout@emcplanning.com

Prepared by:

James A. Reyff and William Popenuck

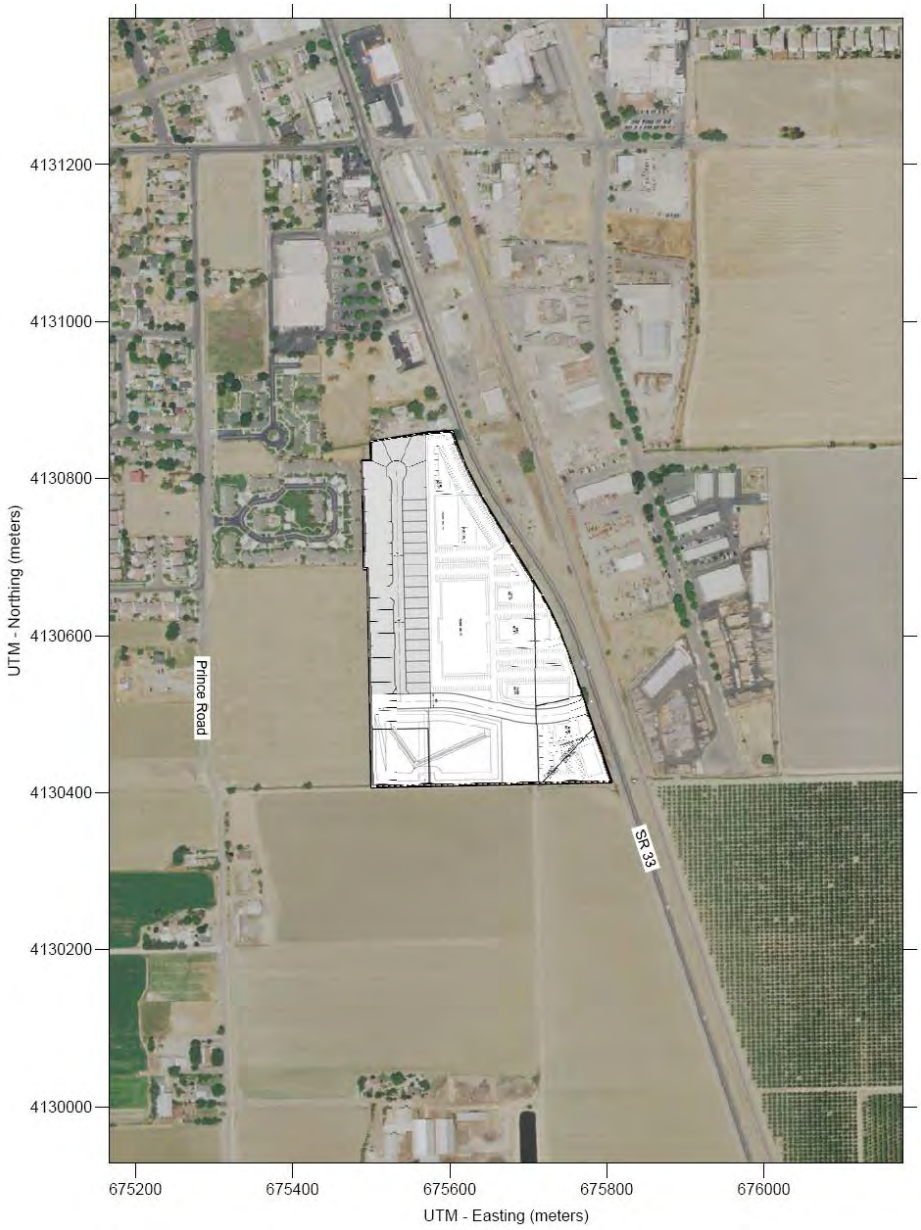
ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
429 E. Cotati Avenue
Cotati, CA 94931
(707) 794-0400

I&R Project: 22-010

INTRODUCTION

This report assesses the air quality health risks associated with the Mattos Ranch Phase II project proposed in Newman, California. The entire Mattos Ranch Project will occupy a 34.8 -acre site generally located at the southern portion of Newman, just west of N Street (State Route 33) and west of Prince Road. Phase II, which this study addresses, occupies a 20-acre portion of the site. The Mattos Ranch Phase II project location is shown in Figure 1.

Figure 1. Mattos Ranch Project Location



The Proposed Project includes the demolition of the existing industrial agricultural buildings and residence at the southeastern portion of the site and construction of a residential subdivision and shopping center. Specifically, the project would construct the following:

43 single-family dwelling units
75,000 square-foot (sf) Anchor retail use
58,000 sf General Office/Commercial/Retail use
4,200 sf General Commercial/Retail use
6,000 sf Restaurant
2,400 sf Fast Food Restaurant

The project's potential impacts on air quality during construction and operation were assessed in in a separate air quality report using the California Emissions Estimator Model (CalEEMod) Version 2020.4.0. The CalEEMod modeling from the project was used to develop construction and operational emissions used in this health risk analysis. The San Joaquin Valley Air Pollution Control District (SJVAPCD) has published the Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) that was used to conduct this air quality analysis.[1] This report describes construction and operation period air quality health risk impacts and identifies any necessary mitigation measures to reduce or eliminate air quality impacts identified as significant.

TOXIC AIR CONTAMINANTS

Besides the "criteria" air pollutants, there is another group of substances found in ambient air referred to as Hazardous Air Pollutants (HAPs) under the CAA and Toxic Air Contaminants (TACs) under the CCAA. These contaminants tend to be localized and are found in relatively low concentrations in ambient air. However, they can result in adverse chronic health effects if exposure to low concentrations occurs for long periods. They are regulated at the local, state, and federal level.

HAPs are the air contaminants identified by U.S. EPA as known or suspected to cause cancer, serious illness, birth defects, or death. Many of these contaminants originate from human activities, such as fuel combustion and solvent use. Mobile source air toxics (MSATs) are a subset of the 188 HAPS. Of the 21 HAPs identified by U.S. EPA as MSATs, a priority list of six priority HAPs were identified that include: diesel exhaust, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. The Federal Highway Administration[2] reports that while vehicle miles traveled (VMT) in the United States is expected to increase by 64 percent over the period 2000 to 2020, emissions of MSATs are anticipated to decrease substantially as a result of efforts to control mobile source emissions (by 57 percent to 67 percent depending on the contaminant).

California developed a program under the Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807, Tanner 1983), also known as the Tanner Toxics Act, to identify, characterize and control TACs. Subsequently, AB 2728 (Tanner, 1992) incorporated all 188 HAPs into the AB 1807 process. TACs include all HAPs plus other containments identified by CARB.

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[1] SJVAPCD. 2015. Guide for Assessing and Mitigating Air Quality Impacts. March.

[2] Federal Highway Administration, 2016. Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents. https://www.fhwa.dot.gov/environMent/air_quality/air_toxics/policy_and_guidance/msat/

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

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly), described by CARB[3], was enacted in 1987, and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

Particulate matter from diesel exhaust is the predominant TAC in urban air and is estimated to represent about 70 percent of the cancer risk from TACs, based on the statewide average reported by CARB[4]. According to CARB, diesel exhaust is a complex mixture of gases, vapors and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by CARB, and are listed as carcinogens either under State Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB reports that recent air pollution studies have shown an association that diesel exhaust and other cancer-causing TACs emitted from vehicles are responsible for much of the overall cancer risk from TACs in California. Particulate matter emitted from diesel-fueled engines (DPM) was found to comprise much of that risk. In 1998, CARB formally identified DPM as a TAC. DPM is of particular concern since it can be distributed over large regions, thus leading to widespread public exposure. The particles emitted by diesel engines are coated with chemicals, many of which have been identified by U.S. EPA as HAPs, and by CARB as TACs. The vast majority of diesel exhaust particles (over 90 percent) consist of $PM_{2.5}$, which are the particles that can be inhaled deep into the lung. Like other particles of this size, a portion will eventually become trapped within the lung possibly leading to adverse health effects. While the gaseous portion of diesel exhaust also contains TACs, CARB's 1998 action was specific to DPM, which accounts for much of the cancer-causing potential from diesel exhaust. California has adopted a comprehensive diesel risk reduction program to reduce DPM emissions 85 percent by 2020[5]. The EPA and CARB adopted low sulfur diesel fuel standards in 2006 that reduce DPM substantially.

Smoke from residential wood combustion can be a source of TACs. Wood smoke is typically emitted during winter when dispersion conditions are poor. Localized high TAC concentrations can result when cold stagnant air traps smoke near the ground and, with no wind the pollution can persist for many hours, especially in sheltered valleys during winter. Wood smoke also contains a

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[3] California Air Resources Board (CARB). 2016. AB 2588 Air Toxics "Hot Spots" Program. https://www.arb.ca.gov/ab2588/ab2588.htm

[4] California Air Resources Board (CARB) 2012. Overview: Diesel Exhaust and Health. https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health Accessed May 20, 2018.

[5] California Air Resources Board (CARB). 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October. https://www.arb.ca.gov/diesel/documents/rrpFinal.pdf

significant amount of PM_{10} and $PM_{2.5}$. Wood smoke is an irritant and is implicated in worsening asthma and other chronic lung problems.

SJVAPCD RULES AND REGULATIONS

The SJVAPCD has adopted rules and regulations that apply to land use projects, such as the proposed project. These are described below.

SJVAPCD Indirect Source Review Rule

In 2005, the SJVAPCD adopted Rule 9510 Indirect Source Review (ISR or Rule 9510) to reduce NO_x and PM_{10} emissions from new land use development projects. The rule, which became effective March 1, 2006, is the result of state requirements outlined in the region's portion of the State Implementation Plan (SIP). Rule 9510 was amended in December 2017 (and became effective March 21, 2018) to ensure that all large development projects are subject to the rule. The SJVAPCD's SIP commitments are contained in the 2004 Extreme Ozone Attainment Demonstration Plan and the 2003 PM_{10} Plan. These plans identified the need to reduce PM_{10} and NO_x substantially in order to attain and maintain the ambient air-pollution standards on schedule.

New projects that would generate substantial air pollutant emissions are subject to this rule. The rule requires projects to mitigate both construction and operational period emissions by applying the SJVAPCD-approved mitigation measures and paying fees to support programs that reduce emissions. The rule requires mitigated exhaust emissions during construction based on the following levels:

- 20 percent reduction from unmitigated baseline in total NO_x exhaust emissions
- 45 percent reduction from unmitigated baseline in total PM_{10} exhaust emissions

For operational emissions, Rule 9510 requires the following reductions:

- 33.3 percent of the total operational NO_x emissions from unmitigated baseline
- 50 percent of the total operational PM_{10} exhaust emissions from unmitigated baseline

Fees apply to the unmitigated portion of the emissions and are based on estimated costs to reduce the emissions from other sources plus estimated costs to cover administration of the program. In accordance with ISR, the project applicant will submit an application for approval of an Air Impact Assessment (AIA) to the SJVAPCD.

Regulation VIII – Fugitive PM_{10}

SJVAPCD controls fugitive PM_{10} through Regulation VIII (Fugitive PM_{10} Prohibitions). The purpose of this regulation is to reduce ambient concentrations of PM_{10} by requiring actions to prevent, reduce or mitigate anthropogenic (human caused) fugitive dust emissions. This applies to activities such as construction, bulk materials, open areas, paved and unpaved roads, material transport, and agricultural areas. Sources regulated are required to provide dust control plans that meet the regulation requirements. Fees are collected by SJVAPCD to cover costs for reviewing plans and conducting field inspections.

Other SJVAPCD Rules

Other SJVAPCD Rules and Regulations that may be applicable to the project include, but are not limited to:

- Rule 4101 (Visible Emissions): The purpose of this rule is to prohibit the emissions of visible air contaminants to the atmosphere. The provisions of this rule apply to any source operation which emits or may emit air contaminants.
- Rule 4102 (Nuisance): The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials.
- Rule 4601 (Architectural Coatings): The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling.
- Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations): The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. Paving operations will be subject to Rule 4641.
- Rule 4692 (Commercial Charbroiling): This rule limits VOC and PM10 emissions from commercial charbroiling at restaurants. Chain-driven charbroilers that cook 400 pounds or more of meat in any calendar week or 10,800 pounds in any calendar year must be equipped with a catalytic oxidizer that has a control efficiency of at least 83% for PM10 emissions and a control efficiency of at least 86% for VOC emissions. Annual or one-time reports are required for all other charbroiling operations. Underfired charbroilers subject to the rule must register each piece of equipment and maintain weekly records.

The Air District is anticipated to provide a determination of applicable rules/regulations to the project when specific building, grading, etc. plans are provided to the Air District prior to initiation of construction- and operation-related activities that fall within the purview of the Air District's regulatory authority.

SENSITIVE RECEPTORS

"Sensitive receptors" are defined as facilities where sensitive population groups, such as children, the elderly, the acutely ill, and the chronically ill, are likely to be located. Land uses that include sensitive receptors are residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest residences consist of single-family residences located to the northwest and new residences located immediately west that are part of

the Mattos Ranch Phase 1 project that are assumed to be occupied at the time that construction of this project begins.

City of Newman General Plan

The City of Newman adopted the Newman 2030 General Plan in April 2007. Goal NR-4 will promote and improve air quality in Newman and the region through the following policies:

> Policy NR-4.2 The City shall utilize the CEQA process to identify and avoid or mitigate potentially significant air quality impacts of new development.
>
> Policy NR-4.3 The City should coordinate development project reviews with the San Joaquin Valley Air Pollution District in order to minimize future increases in vehicle travel and to assist in implementing appropriate indirect source regulations adopted by the Air Pollution Control District.
>
> Policy NR-4.4 The City shall notify and coordinate with the Air Pollution Control District when new developments are proposed.
>
> Policy NR-4.6 The City shall, to the extent practicable, separate sensitive land uses from significant sources of air pollutants, toxic air contaminants or odor emissions.

HEALTH RISK ASSESSMENT

STANDARDS OF SIGNIFICANCE

Appendix G, of the California Environmental Quality Act (CEQA) Guidelines (Environmental Checklist) contains a list of project effects that may be considered significant. The project would result in a significant impact if it would:

- Expose sensitive receptors to substantial pollutant concentrations.

The SJVAPCD has developed the Guide for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015), also known as the GAMAQI[6]. The following threshold of significance, obtained from the SJVAPCD's GAMAQI, is used to determine whether a proposed project would result in a significant air quality impact:

1) Toxic Air Contaminants or Hazardous Air Pollutants. Exposure to HAPs or TACs would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual would exceed 20 in 1 million or would result in a Hazard Index greater than 1 for non-cancer health effects.

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[6] Source: San Joaquin Valley Air Pollution Control District, GAMAQI, See website at http://www.valleyair.org/transportation/0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf

ANALYSIS

Impact 1: Exposure of Sensitive Receptors to Toxic Air Contaminants. Construction activity, delivery trucks, operational traffic would expose nearby receptors to toxic air contaminants. This is a potentially significant impact.

To evaluate the exposure of sensitive receptors to emissions of Toxic Air Contaminants (TACs) from the project, a health risk assessment of both project construction activities and emissions from project operation was conducted. The health risk assessment predicts lifetime cancer risk and non-cancer risks. The health risk assessment involves prediction of emissions from the various sources of TACs, dispersion modeling using historical meteorological data and calculation of health risks using SJVAPCD recommended risk assessment methods for infant, child, and adult exposures for residential receptors, and for off-site worker exposure. Modeled receptors are shown in Figure 2. These methods used to predict health risk impacts are described in *Attachment 2*.

Construction Health Risk Impacts

Construction activity is anticipated to include site preparation and grading, trenching/excavation, building construction, paving and some application of architectural coatings. Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a TAC. This health risk assessment focused on modeling on-site construction activity using emissions computed using the CalEEMod[7]. Construction of the project is expected to occur over an 18-month period assumed to start in 2023.

Construction Emissions

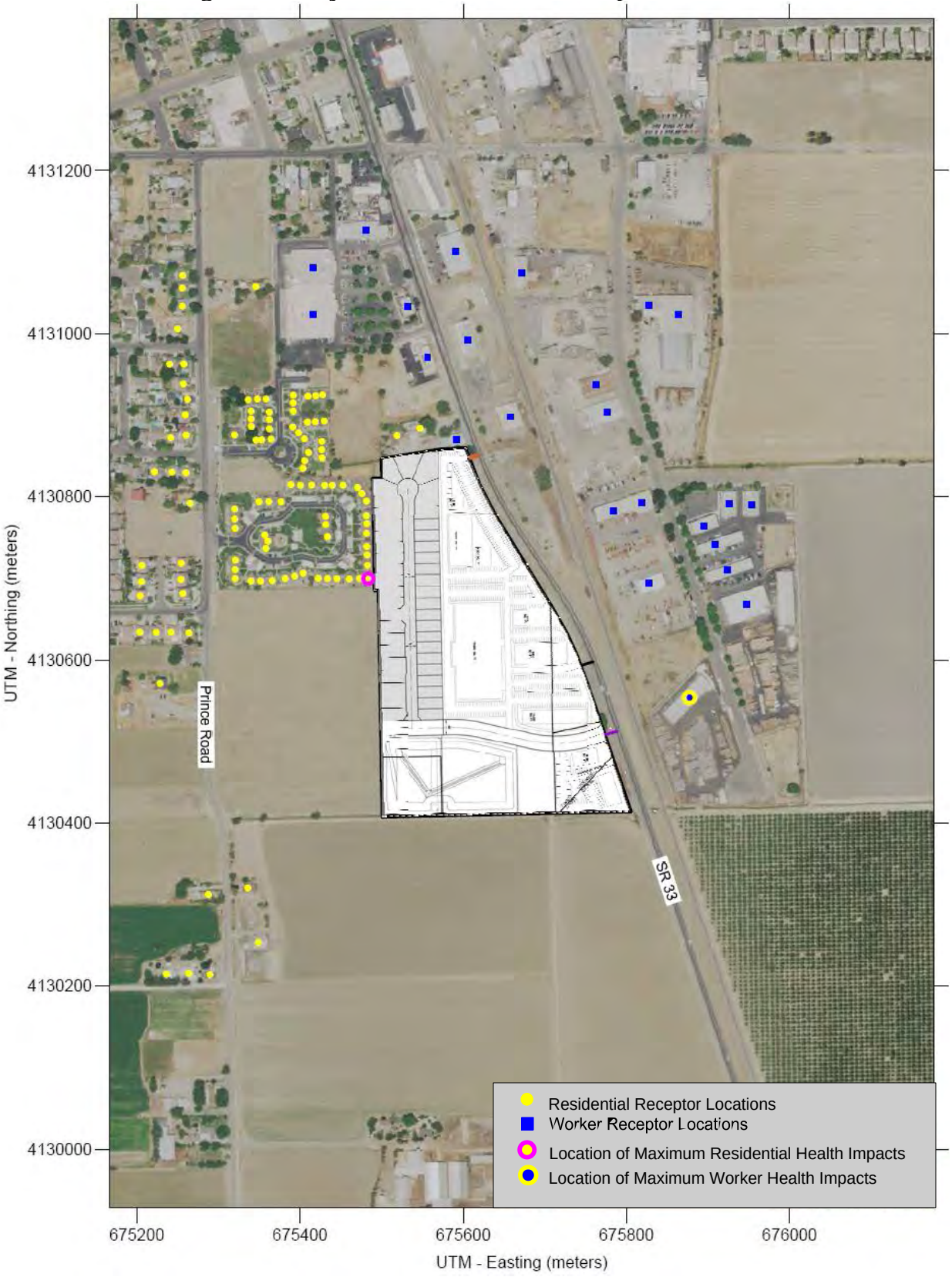
The CalEEMod model provided unmitigated total annual PM_{10} exhaust emissions (assumed to be diesel particulate matter) for the off-road construction equipment and for exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles). DPM exhaust emissions are reported in Table 1. The construction DPM emissions include on-road emissions resulting from haul truck travel during grading activities, worker travel, and vendor deliveries during building construction. A summary of the on-site CalEEMod model output with emission calculations are provided in *Attachment 2*.

Table 1. Construction Period DPM Emissions

Year	Unmitigated PM10 Exhaust Emissions	Mitigated PM10 Exhaust Emissions
2023	0.1112 tons	0.0625 tons (44% reduction)
2024	0.0377 tons	0.0377 tons (no reduction)

[7] Note that CalEEMod modeling of construction and operational emissions was conducted by EMC Planning Group.

Figure 2 – Project Site and Sensitive Receptor Locations



Dispersion Modeling

The US EPA AERMOD dispersion model was used to calculate DPM and other TAC concentrations at existing sensitive receptors (residences and workers) in the vicinity of the project site. The AERMOD dispersion model is a SJVAPCD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[8]

For modeling construction impacts the AERMOD modeling utilized an area source to represent the location of on-site construction activities. Emissions were distributed evenly across the area source. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (20 feet) was used for the area sources. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. Emissions from on-road truck travel at and near the project site were included in the area source. Emissions were modeled as occurring daily between 7 am - 4 pm, when the majority of construction activity would occur. Figure 2 shows the project site and nearby sensitive receptor locations (residential and worker) where health impacts were evaluated.

The model used a 5-year data set (2004-2008) of hourly meteorological data from Los Banos prepared for use with the AERMOD model by the SJVAPCD. DPM concentrations were calculated at nearby sensitive receptors using a receptor height of 1.5 meters (4.9 feet). Flat terrain was used for the modeling since there is negligible elevation difference between the source and receptors and the receptors with the highest modeled concentrations are close to the project site. Rural dispersion conditions were used in the modeling given the area surrounding the project site is predominantly rural.

Details on the emission calculations and dispersion modeling information for the construction sources are provided in *Attachment 3*.

Construction Cancer Risk and Hazards

The maximum-modeled unmitigated (uncontrolled) annual DPM concentration occurred at a residential receptor adjacent to the western boundary of the project site. The location where the maximum impact occurred (maximally exposed individual) is identified on Figure 2. Increased cancer risks were calculated at this location using the modeled annual concentrations and SJVAPCD recommended risk assessment methods for infant, child, and adult exposures for residential receptors, and for off-site worker exposure. Results of this assessment indicate that, with uncontrolled project construction, the maximum increased infant cancer risk at the maximally exposed residential individual location would be 18.4 in one million. The maximum off-site worker cancer risk would be 0.3 in one million. Potential non-cancer health effects due to chronic exposure to DPM were also evaluated. The chronic inhalation reference exposure level (REL) for DPM is 5 $\mu g/m^3$. The Hazard Index (HI), which is the ratio of the annual DPM concentration to

[8] San Joaquin Valley Air Pollution Control District, Guidance for Air Dispersion Modeling, Draft 01/07 Rev 2.0

the REL, is less than 0.1 at all receptor locations. *Attachment 3* contains the construction health risk assessment.

Operation Health Risk Impacts

Local traffic generated by the project leads to operational community risk impacts. Specific sources of emissions include residential and retail customer traffic traveling to and from the project site. Impacts from these sources are addressed. These sources are assumed to be operational well into the future (i.e., 70 years). The year 2025 was assumed to be the first full year of operation and was used as the year of analysis for generating emission rates. Vehicle emission rates are anticipated to decrease in the future due to improvements in exhaust systems and turnover of the fleet from older, more polluting vehicles, to newer cleaner vehicles.

Project Traffic-Related Emissions

Daily traffic generation was calculated as 11,851 total trips per day based on the operational CalEEMod modeling that used daily trip generation rates from the Project traffic study. The CalEEMod modeling indicates that 3,498 of these would be pass-by trips. This means the vehicles are already traveling by or near the project site. However, to be conservative, this analysis assumes the 11,851 trips are all new to the project site. The distribution of customer vehicle trips on the local roads (N Street, the Project driveways, new roadways, and Prince Road) was based on the traffic report for the project. Vehicles were assumed to travel at a speed of 35 mph while off site on N Street and Prince Road, 20 mph while transiting the main access road to the project's residential area and to Prince Road, and 5 mph while traveling on the project roads in the retail/commercial areas.

The primary TAC of concern from project vehicles are MSATs, as previously described. DPM and MSAT emissions for customer vehicles were calculated using emission factors from the Caltrans version of the EMFAC2017 emissions model, known as CT-EMFAC2017[9], and the increased local project-related traffic described above. Vehicle emission processes modeled include running/idle exhaust, running evaporative losses for organic MSATs, tire and brake wear, and fugitive road dust. Vehicle emissions are projected to decrease in the future and are reflected in the CT-EMFAC2017 emissions estimates. Inputs to the model include region (i.e., Stanislaus County), type of road (for road dust calculation purposes), traffic mix (assigned by CT-EMFAC2017 for the county), year of analysis (i.e., 2025), and season (Annual). Year 2025 emissions were conservatively assumed as being representative of future conditions over the period that cancer risks are evaluated (70 years), since, as discussed above, overall vehicle emissions will decrease in the future.

Emission factors from the CT-EMFAC2017 model for travel speeds of 35 mph and 20 mph were used in calculating project vehicle emissions while traveling off-site and transiting through the project site. Emission factors for a travel speed of 5 mph were used in calculating project vehicle emissions while traveling on-site. Emissions were assumed to occur 24-hours per day, 365 days per year. MSAT emission rates used in the analysis are provided in *Attachment 4*.

[9] California Department of Transportation. 2019. CT-EMFAC2017 User Guide. January.

Fast-Food Restaurant Emissions

The proposed fast-food restaurants would generate TACs from the cooking of meat. The SJVAPCD's *Guidance for Air Dispersion Modeling* lists two TACs from meat cooking, PAHs without naphthalene and naphthalene. PAH and naphthalene emissions from meat cooking were estimated using default emission factors and emissions provided in SJVAPCD guidance[10].

Dispersion Modeling

The US EPA AERMOD dispersion model was used to calculate project-related operational DPM and other TAC concentrations at existing sensitive receptors (residences and workers) in the vicinity of the project site. The AERMOD dispersion model is a SJVAPCD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[11] The modeling used the same meteorological data from Los Banos as previously discussed for the construction health risk modeling. TAC concentrations from on-site and off-site (i.e., roadway) and restaurant emission sources were calculated at nearby residences and worker locations using a receptor height of 1.5 meters (4.9 feet). Since there is negligible elevation difference between the modeled sources and receptors, flat terrain was used for the modeling.

On-site emission sources include project-related vehicles and operation of the restaurants (meat cooking). Off-site emission sources include project vehicle travel routes. TAC concentrations from on-site and off-site (i.e., roadway) and restaurant emission sources were calculated at nearby residences and worker locations using a receptor height of 1.5 meters (4.9 feet). The modeled emission sources and receptors where TAC concentrations were calculated are shown in Figure 3. Vehicle emissions were modeled as line-volume sources (a series of volume sources along a line) representing off-site and on-site travel routes depicted in Figure 3. Vehicle volume source modeling parameters were based on EPA[12] and SJVAPCD[13] recommended roadway volume and area source parameters. Additional information on the emissions and modeling for project sources is described below.

Cancer Risk and Hazards

Computed health risk impacts are shown in Table 2. Using the maximum modeled TAC concentrations, total increased cancer risks from project operations were computed using the most recent methods recommended by SJVAPCD and OEHHA that include nearly continuous exposures with adjustments for infants and children. Based on modeled TAC concentrations, operational cancer risks were calculated for 70-year residential exposures of 3.6 in one million, while worker increased cancer risk would be 0.6 per million. When assuming two partial years of

[10] TAC emissions rates obtained from Section 2.3.4.2 of the *Guidance for Air Dispersion Modeling*, SJVAPCD.

[11] San Joaquin Valley Air Pollution Control District, Guidance for Air Dispersion Modeling, Draft 01/07 Rev 2.0

[12] US EPA. 2015. Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas. November 2015

[13] San Joaquin Valley Air Pollution Control District. 2018. SJVAPCD Memo FYI – 366 Estimating and Modeling Emissions from Truck Travel and Idling. May 24, 2018.

emissions from construction (i.e., 2023 and 2024) and constant operational emissions for 68 additional years (70 years total with operation starting in 2025), residential cancer risk is 20 per million and worker cancer risk is 0.8 per million (based on a total of 40 years of exposure). The acute and chronic HIs from DPM and MSATs would be less than 0.1 at all receptor locations Details on the emission calculations and dispersion modeling information for these sources are provided in *Attachment 4*.

Table 2. **Construction and Operational Period Health Risk Impacts**

	Maximum Residential Cancer Risk (per million)		**Maximum Worker Cancer Risk (per million)**	
Activity	**Unmitigated**	**Mitigated**	**Unmitigated**	**Mitigated**
Construction Years 0-2 Operation Years ≥3	18.39 infant 3.62 child/adult	8.60 infant 3.62 child/adult	0.27 adult 0.63adult	0.13 adult 0.63 adult
Construction & Operation Lifetime	20.02	10.22	0.84	0.69

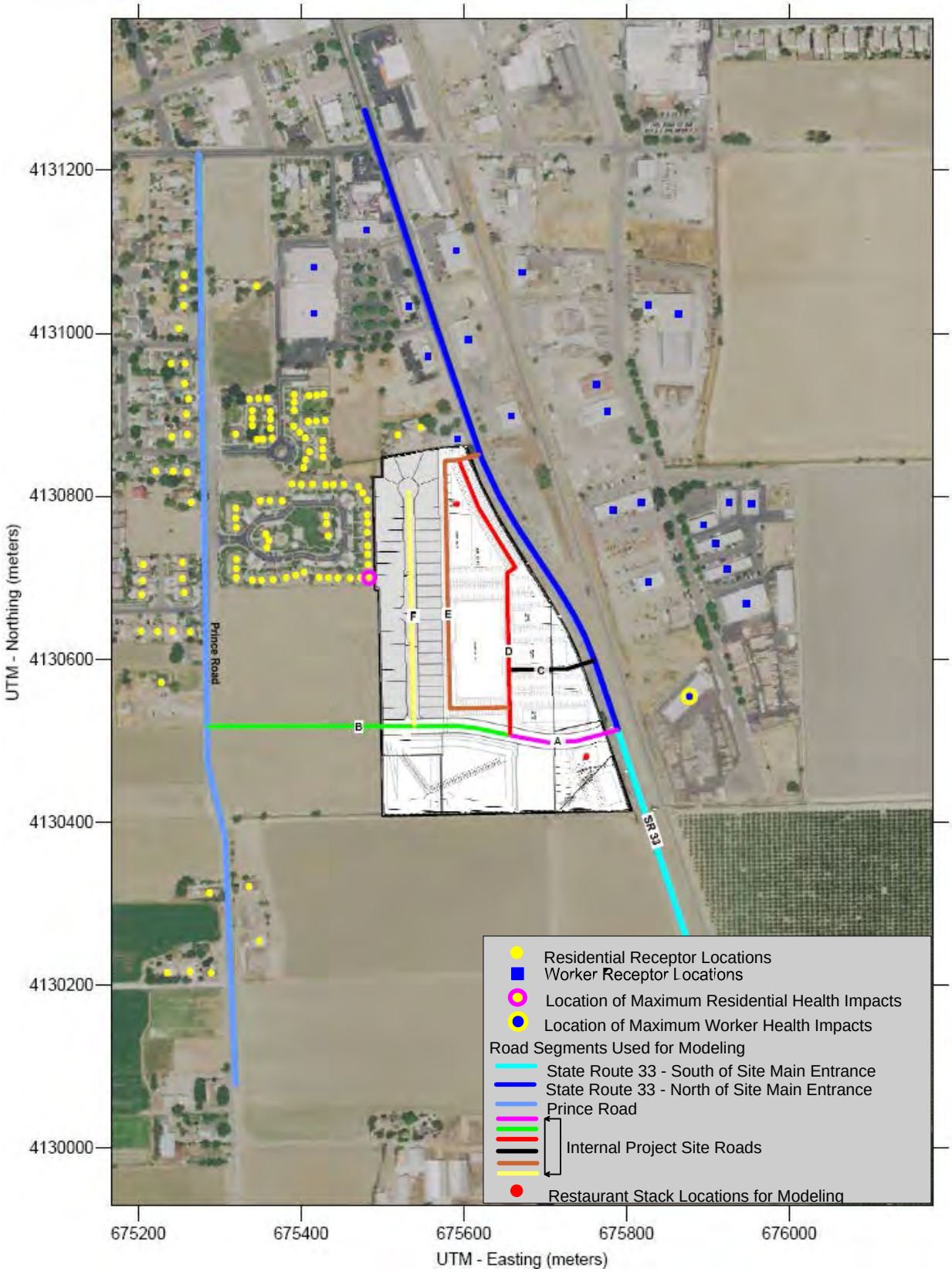
Mitigation Measure for Impact 1 Implement **Mitigation Measure AQ-1**.

AQ-1 All off-road diesel construction equipment greater than 25 horsepower and operating at the site during demolition and earthwork phases for more than 20 hours shall at a minimum meet U.S. EPA Tier 2 engine standards with Level 3 particulate filtration. Use of equipment with U.S. EPA Tier 4 engine standards would meet this requirement. Optionally, the applicant could develop and implement a plan that would achieve a 10-percent reduction in on- and near-site DPM emissions.

Effectiveness of Mitigation

Construction emissions need to be reduced by less than 10 percent such that total project cancer risk is less than that significance threshold of 20 in a million. CalEEMod modeling indicates that implementation of Mitigation Measure AQ-1 using Tier 4 equipment during demolition and earthwork phases would reduce exhaust PM_{10} emissions, considered to be equivalent to DPM emissions, by 33 percent. The use of Tier 2 or Tier 3 equipment equipped with CARB Level 3 diesel emission control device would reduce emissions by about 30 percent. The reductions in construction period emissions would reduce the construction period cancer risk for residents to 8.6 chances per million. This level is below the significance threshold of 20 chances per million. When construction risks are considered with operational emissions, the overall 70-year project cancer risk would be 10.2 chances per million using Tier 4 equipment.

Figure 3. Sensitive Receptor Locations, and Modeled On-Site Emission Sources



Attachment 1: Health Risk Assessment

Health Risk Calculation Methodology

A health risk assessment for exposure to TACs requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and CARB develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[14] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by state law, compared to previous published risk assessment guidelines. The SJVAPCD has recently revised Risk Management Policy to incorporate OEHHA's new guidelines.[15]

This health risk assessment used the recent 2015 OEHHA risk assessment guidelines and SJVAPCD recommended procedures for applying the OEHHA guidelines.[16] Guidance based on consultations with SJVAPCD was also incorporated into the assessment[17].

Cancer Risk

Potential increased cancer risks from inhalation of TACs are calculated based on the average annual TAC concentration, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration over a 70-year lifetime period. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location, at a workplace, or at a school.

The current OEHHA guidance used by SJVAPCD recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, for a 70-year residential exposure period they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. For workers, a 40-year adult exposure period is assumed in calculating the 70-year lifetime cancer risk. Also associated

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

[15] San Joaquin Valley Air Pollution Control District. 2015. *APR-1906 Framework for Performing Health Risk Assessments*. June30, 2015.

[16] San Joaquin Valley Air Pollution Control District. 2015. *Final Draft Staff Report, Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document*. May 28, 2015

[17] San Joaquin Valley Air Pollution Control District. 2020. Email from Kyle Melching of the SJVAPCD and James Reyff of Illingworth & Rodkin, Inc. on February 6, 2020.

with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) for residential exposures or L/kg per 8 hours for worker exposures. As recommended by the SJVAPCD, 95th percentile breathing rates are used for all age groups.

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 10^6

Where:

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

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

Where:

C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day) or 8-hr breathing rate for worker
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

The health risk parameters used in this evaluation are summarized in Tables 1 and 2.

TABLE 1 - Health Risk Parameters used for Cancer Risk Calculations

	Exposure Type →	**Infant**		**Child**	**Adult**	**Worker**
Parameter	***Age Range*** →	**3rd Trimester**	**0<2**	**2 < 16**	**16 - 70**	**> 16**
Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$ (refer to Table 2)						
Daily Breathing Rate (L/kg-day)[a]		361	1,090	745	290	230[b]
Inhalation Absorption Factor		1	1	1	1	1
Averaging Time ((years)		70	70	70	70	70
Exposure Duration (years)		0.25	2	14	54	40
Exposure Frequency (days/year)		350	350	350	350	250
Age Sensitivity Factor		10	10	3	1	1
Fraction of Time at Home		1.0	1.0	1.0	1.0	-

[a] 95th percentile breathing rates for all age groups

[b] Worker 95th percentile 8-hour breathing rate.

Table 2 - Cancer Potency Factors and Reference Exposure Levels

TAC	**Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$**	**Reference Exposure Levels ($\mu g/m^3$)**	
		Acute (1-hour)	**Chronic (annual ave)**
DPM	1.10E+00	-	5
Benzene	1.00E-01	27	3
Ethylbenzene	8.70E-03	-	2,000
Formaldehyde	2.10E-02	55	9
PAH	3.90E00	-	-
Naphthalene	1.20E-01	-	9
1,3 Butadiene	6.00E-01	660	2

Aceltaldehyde	1.00E-02	470	140

Non-Cancer Hazard Calculation

Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). Non-cancer health effects can be acute due to short term TAC exposure (one hour) or chronic due to longer term TAC exposure (annual average). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the SJVAPCD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for projects involving construction or for residential projects locating near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is DPM. For other emission sources, such as gasoline stations, benzene, toluene, and xylenes (organic TACs) are of concern with respect acute and chronic non-cancer health effects.

Attachment 2: CalEEMod Modeling Output

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	56.50	1000sqft	1.30	56,500.00	0
Other Non-Asphalt Surfaces	91.48	1000sqft	2.10	91,476.00	0
Parking Lot	533.00	Space	4.80	213,200.00	0
Fast Food Restaurant with Drive Thru	2.40	1000sqft	0.06	2,400.00	0
High Turnover (Sit Down Restaurant)	6.00	1000sqft	0.14	6,000.00	0
Single Family Housing	43.00	Dwelling Unit	6.10	77,400.00	123
Strip Mall	4.20	1000sqft	0.10	4,200.00	0
Strip Mall	58.80	1000sqft	1.35	58,800.00	0
Supermarket	75.00	1000sqft	1.72	75,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Phase 2 Per TM (Sousa 2021)

On-road Fugitive Dust -

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Demolition -

Vehicle Trips - weekday Trip rates provided by VRPA Technologies

Woodstoves -

Energy Use - 100% Electrical demand from renewable sources per Title 24 BEES

Water And Wastewater - Project would connect to municipal system

Land Use Change -

Construction Off-road Equipment Mitigation - BMPs and Tier 4interim

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	T24E	209.15	0.00
tblLandUse	LandUseSquareFeet	91,480.00	91,476.00
tblLandUse	LotAcreage	13.96	6.10
tblVehicleTrips	WD_TR	470.95	86.60
tblVehicleTrips	WD_TR	112.18	86.60
tblVehicleTrips	WD_TR	9.44	10.80
tblVehicleTrips	WD_TR	44.32	86.60
tblVehicleTrips	WD_TR	106.78	86.60
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	AerobicPercent	87.46	97.79
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

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tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3250	2.7506	3.0259	7.5400e-003	0.4840	0.1112	0.5952	0.1711	0.1039	0.2750	0.0000	679.9997	679.9997	0.1020	0.0302	691.5531
2024	1.9518	0.9948	1.3026	3.2400e-003	0.1197	0.0377	0.1573	0.0325	0.0354	0.0679	0.0000	293.4781	293.4781	0.0365	0.0145	298.7237
Maximum	**1.9518**	**2.7506**	**3.0259**	**7.5400e-003**	**0.4840**	**0.1112**	**0.5952**	**0.1711**	**0.1039**	**0.2750**	**0.0000**	**679.9997**	**679.9997**	**0.1020**	**0.0302**	**691.5531**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

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Year	tons/yr										MT/yr					
2023	0.2481	2.3313	3.2509	7.5400e-003	0.3472	0.0625	0.4097	0.1121	0.0593	0.1714	0.0000	679.9993	679.9993	0.1020	0.0302	691.5527
2024	1.9377	0.9905	1.3401	3.2400e-003	0.1197	0.0272	0.1468	0.0325	0.0258	0.0583	0.0000	293.4779	293.4779	0.0365	0.0145	298.7236
Maximum	**1.9377**	**2.3313**	**3.2509**	**7.5400e-003**	**0.3472**	**0.0625**	**0.4097**	**0.1121**	**0.0593**	**0.1714**	**0.0000**	**679.9993**	**679.9993**	**0.1020**	**0.0302**	**691.5527**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**3.99**	**11.31**	**-6.06**	**0.00**	**22.65**	**39.79**	**26.05**	**28.96**	**38.93**	**33.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-2-2023	4-1-2023	1.0096	0.5719
2	4-2-2023	7-1-2023	0.6825	0.6652
3	7-2-2023	10-1-2023	0.6901	0.6726
4	10-2-2023	1-1-2024	0.6979	0.6805
5	1-2-2024	4-1-2024	0.6529	0.6419
6	4-2-2024	7-1-2024	1.5545	1.5475
7	7-2-2024	9-30-2024	0.7212	0.7212
		Highest	1.5545	1.5475

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

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Area	1.2158	0.0382	1.4624	3.8000e-003		0.1873	0.1873		0.1873	0.1873	24.6606	19.1642	43.8249	0.1162	3.4000e-004	46.8311
Energy	0.0303	0.2723	0.2090	1.6500e-003		0.0209	0.0209		0.0209	0.0209	0.0000	600.9662	600.9662	0.0545	0.0114	605.7259
Mobile	5.4326	6.3519	38.4675	0.0717	7.0467	0.0685	7.1152	1.8854	0.0642	1.9496	0.0000	6,780.1568	6,780.1568	0.5241	0.4184	6,917.9284
Waste						0.0000	0.0000		0.0000	0.0000	128.3877	0.0000	128.3877	7.5875	0.0000	318.0752
Water						0.0000	0.0000		0.0000	0.0000	6.8153	11.2874	18.1027	0.1800	0.0150	27.0850
Total	**6.6787**	**6.6624**	**40.1388**	**0.0771**	**7.0467**	**0.2767**	**7.3234**	**1.8854**	**0.2724**	**2.1578**	**159.8636**	**7,411.5747**	**7,571.4383**	**8.4623**	**0.4451**	**7,915.6455**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2109	0.0375	1.3826	3.8000e-003		0.1868	0.1868		0.1868	0.1868	24.6606	19.0008	43.6614	0.1159	3.4000e-004	46.6612
Energy	0.0303	0.2723	0.2090	1.6500e-003		0.0209	0.0209		0.0209	0.0209	0.0000	600.9662	600.9662	0.0545	0.0114	605.7259
Mobile	5.4326	6.3519	38.4675	0.0717	7.0467	0.0685	7.1152	1.8854	0.0642	1.9496	0.0000	6,780.1568	6,780.1568	0.5241	0.4184	6,917.9284
Waste						0.0000	0.0000		0.0000	0.0000	32.0969	0.0000	32.0969	1.8969	0.0000	79.5188
Water						0.0000	0.0000		0.0000	0.0000	6.8153	11.1872	18.0024	0.1800	0.0150	26.9837
Total	**6.6738**	**6.6617**	**40.0591**	**0.0771**	**7.0467**	**0.2763**	**7.3230**	**1.8854**	**0.2719**	**2.1573**	**63.5728**	**7,411.3110**	**7,474.8838**	**2.7714**	**0.4451**	**7,676.8180**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.07**	**0.01**	**0.20**	**0.00**	**0.00**	**0.17**	**0.01**	**0.00**	**0.17**	**0.02**	**60.23**	**0.00**	**1.28**	**67.25**	**0.00**	**3.02**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-93.6820
Total	**-93.6820**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2023	1/27/2023	5	20	
2	Site Preparation	Site Preparation	1/28/2023	2/10/2023	5	10	
3	Grading	Grading	2/11/2023	3/24/2023	5	30	
4	Building Construction	Building Construction	3/25/2023	5/17/2024	5	300	
5	Paving	Paving	5/18/2024	6/14/2024	5	20	
6	Architectural Coating	Architectural Coating	6/15/2024	7/12/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

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Acres of Grading (Grading Phase): 90

Acres of Paving: 8.2

Residential Indoor: 156,735; Residential Outdoor: 52,245; Non-Residential Indoor: 219,600; Non-Residential Outdoor: 73,200; Striped Parking Area: 21,671

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	114.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	215.00	88.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	43.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0123	0.0000	0.0123	1.8600e-003	0.0000	1.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9921	33.9921	9.5200e-003	0.0000	34.2301
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**	**0.0123**	**9.9800e-003**	**0.0223**	**1.8600e-003**	**9.2800e-003**	**0.0111**	**0.0000**	**33.9921**	**33.9921**	**9.5200e-003**	**0.0000**	**34.2301**

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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	7.1000e-003	1.4700e-003	3.0000e-005	9.7000e-004	7.0000e-005	1.0400e-003	2.7000e-004	6.0000e-005	3.3000e-004	0.0000	3.2253	3.2253	2.0000e-005	5.1000e-004	3.3769
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.2000e-004	3.9400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9768	0.9768	3.0000e-005	3.0000e-005	0.9862
Total	**6.1000e-004**	**7.4200e-003**	**5.4100e-003**	**4.0000e-005**	**2.1700e-003**	**8.0000e-005**	**2.2500e-003**	**5.9000e-004**	**7.0000e-005**	**6.5000e-004**	**0.0000**	**4.2022**	**4.2022**	**5.0000e-005**	**5.4000e-004**	**4.3630**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.5400e-003	0.0000	5.5400e-003	8.4000e-004	0.0000	8.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8400e-003	0.1356	0.2467	3.9000e-004		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	33.9920	33.9920	9.5200e-003	0.0000	34.2300
Total	**5.8400e-003**	**0.1356**	**0.2467**	**3.9000e-004**	**5.5400e-003**	**6.2000e-004**	**6.1600e-003**	**8.4000e-004**	**6.2000e-004**	**1.4600e-003**	**0.0000**	**33.9920**	**33.9920**	**9.5200e-003**	**0.0000**	**34.2300**

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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	7.1000e-003	1.4700e-003	3.0000e-005	9.7000e-004	7.0000e-005	1.0400e-003	2.7000e-004	6.0000e-005	3.3000e-004	0.0000	3.2253	3.2253	2.0000e-005	5.1000e-004	3.3769
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.2000e-004	3.9400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9768	0.9768	3.0000e-005	3.0000e-005	0.9862
Total	**6.1000e-004**	**7.4200e-003**	**5.4100e-003**	**4.0000e-005**	**2.1700e-003**	**8.0000e-005**	**2.2500e-003**	**5.9000e-004**	**7.0000e-005**	**6.5000e-004**	**0.0000**	**4.2022**	**4.2022**	**5.0000e-005**	**5.4000e-004**	**4.3630**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	1.9000e-004	2.3600e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5861	0.5861	2.0000e-005	2.0000e-005	0.5917
Total	**3.0000e-004**	**1.9000e-004**	**2.3600e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5861**	**0.5861**	**2.0000e-005**	**2.0000e-005**	**0.5917**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0442	0.0000	0.0442	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8600e-003	0.0616	0.1143	1.9000e-004		6.4000e-004	6.4000e-004		6.1000e-004	6.1000e-004	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**3.8600e-003**	**0.0616**	**0.1143**	**1.9000e-004**	**0.0442**	**6.4000e-004**	**0.0449**	**0.0227**	**6.1000e-004**	**0.0233**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	1.9000e-004	2.3600e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5861	0.5861	2.0000e-005	2.0000e-005	0.5917
Total	**3.0000e-004**	**1.9000e-004**	**2.3600e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5861**	**0.5861**	**2.0000e-005**	**2.0000e-005**	**0.5917**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1381**	**0.0214**	**0.1594**	**0.0548**	**0.0197**	**0.0745**	**0.0000**	**81.8028**	**81.8028**	**0.0265**	**0.0000**	**82.4642**

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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	6.4000e-004	7.8800e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9537	1.9537	6.0000e-005	6.0000e-005	1.9723
Total	**9.9000e-004**	**6.4000e-004**	**7.8800e-003**	**2.0000e-005**	**2.4000e-003**	**1.0000e-005**	**2.4100e-003**	**6.4000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**1.9537**	**1.9537**	**6.0000e-005**	**6.0000e-005**	**1.9723**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0621	0.0000	0.0621	0.0247	0.0000	0.0247	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0157	0.2903	0.5501	9.3000e-004		2.0100e-003	2.0100e-003		1.9700e-003	1.9700e-003	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641
Total	**0.0157**	**0.2903**	**0.5501**	**9.3000e-004**	**0.0621**	**2.0100e-003**	**0.0641**	**0.0247**	**1.9700e-003**	**0.0266**	**0.0000**	**81.8027**	**81.8027**	**0.0265**	**0.0000**	**82.4641**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	6.4000e-004	7.8800e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9537	1.9537	6.0000e-005	6.0000e-005	1.9723
Total	**9.9000e-004**	**6.4000e-004**	**7.8800e-003**	**2.0000e-005**	**2.4000e-003**	**1.0000e-005**	**2.4100e-003**	**6.4000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**1.9537**	**1.9537**	**6.0000e-005**	**6.0000e-005**	**1.9723**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1573	1.4385	1.6244	2.6900e-003		0.0700	0.0700		0.0658	0.0658	0.0000	231.8048	231.8048	0.0551	0.0000	233.1833
Total	**0.1573**	**1.4385**	**1.6244**	**2.6900e-003**		**0.0700**	**0.0700**		**0.0658**	**0.0658**	**0.0000**	**231.8048**	**231.8048**	**0.0551**	**0.0000**	**233.1833**

Unmitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.2800e-003	0.3877	0.1129	1.7600e-003	0.0583	2.4500e-003	0.0607	0.0168	2.3400e-003	0.0192	0.0000	168.9196	168.9196	7.5000e-004	0.0255	176.5378
Worker	0.0707	0.0460	0.5645	1.5100e-003	0.1718	9.8000e-004	0.1728	0.0457	9.0000e-004	0.0466	0.0000	140.0132	140.0132	4.5400e-003	4.1100e-003	141.3501
Total	**0.0800**	**0.4336**	**0.6774**	**3.2700e-003**	**0.2301**	**3.4300e-003**	**0.2335**	**0.0625**	**3.2400e-003**	**0.0657**	**0.0000**	**308.9328**	**308.9328**	**5.2900e-003**	**0.0296**	**317.8879**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1408	1.4019	1.6468	2.6900e-003		0.0557	0.0557		0.0528	0.0528	0.0000	231.8045	231.8045	0.0551	0.0000	233.1830
Total	**0.1408**	**1.4019**	**1.6468**	**2.6900e-003**		**0.0557**	**0.0557**		**0.0528**	**0.0528**	**0.0000**	**231.8045**	**231.8045**	**0.0551**	**0.0000**	**233.1830**

Mitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.2800e-003	0.3877	0.1129	1.7600e-003	0.0583	2.4500e-003	0.0607	0.0168	2.3400e-003	0.0192	0.0000	168.9196	168.9196	7.5000e-004	0.0255	176.5378
Worker	0.0707	0.0460	0.5645	1.5100e-003	0.1718	9.8000e-004	0.1728	0.0457	9.0000e-004	0.0466	0.0000	140.0132	140.0132	4.5400e-003	4.1100e-003	141.3501
Total	**0.0800**	**0.4336**	**0.6774**	**3.2700e-003**	**0.2301**	**3.4300e-003**	**0.2335**	**0.0625**	**3.2400e-003**	**0.0657**	**0.0000**	**308.9328**	**308.9328**	**5.2900e-003**	**0.0296**	**317.8879**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0736	0.6722	0.8083	1.3500e-003		0.0307	0.0307		0.0288	0.0288	0.0000	115.9246	115.9246	0.0274	0.0000	116.6099
Total	**0.0736**	**0.6722**	**0.8083**	**1.3500e-003**		**0.0307**	**0.0307**		**0.0288**	**0.0288**	**0.0000**	**115.9246**	**115.9246**	**0.0274**	**0.0000**	**116.6099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5100e-003	0.1939	0.0552	8.7000e-004	0.0291	1.2300e-003	0.0304	8.4200e-003	1.1800e-003	9.5900e-003	0.0000	83.0954	83.0954	3.6000e-004	0.0125	86.8418
Worker	0.0326	0.0202	0.2607	7.3000e-004	0.0859	4.7000e-004	0.0864	0.0228	4.3000e-004	0.0233	0.0000	68.1987	68.1987	2.0400e-003	1.8900e-003	68.8140
Total	**0.0371**	**0.2141**	**0.3159**	**1.6000e-003**	**0.1150**	**1.7000e-003**	**0.1167**	**0.0313**	**1.6100e-003**	**0.0329**	**0.0000**	**151.2942**	**151.2942**	**2.4000e-003**	**0.0144**	**155.6558**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0661	0.6627	0.8191	1.3500e-003		0.0245	0.0245		0.0232	0.0232	0.0000	115.9244	115.9244	0.0274	0.0000	116.6097
Total	**0.0661**	**0.6627**	**0.8191**	**1.3500e-003**		**0.0245**	**0.0245**		**0.0232**	**0.0232**	**0.0000**	**115.9244**	**115.9244**	**0.0274**	**0.0000**	**116.6097**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5100e-003	0.1939	0.0552	8.7000e-004	0.0291	1.2300e-003	0.0304	8.4200e-003	1.1800e-003	9.5900e-003	0.0000	83.0954	83.0954	3.6000e-004	0.0125	86.8418
Worker	0.0326	0.0202	0.2607	7.3000e-004	0.0859	4.7000e-004	0.0864	0.0228	4.3000e-004	0.0233	0.0000	68.1987	68.1987	2.0400e-003	1.8900e-003	68.8140
Total	**0.0371**	**0.2141**	**0.3159**	**1.6000e-003**	**0.1150**	**1.7000e-003**	**0.1167**	**0.0313**	**1.6100e-003**	**0.0329**	**0.0000**	**151.2942**	**151.2942**	**2.4000e-003**	**0.0144**	**155.6558**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	7.9900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0179**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.8000e-004	3.6400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9516	0.9516	3.0000e-005	3.0000e-005	0.9602
Total	**4.5000e-004**	**2.8000e-004**	**3.6400e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9516**	**0.9516**	**3.0000e-005**	**3.0000e-005**	**0.9602**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.3400e-003	0.1004	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	7.9900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0113**	**0.1004**	**0.1730**	**2.3000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.8000e-004	3.6400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9516	0.9516	3.0000e-005	3.0000e-005	0.9602
Total	**4.5000e-004**	**2.8000e-004**	**3.6400e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9516**	**0.9516**	**3.0000e-005**	**3.0000e-005**	**0.9602**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.8197					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**1.8215**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-003	8.1000e-004	0.0104	3.0000e-005	3.4400e-003	2.0000e-005	3.4500e-003	9.1000e-004	2.0000e-005	9.3000e-004	0.0000	2.7280	2.7280	8.0000e-005	8.0000e-005	2.7526
Total	**1.3000e-003**	**8.1000e-004**	**0.0104**	**3.0000e-005**	**3.4400e-003**	**2.0000e-005**	**3.4500e-003**	**9.1000e-004**	**2.0000e-005**	**9.3000e-004**	**0.0000**	**2.7280**	**2.7280**	**8.0000e-005**	**8.0000e-005**	**2.7526**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.8197					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**1.8215**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

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Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-003	8.1000e-004	0.0104	3.0000e-005	3.4400e-003	2.0000e-005	3.4500e-003	9.1000e-004	2.0000e-005	9.3000e-004	0.0000	2.7280	2.7280	8.0000e-005	8.0000e-005	2.7526
Total	**1.3000e-003**	**8.1000e-004**	**0.0104**	**3.0000e-005**	**3.4400e-003**	**2.0000e-005**	**3.4500e-003**	**9.1000e-004**	**2.0000e-005**	**9.3000e-004**	**0.0000**	**2.7280**	**2.7280**	**8.0000e-005**	**8.0000e-005**	**2.7526**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.4326	6.3519	38.4675	0.0717	7.0467	0.0685	7.1152	1.8854	0.0642	1.9496	0.0000	6,780.1568	6,780.1568	0.5241	0.4184	6,917.9284
Unmitigated	5.4326	6.3519	38.4675	0.0717	7.0467	0.0685	7.1152	1.8854	0.0642	1.9496	0.0000	6,780.1568	6,780.1568	0.5241	0.4184	6,917.9284

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	207.84	1,478.69	1134.19	487,461	487,461
High Turnover (Sit Down Restaurant)	519.60	734.40	855.84	694,209	694,209

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Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	464.40	410.22	367.65	1,297,943	1,297,943
Strip Mall	363.72	176.57	85.81	457,824	457,824
Strip Mall	5,092.08	2,471.95	1201.28	6,409,537	6,409,537
Supermarket	6,495.00	13,321.50	12485.25	9,470,315	9,470,315
Total	13,142.64	18,593.33	16,130.02	18,817,290	18,817,290

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive Thru	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down Restaurant)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	48.40	13.90	37.70	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	
Fast Food Restaurant with Drive Thru	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0
High Turnover (Sit Down Restaurant)	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0
Other Asphalt Surfaces	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0
Other Non-Asphalt Surfaces	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0
Parking Lot	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0
Single Family Housing	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0
Strip Mall	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0
Supermarket	0.530702	0.051956	0.166139	0.152700	0.030655	0.007634	0.013363	0.016357	0.000829	0.000302	0.024359	0.001347	0

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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	301.1925	301.1925	0.0487	5.9100e-003	304.1707
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	301.1925	301.1925	0.0487	5.9100e-003	304.1707
NaturalGas Mitigated	0.0303	0.2723	0.2090	1.6500e-003		0.0209	0.0209		0.0209	0.0209	0.0000	299.7738	299.7738	5.7500e-003	5.5000e-003	301.5552
NaturalGas Unmitigated	0.0303	0.2723	0.2090	1.6500e-003		0.0209	0.0209		0.0209	0.0209	0.0000	299.7738	299.7738	5.7500e-003	5.5000e-003	301.5552

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	504144	2.7200e-003	0.0247	0.0208	1.5000e-004		1.8800e-003	1.8800e-003		1.8800e-003	1.8800e-003	0.0000	26.9030	26.9030	5.2000e-004	4.9000e-004	27.0

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High Turnover (Sit Down Restaurant)	1.26036e+006	6.8000e-003	0.0618	0.0519	3.7000e-004		4.7000e-003	4.7000e-003		4.7000e-003	4.7000e-003	0.0000	67.2576	67.2576	1.2900e-003	1.2300e-003	67.6
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0(
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0(
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0(
Single Family Housing	1.03361e+006	5.5700e-003	0.0476	0.0203	3.0000e-004		3.8500e-003	3.8500e-003		3.8500e-003	3.8500e-003	0.0000	55.1576	55.1576	1.0600e-003	1.0100e-003	55.4
Strip Mall	44562	2.4000e-004	2.1800e-003	1.8300e-003	1.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.3780	2.3780	5.0000e-005	4.0000e-005	2.39
Strip Mall	623868	3.3600e-003	0.0306	0.0257	1.8000e-004		2.3200e-003	2.3200e-003		2.3200e-003	2.3200e-003	0.0000	33.2920	33.2920	6.4000e-004	6.1000e-004	33.4
Supermarket	2.151e+006	0.0116	0.1054	0.0886	6.3000e-004		8.0100e-003	8.0100e-003		8.0100e-003	8.0100e-003	0.0000	114.7856	114.7856	2.2000e-003	2.1000e-003	115.4
Total		**0.0303**	**0.2723**	**0.2090**	**1.6400e-003**		**0.0209**	**0.0209**		**0.0209**	**0.0209**	**0.0000**	**299.7738**	**299.7738**	**5.7600e-003**	**5.4800e-003**	**301.5**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	504144	2.7200e-003	0.0247	0.0208	1.5000e-004		1.8800e-003	1.8800e-003		1.8800e-003	1.8800e-003	0.0000	26.9030	26.9030	5.2000e-004	4.9000e-004	27.0
High Turnover (Sit Down Restaurant)	1.26036e+006	6.8000e-003	0.0618	0.0519	3.7000e-004		4.7000e-003	4.7000e-003		4.7000e-003	4.7000e-003	0.0000	67.2576	67.2576	1.2900e-003	1.2300e-003	67.6
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0(
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0(
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0(

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Single Family Housing	1.03361e+006	5.5700e-003	0.0476	0.0203	3.0000e-004		3.8500e-003	3.8500e-003		3.8500e-003	3.8500e-003	0.0000	55.1576	55.1576	1.0600e-003	1.0100e-003	55.4
Strip Mall	44562	2.4000e-004	2.1800e-003	1.8300e-003	1.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.3780	2.3780	5.0000e-005	4.0000e-005	2.3
Strip Mall	623868	3.3600e-003	0.0306	0.0257	1.8000e-004		2.3200e-003	2.3200e-003		2.3200e-003	2.3200e-003	0.0000	33.2920	33.2920	6.4000e-004	6.1000e-004	33.4
Supermarket	2.151e+006	0.0116	0.1054	0.0886	6.3000e-004		8.0100e-003	8.0100e-003		8.0100e-003	8.0100e-003	0.0000	114.7856	114.7856	2.2000e-003	2.1000e-003	115.4
Total		**0.0303**	**0.2723**	**0.2090**	**1.6400e-003**		**0.0209**	**0.0209**		**0.0209**	**0.0209**	**0.0000**	**299.7738**	**299.7738**	**5.7600e-003**	**5.4800e-003**	**301.5**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	67848	6.2776	1.0200e-003	1.2000e-004	6.3396
High Turnover (Sit Down Restaurant)	169620	15.6939	2.5400e-003	3.1000e-004	15.8491
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	74620	6.9041	1.1200e-003	1.4000e-004	6.9724
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	33264	3.0777	5.0000e-004	6.0000e-005	3.1081
Strip Mall	465696	43.0880	6.9700e-003	8.4000e-004	43.5140
Supermarket	2.44425e+006	226.1512	0.0366	4.4300e-003	228.3875

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Total		**301.1924**	**0.0487**	**5.9000e-003**	**304.1707**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	67848	6.2776	1.0200e-003	1.2000e-004	6.3396
High Turnover (Sit Down Restaurant)	169620	15.6939	2.5400e-003	3.1000e-004	15.8491
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	74620	6.9041	1.1200e-003	1.4000e-004	6.9724
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	33264	3.0777	5.0000e-004	6.0000e-005	3.1081
Strip Mall	465696	43.0880	6.9700e-003	8.4000e-004	43.5140
Supermarket	2.44425e+006	226.1512	0.0366	4.4300e-003	228.3875
Total		**301.1924**	**0.0487**	**5.9000e-003**	**304.1707**

6.0 Area Detail

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2109	0.0375	1.3826	3.8000e-003		0.1868	0.1868		0.1868	0.1868	24.6606	19.0008	43.6614	0.1159	3.4000e-004	46.6612
Unmitigated	1.2158	0.0382	1.4624	3.8000e-003		0.1873	0.1873		0.1873	0.1873	24.6606	19.1642	43.8249	0.1162	3.4000e-004	46.8311

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1820					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8974					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1262	0.0345	1.1358	3.7900e-003		0.1855	0.1855		0.1855	0.1855	24.6606	18.6279	43.2885	0.1156	3.4000e-004	46.2813

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Landscaping	0.0103	3.7400e-003	0.3266	2.0000e-005		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	0.5363	0.5363	5.4000e-004	0.0000	0.5498
Total	**1.2158**	**0.0382**	**1.4624**	**3.8100e-003**		**0.1873**	**0.1873**		**0.1873**	**0.1873**	**24.6606**	**19.1642**	**43.8249**	**0.1162**	**3.4000e-004**	**46.8311**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1820					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8974					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1262	0.0345	1.1358	3.7900e-003		0.1855	0.1855		0.1855	0.1855	24.6606	18.6279	43.2885	0.1156	3.4000e-004	46.2813
Landscaping	5.3800e-003	2.9500e-003	0.2468	1.0000e-005		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	0.3729	0.3729	2.8000e-004	0.0000	0.3799
Total	**1.2109**	**0.0375**	**1.3826**	**3.8000e-003**		**0.1868**	**0.1868**		**0.1868**	**0.1868**	**24.6606**	**19.0008**	**43.6615**	**0.1159**	**3.4000e-004**	**46.6612**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.0024	0.1800	0.0150	26.9837
Unmitigated	18.1027	0.1800	0.0150	27.0850

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	0.728481 / 0.0464988	0.6375	6.8000e-003	5.7000e-004	0.9767
High Turnover (Sit Down Restaurant)	1.8212 / 0.116247	1.5938	0.0170	1.4200e-003	2.4418
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.80162 / 1.76624	2.9658	0.0262	2.1900e-003	4.2755
Strip Mall	4.66657 / 2.86016	4.9136	0.0437	3.6500e-003	7.0948

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Supermarket	9.24512 / 0.285931	7.9921	0.0863	7.2100e-003	12.2962
Total		**18.1027**	**0.1800**	**0.0150**	**27.0850**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	0.728481 / 0.0436624	0.6366	6.8000e-003	5.7000e-004	0.9758
High Turnover (Sit Down Restaurant)	1.8212 / 0.109156	1.5915	0.0170	1.4200e-003	2.4395
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.80162 / 1.6585	2.9309	0.0262	2.1900e-003	4.2403
Strip Mall	4.66657 / 2.68569	4.8571	0.0437	3.6500e-003	7.0377
Supermarket	9.24512 / 0.26849	7.9864	0.0863	7.2100e-003	12.2905
Total		**18.0024**	**0.1800**	**0.0150**	**26.9838**

8.0 Waste Detail

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	32.0969	1.8969	0.0000	79.5188
Unmitigated	128.3877	7.5875	0.0000	318.0752

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	27.65	5.6127	0.3317	0.0000	13.9052
High Turnover (Sit Down Restaurant)	71.4	14.4936	0.8565	0.0000	35.9072
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Single Family Housing	44.28	8.9884	0.5312	0.0000	22.2685
Strip Mall	66.15	13.4279	0.7936	0.0000	33.2669
Supermarket	423	85.8652	5.0745	0.0000	212.7273
Total		**128.3877**	**7.5875**	**0.0000**	**318.0752**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	6.9125	1.4032	0.0829	0.0000	3.4763
High Turnover (Sit Down Restaurant)	17.85	3.6234	0.2141	0.0000	8.9768
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	11.07	2.2471	0.1328	0.0000	5.5671
Strip Mall	16.5375	3.3570	0.1984	0.0000	8.3167
Supermarket	105.75	21.4663	1.2686	0.0000	53.1818
Total		**32.0969**	**1.8969**	**0.0000**	**79.5188**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-93.6820	0.0000	0.0000	-93.6820

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	15.11 / 0	-93.6820	0.0000	0.0000	-93.6820
Total		**-93.6820**	**0.0000**	**0.0000**	**-93.6820**

Attachment 3: Construction Health Risks

Mattos Ranch Phase II, Newman CA

DPM Emissions and Modeling Emission Rates - Without Controls

Construction Year	Activity	Area Source	DPM Emissions (ton/year)	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2023	Construction	2023_DPM	0.1112	222.4	0.08763	1.10E-02	96159.5	1.15E-07
2024	Construction	2024_DPM	0.0377	75.4	0.0297	0.0037	96159.5	3.89E-08
		Construction Hours						
		hr/day =	9	(7am - 4pm)				
		days/yr =	282					
		hours/year =	2538					

DPM Emissions and Modeling Emission Rates - With AQ-1

Construction Year	Activity	Area Source	DPM Emissions (ton/year)	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2023	Construction	2023_DPM	0.06250	125.0	0.04925	6.21E-03	96159.5	6.45E-08
2024	Construction	2024_DPM	0.0064	12.7	0.0050	0.0006	96159.5	6.58E-09
		Construction Hours						
		hr/day =	9	(7am - 4pm)				
		days/yr =	282					
		hours/year =	2538					

Mattos Ranch Phase II, Newman CA - Construction Impacts - Without Mitigation
AERMOD Risk Modeling Parameters & Maximum Concentrations
Off-Site Residential Receptors (1.5m heights)

Receptor Informnation

Number of Receptors 108
Receptor Height = 1.5 meters
Receptor Distances = Variable - placed at nearby residences

Meteorolgical Conditions

SJVAPCD Los Banos Met Data 2004-2008
Land Use Classification Rural
Wind Speed = variable
Wind Direction = variable

MEI Maximum Concentrations

Emissions Period	DPM Concentration ($\mu g/m^3$)
2023	0.07881
2024	0.02666

Mattos Ranch Phase II, Newman CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
70-Year Residential Exposure - Infant/Child at Off-Site Single Family Home

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

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

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

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

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - < 2**	**2 - < 16**	**16 - 70**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	745	290
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	54
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	1.00

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				
							Modeled				
			DPM Conc (ug/m3)		Age	Infant/Child	DPM Conc (ug/m3)		Age	Adult	
Exposure	Exposure Duration				Sensitivity	Cancer Risk			Sensitivity	Cancer Risk	Hazard Index
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	(HI)
0	0.25	-0.25 - 0*	2023	0.0788	10	1.07					
1	1	1	2023	0.0788	10	12.94	2023	0.0788	1	0.34	0.016
2	1	2	2024	0.0267	10	4.38	2024	0.0267	1	0.12	0.005
3	1	3	2025	0.0000	3	0.00	2025	0.0000	1	0.00	
4	1	4	2026	0.0000	3	0.00	2026	0.0000	1	0.00	
5	1	5	2027	0.0000	3	0.00	2027	0.0000	1	0.00	
6	1	6	2028	0.0000	3	0.00	2028	0.0000	1	0.00	
7	1	7	2029	0.0000	3	0.00	2029	0.0000	1	0.00	
8	1	8	2030	0.0000	3	0.00	2030	0.0000	1	0.00	
9	1	9	2031	0.0000	3	0.00	2031	0.0000	1	0.00	
10	1	10	2032	0.0000	3	0.00	2032	0.0000	1	0.00	
11	1	11	2033	0.0000	3	0.00	2033	0.0000	1	0.00	
12	1	12	2034	0.0000	3	0.00	2034	0.0000	1	0.00	
13	1	13	2035	0.0000	3	0.00	2035	0.0000	1	0.00	
14	1	14	2036	0.0000	3	0.00	2036	0.0000	1	0.00	
15	1	15	2037	0.0000	3	0.00	2037	0.0000	1	0.00	
16	1	16	2038	0.0000	3	0.00	2038	0.0000	1	0.00	
17	1	17	2039	0.0000	1	0.00	2039	0.0000	1	0.00	
18	1	18	2040	0.0000	1	0.00	2040	0.0000	1	0.00	
19	1	19	2041	0.0000	1	0.00	2041	0.0000	1	0.00	
20	1	20	2042	0.0000	1	0.00	2042	0.0000	1	0.00	
21	1	21	2043	0.0000	1	0.00	2043	0.0000	1	0.00	
.•	…	…	…	…	…	…	…	…	…	…	
.•	…	…	…	…	…	…	…	…	…	…	
.•	…	…	…	…	…	…	…	…	…	…	
65	1	65	2087	0.0000	1	0.00	2087	0.0000	1	0.00	
66	1	66	2088	0.0000	1	0.00	2088	0.0000	1	0.00	
67	1	67	2089	0.0000	1	0.00	2089	0.0000	1	0.00	
68	1	68	2090	0.0000	1	0.00	2090	0.0000	1	0.00	
69	1	69	2091	0.0000	1	0.00	2091	0.0000	1	0.00	
70	1	70	2092	0.0000	1	0.00	2092	0.0000	1	0.00	
Total Increased Cancer Risk						**18.39**				**0.46**	

* Third trimester of pregnancy

Mattos Ranch Phase II, Newman CA - Construction Impacts - With Mitigation
AERMOD Risk Modeling Parameters & Maximum Concentrations
Off-Site Residential Receptors (1.5m heights)

Receptor Informnation

Number of Receptors 108
Receptor Height = 1.5 meters
Receptor Distances = Variable - placed at nearby residences

Meteorolgical Conditions

SJVAPCD Los Banos Met Data 2004-2008
Land Use Classification Rural
Wind Speed = variable
Wind Direction = variable

MEI Maximum Concentrations

Emissions Period	DPM Concentration ($\mu g/m^3$)
2023	0.0442
2024	0.00451

Mattos Ranch Phase II, Newman CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk Calculations From Construction
70-Year Residential Exposure - Infant/Child at Off-Site Single Family Home

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

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

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

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

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - < 2**	**2 - < 16**	**16 - 70**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	745	290
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	54
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	1.00

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				
							Modeled				
			DPM Conc (ug/m3)		Age	Infant/Child	DPM Conc (ug/m3)		Age	Adult	
Exposure	Exposure Duration				Sensitivity	Cancer Risk			Sensitivity	Cancer Risk	Hazard Index
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	(HI)
0	0.25	-0.25 - 0*	2023	0.0442	10	0.60					
1	1	1	2023	0.0442	10	7.26	2023	0.0442	1	0.19	0.009
2	1	2	2024	0.0045	10	0.74	2024	0.0045	1	0.02	0.001
3	1	3	2025	0.0000	3	0.00	2025	0.0000	1	0.00	
4	1	4	2026	0.0000	3	0.00	2026	0.0000	1	0.00	
5	1	5	2027	0.0000	3	0.00	2027	0.0000	1	0.00	
6	1	6	2028	0.0000	3	0.00	2028	0.0000	1	0.00	
7	1	7	2029	0.0000	3	0.00	2029	0.0000	1	0.00	
8	1	8	2030	0.0000	3	0.00	2030	0.0000	1	0.00	
9	1	9	2031	0.0000	3	0.00	2031	0.0000	1	0.00	
10	1	10	2032	0.0000	3	0.00	2032	0.0000	1	0.00	
11	1	11	2033	0.0000	3	0.00	2033	0.0000	1	0.00	
12	1	12	2034	0.0000	3	0.00	2034	0.0000	1	0.00	
13	1	13	2035	0.0000	3	0.00	2035	0.0000	1	0.00	
14	1	14	2036	0.0000	3	0.00	2036	0.0000	1	0.00	
15	1	15	2037	0.0000	3	0.00	2037	0.0000	1	0.00	
16	1	16	2038	0.0000	3	0.00	2038	0.0000	1	0.00	
17	1	17	2039	0.0000	1	0.00	2039	0.0000	1	0.00	
18	1	18	2040	0.0000	1	0.00	2040	0.0000	1	0.00	
19	1	19	2041	0.0000	1	0.00	2041	0.0000	1	0.00	
20	1	20	2042	0.0000	1	0.00	2042	0.0000	1	0.00	
21	1	21	2043	0.0000	1	0.00	2043	0.0000	1	0.00	
.•	…	…	…	…	…	…	…	…	…	…	
.•	…	…	…	…	…	…	…	…	…	…	
.•	…	…	…	…	…	…	…	…	…	…	
65	1	65	2087	0.0000	1	0.00	2087	0.0000	1	0.00	
66	1	66	2088	0.0000	1	0.00	2088	0.0000	1	0.00	
67	1	67	2089	0.0000	1	0.00	2089	0.0000	1	0.00	
68	1	68	2090	0.0000	1	0.00	2090	0.0000	1	0.00	
69	1	69	2091	0.0000	1	0.00	2091	0.0000	1	0.00	
70	1	70	2092	0.0000	1	0.00	2092	0.0000	1	0.00	
Total Increased Cancer Risk						**8.60**				**0.21**	

* Third trimester of pregnancy

Mattos Ranch Phase II, Newman CA- Construction Impacts - Without Mitigation
AERMOD Risk Modeling Parameters & Maximum Concentrations
Off-Site Worker Receptors (1.5m heights)
40-Year Worker Exposure

Receptor Informnation

Number of Receptors	24
Receptor Height =	1.5 meters
Receptor Distances =	Variable - placed at nearby work places

Meteorolgical Conditions

SJVAPCD Los Banos Met Data	2004-2008
Land Use Classification	Rural
Wind Speed =	variable
Wind Direction =	variable

Worker MEI Maximum Concentrations

Emissions Period	DPM Concentration ($\mu g/m^3$)
2023	0.02203
2024	0.00745

Mattos Ranch Phase II, Newman CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
40-Year Worker Exposure - Off-Site

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
WAF = Worker Adjustment Factor (unitless)
= (24hrs/9 hrs) x (7 days/5 days) = 3.73 for construction modeling
= 1.0 for roadway modeling (continuous emissions)
BR = 8-hour breathing rate for workers
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

TAC	CPF
DPM	1.10

	Adult
Age -->	17 - 70
Parameter	
ASF =	1
BR* =	230
A =	1
EF =	250
ED =	40
AT =	70
WAF =	3.73

* 95th percentile worker 8-hr breathing rate

Construction Cancer Risk by Year - Maximum Risk Location

Exposure Year	Exposure Duration (years)	Age	Worker - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Cancer Risk (per million)
1	1	1	2023	0.0220	1	0.203
2	1	2	2024	0.0075	1	0.069
3	1	3	2025	0.0000	1	0.000
4	1	4	2026	0.0000	1	0.000
5	1	5	2027	0.0000	1	0.000
6	1	6	2028	0.0000	1	0.000
7	1	7	2029	0.0000	1	0.000
8	1	8	2030	0.0000	1	0.000
9	1	9	2031	0.0000	1	0.000
10	1	10	2032	0.0000	1	0.000
11	1	11	2033	0.0000	1	0.000
12	1	12	2034	0.0000	1	0.000
13	1	13	2035	0.0000	1	0.000
14	1	14	2036	0.0000	1	0.000
15	1	15	2037	0.0000	1	0.000
16	1	16	2038	0.0000	1	0.000
17	1	17	2039	0.0000	1	0.000
18	1	18	2040	0.0000	1	0.000
19	1	19	2041	0.0000	1	0.000
20	1	20	2042	0.0000	1	0.000
21	1	21	2043	0.0000	1	0.000
…	…	…	…	…	1	…
…	…	…	…	…	1	…
…	…	…	…	…	1	…
35	1	35	2057	0.0000	1	0.000
36	1	36	2058	0.0000	1	0.000
37	1	37	2059	0.0000	1	0.000
38	1	38	2060	0.0000	1	0.000
39	1	39	2061	0.0000	1	0.000
40	1	40	2062	0.0000	1	0.000
Total Increased Cancer Risk						**0.27**

Mattos Ranch Phase II, Newman CA- Construction Impacts - With Mitigation
AERMOD Risk Modeling Parameters & Maximum Concentrations
Off-Site Worker Receptors (1.5m heights)
40-Year Worker Exposure

Receptor Informnation
Number of Receptors 24
Receptor Height = 1.5 meters
Receptor Distances = Variable - placed at nearby work places

Meteorolgical Conditions
SJVAPCD Los Banos Met Data 2004-2008
Land Use Classification Rural
Wind Speed = variable
Wind Direction = variable

Worker MEI Maximum Concentrations

Emissions Period	DPM Concentration ($\mu g/m^3$)
2023	0.01235
2024	0.00126

Mattos Ranch Phase II, Newman CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk Calculations From Construction
40-Year Worker Exposure - Off-Site

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
WAF = Worker Adjustment Factor (unitless)
= (24hrs/9 hrs) x (7 days/5 days) = 3.73 for construction modeling
= 1.0 for roadway modeling (continuous emissions)
BR = 8-hour breathing rate for workers
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

TAC	CPF
DPM	1.10

	Adult
Age -->	17 - 70
Parameter	
ASF =	1
BR* =	230
A =	1
EF =	250
ED =	40
AT =	70
WAF =	3.73

* 95th percentile worker 8-hr breathing rate

Construction Cancer Risk by Year - Maximum Risk Location

Exposure Year	Exposure Duration (years)	Age	Worker - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Cancer Risk (per million)
1	1	1	2023	0.0124	1	0.11
2	1	2	2024	0.0013	1	0.01
3	1	3	2025	0.0000	1	0.00
4	1	4	2026	0.0000	1	0.00
5	1	5	2027	0.0000	1	0.00
6	1	6	2028	0.0000	1	0.00
7	1	7	2029	0.0000	1	0.00
8	1	8	2030	0.0000	1	0.00
9	1	9	2031	0.0000	1	0.00
10	1	10	2032	0.0000	1	0.00
11	1	11	2033	0.0000	1	0.00
12	1	12	2034	0.0000	1	0.00
13	1	13	2035	0.0000	1	0.00
14	1	14	2036	0.0000	1	0.00
15	1	15	2037	0.0000	1	0.00
16	1	16	2038	0.0000	1	0.00
17	1	17	2039	0.0000	1	0.00
18	1	18	2040	0.0000	1	0.00
19	1	19	2041	0.0000	1	0.00
20	1	20	2042	0.0000	1	0.00
21	1	21	2043	0.0000	1	0.00
…	…	…	…	…	1	…
…	…	…	…	…	1	…
…	…	…	…	…	1	…
35	1	35	2057	0.0000	1	0.00
36	1	36	2058	0.0000	1	0.00
37	1	37	2059	0.0000	1	0.00
38	1	38	2060	0.0000	1	0.00
39	1	39	2061	0.0000	1	0.00
40	1	40	2062	0.0000	1	0.00
Total Increased Cancer Risk						**0.13**

Attachment 4: Project Operation and Health Risks

Mattos II - Newman CA

Project Traffic Vehicle Emissions - DPM

Road Segment	Segment ID	Segment length		Segment Width		Plume Height[a]		Vertical Dispersion[a]		Release Height[a]		Trip Distribution	Trips per day	Speed	DPM Emissions Factors[b]				Project DPM Emissions		
															Evaporative		Exhaust	Total	Daily	Hourly	Annual
		(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(%)		(mph)	g/veh-hr	g/veh-mi	g/veh-mi	g/veh-mi	(g/day)	(g/s)	(lb/year)
On-Site																					
Segment A - Main Entrance	SEG_A	446	135.9	24	7.32	8.5	6.8	10.38	3.16	11.15	3.40	75	8888	5	0	0	0.002468	0.002468	1.8528409	2.14E-05	1.4909577
Segment B - Main to Prince Ave	SEG_B	1214	370.0	24	7.32	8.5	6.8	10.38	3.16	11.15	3.40	5	593	20	0	0	0.001164	0.001164	0.1585637	1.835E-06	0.1275942
Segment C - Middle Entrance	SEG_C	343	104.6	24	7.32	8.5	6.8	10.38	3.16	11.15	3.40	10	1185	5	0	0	0.002468	0.002468	0.1901311	2.20E-06	0.1529961
Segment D - Main Site Road	SEG_D	1181	359.9	24	7.32	8.5	6.8	10.38	3.16	11.15	3.40	75	8888	5	0	0	0.002468	0.002468	4.9061734	5.678E-05	3.9479357
Segment E - North Entrance	SEG_E	1373	418.5	24	7.32	8.5	6.8	10.38	3.16	11.15	3.40	10	1185	5	0	0	0.002468	0.002468	0.7606082	8.803E-06	0.6120518
Segment F - New Residential Road	SEG_F	935	284.9	24	7.32	8.5	6.8	10.38	3.16	11.15	3.40	4	474	20	0	0	0.001164	0.001164	0.0976775	1.131E-06	0.0785998
Off-site																					
SR33 - North	SR33N	2705	824.5	24	7.32	8.5	6.8	10.38	3.16	11.15	3.40	70	8296	35	0	0	0.000833	0.000833	3.540232	4.10E-05	2.84878
SR33 - South	SR33S	1507	459.2	24	7.32	8.5	6.8	10.38	3.16	11.15	3.40	25	2963	35	0	0	0.000833	0.000833	0.70424	8.151E-06	0.5666908
Prince Avenue	PRNC	3754	1144.4	24	7.32	8.5	6.8	10.38	3.16	11.15	3.40	5	593	35	0	0	0.000833	0.000833	0.35098	4.062E-06	0.2824322

[a] Source Parameters from EPA *Transportation Conformity Guidance for Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenace Areas* (2015)

[b] Emissions Factors from CT_EMFAC2017

Vehicle Info	
Vehicles per day =	5926
Trips per day =	11851
Operation Days =	365
Operation Hours =	24

Mattos II - Newman CA

Project Traffic Vehicle Emissions - Benzene

Road Segment	Segment ID	Segment length		Segment Width		Plume Height[a]		Vertical Dispersion[a]		Release Height[a]		Trip Distribution	Trips per day	Speed	Benzene Emissions Factors[b]				Project Benzene Emissions		
															Evaporative		Exhaust	Total	Daily	Hourly	Annual
		(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(%)		(mph)	g/veh-hr	g/veh-mi	g/veh-mi	g/veh-mi	(g/day)	(g/s)	(lb/year)
On-Site																					
Segment A - Main Entrance	SEG_A	446	135.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0.015816	0.0031632	0.00423	0.0073932	5.5504147	6.42E-05	4.4663486
Segment B - Main to Prince Ave	SEG_B	1214	370.0	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	20	0.015816	0.0007908	0.001282	0.0020728	0.2823633	3.268E-06	0.2272142
Segment C - Middle Entrance	SEG_C	343	104.6	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0.015816	0.0031632	0.00423	0.0073932	0.5695611	6.59E-06	0.4583187
Segment D - Main Site Road	SEG_D	1181	359.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0.015816	0.0031632	0.00423	0.0073932	14.697051	0.0001701	11.826531
Segment E - North Entrance	SEG_E	1373	418.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0.015816	0.0031632	0.00423	0.0073932	2.2784963	2.637E-05	1.8334772
Segment F - New Residential Road	SEG_F	935	284.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	4	474	20	0.015816	0.0007908	0.001282	0.0020728	0.1739397	2.013E-06	0.1399671
Off-site																					
SR33 - North	SR33N	2705	824.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	70	8296	35	0.015816	0.0004519	0.000642	0.0010939	4.6489907	5.38E-05	3.7409841
SR33 - South	SR33S	1507	459.2	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	25	2963	35	0.015816	0.0004519	0.000642	0.0010939	0.92480	1.07E-05	0.7441717
Prince Avenue	PRNC	3754	1144.4	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	35	0.015816	0.0004519	0.000642	0.0010939	0.46091	5.335E-06	0.3708866

[a] Source Parameters from EPA *Transportation Conformity Guidance for Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenace Areas* (2015)

[b] Emissions Factors from CT_EMFAC2017

Vehicle Info	
Vehicles per day =	5926
Trips per day =	11851
Operation Days =	365
Operation Hours =	24

Mattos II - Newman CA

Project Traffic Vehicle Emissions - Ethylbenzene

Road Segment	Segment ID	Segment length (ft)	Segment length (m)	Segment Width (ft)	Segment Width (m)	Plume Height[a] (ft)	Plume Height[a] (m)	Vertical Dispersion[a] (ft)	Vertical Dispersion[a] (m)	Release Height[a] (ft)	Release Height[a] (m)	Trip Distribution (%)	Trips per day	Speed (mph)	Ethylbenzene Emissions Factors[b] Evaporative g/veh-hr	Evaporative g/veh-mi	Exhaust g/veh-mi	Total g/veh-mi	Project Ethylbenzene Emissions Daily (g/day)	Hourly (g/s)	Annual (lb/year)
On-Site																					
Segment A - Main Entrance	SEG_A	446	135.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0.025938	0.0051876	0.001683	0.0068706	5.1580749	5.97E-05	4.1506377
Segment B - Main to Prince Ave	SEG_B	1214	370.0	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	20	0.025938	0.0012969	0.000523	0.0018199	0.2479125	2.869E-06	0.199492
Segment C - Middle Entrance	SEG_C	343	104.6	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0.025938	0.0051876	0.001683	0.0068706	0.5293008	6.13E-06	0.4259217
Segment D - Main Site Road	SEG_D	1181	359.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0.025938	0.0051876	0.001683	0.0068706	13.658167	0.0001581	10.990554
Segment E - North Entrance	SEG_E	1373	418.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0.025938	0.0051876	0.001683	0.0068706	2.1174372	2.451E-05	1.7038749
Segment F - New Residential Road	SEG_F	935	284.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	4	474	20	0.025938	0.0012969	0.000523	0.0018199	0.1527175	1.768E-06	0.1228899
Off-site																					
SR33 - North	SR33N	2705	824.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	70	8296	35	0.025938	0.0007411	0.000262	0.0010031	4.2630926	4.93E-05	3.4304568
SR33 - South	SR33S	1507	459.2	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	25	2963	35	0.025938	0.0007411	0.000262	0.0010031	0.84803	9.815E-06	0.6824003
Prince Avenue	PRNC	3754	1144.4	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	35	0.025938	0.0007411	0.000262	0.0010031	0.42265	4.892E-06	0.3401005

[a] Source Parameters from EPA *Transportation Conformity Guidance for Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenace Areas* (2015)

[b] Emissions Factors from CT_EMFAC2017

Vehicle Info	
Vehicles per day =	5926
Trips per day =	11851
Operation Days =	365
Operation Hours =	24

Mattos II - Newman CA

Project Traffic Vehicle Emissions - Formaldehyde

Road Segment	Segment ID	Segment length (ft)	Segment length (m)	Segment Width (ft)	Segment Width (m)	Plume Height[a] (ft)	Plume Height[a] (m)	Vertical Dispersion[a] (ft)	Vertical Dispersion[a] (m)	Release Height[a] (ft)	Release Height[a] (m)	Trip Distribution (%)	Trips per day	Speed (mph)	Formaldehyde Emissions Factors[b] Evaporative g/veh-hr	Evaporative g/veh-mi	Exhaust g/veh-mi	Total g/veh-mi	Project Formaldehyde Emissions Daily (g/day)	Hourly (g/s)	Annual (lb/year)
On-Site																					
Segment A - Main Entrance	SEG_A	446	135.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0	0	0.006808	0.006808	5.1110782	5.92E-05	4.11282
Segment B - Main to Prince Ave	SEG_B	1214	370.0	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	20	0	0	0.001776	0.001776	0.2419323	2.8E-06	0.1946798
Segment C - Middle Entrance	SEG_C	343	104.6	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0	0	0.006808	0.006808	0.5244782	6.07E-06	0.422041
Segment D - Main Site Road	SEG_D	1181	359.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0	0	0.006808	0.006808	13.533723	0.0001566	10.890416
Segment E - North Entrance	SEG_E	1373	418.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0	0	0.006808	0.006808	2.0981446	2.428E-05	1.6883505
Segment F - New Residential Road	SEG_F	935	284.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	4	474	20	0	0	0.001776	0.001776	0.1490337	1.725E-06	0.1199255
Off-site																					
SR33 - North	SR33N	2705	824.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	70	8296	35	0	0	0.000884	0.000884	3.7569809	4.35E-05	3.0231951
SR33 - South	SR33S	1507	459.2	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	25	2963	35	0	0	0.000884	0.000884	0.74735	8.65E-06	0.6013862
Prince Avenue	PRNC	3754	1144.4	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	35	0	0	0.000884	0.000884	0.37247	4.311E-06	0.299724

[a] Source Parameters from EPA *Transportation Conformity Guidance for Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenace Areas* (2015)

[b] Emissions Factors from CT_EMFAC2017

Vehicle Info	
Vehicles per day =	5926
Trips per day =	11851
Operation Days =	365
Operation Hours =	24

Mattos II - Newman CA

Project Traffic Vehicle Emissions - Naphthalene

Road Segment	Segment ID	Segment length		Segment Width		Plume Height[a]		Vertical Dispersion[a]		Release Height[a]		Trip Distribution	Trips per day	Speed	Naphthalene Emissions Factors[b]				Project Naphthalene Emissions		
															Evaporative		Exhaust	Total	Daily	Hourly	Annual
		(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(%)		(mph)	g/veh-hr	g/veh-mi	g/veh-mi	g/veh-mi	(g/day)	(g/s)	(lb/year)
On-Site																					
Segment A - Main Entrance	SEG_A	446	135.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0.002214	0.0004428	0.000122	0.0005648	0.4240213	4.91E-06	0.3412046
Segment B - Main to Prince Ave	SEG_B	1214	370.0	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	20	0.002214	0.0001107	0.000037	0.0001477	0.0201202	2.329E-07	0.0161904
Segment C - Middle Entrance	SEG_C	343	104.6	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0.002214	0.0004428	0.000122	0.0005648	0.0435114	5.04E-07	0.035013
Segment D - Main Site Road	SEG_D	1181	359.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0.002214	0.0004428	0.000122	0.0005648	1.1227742	1.3E-05	0.9034822
Segment E - North Entrance	SEG_E	1373	418.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0.002214	0.0004428	0.000122	0.0005648	0.1740646	2.015E-06	0.1400676
Segment F - New Residential Road	SEG_F	935	284.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	4	474	20	0.002214	0.0001107	0.000037	0.0001477	0.0123943	1.435E-07	0.0099735
Off-site																					
SR33 - North	SR33N	2705	824.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	70	8296	35	0.002214	6.326E-05	0.000019	8.226E-05	0.3495911	4.05E-06	0.2813115
SR33 - South	SR33S	1507	459.2	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	25	2963	35	0.002214	6.326E-05	0.000019	8.226E-05	0.06954	8.049E-07	0.0559596
Prince Avenue	PRNC	3754	1144.4	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	35	0.002214	6.326E-05	0.000019	8.226E-05	0.03466	4.011E-07	0.0278896

[a] Source Parameters from EPA *Transportation Conformity Guidance for Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenace Areas* (2015)

[b] Emissions Factors from CT_EMFAC2017

Vehicle Info	
Vehicles per day =	5926
Trips per day =	11851
Operation Days =	365
Operation Hours =	24

Mattos II - Newman CA

Project Traffic Vehicle Emissions - 1,3 Butadiene

Road Segment	Segment ID	Segment length		Segment Width		Plume Height[a]		Vertical Dispersion[a]		Release Height[a]		Trip Distribution	Trips per day	Speed	1,3-Butadiene Emissions Factors[b]				Project 1,3 Butadiene Emissions		
															Evaporative		Exhaust	Total	Daily	Hourly	Annual
		(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(%)		(mph)	g/veh-hr	g/veh-mi	g/veh-mi	g/veh-mi	(g/day)	(g/s)	(lb/year)
On-Site																					
Segment A - Main Entrance	SEG_A	446	135.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0	0	0.00089	0.00089	0.6681639	7.73E-06	0.537663
Segment B - Main to Prince Ave	SEG_B	1214	370.0	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	20	0	0	0.000276	0.000276	0.0375976	4.352E-07	0.0302543
Segment C - Middle Entrance	SEG_C	343	104.6	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0	0	0.00089	0.00089	0.0685643	7.94E-07	0.0551728
Segment D - Main Site Road	SEG_D	1181	359.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0	0	0.00089	0.00089	1.7692441	2.048E-05	1.4236883
Segment E - North Entrance	SEG_E	1373	418.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0	0	0.00089	0.00089	0.2742874	3.175E-06	0.2207156
Segment F - New Residential Road	SEG_F	935	284.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	4	474	20	0	0	0.000276	0.000276	0.0231606	2.681E-07	0.0186371
Off-site																					
SR33 - North	SR33N	2705	824.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	70	8296	35	0	0	0.000138	0.000138	0.586497	6.79E-06	0.4719467
SR33 - South	SR33S	1507	459.2	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	25	2963	35	0	0	0.000138	0.000138	0.11667	1.35E-06	0.0938816
Prince Avenue	PRNC	3754	1144.4	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	35	0	0	0.000138	0.000138	0.05815	6.73E-07	0.0467895

[a] Source Parameters from EPA *Transportation Conformity Guidance for Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenace Areas* (2015)

[b] Emissions Factors from CT_EMFAC2017

Vehicle Info	
Vehicles per day =	5926
Trips per day =	11851
Operation Days =	365
Operation Hours =	24

Mattos II - Newman CA

Project Traffic Vehicle Emissions - Acetaldehyde

Road Segment	Segment ID	Segment length		Segment Width		Plume Height[a]		Vertical Dispersion[a]		Release Height[a]		Trip Distribution	Trips per day	Speed	Acetaldehyde Emissions Factors[b]				Project Acetaldehyde Emissions		
															Evaporative		Exhaust	Total	Daily	Hourly	Annual
		(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(%)		(mph)	g/veh-hr	g/veh-mi	g/veh-mi	g/veh-mi	(g/day)	(g/s)	(lb/year)
On-Site																					
Segment A - Main Entrance	SEG_A	446	135.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0	0	0.002711	0.002711	2.0352722	2.36E-05	1.6377578
Segment B - Main to Prince Ave	SEG_B	1214	370.0	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	20	0	0	0.00067	0.00067	0.0912695	1.056E-06	0.0734434
Segment C - Middle Entrance	SEG_C	343	104.6	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0	0	0.002711	0.002711	0.2088514	2.42E-06	0.1680601
Segment D - Main Site Road	SEG_D	1181	359.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	75	8888	5	0	0	0.002711	0.002711	5.3892367	6.238E-05	4.3366507
Segment E - North Entrance	SEG_E	1373	418.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	10	1185	5	0	0	0.002711	0.002711	0.8354979	9.67E-06	0.6723146
Segment F - New Residential Road	SEG_F	935	284.9	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	4	474	20	0	0	0.00067	0.00067	0.0562233	6.507E-07	0.0452422
Off-site																					
SR33 - North	SR33N	2705	824.5	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	70	8296	35	0	0	0.000333	0.000333	1.4152428	1.64E-05	1.138828
SR33 - South	SR33S	1507	459.2	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	25	2963	35	0	0	0.000333	0.000333	0.28153	3.258E-06	0.2265403
Prince Avenue	PRNC	3754	1144.4	24	7.32	8.5	2.6	3.97	1.21	4.27	1.30	5	593	35	0	0	0.000333	0.000333	0.14031	1.624E-06	0.1129051

[a] Source Parameters from EPA *Transportation Conformity Guidance for Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenace Areas* (2015)

[b] Emissions Factors from CT_EMFAC2017

Vehicle Info	
Vehicles per day =	5926
Trips per day =	11851
Operation Days =	365
Operation Hours =	24

File Name: Stanislaus (SJV) - 2025 - Annual.EF
CT-EMFAC2017 Version: 1.0.2.27401
Run Date: 3/21/2022 20:29
Area: Stanislaus (SJV)
Analysis Year: 2025
Season: Annual

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Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.04	0.587	0.413
Truck 2	0.03	0.974	0.019
Non-Truck	0.93	0.014	0.963

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Road Type: Local Rural
Silt Loading Factor: CARB 1.6 g/m2
Precipitation Correction: CARB P = 52 days N = 365 days

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

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.010076	0.006701	0.004645	0.003388	0.002618	0.002151	0.00188	0.001746	0.001719	0.001781	0.001927	0.002163	0.002499	0.002627	0.002627
PM10	0.010858	0.00721	0.004992	0.003637	0.002807	0.002304	0.00201	0.001865	0.001833	0.001897	0.00205	0.002298	0.002655	0.002792	0.002792
NOx	0.504922	0.405898	0.31361	0.266058	0.228874	0.197175	0.17285	0.155652	0.145433	0.14211	0.145658	0.156098	0.173447	0.176137	0.176137
CO	1.484023	1.273245	1.093624	0.963129	0.869353	0.793741	0.730638	0.677921	0.634346	0.59935	0.573044	0.55651	0.551909	0.555581	0.556856
HC	0.162389	0.106817	0.071482	0.050365	0.038218	0.030657	0.025817	0.022798	0.021099	0.020464	0.020809	0.022213	0.024899	0.026856	0.026955
TOG	0.182228	0.120249	0.079875	0.055807	0.042262	0.033883	0.028518	0.025172	0.02329	0.022591	0.022981	0.024553	0.027551	0.029744	0.029887
ROG	0.136097	0.089672	0.058904	0.040609	0.030493	0.024288	0.020338	0.0179	0.01656	0.016111	0.016486	0.017759	0.020117	0.021854	0.021979
1,3-Butadiene	0.00089	0.000579	0.000389	0.000276	0.000208	0.000165	0.000138	0.000122	0.000113	0.00011	0.000113	0.000121	0.000136	0.000147	0.000148
Acetaldehyde	0.002711	0.001905	0.001122	0.00067	0.000492	0.000396	0.000333	0.000294	0.000271	0.000263	0.000269	0.00028	0.0003	0.000317	0.000327
Acrolein	0.000194	0.000125	0.000085	0.000061	0.000046	0.000037	0.000031	0.000027	0.000025	0.000024	0.000025	0.000027	0.00003	0.000033	0.000033
Benzene	0.00423	0.002771	0.001838	0.001282	0.000964	0.000767	0.000642	0.000565	0.000523	0.000509	0.000521	0.000558	0.000626	0.000675	0.000678
Diesel PM	0.002468	0.001916	0.001469	0.001164	0.000977	0.000875	0.000833	0.000842	0.000895	0.00099	0.001125	0.00128	0.001457	0.001459	0.001459
Ethylbenzene	0.001683	0.001092	0.000736	0.000523	0.000394	0.000313	0.000262	0.000231	0.000214	0.000208	0.000213	0.000229	0.000258	0.000279	0.00028
Formaldehyde	0.006808	0.004704	0.002852	0.001776	0.001313	0.001052	0.000884	0.000779	0.00072	0.000699	0.000714	0.00075	0.000814	0.000866	0.000886
Naphthalene	0.000122	0.000081	0.000054	0.000037	0.000028	0.000022	0.000019	0.000017	0.000016	0.000015	0.000016	0.000017	0.000019	0.000019	0.000019
POM	0.000182	0.000121	0.000078	0.000053	0.00004	0.000032	0.000026	0.000023	0.000022	0.000021	0.000021	0.000023	0.000025	0.000027	0.000027
DEOG	0.028322	0.02038	0.011486	0.006397	0.004637	0.003741	0.003152	0.002774	0.002556	0.002475	0.002521	0.002588	0.002693	0.002806	0.00294
CO2	742.91098	606.1036	489.6269	408.7036	350.7735	311.071	287.8237	276.7536	275.4611	282.2512	293.4113	305.7745	317.3113	319.8434	319.8434
N2O	0.028846	0.024331	0.019434	0.016932	0.015028	0.013546	0.012584	0.011859	0.01141	0.011343	0.011616	0.012078	0.012811	0.01298	0.01298
CH4	0.025108	0.017689	0.012929	0.009927	0.008033	0.006776	0.005926	0.005359	0.005004	0.004822	0.004799	0.004944	0.005285	0.005517	0.005522
BC	0.002513	0.001664	0.001153	0.000839	0.000646	0.000527	0.000454	0.000414	0.000399	0.000404	0.000428	0.000466	0.000522	0.000544	0.000544

Fleet Average Fuel Consumption (gallons/veh-mile)

Fuel Type	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
Gasoline	0.074479	0.060515	0.049469	0.041222	0.035208	0.031199	0.028939	0.028025	0.028117	0.028926	0.030103	0.031262	0.0322	0.032448	0.032448
Diesel	0.012429	0.010382	0.007888	0.006772	0.005929	0.005246	0.004816	0.004483	0.004279	0.004279	0.004415	0.004631	0.004976	0.004998	0.004998

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

Pollutant Name	Emission Factor
HC	1.479333
TOG	1.581598
ROG	1.581598
1,3-Butadiene	0
Benzene	0.015816
Ethylbenzene	0.025938
Naphthalene	0.002214
CH4	0.229281
HFC	0.018672

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

Pollutant Name	Emission Factor
PM2.5	0.002185
PM10	0.008738

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

Pollutant Name	Emission Factor
PM2.5	0.017504
PM10	0.040844

==========

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

Pollutant Name	Emission Factor
PM2.5	0.599133
PM10	3.994219

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

Mattos II – Newman, CA

Fast Food Restaurants

District Default Values						
Usage			Average Lb/week			
Facility Type	Description	Controls*	Hamburger	Poultry w/ skin	Poultry w/o skin	Pork
1	CD-Charbroiler	**86%**	**800**		**265**	
2	Flat Griddle	**0%**	**360**		**110**	**110**
3	UF-Charbroiler	**0%**	**270**	**145**		
4	Flat Griddle	**0%**			**110**	**110**
*w/ District Required Control Equipment						

Emission Factors		Lb/Ton of meat							
		Hamburger		Poultry w/ skin		Poultry w/o skin		Pork	
Facility Type	Description	PAH wo/Na-phthalene	Naph-thalene	PAH wo/Na-phthalene	Naph-thalene	PAH wo/Na-phthalene	Naph-thalene	PAH wo/Na-phthalene	Naph-thalene
1	CD-Charbroiler	**0.000724**	**0.046**			**0.00046**	**0.018**		
2	Flat Griddle	**0.000054**	**0.012**			**0.000044**	**0.018**	**0.000044**	**0.002**
3	UF-Charbroiler	**0.000702**	**0.038**	**0.00046**	**0.018**				
4	Flat Griddle					**0.000044**	**0.018**	**0.000044**	**0.002**

Emissions		Lb/Year							
		Hamburger		Poultry w/ skin		Poultry w/o skin		Pork	
Facility Type	Description	PAH wo/Na-phthalene	Naph-thalene	PAH wo/Na-phthalene	Naph-thalene	PAH wo/Na-phthalene	Naph-thalene	PAH wo/Na-phthalene	Naph-thalene
1	CD-Charbroiler	2.11E-03	1.34E-01	0.00E+00	0.00E+00	4.44E-04	1.74E-02	0.00E+00	0.00E+00
2	Flat Griddle	5.05E-04	1.12E-01	0.00E+00	0.00E+00	1.26E-04	5.15E-02	1.26E-04	5.72E-03
3	UF-Charbroiler	4.93E-03	2.67E-01	1.73E-03	6.79E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	Flat Griddle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-04	5.15E-02	1.26E-04	5.72E-03

How to us this worksheet:
This worksheet allows the user to enter the proposed quantity for each type of meat cooked by type of operation. If the user is uncertain which type of operation will be used for a single proposed fast food location then the emissions from the highest priority operation with the District's default values should be used.
Examples:

1) Proposed site has two fast food locations. The user will use Facility Type 1 and 2.
2) Proposed site has four fast food locations. The user will use Facility Type 1,2,3, and 4.
3) Proposed site has six fast food locations. The user will use Facility Type 1,2,3, and 4 for the first four locations
   For all other locations Facility Type 4 should be used.

Stack Parameters: Height = 5ft above roof height, Temperature = 200 F, Velocity = 1210 ft/min, Diameter = 1 ft

Emission Summary		Total (Lb/Yr)		Total (Lb/Hr)		Total (g/s)	
Facility Type	Description	PAH wo/Na-phthalene	Naph-thalene	PAH wo/Na-phthalene	Naph-thalene	PAH wo/Na-phthalene	Naph-thalene
1	CD-Charbroiler	2.55E-03	1.51E-01	2.91E-07	1.73E-05	3.67E-08	2.18E-06
2	Flat Griddle	7.57E-04	1.70E-01	8.64E-08	1.94E-05	1.09E-08	2.44E-06
Total		***3.31E-03***					

Source: SJVAPCD

Mattos II, Newman, CA. - Project Operation
AERMOD Risk Modeling Parameters, Maximum TAC Concentrations & Non-Cancer Health Effects
Off-Site Residential Receptors - 1.5 meter Receptor Heights

Receptor Information
Number of Receptors 108
Receptor Height = 1.5 meters
Receptor distances = variable - at nearby residences

Meteorological Conditions
SJVAPCD Los Banos Met I 2004-2008
Land Use Classification rural
Wind speed = variable
Wind direction = variable

Residential MEI Concentrations

TAC	TAC Concentration (µg/m³) 2023 Max Period Average	2024 Max Period Average	2025 Max Period Average
DPM	0.00000	0.00000	0.00233
Benzene	0.00000	0.00000	0.00579
Ethylbenzene	0.00000	0.00000	0.00536
Formaldehyde	0.00000	0.00000	0.00518
PAHs	0.00000	0.00000	0.00000047
Naphthalene	0.00000	0.00000	0.00044
1,3 Butadiene	0.00000	0.00000	0.00071
Aceltaldehyde	0.00000	0.00000	0.00204

2023 - Maximum Non-Cancer Health Effects

TAC	Maximum Concentration Period Ave (µg/m³)	Maximum Concentration 1-Hour (µg/m³)	Hazard Index Chronic	Hazard Index Acute
DPM	0.000000	-	0.00E+00	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.00**	**0.000**

* Maximum for residential receptors

2024 - Non-Cancer Health Effects

TAC	Maximum Concentration Period Ave (µg/m³)	Maximum Concentration 1-Hour (µg/m³)	Hazard Index Chronic	Hazard Index Acute
DPM	0.000000	-	0.00E+00	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.000**	**0.000**

* Maximum for residential receptors

2025 - Non-Cancer Health Effects

TAC	Maximum Concentration Period Ave (µg/m³)	Maximum Concentration 1-Hour (µg/m³)	Hazard Index Chronic	Hazard Index Acute
DPM	0.00233	-	4.66E-04	-
Benzene	0.00579	0.28801	1.93E-03	1.07E-02
Ethylbenzene	0.00536	-	2.68E-06	-
Formaldehyde	0.00518	0.26422	5.76E-04	4.80E-03
PAHs	0.0000007	-	-	-
Naphthalene	0.00044	-	4.89E-05	-
1,3 Butadiene	0.00071	0.0348	3.55E-04	5.27E-05
Aceltaldehyde	0.00204	0.10479	1.46E-05	2.23E-04
Total			**0.003**	**0.016**

* Maximum for residential receptors

Mattos II, Newman, CA - Project Operation
Maximum Residential Cancer Risk from Project Operation
at Residential MEI Location
70-Year Residential Exposure

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

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

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

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

Values

Age --> / Parameter	Infant/Child 3rd Trimester	Infant/Child 0 to 2	Infant/Child 2 to 16	Adult 17 - 70
ASF	10	10	3	1
DBR* =	361	1090	745	290
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	54
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	1.00

* 95th percentile breathing rates

Cancer Potency Factors and Reference Exposure Levels (REL)

TAC	CPF $(mg/kg\text{-}day)^{-1}$	REL $(\mu g/m^3)$ Acute (1-hour)	REL $(\mu g/m^3)$ Chronic (ann ave)
DPM	1.10E+00	-	5
Benzene	1.00E-01	27	3
Ethylbenzene	8.70E-03	-	2,000
Formaldehyde	2.10E-02	55	9
PAHs	3.90E+00	-	-
Naphthalene	1.20E-01	-	9
1,3 Butadiene	6.00E-01	660	2
Aceltaldehyde	1.00E-02	470	140

Project Construction & Operation Cancer Risk - Maximum Impact at Residential Receptor Location

Exposure Year Age	Initial Exposure Year	Exposure Duration (years)	Age Sensitivity Factor	Maximum - Exposure Information: Annual Conc (ug/m3) DPM	Benzene	Ethyl-benzene	Form-aldehyde	PAHs	Naph-thalene	1,3 Buta-diene	Acetal-dehyde	Cancer Risk (per million) DPM	Benzene	Ethyl-benzene	Form-aldehyde	PAHs	Naph-thalene	1,3 Buta-diene	Acetal-dehyde	Total
0	2025	0.25	10	0.00233	0.00579	0.00536	0.005180	0.000000466	0.00044	0.000710	0.00204	0.0317	0.0072	0.0006	0.0013	0.00002	0.0007	0.0053	0.0003	0.05
0 - 1	2025	1	10	0.00233	0.00579	0.00536	0.005180	0.000000	0.00044	0.000710	0.00204	0.3827	0.0865	0.006963	0.0162	0.00027	0.0079	0.0636	0.0030	0.57
1 < 2	2025	1	10	0.00233	0.00579	0.00536	0.005180	0.000000	0.00044	0.000710	0.00204	0.3827	0.0865	0.006963	0.0162	0.00027	0.0079	0.0636	0.0030	0.57
2 < 16	2025	14	3	0.00233	0.00579	0.00536	0.005180	0.000000	0.00044	0.000710	0.00204	1.0986	0.2482	0.01999	0.0466	0.000779	0.0226	0.1826	0.0087	1.63
16 - 70	2025	54	1	0.00233	0.00579	0.00536	0.005180	0.000000	0.00044	0.000710	0.00204	0.5498	0.1242	0.01000	0.0233	0.000390	0.0113	0.0914	0.0044	0.81
Total Increased Cancer Risk												**2.45**	**0.55**	**0.04**	**0.10**	**0.002**	**0.05**	**0.41**	**0.02**	**3.62**

* Third trimester of pregnancy

Mattos II, Newman, CA - Project Construction & Operation - Without Construction Mitigation
AERMOD Risk Modeling Parameters, Maximum TAC Concentrations & Non-Cancer Health Effects
Off-Site Residential Receptors - 1.5 meter Receptor Heights

Receptor Information

Number of Receptors	108
Receptor Height =	1.5 meters
Receptor distances =	variable - at nearby residences

Meteorological Conditions

SJVAPCD Los Banos Met I	2004-2008
Land Use Classification	rural
Wind speed =	variable
Wind direction =	variable

Residential MEI Concentrations

	TAC Concentration (µg/m³)		
	2023	2024	2025
TAC	Max Period Average	Max Period Average	Max Period Average
DPM	0.07881	0.02666	0.00151
Benzene	0.00000	0.00000	0.00405
Ethylbenzene	0.00000	0.00000	0.00375
Formaldehyde	0.00000	0.00000	0.00369
PAHs	0.00000	0.00000	0.0000002
Naphthalene	0.00000	0.00000	0.00031
1,3 Butadiene	0.00000	0.00000	0.00049
Aceltaldehyde	0.00000	0.00000	0.00146

2023 - Maximum Non-Cancer Health Effects

	Maximum Concentration		Hazard Index	
	Period Ave	1-Hour		
TAC	(µg/m³)	(µg/m³)	Chronic	Acute
DPM	0.07881	-	1.58E-02	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.016**	**0.000**

* Maximum for residential receptors

2024 - Non-Cancer Health Effects

	Maximum Concentration		Hazard Index	
	Period Ave	1-Hour		
TAC	(µg/m³)	(µg/m³)	Chronic	Acute
DPM	0.02666	-	5.33E-03	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.005**	**0.000**

* Maximum for residential receptors

2025 - Non-Cancer Health Effects

	Maximum Concentration		Hazard Index	
	Period Ave	1-Hour		
TAC	(µg/m³)	(µg/m³)	Chronic	Acute
DPM	0.00233	-	4.66E-04	-
Benzene	0.00579	0.28801	1.93E-03	1.07E-02
Ethylbenzene	0.00536	-	2.68E-06	-
Formaldehyde	0.00518	0.26422	5.76E-04	4.80E-03
PAHs	0.0000007	-	-	-
Naphthalene	0.00044	-	4.89E-05	-
1,3 Butadiene	0.00071	0.0348	3.55E-04	5.27E-05
Aceltaldehyde	0.00204	0.10479	1.46E-05	2.23E-04
Total			**0.003**	**0.016**

* Maximum for residential receptors

Mattos II, Newman, CA - Project Construction & Operation - Without Construction Mitigaton
Maximum Residential Cancer Risk from Project Construction & Operation
at Residential MEI Location
70-Year Residential Exposure

Cancer Risk Calculation Method

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

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

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

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

Values

	Infant/Child			Adult
Age -->	3rd Trimester	0 to 2	2 to 16	17 - 70
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	745	290
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	54
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	1.00

* 95th percentile breathing rates

Cancer Potency Factors and Reference Exposure Levels (REL)

		REL (µg/m³)	
	CPF	Acute	Chronic
TAC	$(mg/kg\text{-}day)^{-1}$	(1-hour)	(ann ave)
DPM	1.10E+00	-	5
Benzene	1.00E-01	27	3
Ethylbenzene	8.70E-03	-	2,000
Formaldehyde	2.10E-02	55	9
PAHs	3.90E+00	-	-
Naphthalene	1.20E-01	-	9
1,3 Butadiene	6.00E-01	660	2
Aceltaldehyde	1.00E-02	470	140

Project Construction & Operation Cancer Risk - Maximum Impact at Residential Receptor Location

				Maximum - Exposure Information								Cancer Risk (per million)								
				Annual Conc (ug/m3)																
Exposure Year	Initial Exposure	Exposure Duration	Age Sensitivity			Ethyl-	Form-		Naph-	1,3 Buta-	Acetal-			Ethyl-	Form-		Naph-	1,3 Buta-	Acetal-	
Age	Year	(years)	Factor	DPM	Benzene	benzene	aldehyde	PAHs	thalene	diene	dehyde	DPM	Benzene	benzene	aldehyde	PAHs	thalene	diene	dehyde	Total
0	2023	0.25	10	0.07881	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	1.0718	0.0000	0.0000	0.0000	0.00000	0.0000	0.0000	0.0000	1.07
0 - 1	2023	1	10	0.07881	0.00000	0.00000	0.000000	0.000000	0.00000	0.000000	0.00000	12.9443	0.0000	0.000000	0.0000	0.00000	0.0000	0.0000	0.0000	12.94
1 < 2	2024	1	10	0.02666	0.00000	0.00000	0.000000	0.000000	0.00000	0.000000	0.00000	4.3788	0.0000	0.000000	0.0000	0.00000	0.0000	0.0000	0.0000	4.38
2 < 16	2025	14	3	0.00151	0.00405	0.00375	0.003690	0.000000	0.00031	0.000490	0.00146	0.7120	0.1736	0.01398	0.0332	0.000368	0.0159	0.1260	0.0063	1.08
16 - 70	2025	54	1	0.00151	0.00405	0.00375	0.003690	0.000000	0.00031	0.000490	0.00146	0.3563	0.0869	0.00700	0.0166	0.000184	0.0080	0.0631	0.0031	0.54
Total Increased Cancer Risk												**19.46**	**0.26**	**0.02**	**0.05**	**0.001**	**0.02**	**0.19**	**0.01**	**20.02**

* Third trimester of pregnancy

Mattos II, Newman, CA - Project Construction & Operation - With Construction Mitigation
AERMOD Risk Modeling Parameters, Maximum TAC Concentrations & Non-Cancer Health Effects
Off-Site Residential Receptors - 1.5 meter Receptor Heights

Receptor Information
Number of Receptors 108
Receptor Height = 1.5 meters
Receptor distances = variable - at nearby residences

Meteorological Conditions
SJVAPCD Los Banos Met I 2004-2008
Land Use Classification rural
Wind speed = variable
Wind direction = variable

Residential MEI Concentrations

TAC	TAC Concentration (µg/m³) 2023 Max Period Average	2024 Max Period Average	2025 Max Period Average
DPM	0.04420	0.00451	0.00151
Benzene	0.00000	0.00000	0.00405
Ethylbenzene	0.00000	0.00000	0.00375
Formaldehyde	0.00000	0.00000	0.00369
PAHs	0.00000	0.00000	0.0000002
Naphthalene	0.00000	0.00000	0.00031
1,3 Butadiene	0.00000	0.00000	0.00049
Aceltaldehyde	0.00000	0.00000	0.00146

2023 - Maximum Non-Cancer Health Effects

TAC	Maximum Concentration Period Ave (µg/m³)	1-Hour (µg/m³)	Hazard Index Chronic	Acute
DPM	0.04420	-	8.84E-03	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.009**	**0.000**

2024 - Non-Cancer Health Effects

TAC	Maximum Concentration Period Ave (µg/m³)	1-Hour (µg/m³)	Hazard Index Chronic	Acute
DPM	0.00451	-	9.02E-04	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.001**	**0.000**

2025 - Non-Cancer Health Effects

TAC	Maximum Concentration Period Ave (µg/m³)	1-Hour (µg/m³)	Hazard Index Chronic	Acute
DPM	0.00233	-	4.66E-04	-
Benzene	0.00579	0.28801	1.93E-03	1.07E-02
Ethylbenzene	0.00536	-	2.68E-06	-
Formaldehyde	0.00518	0.26422	5.76E-04	4.80E-03
PAHs	0.0000007	-	-	-
Naphthalene	0.00044	-	4.89E-05	-
1,3 Butadiene	0.00071	0.0348	3.55E-04	5.27E-05
Aceltaldehyde	0.00204	0.10479	1.46E-05	2.23E-04
Total			**0.003**	**0.016**

Mattos II, Newman, CA - Project Construction & Operation
Maximum Residential Cancer Risk from Project Construction & Operation
With Construction Mitigation Applied
at Residential MEI Location - 70-Year Residential Exposure

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

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

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

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

Values

Parameter / Age -->	Infant/Child 3rd Trimester	0 to 2	2 to 16	Adult 17 - 70
ASF	10	10	3	1
DBR* =	361	1090	745	290
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	54
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	1.00

* 95th percentile breathing rates

Cancer Potency Factors and Reference Exposure Levels (REL)

TAC	CPF $(mg/kg\text{-}day)^{-1}$	REL (µg/m³) Acute (1-hour)	Chronic (ann ave)
DPM	1.10E+00	-	5
Benzene	1.00E-01	27	3
Ethylbenzene	8.70E-03	-	2,000
Formaldehyde	2.10E-02	55	9
PAHs	3.90E+00	-	-
Naphthalene	1.20E-01	-	9
1,3 Butadiene	6.00E-01	660	2
Aceltaldehyde	1.00E-02	470	140

Project Construction & Operation Cancer Risk - Maximum Impact at Residential Receptor Location

Exposure Year Age	Initial Exposure Year	Exposure Duration (years)	Age Sensitivity Factor	Maximum - Exposure Information: Annual Conc (ug/m3) DPM	Benzene	Ethyl-benzene	Form-aldehyde	PAHs	Naph-thalene	1,3 Buta-diene	Acetal-dehyde	Cancer Risk (per million) DPM	Benzene	Ethyl-benzene	Form-aldehyde	PAHs	Naph-thalene	1,3 Buta-diene	Acetal-dehyde	Total
0	2023	0.25	10	0.04420	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.6011	0.0000	0.0000	0.0000	0.00000	0.0000	0.0000	0.0000	0.60
0 - 1	2023	1	10	0.04420	0.00000	0.00000	0.000000	0.000000	0.00000	0.000000	0.00000	7.2597	0.0000	0.000000	0.0000	0.00000	0.0000	0.0000	0.0000	7.26
1 < 2	2024	1	10	0.00451	0.00000	0.00000	0.000000	0.000000	0.00000	0.000000	0.00000	0.7408	0.0000	0.000000	0.0000	0.00000	0.0000	0.0000	0.0000	0.74
2 < 16	2025	14	3	0.00151	0.00405	0.00375	0.003690	0.000000	0.00031	0.000490	0.00146	0.7120	0.1736	0.01398	0.0332	0.000368	0.0159	0.1260	0.0063	1.08
16 - 70	2025	54	1	0.00151	0.00405	0.00375	0.003690	0.000000	0.00031	0.000490	0.00146	0.3563	0.0869	0.00700	0.0166	0.000184	0.0080	0.0631	0.0031	0.54
Total Increased Cancer Risk												**9.67**	**0.26**	**0.02**	**0.05**	**0.001**	**0.02**	**0.19**	**0.01**	**10.22**

* Third trimester of pregnancy

Mattos II, Newman, CA - Project Operation
AERMOD Risk Modeling Parameters, Maximum TAC Concentrations
Off-Site Worker Receptors - 1.5 meter Receptor Heights

Receptor Information
Number of Receptors 24
Receptor Height = 1.5 meters
Receptor distances = variable - at nearby workplaces

Meteorological Conditions
SJVAPCD Los Banos Met I 2004-2008
Land Use Classification rural
Wind speed = variable
Wind direction = variable

Residential MEI Concentrations

TAC	TAC Concentration ($\mu g/m^3$) 2023 Max Period Average	2024 Max Period Average	2025 Max Period Average
DPM	0.07950	0.02666	0.00426
Benzene	0.00000	0.00000	0.01105
Ethylbenzene	0.00000	0.00000	0.01022
Formaldehyde	0.00000	0.00000	0.00979
PAHs	0.00000	0.00000	0.0000005
Naphthalene	0.00000	0.00000	0.00087
1,3 Butadiene	0.00000	0.00000	0.00135
Aceltaldehyde	0.00000	0.00000	0.00383

2023 - Maximum Non-Cancer Health Effects

TAC	Maximum Concentration Period Ave ($\mu g/m^3$)	Maximum Concentration 1-Hour ($\mu g/m^3$)	Hazard Index Chronic	Hazard Index Acute
DPM	0.07950	-	1.59E-02	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.016**	**0.000**

* Maximum for worker receptors

2024 - Non-Cancer Health Effects

TAC	Maximum Concentration Period Ave ($\mu g/m^3$)	Maximum Concentration 1-Hour ($\mu g/m^3$)	Hazard Index Chronic	Hazard Index Acute
DPM	0.02666	-	5.33E-03	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.005**	**0.000**

* Maximum for worker receptors

2025 - Non-Cancer Health Effects

TAC	Maximum Concentration Period Ave ($\mu g/m^3$)	Maximum Concentration 1-Hour ($\mu g/m^3$)	Hazard Index Chronic	Hazard Index Acute
DPM	0.00426	-	8.52E-04	-
Benzene	0.01105	0.59315	3.68E-03	2.20E-02
Ethylbenzene	0.01022	-	5.11E-06	-
Formaldehyde	0.00979	0.54686	1.09E-03	9.94E-03
PAHs	0.0000017	-	-	-
Naphthalene	0.00087	-	9.67E-05	-
1,3 Butadiene	0.00135	0.07156	6.75E-04	1.08E-04
Aceltaldehyde	0.00383	0.2172	2.74E-05	4.62E-04
Total			**0.006**	**0.032**

* Maximum for worker receptors

Mattos II, Newman, CA - Project Operation
Maximum Worker Cancer Risk from Project Operation
at Off-Site Worker MEI Location
40-Year Off-Site Worker Exposure

Cancer Risk Calculation Method

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
WAF = Worker Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73 for construction modeling
= 1.0 for roadway modeling (continuous emisions)
DBR = daily breathing rate (L/kg body weight-day) for residential & 8-hour breathing rate for workers
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

Age --> / Parameter	Infant/Child 3rd Trimester	Infant/Child 0 to 2	Infant/Child 2 to 16	Adult 17 - 70	Worker 17 - 70
ASF	10	10	3	1	1
DBR* =	361	1090	745	290	230
WAF** =	-	-	-	-	3.7
A =	1	1	1	1	1
EF =	350	350	350	350	250
ED =	0.25	2	14	54	40
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	-

* 95th percentile breathing rates, worker breathing rate is an 8-hour rate (L/kg per 8 hours)

** Worker adjustment factor only applied for worker exposures.

Cancer Potency Factors and Reference Exposure Levels (REL)

TAC	CPF $(mg/kg\text{-}day)^{-1}$	REL ($\mu g/m^3$) Acute (1-hour)	REL ($\mu g/m^3$) Chronic (ann ave)
DPM	1.10E+00	-	5
Benzene	1.00E-01	27	3
Ethylbenzene	8.70E-03	-	2,000
Formaldehyde	2.10E-02	55	9
PAHs	3.90E+00	-	-
Naphthalene	1.20E-01	-	9
1,3 Butadiene	6.00E-01	660	2
Aceltaldehyde	1.00E-02	470	140

Project Construction & Operation Cancer Risk - Maximum Impact at Worker Receptor Location

Exposure Year / Age Range	Initial Exposure Year	Exposure Duration (years)	Age Sensitivity Factor	Maximum - Exposure Information: Annual Conc (ug/m3) DPM	Benzene	Ethyl-benzene	Form-aldehyde	PAH	Naph-thalene	1,3 Buta-diene	Acetal-dehyde	Cancer Risk (per million) DPM	Benzene	Ethyl-benzene	Form-aldehyde	PAH	Naph-thalene	1,3 Buta-diene	Acetal-dehyde	Total
17 - 70	2025	40	1	0.00426	0.01105	0.01022	0.009790	0.000000	0.00087	0.001350	0.00383	0.4218	0.0995	0.00800	0.0185	0.0002	0.0094	0.0729	0.0034	0.63
Total Increased Cancer Risk												**0.42**	**0.10**	**0.01**	**0.02**	**0.00**	**0.01**	**0.07**	**0.00**	**0.63**

Mattos II, Newman, CA - Project Construction & Operation
AERMOD Risk Modeling Parameters, Maximum TAC Concentrations
Off-Site Worker Receptors - 1.5 meter Receptor Heights

Receptor Information
Number of Receptors 24
Receptor Height = 1.5 meters
Receptor distances = variable - at nearby workplaces

Meteorological Conditions
SJVAPCD Los Banos Met I 2004-2008
Land Use Classification rural
Wind speed = variable
Wind direction = variable

Residential MEI Concentrations

	TAC Concentration ($\mu g/m^3$)		
	2023	2024	2025
TAC	Max Period Average	Max Period Average	Max Period Average
DPM	0.02203	0.00745	0.00401
Benzene	0.00000	0.00000	0.01031
Ethylbenzene	0.00000	0.00000	0.00955
Formaldehyde	0.00000	0.00000	0.00932
PAHs	0.00000	0.00000	0.0000005
Naphthalene	0.00000	0.00000	0.00085
1,3 Butadiene	0.00000	0.00000	0.00125
Aceltaldehyde	0.00000	0.00000	0.00368

2023 - Maximum Non-Cancer Health Effects

	Maximum Concentration		Hazard Index	
	Period Ave	1-Hour		
TAC	($\mu g/m^3$)	($\mu g/m^3$)	Chronic	Acute
DPM	0.07950	-	1.59E-02	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.016**	**0.000**

* Maximum for worker receptors

2024 - Non-Cancer Health Effects

	Maximum Concentration		Hazard Index	
	Period Ave	1-Hour		
TAC	($\mu g/m^3$)	($\mu g/m^3$)	Chronic	Acute
DPM	0.02666	-	5.33E-03	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.005**	**0.000**

* Maximum for worker receptors

2025 - Non-Cancer Health Effects

	Maximum Concentration		Hazard Index	
	Period Ave	1-Hour		
TAC	($\mu g/m^3$)	($\mu g/m^3$)	Chronic	Acute
DPM	0.00426	-	8.52E-04	-
Benzene	0.01105	0.59315	3.68E-03	2.20E-02
Ethylbenzene	0.01022	-	5.11E-06	-
Formaldehyde	0.00979	0.54686	1.09E-03	9.94E-03
PAHs	0.0000017	-	-	-
Naphthalene	0.00087	-	9.67E-05	-
1,3 Butadiene	0.00135	0.07156	6.75E-04	1.08E-04
Aceltaldehyde	0.00383	0.2172	2.74E-05	4.62E-04
Total			**0.006**	**0.032**

* Maximum for worker receptors

Mattos II, Newman, CA - Project Construction & Operation
Maximum Worker Cancer Risk from Project Operation
at Off-Site Worker MEI Location
40-Year Off-Site Worker Exposure

Cancer Risk Calculation Method

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
WAF = Worker Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73 for construction modeling
= 1.0 for roadway modeling (continuous emisions)
DBR = daily breathing rate (L/kg body weight-day) for residential & 8-hour breathing rate for workers
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult	Worker
Age -->	3rd Trimester	0 to 2	2 to 16	17 - 70	17 - 70
Parameter					
ASF	10	10	3	1	1
DBR* =	361	1090	745	290	230
WAF** =	-	-	-	-	3.7
A =	1	1	1	1	1
EF =	350	350	350	350	250
ED =	0.25	2	14	54	40
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	-

* 95th percentile breathing rates, worker breathing rate is an 8-hour rate (L/kg per 8 hours)

** Worker adjustment factor only applied for worker exposures.

Cancer Potency Factors and Reference Exposure Levels (REL)

		REL ($\mu g/m^3$)	
	CPF	Acute	Chronic
TAC	$(mg/kg\text{-}day)^{-1}$	(1-hour)	(ann ave)
DPM	1.10E+00	-	5
Benzene	1.00E-01	27	3
Ethylbenzene	8.70E-03	-	2,000
Formaldehyde	2.10E-02	55	9
PAHs	3.90E+00	-	-
Naphthalene	1.20E-01	-	9
1,3 Butadiene	6.00E-01	660	2
Aceltaldehyde	1.00E-02	470	140

Project Construction & Operation Cancer Risk - Maximum Impact at Worker Receptor Location

				Maximum - Exposure Information								Cancer Risk (per million)								
				Annual Conc (ug/m3)																
Exposure Year Age Range	Initial Exposure Year	Exposure Duration (years)	Age Sensitivity Factor	DPM	Benzene	Ethyl-benzene	Form-aldehyde	PAH	Naph-thalene	1,3 Buta-diene	Acetal-dehyde	DPM	Benzene	Ethyl-benzene	Form-aldehyde	PAH	Naph-thalene	1,3 Buta-diene	Acetal-dehyde	Total
17 - 70	2023	1	1	0.02203	0.00000	0.00000	0.000000	0.000000	0.00000	0.000000	0.00000	0.2034	0.0000	0.00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.20
17 - 70	2024	1	1	0.00745	0.00000	0.00000	0.000000	0.000000	0.00000	0.000000	0.00000	0.0688	0.0000	0.00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.07
17 - 70	2025	38	1	0.00401	0.01031	0.00955	0.009320	0.000000	0.00085	0.001250	0.00368	0.3772	0.0882	0.00711	0.0167	0.0002	0.0087	0.0641	0.0031	0.57
Total Increased Cancer Risk												**0.65**	**0.09**	**0.01**	**0.02**	**0.00**	**0.01**	**0.06**	**0.00**	**0.838**

Mattos II, Newman, CA - Project Operation -
AERMOD Risk Modeling Parameters, Maximum TAC Concentrations
With Construction Mitigation Applied
Off-Site Worker Receptors - 1.5 meter Receptor Heights

Receptor Information

Number of Receptors	24
Receptor Height =	1.5 meters
Receptor distances =	variable - at nearby workplaces

Meteorological Conditions

SJVAPCD Los Banos Met I	2004-2008
Land Use Classification	rural
Wind speed =	variable
Wind direction =	variable

Residential MEI Concentrations

	TAC Concentration ($\mu g/m^3$)		
	2023	2024	2025
TAC	Max Period Average	Max Period Average	Max Period Average
DPM	0.01235	0.00126	0.00401
Benzene	0.00000	0.00000	0.01031
Ethylbenzene	0.00000	0.00000	0.00955
Formaldehyde	0.00000	0.00000	0.00932
PAHs	0.00000	0.00000	0.0000005
Naphthalene	0.00000	0.00000	0.00085
1,3 Butadiene	0.00000	0.00000	0.00125
Aceltaldehyde	0.00000	0.00000	0.00368

2023 - Maximum Non-Cancer Health Effects

	Maximum Concentration		Hazard Index	
	Period Ave	1-Hour		
TAC	($\mu g/m^3$)	($\mu g/m^3$)	Chronic	Acute
DPM	0.01235	-	2.47E-03	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.002**	**0.000**

* Maximum for worker receptors

2024 - Non-Cancer Health Effects

	Maximum Concentration		Hazard Index	
	Period Ave	1-Hour		
TAC	($\mu g/m^3$)	($\mu g/m^3$)	Chronic	Acute
DPM	0.00126	-	2.52E-04	-
Benzene	-	-	-	-
Ethylbenzene	-	-	-	-
Formaldehyde	-	-	-	-
PAHs			-	-
Naphthalene	-	-	-	-
1,3 Butadiene	-	-	-	-
Aceltaldehyde	-	-	-	-
Total			**0.000**	**0.000**

* Maximum for worker receptors

2025 - Non-Cancer Health Effects

	Maximum Concentration		Hazard Index	
	Period Ave	1-Hour		
TAC	($\mu g/m^3$)	($\mu g/m^3$)	Chronic	Acute
DPM	0.00426	-	8.52E-04	-
Benzene	0.01105	0.59315	3.68E-03	2.20E-02
Ethylbenzene	0.01022	-	5.11E-06	-
Formaldehyde	0.00979	0.54686	1.09E-03	9.94E-03
PAHs	0.0000017	-	-	-
Naphthalene	0.00087	-	9.67E-05	-
1,3 Butadiene	0.00135	0.07156	6.75E-04	1.08E-04
Aceltaldehyde	0.00383	0.2172	2.74E-05	4.62E-04
Total			**0.006**	**0.032**

* Maximum for worker receptors

Mattos II, Newman, CA - Project Operation
Maximum Worker Cancer Risk from Project Operation - With Mitigation
With Construction Mitigation Applied
at Off-Site Worker MEI Location
40-Year Off-Site Worker Exposure

Cancer Risk Calculation Method

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

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$

ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

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

Where: C_{air} = concentration in air ($\mu g/m^3$)

WAF = Worker Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73 for construction modeling
= 1.0 for roadway modeling (continuous emisions)

DBR = daily breathing rate (L/kg body weight-day) for residential & 8-hour breathing rate for workers

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10^{-6} = Conversion factor

Values

	Infant/Child			Adult	Worker
Age -->	3rd Trimester	0 to 2	2 to 16	17 - 70	17 - 70
Parameter					
ASF	10	10	3	1	1
DBR* =	361	1090	745	290	230
WAF** =	-	-	-	-	3.7
A =	1	1	1	1	1
EF =	350	350	350	350	250
ED =	0.25	2	14	54	40
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	-

* 95th percentile breathing rates, worker breathing rate is an 8-hour rate (L/kg per 8 hours)

** Worker adjustment factor only applied for worker exposures.

Cancer Potency Factors and Reference Exposure Levels (REL)

		REL ($\mu g/m^3$)	
	CPF	Acute	Chronic
TAC	$(mg/kg\text{-}day)^{-1}$	(1-hour)	(ann ave)
DPM	1.10E+00	-	5
Benzene	1.00E-01	27	3
Ethylbenzene	8.70E-03	-	2,000
Formaldehyde	2.10E-02	55	9
PAHs	3.90E+00	-	-
Naphthalene	1.20E-01	-	9
1,3 Butadiene	6.00E-01	660	2
Aceltaldehyde	1.00E-02	470	140

Project Construction & Operation Cancer Risk - Maximum Impact at Worker Receptor Location

				Maximum - Exposure Information								Cancer Risk (per million)								
				Annual Conc (ug/m3)																
Exposure Year Age Range	Initial Exposure Year	Exposure Duration (years)	Age Sensitivity Factor	DPM	Benzene	Ethyl-benzene	Form-aldehyde	PAH	Naph-thalene	1,3 Buta-diene	Acetal-dehyde	DPM	Benzene	Ethyl-benzene	Form-aldehyde	PAH	Naph-thalene	1,3 Buta-diene	Acetal-dehyde	Total
17 - 70	2023	1	1	0.01235	0.00000	0.00000	0.000000	0.000000	0.00000	0.000000	0.00000	0.1140	0.0000	0.00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.11
17 - 70	2024	1	1	0.00126	0.00000	0.00000	0.000000	0.000000	0.00000	0.000000	0.00000	0.0116	0.0000	0.00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.01
17 - 70	2025	38	1	0.00401	0.01031	0.00955	0.009320	0.000000	0.00085	0.001250	0.00368	0.3772	0.0882	0.00711	0.0167	0.0002	0.0087	0.0641	0.0031	0.57
Total Increased Cancer Risk												**0.50**	**0.09**	**0.01**	**0.02**	**0.00**	**0.01**	**0.06**	**0.00**	**0.691**

Project Operation Only
Cancer Risks by Receptor

	2023 Construction 2023 DPM	2023 Benzene	2023 Ethylbenzene	2023 Formaldehyde	2023 PAHs	2023 Naphthalene	2023 1,3 Butadiene	2023 Aceltaldehyde	2024 Construction 2024 DPM	2024 Benzene	2024 Ethylbenzene	2024 Formaldehyde	2024 PAHs	2024 Naphthalene	2024 1,3 Butadiene	2024 Aceltaldehyde	2025 Operation 2025 DPM	2025 Benzene	2025 Ethylbenzene	2025 Formaldehyde	2025 PAHs	2025 Naphthalene	2025 1,3 Butadiene	2025 Aceltaldehyde
3rd Trimester (10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Infant (10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2
Child (3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	14	14	14	14	14	14
Adult (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	54	54	54	54	54	54	54
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70.25	70.25	70.25	70.25	70.25	70.25	70.25	70.25

Receptor No. (m)	UTM-X (m)	UTM-Y (m)	2023 - Construction Period Average Concentration DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	2024 - Construction Period Average Concentration DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde
1	675482.7	4130716.0	0.07648	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	**0.20444**	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2	675482.1	4130728.6	0.07440	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.15564	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
3	675481.8	4130739.1	0.07281	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.20087	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
4	675481.6	4130755.3	0.07012	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.23698	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
5	675481.8	4130767.1	0.06845	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.26106	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
6	675481.3	4130777.0	0.06542	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.24606	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
7	675481.6	4130794.9	0.06048	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.17719	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
8	675475.8	4130803.9	0.05046	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.13257	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
9	675470.6	4130811.6	0.04329	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.10574	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	675452.7	4130814.4	0.03265	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.08401	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
11	675439.5	4130814.1	0.02798	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06816	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
12	675430.2	4130814.1	0.02541	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.05620	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
13	675414.2	4130814.4	0.02196	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04638	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
14	675400.5	4130814.1	0.01971	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03960	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
15	675389.0	4130814.9	0.01808	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03317	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
16	675483.8	4130699.8	0.07950	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02836	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
17	675473.0	4130699.8	0.06379	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02462	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
18	675460.4	4130699.2	0.05121	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06415	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
19	675445.3	4130699.5	0.04113	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.05228	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
20	675433.8	4130699.8	0.03564	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04282	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
21	675422.2	4130700.0	0.03137	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03539	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
22	675403.8	4130706.4	0.02606	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02964	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
23	675393.4	4130702.8	0.02389	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02506	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
24	675381.8	4130699.8	0.02181	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02158	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
25	675365.9	4130697.3	0.01937	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01876	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
26	675351.6	4130696.5	0.01752	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01596	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
27	675340.1	4130696.8	0.01621	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01552	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
28	675320.5	4130699.8	0.01431	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01697	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
29	675320.5	4130710.8	0.01424	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01885	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
30	675320.8	4130722.3	0.01415	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02053	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
31	675433.5	4130751.2	0.03267	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.10725	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
32	675431.6	4130766.0	0.03083	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.08074	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
33	675431.3	4130775.9	0.02989	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06335	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
34	675358.2	4130736.9	0.01764	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04940	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
35	675356.8	4130753.1	0.01707	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04081	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
36	675360.7	4130745.7	0.01771	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03389	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
37	675320.5	4130761.3	0.01354	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02872	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
38	675320.0	4130772.9	0.01325	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02437	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
39	675320.0	4130785.0	0.01297	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02844	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
40	675349.9	4130794.0	0.01504	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03443	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
41	675361.8	4130794.3	0.01615	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04035	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
42	675376.9	4130794.0	0.01782	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04924	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
43	675427.2	4130847.9	0.02008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06040	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
44	675426.6	4130857.8	0.01851	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.07675	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
45	675426.9	4130867.9	0.01698	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.09885	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
46	675403.5	4130835.0	0.01833	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.12670	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
47	675405.7	4130844.3	0.01768	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.18400	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
48	675410.4	4130854.5	0.01711	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.16839	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
49	675405.5	4130871.2	0.01479	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.14586	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
50	675398.3	4130878.4	0.01357	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.12713	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
51	675391.2	4130885.5	0.01250	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.10444	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
52	675391.7	4130905.3	0.01072	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.08865	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
53	675391.7	4130915.2	0.00984	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.07263	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
54	675391.7	4130924.5	0.00904	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06307	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
55	675409.8	4130923.4	0.00926	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.05233	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
56	675419.2	4130924.0	0.00922	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04481	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
57	675427.7	4130925.1	0.00906	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03770	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
58	675429.6	4130892.9	0.01329	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03143	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
59	675418.6	4130892.1	0.01301	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02893	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
60	675409.3	4130891.6	0.01270	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03570	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
61	675362.3	4130883.3	0.01133	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04161	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
62	675362.3	4130894.6	0.01060	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04774	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
63	675362.3	4130903.7	0.01001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.05435	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
64	675340.1	4130905.0	0.00930	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06012	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
65	675340.1	4130895.4	0.00979	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06718	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
66	675340.3	4130886.4	0.01027	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.07338	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
67	675319.7	4130875.9	0.00996	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.07882	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
68	675364.5	4130870.7	0.01225	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.08020	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
69	675353.0	4130869.9	0.01169	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.07804	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
70	675346.1	4130869.6	0.01137	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.07151	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
71	675228.5	4130571.2	0.00752	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01852	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
72	675263.9	4130633.0	0.01001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01597	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
73	675242.0	4130634.1	0.00889	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01384	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
74	675223.8	4130633.6	0.00809	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01226	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
75	675203.8	4130634.1	0.00733	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01101	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
76	675256.5	4130681.4	0.00995	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00998	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
77	675254.3	4130698.7	0.00988	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01681	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
78	675254.6	4130718.5	0.00989	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01486	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
79	675206.2	4130716.0	0.00784	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01423	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
80	675205.7	4130695.9	0.00778	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01273	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
81	675204.3	4130678.6	0.00766	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01138	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
82	675265.3	4130792.1	0.00980	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01028	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
83	675260.4	4130829.5	0.00899	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00922	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
84	675243.1	4130830.3	0.00837	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00837	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
85	675221.6	4130830.8	0.00769	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00761	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
86	675260.4	4130875.6	0.00804	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00854	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
87	675241.4	4130872.6	0.00759	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01042	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
88	675259.3	4130900.6	0.00742	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00941	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
89	675262.0	4130919.6	0.00700	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00846	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
90	675257.1	4130938.3	0.00643	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00773	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
91	675257.6	4130962.7	0.00579	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00708	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
92	675240.3	4130962.7	0.00562	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00652	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
93	675358.5	4130919.9	0.00888	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00603	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
94	675347.7	4130919.9	0.00868	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00558	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
95	675336.5	4130919.1	0.00849	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00610	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
96	675249.9	4131005.9	0.00465	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00660	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
97	675255.7	4131033.9	0.00399	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00718	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
98	675255.7	4131055.9	0.00351	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00862	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
99	675256.2	4131071.6	0.00318	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00951	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
100	675345.8	4131057.8	0.00291	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01054	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
101	675518.9	4130875.1	0.01793	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01188	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
102	675547.1	4130884.0	0.01156	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00939	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103	675336.0	4130320.4	0.00610	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01091	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104	675287.6	4130312.5	0.00472	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01324	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
105	675289.7	4130214.0	0.00353	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01678	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
106	675263.6	4130215.6	0.00323	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00704	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
107	675236.5	4130214.6	0.00295	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02667	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
108	675349.1	4130253.4	0.00513	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03777	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
		Maximum	0.07950	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.26106	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Receptor No.	2025 Operation Period Average Concentration DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	2023 Cancer Risks DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	2023 Cancer Risks Total
1	0.00151	0.00404	0.00374	0.00367	0.00000024	0.00031	0.00049	0.00145	0.000	0.00000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
2	0.00151	0.00404	0.00374	0.00367	0.00000026	0.00031	0.00049	0.00145	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
3	0.00152	0.00404	0.00374	0.00366	0.00000028	0.00031	0.00049	0.00145	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
4	0.00152	0.00404	0.00374	0.00366	0.00000031	0.00031	0.00049	0.00145	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
5	0.00153	0.00405	0.00375	0.00368	0.00000034	0.00031	0.00049	0.00145	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
6	0.00153	0.00403	0.00374	0.00366	0.00000036	0.00031	0.00049	0.00144	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
7	0.00154	0.00404	0.00374	0.00366	0.00000044	0.00031	0.00049	0.00144	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
8	0.00147	0.00383	0.00355	0.00347	0.00000044	0.00029	0.00047	0.00137	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
9	0.00141	0.00365	0.00339	0.00331	0.00000045	0.00028	0.00044	0.00131	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
10	0.00125	0.00319	0.00296	0.00289	0.00000036	0.00024	0.00039	0.00114	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
11	0.00115	0.00292	0.00271	0.00264	0.00000031	0.00022	0.00036	0.00104	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
12	0.00110	0.00276	0.00255	0.00249	0.00000027	0.00021	0.00034	0.00098	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
13	0.00101	0.00252	0.00233	0.00227	0.00000023	0.00019	0.00031	0.00090	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
14	0.00095	0.00234	0.00217	0.00212	0.00000021	0.00018	0.00029	0.00083	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
15	0.00090	0.00222	0.00205	0.00200	0.00000019	0.00017	0.00027	0.00079	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
16	0.00151	0.00405	0.00375	0.00369	0.00000022	0.00031	0.00049	0.00146	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
17	0.00139	0.00372	0.00344	0.00338	0.00000020	0.00028	0.00045	0.00134	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
18	0.00128	0.00338	0.00313	0.00307	0.00000018	0.00026	0.00041	0.00121	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
19	0.00116	0.00305	0.00282	0.00276	0.00000017	0.00023	0.00037	0.00109	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
20	0.00109	0.00282	0.00262	0.00256	0.00000015	0.00021	0.00034	0.00101	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
21	0.00102	0.00263	0.00243	0.00238	0.00000014	0.00020	0.00032	0.00094	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
22	0.00093	0.00237	0.00220	0.00215	0.00000013	0.00018	0.00029	0.00085	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
23	0.00089	0.00224	0.00207	0.00202	0.00000013	0.00017	0.00027	0.00080	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
24	0.00084	0.00210	0.00195	0.00190	0.00000012	0.00016	0.00026	0.00075	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
25	0.00079	0.00195	0.00180	0.00175	0.00000011	0.00015	0.00024	0.00069	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
26	0.00076	0.00183	0.00170	0.00165	0.00000010	0.00014	0.00022	0.00065	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
27	0.00074	0.00176	0.00163	0.00158	0.00000010	0.00013	0.00021	0.00062	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
28	0.00074	0.00168	0.00155	0.00150	0.00000009	0.00013	0.00021	0.00059	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
29	0.00074	0.00170	0.00157	0.00152	0.00000009	0.00013	0.00021	0.00060	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
30	0.00075	0.00172	0.00159	0.00153	0.00000009	0.00013	0.00021	0.00060	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
31	0.00111	0.00287	0.00266	0.00260	0.00000019	0.00022	0.00035	0.00102	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
32	0.00110	0.00283	0.00262	0.00256	0.00000020	0.00022	0.00034	0.00101	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
33	0.00110	0.00282	0.00261	0.00255	0.00000021	0.00021	0.00034	0.00101	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
34	0.00080	0.00194	0.00180	0.00175	0.00000011	0.00015	0.00024	0.00069	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
35	0.00080	0.00195	0.00180	0.00175	0.00000012	0.00015	0.00024	0.00069	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
36	0.00081	0.00197	0.00182	0.00177	0.00000012	0.00015	0.00024	0.00070	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
37	0.00077	0.00176	0.00162	0.00157	0.00000010	0.00013	0.00021	0.00061	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
38	0.00077	0.00176	0.00163	0.00157	0.00000010	0.00013	0.00022	0.00062	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
39	0.00077	0.00176	0.00163	0.00157	0.00000011	0.00013	0.00022	0.00062	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
40	0.00080	0.00190	0.00176	0.00171	0.00000013	0.00014	0.00023	0.00067	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
41	0.00082	0.00199	0.00184	0.00179	0.00000014	0.00015	0.00024	0.00070	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
42	0.00086	0.00212	0.00196	0.00191	0.00000015	0.00016	0.00026	0.00075	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
43	0.00106	0.00264	0.00244	0.00238	0.00000035	0.00020	0.00032	0.00094	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
44	0.00105	0.00260	0.00241	0.00235	0.00000037	0.00020	0.00032	0.00092	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
45	0.00105	0.00257	0.00238	0.00232	0.00000039	0.00020	0.00031	0.00091	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
46	0.00096	0.00235	0.00218	0.00212	0.00000025	0.00018	0.00029	0.00083	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
47	0.00096	0.00236	0.00218	0.00213	0.00000027	0.00018	0.00029	0.00084	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
48	0.00098	0.00239	0.00222	0.00216	0.00000031	0.00018	0.00029	0.00085	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
49	0.00094	0.00229	0.00212	0.00206	0.00000032	0.00017	0.00028	0.00081	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
50	0.00091	0.00220	0.00203	0.00197	0.00000030	0.00017	0.00027	0.00078	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
51	0.00088	0.00211	0.00195	0.00189	0.00000028	0.00016	0.00026	0.00074	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
52	0.00087	0.00204	0.00189	0.00183	0.00000029	0.00016	0.00025	0.00072	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
53	0.00086	0.00200	0.00186	0.00180	0.00000028	0.00015	0.00024	0.00071	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
54	0.00084	0.00196	0.00182	0.00176	0.00000028	0.00015	0.00024	0.00069	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
55	0.00090	0.00211	0.00195	0.00189	0.00000030	0.00016	0.00026	0.00074	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
56	0.00093	0.00218	0.00202	0.00195	0.00000032	0.00017	0.00027	0.00077	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
57	0.00096	0.00225	0.00208	0.00202	0.00000033	0.00017	0.00027	0.00079	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
58	0.00103	0.00249	0.00231	0.00224	0.00000040	0.00019	0.00030	0.00088	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
59	0.00098	0.00236	0.00219	0.00212	0.00000036	0.00018	0.00029	0.00084	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
60	0.00094	0.00226	0.00209	0.00203	0.00000034	0.00017	0.00028	0.00080	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
61	0.00081	0.00189	0.00175	0.00170	0.00000022	0.00014	0.00023	0.00067	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
62	0.00080	0.00187	0.00173	0.00167	0.00000023	0.00014	0.00023	0.00066	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
63	0.00079	0.00185	0.00171	0.00165	0.00000023	0.00014	0.00023	0.00065	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
64	0.00076	0.00173	0.00161	0.00155	0.00000020	0.00013	0.00021	0.00061	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
65	0.00077	0.00175	0.00162	0.00157	0.00000020	0.00013	0.00021	0.00061	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
66	0.00077	0.00177	0.00164	0.00158	0.00000019	0.00013	0.00022	0.00062	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
67	0.00077	0.00172	0.00159	0.00153	0.00000016	0.00013	0.00021	0.00060	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
68	0.00082	0.00193	0.00179	0.00173	0.00000022	0.00015	0.00024	0.00068	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
69	0.00079	0.00186	0.00172	0.00167	0.00000020	0.00014	0.00023	0.00065	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
70	0.00078	0.00182	0.00169	0.00163	0.00000019	0.00014	0.00022	0.00064	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
71	0.00038	0.00086	0.00080	0.00077	0.00000005	0.00007	0.00011	0.00030	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
72	0.00053	0.00117	0.00108	0.00104	0.00000006	0.00009	0.00014	0.00041	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
73	0.00044	0.00101	0.00093	0.00090	0.00000006	0.00008	0.00012	0.00035	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
74	0.00040	0.00091	0.00085	0.00082	0.00000006	0.00007	0.00011	0.00032	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
75	0.00036	0.00083	0.00077	0.00075	0.00000005	0.00006	0.00010	0.00029	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
76	0.00052	0.00119	0.00110	0.00106	0.00000007	0.00009	0.00015	0.00042	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
77	0.00052	0.00120	0.00111	0.00107	0.00000007	0.00009	0.00015	0.00042	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
78	0.00053	0.00123	0.00113	0.00110	0.00000007	0.00009	0.00015	0.00043	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
79	0.00040	0.00094	0.00087	0.00085	0.00000006	0.00007	0.00012	0.00033	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
80	0.00039	0.00092	0.00085	0.00082	0.00000006	0.00007	0.00011	0.00032	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
81	0.00038	0.00089	0.00082	0.00080	0.00000006	0.00007	0.00011	0.00031	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
82	0.00062	0.00141	0.00130	0.00125	0.00000009	0.00011	0.00017	0.00049	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
83	0.00060	0.00136	0.00126	0.00122	0.00000010	0.00010	0.00017	0.00048	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
84	0.00052	0.00122	0.00113	0.00109	0.00000009	0.00009	0.00015	0.00043	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
85	0.00047	0.00110	0.00102	0.00099	0.00000009	0.00008	0.00013	0.00039	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
86	0.00060	0.00136	0.00126	0.00121	0.00000012	0.00010	0.00017	0.00047	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
87	0.00052	0.00121	0.00112	0.00108	0.00000011	0.00009	0.00015	0.00043	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
88	0.00060	0.00134	0.00124	0.00119	0.00000012	0.00010	0.00016	0.00047	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
89	0.00061	0.00135	0.00125	0.00120	0.00000013	0.00010	0.00017	0.00047	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
90	0.00058	0.00129	0.00119	0.00114	0.00000013	0.00010	0.00016	0.00045	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
91	0.00057	0.00126	0.00117	0.00112	0.00000014	0.00010	0.00015	0.00044	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
92	0.00051	0.00114	0.00106	0.00102	0.00000013	0.00009	0.00014	0.00040	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
93	0.00077	0.00178	0.00165	0.00159	0.00000023	0.00014	0.00022	0.00062	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
94	0.00076	0.00173	0.00160	0.00155	0.00000021	0.00013	0.00021	0.00061	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
95	0.00075	0.00169	0.00157	0.00151	0.00000020	0.00013	0.00021	0.00059	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
96	0.00052	0.00113	0.00105	0.00101	0.00000013	0.00009	0.00014	0.00039	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
97	0.00053	0.00112	0.00104	0.00099	0.00000012	0.00009	0.00014	0.00039	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
98	0.00052	0.00108	0.00099	0.00095	0.00000012	0.00008	0.00013	0.00037	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
99	0.00051	0.00105	0.00097	0.00092	0.00000011	0.00008	0.00013	0.00036	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
100	0.00063	0.00125	0.00116	0.00110	0.00000012	0.00010	0.00015	0.00043	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
101	0.00193	0.00496	0.00459	0.00447	0.00000068	0.00038	0.00060	0.00176	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
102	0.00233	0.00579	0.00536	0.00518	0.00000047	0.00044	0.00071	0.00204	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
103	0.00047	0.00091	0.00084	0.00079	0.00000004	0.00007	0.00011	0.00031	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
104	0.00033	0.00068	0.00063	0.00060	0.00000003	0.00005	0.00008	0.00023	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
105	0.00028	0.00056	0.00051	0.00049	0.00000003	0.00004	0.00007	0.00019	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
106	0.00022	0.00047	0.00043	0.00041	0.00000003	0.00004	0.00006	0.00016	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
107	0.00019	0.00041	0.00038	0.00037	0.00000003	0.00003	0.00005	0.00014	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
108	0.00039	0.00077	0.00071	0.00067	0.00000003	0.00006	0.00009	0.00026	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000
Maximum	0.00233	0.00579	0.00536	0.00518	0.00000068	0.00044	0.00071	0.00204	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**

Receptor No.	2024 Cancer Risks DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	2024 Cancer Risks Total	2025 Cancer Risks DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	2025 Cancer Risks Total	Total Cancer Risk
1	0.000	0.00000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.585	0.38547	0.031046	0.073536	0.000890	0.035494	0.2805	0.0138	2.4056	2.41
2	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.585	0.38547	0.0310	0.073536	0.000963	0.035494	0.2805	0.0138	2.4057	2.41
3	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.595	0.38547	0.0310	0.073335	0.001037	0.035494	0.2805	0.0138	2.4161	2.42
4	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.595	0.38547	0.0310	0.073335	0.001160	0.035494	0.2805	0.0138	2.4162	2.42
5	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.6058	0.38643	0.03113	0.07374	0.00125	0.03549	0.28052	0.01384	2.4282	2.43
6	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.606	0.38452	0.0310	0.073335	0.001345	0.035494	0.2805	0.0137	2.4258	2.43
7	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.616	0.38547	0.0310	0.073335	0.001626	0.035494	0.2805	0.0137	2.4376	2.44
8	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.543	0.36544	0.0295	0.069528	0.001653	0.033204	0.2691	0.0131	2.3243	2.32
9	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.480	0.34826	0.0281	0.066323	0.001680	0.032059	0.2519	0.0125	2.2207	2.22
10	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.312	0.30437	0.0246	0.057907	0.001347	0.027479	0.2233	0.0109	1.9618	1.96
11	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.207	0.27861	0.0225	0.052898	0.001138	0.025189	0.2061	0.0099	1.8033	1.80
12	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.155	0.26334	0.0212	0.049892	0.001023	0.024044	0.1946	0.0094	1.7180	1.72
13	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.060	0.24044	0.0193	0.045484	0.000872	0.021754	0.1775	0.0086	1.5740	1.57
14	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.997	0.22327	0.0180	0.042478	0.000766	0.020610	0.1660	0.0079	1.4762	1.48
15	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.945	0.21182	0.0170	0.040074	0.000700	0.019465	0.1546	0.0075	1.3958	1.40
16	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.585	0.38643	0.0311	0.073937	0.000818	0.035494	0.2805	0.0139	2.4071	2.41
17	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.459	0.35494	0.0286	0.067725	0.000751	0.032059	0.2576	0.0128	2.2133	2.21
18	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.343	0.32250	0.0260	0.061514	0.000683	0.029769	0.2347	0.0115	2.0301	2.03
19	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.217	0.29101	0.0234	0.055302	0.000618	0.026334	0.2118	0.0104	1.8364	1.84
20	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.144	0.26907	0.0217	0.051295	0.000576	0.024044	0.1946	0.0096	1.7150	1.72
21	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.071	0.25094	0.0202	0.047688	0.000539	0.022899	0.1832	0.0090	1.6050	1.60
22	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.976	0.22613	0.0183	0.043080	0.000499	0.020610	0.1660	0.0081	1.4588	1.46
23	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.934	0.21373	0.0172	0.040475	0.000466	0.019465	0.1546	0.0076	1.3876	1.39
24	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.882	0.20037	0.0162	0.038070	0.000435	0.018320	0.1488	0.0072	1.3110	1.31
25	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.829	0.18606	0.0149	0.035065	0.000401	0.017175	0.1374	0.0066	1.2268	1.23
26	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.798	0.17461	0.0141	0.033061	0.000375	0.016030	0.1259	0.0062	1.1680	1.17
27	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.777	0.16793	0.0135	0.031658	0.000357	0.014885	0.1202	0.0059	1.1312	1.13
28	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.777	0.16030	0.0129	0.030056	0.000332	0.014885	0.1202	0.0056	1.1210	1.12
29	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.777	0.16220	0.0130	0.030456	0.000340	0.014885	0.1202	0.0057	1.1235	1.12
30	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.787	0.16411	0.0132	0.030657	0.000349	0.014885	0.1202	0.0057	1.1363	1.14
31	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.165	0.27384	0.0221	0.052096	0.000717	0.025189	0.2004	0.0097	1.7490	1.75
32	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.155	0.27002	0.0217	0.051295	0.000746	0.025189	0.1946	0.0096	1.7278	1.73
33	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.155	0.26907	0.0217	0.051094	0.000782	0.024044	0.1946	0.0096	1.7255	1.73
34	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.840	0.18510	0.0149	0.035065	0.000426	0.017175	0.1374	0.0066	1.2363	1.24
35	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.840	0.18606	0.0149	0.035065	0.000438	0.017175	0.1374	0.0066	1.2373	1.24
36	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.850	0.18797	0.0151	0.035466	0.000439	0.017175	0.1374	0.0067	1.2504	1.25
37	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.808	0.16793	0.0134	0.031458	0.000379	0.014885	0.1202	0.0058	1.1623	1.16
38	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.808	0.16793	0.0135	0.031458	0.000389	0.014885	0.1259	0.0059	1.1682	1.17
39	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.808	0.16793	0.0135	0.031458	0.000404	0.014885	0.1259	0.0059	1.1682	1.17
40	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.840	0.18129	0.0146	0.034263	0.000484	0.016030	0.1317	0.0064	1.2244	1.22
41	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.861	0.18987	0.0153	0.035866	0.000519	0.017175	0.1374	0.0067	1.2634	1.26
42	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.903	0.20228	0.0163	0.038271	0.000569	0.018320	0.1488	0.0072	1.3343	1.33
43	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.113	0.25189	0.0203	0.047688	0.001319	0.022899	0.1832	0.0090	1.6488	1.65
44	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.102	0.24808	0.0200	0.047087	0.001391	0.022899	0.1832	0.0088	1.6335	1.63
45	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.102	0.24521	0.0198	0.046486	0.001453	0.022899	0.1775	0.0087	1.6240	1.62
46	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.008	0.22422	0.0181	0.042478	0.000919	0.020610	0.1660	0.0079	1.4878	1.49
47	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.008	0.22518	0.0181	0.042679	0.001013	0.020610	0.1660	0.0080	1.4892	1.49
48	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.029	0.22804	0.0184	0.043280	0.001138	0.020610	0.1660	0.0081	1.5142	1.51
49	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.987	0.21850	0.0176	0.041276	0.001175	0.019465	0.1603	0.0077	1.4526	1.45
50	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.955	0.20991	0.0169	0.039473	0.001116	0.019465	0.1546	0.0074	1.4039	1.40
51	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.924	0.20132	0.0162	0.037870	0.001060	0.018320	0.1488	0.0071	1.3543	1.35
52	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.913	0.19465	0.0157	0.036668	0.001077	0.018320	0.1431	0.0069	1.3295	1.33
53	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.903	0.19083	0.0154	0.036067	0.001056	0.017175	0.1374	0.0068	1.3074	1.31
54	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.882	0.18701	0.0151	0.035265	0.001026	0.017175	0.1374	0.0066	1.2812	1.28
55	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.945	0.20132	0.0162	0.037870	0.001135	0.018320	0.1488	0.0071	1.3753	1.38
56	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.976	0.20800	0.0168	0.039072	0.001188	0.019465	0.1546	0.0073	1.4225	1.42
57	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.008	0.21468	0.0173	0.040475	0.001228	0.019465	0.1546	0.0075	1.4628	1.46
58	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.081	0.23758	0.0192	0.044883	0.001474	0.021754	0.1717	0.0084	1.5861	1.59
59	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	1.029	0.22518	0.0182	0.042478	0.001356	0.020610	0.1660	0.0080	1.5104	1.51
60	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.987	0.21564	0.0173	0.040675	0.001250	0.019465	0.1603	0.0076	1.4489	1.45
61	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.850	0.18033	0.0145	0.034063	0.000828	0.016030	0.1317	0.0064	1.2340	1.23
62	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.840	0.17842	0.0144	0.033462	0.000854	0.016030	0.1317	0.0063	1.2207	1.22
63	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.829	0.17652	0.0142	0.033061	0.000867	0.016030	0.1317	0.0062	1.2077	1.21
64	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.798	0.16507	0.0134	0.031057	0.000743	0.014885	0.1202	0.0058	1.1488	1.15
65	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.808	0.16698	0.0134	0.031458	0.000726	0.014885	0.1202	0.0058	1.1617	1.16
66	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.808	0.16888	0.0136	0.031658	0.000708	0.014885	0.1259	0.0059	1.1698	1.17
67	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.808	0.16411	0.0132	0.030657	0.000594	0.014885	0.1202	0.0057	1.1576	1.16
68	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.861	0.18415	0.0149	0.034664	0.000802	0.017175	0.1374	0.0065	1.2562	1.26
69	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.829	0.17747	0.0143	0.033462	0.000730	0.016030	0.1317	0.0062	1.2090	1.21
70	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.819	0.17365	0.0140	0.032660	0.000692	0.016030	0.1259	0.0061	1.1878	1.19
71	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.399	0.08206	0.0066	0.015429	0.000177	0.008015	0.0630	0.0029	0.5770	0.58
72	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.556	0.11163	0.0090	0.020839	0.000230	0.010305	0.0801	0.0039	0.7923	0.79
73	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.462	0.09637	0.0077	0.018033	0.000218	0.009160	0.0687	0.0033	0.6653	0.67
74	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.420	0.08683	0.0071	0.016430	0.000207	0.008015	0.0630	0.0031	0.6044	0.60
75	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.378	0.07919	0.0064	0.015028	0.000197	0.006870	0.0572	0.0028	0.5455	0.55
76	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.546	0.11354	0.0091	0.021239	0.000255	0.010305	0.0859	0.0040	0.7901	0.79
77	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.546	0.11450	0.0092	0.021440	0.000262	0.010305	0.0859	0.0040	0.7914	0.79
78	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.556	0.11736	0.0094	0.022041	0.000273	0.010305	0.0859	0.0041	0.8056	0.81
79	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.420	0.08969	0.0072	0.017031	0.000235	0.008015	0.0687	0.0031	0.6139	0.61
80	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.409	0.08778	0.0071	0.016430	0.000226	0.008015	0.0630	0.0031	0.5949	0.59
81	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.399	0.08492	0.0068	0.016030	0.000218	0.008015	0.0630	0.0030	0.5808	0.58
82	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.651	0.13453	0.0108	0.025046	0.000333	0.012595	0.0973	0.0047	0.9360	0.94
83	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.630	0.12976	0.0105	0.024445	0.000365	0.011450	0.0973	0.0046	0.9081	0.91
84	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.546	0.11641	0.0094	0.021840	0.000343	0.010305	0.0859	0.0041	0.7940	0.79
85	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.493	0.10496	0.0085	0.019837	0.000318	0.009160	0.0744	0.0037	0.7142	0.71
86	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.630	0.12976	0.0105	0.024245	0.000430	0.011450	0.0973	0.0045	0.9079	0.91
87	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.546	0.11545	0.0093	0.021640	0.000391	0.010305	0.0859	0.0041	0.7928	0.79
88	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.630	0.12786	0.0103	0.023844	0.000464	0.011450	0.0916	0.0045	0.8997	0.90
89	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.640	0.12881	0.0104	0.024044	0.000493	0.011450	0.0973	0.0045	0.9172	0.92
90	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.609	0.12308	0.0099	0.022842	0.000498	0.011450	0.0916	0.0043	0.8724	0.87
91	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.598	0.12022	0.0097	0.022441	0.000508	0.011450	0.0859	0.0042	0.8527	0.85
92	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.535	0.10877	0.0088	0.020438	0.000474	0.010305	0.0801	0.0038	0.7680	0.77
93	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.808	0.16984	0.0137	0.031859	0.000846	0.016030	0.1259	0.0059	1.1723	1.17
94	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.798	0.16507	0.0133	0.031057	0.000791	0.014885	0.1202	0.0058	1.1488	1.15
95	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.787	0.16125	0.0130	0.030256	0.000738	0.014885	0.1202	0.0056	1.1332	1.13
96	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.546	0.10782	0.0087	0.020237	0.000477	0.010305	0.0801	0.0037	0.7772	0.78
97	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.556	0.10686	0.0086	0.019837	0.000456	0.010305	0.0801	0.0037	0.7862	0.79
98	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.546	0.10305	0.0082	0.019035	0.000428	0.009160	0.0744	0.0035	0.7636	0.76
99	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.535	0.10019	0.0081	0.018434	0.000407	0.009160	0.0744	0.0034	0.7494	0.75
100	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.661	0.11927	0.0096	0.022041	0.000445	0.011450	0.0859	0.0041	0.9140	0.91
101	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	2.026	0.47326	0.0381	0.089565	0.002546	0.043509	0.3435	0.0168	3.0329	3.03
102	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	2.445	0.55245	0.0445	0.103792	0.001733	0.050379	0.4065	0.0195	3.6242	**3.62**
103	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.493	0.08683	0.0070	0.015829	0.000132	0.008015	0.0630	0.0030	0.6770	0.68
104	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.346	0.06488	0.0052	0.012022	0.000120	0.005725	0.0458	0.0022	0.4823	0.48
105	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.294	0.05343	0.0042	0.009818	0.000100	0.004580	0.0401	0.0018	0.4079	0.41
106	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.231	0.04484	0.0036	0.008215	0.000097	0.004580	0.0343	0.0015	0.3281	0.33
107	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.199	0.03912	0.0032	0.007414	0.000094	0.003435	0.0286	0.0013	0.2826	0.28
108	0.000	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0000	0.409	0.07347	0.0059	0.013425	0.000118	0.006870	0.0515	0.0025	0.5631	0.56
Maximum	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	2.445	0.552	0.044	0.104	0.003	0.050	0.406	0.019	**3.624**	**3.62**

Project Construction & Operation - Without Mitigation
Cancer Risks by Receptor

14.0160 0.000 0.000 0.000 0.000 0.000 0.000

AT AU AV

	2023 Construction								2024 Construction								2025 Operation							
	2023	2023	2023	2023	2023	2023	2023	2023	2024	2024	2024	2024	2024	2024	2024	2024	2025	2025	2025	2025	2025	2025	2025	2025
	DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde
3rd Trimester (10)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infant (10)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Child (3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	14	14	14	14	14	14
Adult (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	54	54	54	54	54	54	54
	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1	1	1	1	1	1	1	1	68	68	68	68	68	68	68	68

Receptor			2023 - Construction Period Average Concentration								2024 - Construction Period Average Concentration								2025 Operation Period Average Concentration							
No. (m)	UTM-X (m)	UTM-Y (m)	DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde
1	675482.7	4130716.0	0.07582	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02565	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00151	0.00404	0.00374	0.00367	0.00000024	0.00031	0.00049	0.00145
2	675482.1	4130728.6	0.07376	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02495	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00151	0.00404	0.00374	0.00367	0.00000026	0.00031	0.00049	0.00145
3	675481.8	4130739.1	0.07219	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02442	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00152	0.00404	0.00374	0.00366	0.00000028	0.00031	0.00049	0.00145
4	675481.6	4130755.3	0.06951	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02351	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00152	0.00404	0.00374	0.00366	0.00000031	0.00031	0.00049	0.00145
5	675481.8	4130767.1	0.06786	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02295	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00153	0.00405	0.00375	0.00368	0.00000034	0.00031	0.00049	0.00145
6	675481.3	4130777.0	0.06485	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02194	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00153	0.00403	0.00374	0.00366	0.00000036	0.00031	0.00049	0.00144
7	675481.6	4130794.9	0.05996	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02028	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00154	0.00404	0.00374	0.00366	0.00000044	0.00031	0.00049	0.00144
8	675475.8	4130803.9	0.05002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01692	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00147	0.00383	0.00355	0.00347	0.00000044	0.00029	0.00047	0.00137
9	675470.6	4130811.6	0.04292	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01452	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00141	0.00365	0.00339	0.00331	0.00000045	0.00028	0.00044	0.00131
10	675452.7	4130814.4	0.03237	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01095	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00125	0.00319	0.00296	0.00289	0.00000036	0.00024	0.00039	0.00114
11	675439.5	4130814.1	0.02774	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00938	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00115	0.00292	0.00271	0.00264	0.00000031	0.00022	0.00036	0.00104
12	675430.2	4130814.1	0.02519	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00852	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00110	0.00276	0.00255	0.00249	0.00000027	0.00021	0.00034	0.00098
13	675414.2	4130814.4	0.02177	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00736	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00101	0.00252	0.00233	0.00227	0.00000023	0.00019	0.00031	0.00090
14	675400.5	4130814.1	0.01954	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00661	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00095	0.00234	0.00217	0.00212	0.00000021	0.00018	0.00029	0.00083
15	675389.0	4130814.9	0.01793	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00606	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00090	0.00222	0.00205	0.00200	0.00000019	0.00017	0.00027	0.00079
16	675483.8	4130699.8	0.07881	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02666	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00151	0.00405	0.00375	0.00369	0.00000022	0.00031	0.00049	0.00146
17	675473.0	4130699.8	0.06324	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02139	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00139	0.00372	0.00344	0.00338	0.00000020	0.00028	0.00045	0.00134
18	675460.4	4130699.2	0.05076	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01717	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00128	0.00338	0.00313	0.00307	0.00000018	0.00026	0.00041	0.00121
19	675445.3	4130699.5	0.04077	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01379	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00116	0.00305	0.00282	0.00276	0.00000017	0.00023	0.00037	0.00109
20	675433.8	4130699.8	0.03533	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01195	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00109	0.00282	0.00262	0.00256	0.00000015	0.00021	0.00034	0.00101
21	675422.2	4130700.0	0.03110	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01052	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00102	0.00263	0.00243	0.00238	0.00000014	0.00020	0.00032	0.00094
22	675403.8	4130706.4	0.02584	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00874	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00093	0.00237	0.00220	0.00215	0.00000013	0.00018	0.00029	0.00085
23	675393.4	4130702.8	0.02368	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00801	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00089	0.00224	0.00207	0.00202	0.00000013	0.00017	0.00027	0.00080
24	675381.8	4130699.8	0.02162	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00731	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00084	0.00210	0.00195	0.00190	0.00000012	0.00016	0.00026	0.00075
25	675365.9	4130697.3	0.01920	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00650	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00079	0.00195	0.00180	0.00175	0.00000011	0.00015	0.00024	0.00069
26	675351.6	4130696.5	0.01737	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00588	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00076	0.00183	0.00170	0.00165	0.00000010	0.00014	0.00022	0.00065
27	675340.1	4130696.8	0.01607	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00544	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00074	0.00176	0.00163	0.00158	0.00000010	0.00013	0.00021	0.00062
28	675320.5	4130699.8	0.01419	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00480	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00074	0.00168	0.00155	0.00150	0.00000009	0.00013	0.00021	0.00059
29	675320.5	4130710.8	0.01412	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00478	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00074	0.00170	0.00157	0.00152	0.00000009	0.00013	0.00021	0.00060
30	675320.8	4130722.3	0.01403	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00475	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.00172	0.00159	0.00153	0.00000009	0.00013	0.00021	0.00060
31	675433.5	4130751.2	0.03239	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01096	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00111	0.00287	0.00266	0.00260	0.00000019	0.00022	0.00035	0.00102
32	675431.6	4130766.0	0.03057	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01034	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00110	0.00283	0.00262	0.00256	0.00000020	0.00022	0.00034	0.00101
33	675431.3	4130775.9	0.02963	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00110	0.00282	0.00261	0.00255	0.00000021	0.00021	0.00034	0.00101
34	675358.2	4130736.9	0.01749	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00591	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00080	0.00194	0.00180	0.00175	0.00000011	0.00015	0.00024	0.00069
35	675356.8	4130753.1	0.01692	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00572	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00080	0.00195	0.00180	0.00175	0.00000012	0.00015	0.00024	0.00069
36	675360.7	4130745.7	0.01756	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00594	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00081	0.00197	0.00182	0.00177	0.00000012	0.00015	0.00024	0.00070
37	675320.5	4130761.3	0.01342	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00454	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00077	0.00176	0.00162	0.00157	0.00000010	0.00013	0.00021	0.00061
38	675320.0	4130772.9	0.01314	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00444	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00077	0.00176	0.00163	0.00157	0.00000010	0.00013	0.00022	0.00062
39	675320.0	4130785.0	0.01286	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00435	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00077	0.00176	0.00163	0.00157	0.00000011	0.00013	0.00022	0.00062
40	675349.9	4130794.0	0.01491	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00504	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00080	0.00190	0.00176	0.00171	0.00000013	0.00014	0.00023	0.00067
41	675361.8	4130794.3	0.01601	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00541	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00082	0.00199	0.00184	0.00179	0.00000014	0.00015	0.00024	0.00070
42	675376.9	4130794.0	0.01767	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00598	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00086	0.00212	0.00196	0.00191	0.00000015	0.00016	0.00026	0.00075
43	675427.2	4130847.9	0.01991	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00673	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00106	0.00264	0.00244	0.00238	0.00000035	0.00020	0.00032	0.00094
44	675426.6	4130857.8	0.01835	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00621	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00105	0.00260	0.00241	0.00235	0.00000037	0.00020	0.00032	0.00092
45	675426.9	4130867.9	0.01683	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00569	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00105	0.00257	0.00238	0.00232	0.00000039	0.00020	0.00031	0.00091
46	675403.5	4130835.0	0.01817	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00615	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00096	0.00235	0.00218	0.00212	0.00000025	0.00018	0.00029	0.00083
47	675405.7	4130844.3	0.01753	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00593	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00096	0.00236	0.00218	0.00213	0.00000027	0.00018	0.00029	0.00084
48	675410.4	4130854.5	0.01697	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00574	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00098	0.00239	0.00222	0.00216	0.00000031	0.00018	0.00029	0.00085
49	675405.5	4130871.2	0.01466	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00496	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00094	0.00229	0.00212	0.00206	0.00000032	0.00017	0.00028	0.00081
50	675398.3	4130878.4	0.01345	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00455	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00091	0.00220	0.00203	0.00197	0.00000030	0.00017	0.00027	0.00078
51	675391.2	4130885.5	0.01240	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00419	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00088	0.00211	0.00195	0.00189	0.00000028	0.00016	0.00026	0.00074
52	675391.7	4130905.3	0.01063	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00359	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00087	0.00204	0.00189	0.00183	0.00000029	0.00016	0.00025	0.00072
53	675391.7	4130915.2	0.00975	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00330	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00086	0.00200	0.00186	0.00180	0.00000028	0.00015	0.00024	0.00071
54	675391.7	4130924.5	0.00896	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00303	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00084	0.00196	0.00182	0.00176	0.00000028	0.00015	0.00024	0.00069
55	675409.8	4130923.4	0.00918	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00311	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00090	0.00211	0.00195	0.00189	0.00000030	0.00016	0.00026	0.00074
56	675419.2	4130924.0	0.00914	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00309	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00093	0.00218	0.00202	0.00195	0.00000032	0.00017	0.00027	0.00077
57	675427.7	4130925.1	0.00898	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00304	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00096	0.00225	0.00208	0.00202	0.00000033	0.00017	0.00027	0.00079
58	675429.6	4130892.9	0.01318	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00446	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00103	0.00249	0.00231	0.00224	0.00000040	0.00019	0.00030	0.00088
59	675418.6	4130892.1	0.01290	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00436	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00098	0.00236	0.00219	0.00212	0.00000036	0.00018	0.00029	0.00084
60	675409.3	4130891.6	0.01259	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00426	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00094	0.00226	0.00209	0.00203	0.00000034	0.00017	0.00028	0.00080
61	675362.3	4130883.3	0.01123	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00380	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00081	0.00189	0.00175	0.00170	0.00000022	0.00014	0.00023	0.00067
62	675362.3	4130894.6	0.01051	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00356	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00080	0.00187	0.00173	0.00167	0.00000023	0.00014	0.00023	0.00066
63	675362.3	4130903.7	0.00992	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00336	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00079	0.00185	0.00171	0.00165	0.00000023	0.00014	0.00023	0.00065
64	675340.1	4130905.0	0.00922	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00312	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00076	0.00173	0.00161	0.00155	0.00000020	0.00013	0.00021	0.00061
65	675340.1	4130895.4	0.00971	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00328	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00077	0.00175	0.00162	0.00157	0.00000020	0.00013	0.00021	0.00061
66	675340.3	4130886.4	0.01018	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00344	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00077	0.00177	0.00164	0.00158	0.00000019	0.00013	0.00022	0.00062
67	675319.7	4130875.9	0.00987	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00334	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00077	0.00172	0.00159	0.00153	0.00000016	0.00013	0.00021	0.00060
68	675364.5	4130870.7	0.01214	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00411	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00082	0.00193	0.00179	0.00173	0.00000022	0.00015	0.00024	0.00068
69	675353.0	4130869.9	0.01159	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00392	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00079	0.00186	0.00172	0.00167	0.00000020	0.00014	0.00023	0.00065
70	675346.1	4130869.6	0.01127	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00381	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00078	0.00182	0.00169	0.00163	0.00000019	0.00014	0.00022	0.00064
71	675228.5	4130571.2	0.00745	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00252	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.00086	0.00080	0.00077	0.00000005	0.00007	0.00011	0.00030
72	675263.9	4130633.0	0.00992	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00336	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00053	0.00117	0.00108	0.00104	0.00000006	0.00009	0.00014	0.00041
73	675242.0	4130634.1	0.00881	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00298	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00044	0.00101	0.00093	0.00090	0.00000006	0.00008	0.00012	0.00035
74	675223.8	4130633.6	0.00802	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00271	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00040	0.00091	0.00085	0.00082	0.00000006	0.00007	0.00011	0.00032
75	675203.8	4130634.1	0.00727	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00246	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00036	0.00083	0.00077	0.00075	0.00000005	0.00006	0.00010	0.00029
76	675256.5	4130681.4	0.00987	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00334	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00052	0.00119	0.00110	0.00106	0.00000007	0.00009	0.00015	0.00042
77	675254.3	4130698.7	0.00980	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00331	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00052	0.00120	0.00111	0.00107	0.00000007	0.00009	0.00015	0.00042
78	675254.6	4130718.5	0.00980	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00332	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00053	0.00123	0.00113	0.00110	0.00000007	0.00009	0.00015	0.00043
79	675206.2	4130716.0	0.00777	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00263	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00040	0.00094	0.00087	0.00085	0.00000006	0.00007	0.00012	0.00033
80	675205.7	4130695.9	0.00771	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00261	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00039	0.00092	0.00085	0.00082	0.00000006	0.00007	0.00011	0.00032
81	675204.3	4130678.6	0.00759	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00257	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.00089	0.00082	0.00080	0.00000006	0.00007	0.00011	0.00031
82	675265.3	4130792.1	0.00971	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00329	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00062	0.00141	0.00130	0.00125	0.00000009	0.00011	0.00017	0.00049
83	675260.4	4130829.5	0.00891	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00301	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00060	0.00136	0.00126	0.00122	0.00000010	0.00010	0.00017	0.00048
84	675243.1	4130830.3	0.00830	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00281	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00052	0.00122	0.00113	0.00109	0.00000009	0.00009	0.00015	0.00043
85	675221.6	4130830.8	0.00763	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00258	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00047	0.00110	0.00102	0.00099	0.00000009	0.00008	0.00013	0.00039
86	675260.4	4130875.6	0.00797	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00270	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00060	0.00136	0.00126	0.00121	0.00000012	0.00010	0.00017	0.00047
87	675241.4	4130872.6	0.00753	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00255	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00052	0.00121	0.00112	0.00108	0.00000011	0.00009	0.00015	0.00043
88	675259.3	4130900.6	0.00736	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00249	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00060	0.00134	0.00124	0.00119	0.00000012	0.00010	0.00016	0.00047
89	675262.0	4130919.6	0.00693	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00235	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00061	0.00135	0.00125	0.00120	0.00000013	0.00010	0.00017	0.00047
90	675257.1	4130938.3	0.00637	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00216	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00058	0.00129	0.00119	0.00114	0.00000013	0.00010	0.00016	0.00045
91	675257.6	4130962.7	0.00574	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00194	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00057	0.00126	0.00117	0.00112	0.00000014	0.00010	0.00015	0.00044
92	675240.3	4130962.7	0.00557	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00189	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00051	0.00114	0.00106	0.00102	0.00000013	0.00009	0.00014	0.00040
93	675358.5	4130919.9	0.00881	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00298	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00077	0.00178	0.00165	0.00159	0.00000023	0.00014	0.00022	0.00062
94	675347.7	4130919.9	0.00860	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00291	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00076	0.00173	0.00160	0.00155	0.00000021	0.00013	0.00021	0.00061
95	675336.5	4130919.1	0.00842	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00285	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.00169	0.00157	0.00151	0.00000020	0.00013	0.00021	0.00059
96	675249.9	4131005.9	0.00461	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00156	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00052	0.00113	0.00105	0.00101	0.00000013	0.00009	0.00014	0.00039
97	675255.7	4131033.9	0.00396	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00134	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00053	0.00112	0.00104	0.00099	0.00000012	0.00009	0.00014	0.00039
98	675255.7	4131055.9	0.00348	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00118	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00052	0.00108	0.00099	0.00095	0.00000012	0.00008	0.00013	0.00037
99	675256.2	4131071.6	0.00316	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00107	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00051	0.00105	0.00097	0.00092	0.00000011	0.00008	0.00013	0.00036
100	675345.8	4131057.8	0.00288	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00097	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00063	0.00125	0.00116	0.00110	0.00000012	0.00010	0.00015	0.00043
101	675518.9	4130875.1	0.01777	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00601	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00193	0.00496	0.00459	0.00447	0.00000068	0.00038	0.00060	0.00176
102	675547.1	4130884.0	0.01146	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00388	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00233	0.00579	0.00536	0.00518	0.00000047	0.00044	0.00071	0.00204
103	675336.0	4130320.4	0.00605	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00205	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00047	0.00091	0.00084	0.00079	0.00000004	0.00007	0.00011	0.00031
104	675287.6	4130312.5	0.00468	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00158	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00033	0.00068	0.00063	0.00060	0.00000003	0.00005	0.00008	0.00023
105	675289.7	4130214.0	0.00350	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00118	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00028	0.00056	0.00051	0.00049	0.00000003	0.00004	0.00007	0.00019
106	675263.6	4130215.6	0.00320	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00108	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00022	0.00047	0.00043	0.00041	0.00000003	0.00004	0.00006	0.00016
107	675236.5	4130214.6	0.00292	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00099	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00019	0.00041	0.00038	0.00037	0.00000003	0.00003	0.00005	0.00014
108	675349.1	4130253.4	0.00508	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00172	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00039	0.00077	0.00071	0.00067	0.00000003	0.00006	0.00009	0.00026
		Maximum	0.07881	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02666	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00233	0.00579	0.00536	0.00518	0.00000068	0.00044	0.00071	0.00204

Receptor	2023 Cancer Risks								2023 Cancer Risks	2024 Cancer Risks								2024 Cancer Risks
No. (m)	DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	Total	DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	Total
1	13.484	0.00000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000	13.4843	4.213	0.00000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000	4.2129
2	13.118	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	13.1179	4.098	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	4.0980
3	12.839	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	12.8387	4.011	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	4.0109
4	12.362	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	12.3621	3.861	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.8614
5	12.069	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	12.0686	3.769	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.7695
6	11.533	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	11.5333	3.604	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.6036
7	10.664	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	10.6636	3.331	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.3309
8	8.896	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	8.8959	2.779	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.7791
9	7.633	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	7.6331	2.385	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.3849
10	5.757	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	5.7569	1.799	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7985
11	4.933	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	4.9334	1.541	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.5406
12	4.480	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	4.4799	1.399	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3994
13	3.872	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.8717	1.209	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.2089
14	3.475	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.4751	1.086	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.0857
15	3.189	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.1888	0.995	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9953
16	14.016	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	14.0160	4.379	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	4.3788
17	11.247	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	11.2470	3.513	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.5132
18	9.027	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	9.0275	2.820	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.8201
19	7.251	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	7.2508	2.265	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.2650
20	6.283	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	6.2833	1.963	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.9627
21	5.531	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	5.5310	1.728	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7279
22	4.596	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	4.5955	1.436	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.4355
23	4.211	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	4.2114	1.316	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3156
24	3.845	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.8450	1.201	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.2006
25	3.415	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.4146	1.068	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.0676
26	3.089	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.0892	0.966	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9658
27	2.858	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.8580	0.894	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8935
28	2.524	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.5236	0.788	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7884
29	2.511	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.5112	0.785	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7851
30	2.495	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.4952	0.780	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7802
31	5.760	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	5.7604	1.800	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.8001
32	5.437	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	5.4367	1.698	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.6983
33	5.270	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	5.2696	1.646	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.6458
34	3.111	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.1105	0.971	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9707
35	3.009	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.0092	0.939	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9395
36	3.123	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.1230	0.976	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9756
37	2.387	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.3867	0.746	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7457
38	2.337	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.3369	0.729	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7293
39	2.287	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.2871	0.714	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7145
40	2.652	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.6517	0.828	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8278
41	2.847	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.8473	0.889	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8886
42	3.143	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.1425	0.982	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9822
43	3.541	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.5409	1.105	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.1054
44	3.263	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.2635	1.020	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.0200
45	2.993	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.9931	0.935	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9346
46	3.231	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.2315	1.010	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.0101
47	3.118	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.1176	0.974	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9740
48	3.018	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.0180	0.943	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9428
49	2.607	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.6072	0.815	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8147
50	2.392	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.3920	0.747	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7473
51	2.205	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.2053	0.688	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6882
52	1.891	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.8905	0.590	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5896
53	1.734	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7340	0.542	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5420
54	1.593	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.5935	0.498	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4977
55	1.633	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.6326	0.511	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5108
56	1.626	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.6255	0.508	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5075
57	1.597	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.5971	0.499	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4993
58	2.344	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.3440	0.733	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7325
59	2.294	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.2942	0.716	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7161
60	2.239	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.2391	0.700	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6997
61	1.997	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.9972	0.624	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6241
62	1.869	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.8692	0.585	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5847
63	1.764	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7642	0.552	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5519
64	1.640	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.6397	0.512	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5124
65	1.727	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7269	0.539	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5387
66	1.810	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.8105	0.565	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5650
67	1.755	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7553	0.549	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5486
68	2.159	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.1590	0.675	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6751
69	2.061	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.0612	0.644	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6438
70	2.004	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.0043	0.626	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6258
71	1.325	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3250	0.414	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4139
72	1.764	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7642	0.552	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5519
73	1.567	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.5668	0.489	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4895
74	1.426	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.4263	0.445	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4451
75	1.293	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.2929	0.404	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4040
76	1.755	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7553	0.549	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5486
77	1.743	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7429	0.544	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5437
78	1.743	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7429	0.545	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5453
79	1.382	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3819	0.432	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4320
80	1.371	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3712	0.429	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4287
81	1.350	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3499	0.422	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4221
82	1.727	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7269	0.540	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5404
83	1.585	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.5846	0.494	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4944
84	1.476	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.4761	0.462	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4615
85	1.357	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3570	0.424	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4238
86	1.417	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.4174	0.443	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4435
87	1.339	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3392	0.419	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4188
88	1.309	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3089	0.409	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4090
89	1.232	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.2325	0.386	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3860
90	1.133	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.1329	0.355	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3548
91	1.021	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.0208	0.319	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3186
92	0.991	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9906	0.310	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3104
93	1.567	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.5668	0.489	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4895
94	1.529	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.5295	0.478	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4780
95	1.497	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.4975	0.468	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4681
96	0.820	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8199	0.256	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2562
97	0.704	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7043	0.220	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2201
98	0.619	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6189	0.194	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1938
99	0.562	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5620	0.176	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1757
100	0.512	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5122	0.159	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1593
101	3.160	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.1603	0.987	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9871
102	2.038	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.0381	0.637	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6373
103	1.076	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.0760	0.337	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3367
104	0.832	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8323	0.260	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2595
105	0.622	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6225	0.194	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1938
106	0.569	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5691	0.177	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1774
107	0.519	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5193	0.163	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1626
108	0.903	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9035	0.283	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2825
Maximum	14.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**14.016**	4.379	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**4.379**

Receptor	2025 Cancer Risks								2025 Cancer Risks	Total Cancer
No. (m)	DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	Total	Risk
1	1.068	0.25983	0.020927	0.049568	0.000600	0.023925	0.1891	0.0093	1.6215	19.32
2	1.068	0.25983	0.0209	0.049568	0.000649	0.023925	0.1891	0.0093	1.6216	18.84
3	1.075	0.25983	0.0209	0.049433	0.000699	0.023925	0.1891	0.0093	1.6286	18.48
4	1.075	0.25983	0.0209	0.049433	0.000782	0.023925	0.1891	0.0093	1.6287	17.85
5	1.0824	0.26048	0.02098	0.04970	0.00085	0.02393	0.18909	0.00933	1.6368	17.47
6	1.082	0.25919	0.0209	0.049433	0.000907	0.023925	0.1891	0.0093	1.6352	16.77
7	1.089	0.25983	0.0209	0.049433	0.001096	0.023925	0.1891	0.0093	1.6431	15.64
8	1.040	0.24633	0.0199	0.046866	0.001114	0.022382	0.1814	0.0088	1.5667	13.24
9	0.998	0.23475	0.0190	0.044705	0.001133	0.021610	0.1698	0.0084	1.4969	11.51
10	0.884	0.20517	0.0166	0.039033	0.000908	0.018523	0.1505	0.0073	1.3224	8.88
11	0.814	0.18780	0.0152	0.035656	0.000767	0.016979	0.1389	0.0067	1.2156	7.69
12	0.778	0.17751	0.0143	0.033630	0.000690	0.016207	0.1312	0.0063	1.1580	7.04
13	0.715	0.16207	0.0130	0.030659	0.000587	0.014664	0.1196	0.0058	1.0610	6.14
14	0.672	0.15050	0.0121	0.028633	0.000516	0.013892	0.1119	0.0053	0.9950	5.56
15	0.637	0.14278	0.0115	0.027012	0.000472	0.013120	0.1042	0.0051	0.9408	5.12
16	1.068	0.26048	0.0210	0.049838	0.000551	0.023925	0.1891	0.0094	1.6225	**20.02**
17	0.983	0.23925	0.0192	0.045651	0.000506	0.021610	0.1737	0.0086	1.4919	16.25
18	0.906	0.21738	0.0175	0.041464	0.000460	0.020066	0.1582	0.0078	1.3684	13.22
19	0.821	0.19616	0.0158	0.037277	0.000416	0.017751	0.1428	0.0070	1.2378	10.75
20	0.771	0.18137	0.0147	0.034576	0.000388	0.016207	0.1312	0.0065	1.1560	9.40
21	0.722	0.16915	0.0136	0.032145	0.000363	0.015436	0.1235	0.0060	1.0818	8.34
22	0.658	0.15243	0.0123	0.029038	0.000336	0.013892	0.1119	0.0055	0.9833	7.01
23	0.630	0.14407	0.0116	0.027282	0.000314	0.013120	0.1042	0.0051	0.9353	6.46
24	0.594	0.13506	0.0109	0.025662	0.000293	0.012348	0.1003	0.0048	0.8837	5.93
25	0.559	0.12541	0.0101	0.023636	0.000270	0.011577	0.0926	0.0044	0.8269	5.31
26	0.538	0.11770	0.0095	0.022285	0.000253	0.010805	0.0849	0.0042	0.7873	4.84
27	0.524	0.11319	0.0091	0.021340	0.000241	0.010033	0.0810	0.0040	0.7625	4.51
28	0.524	0.10805	0.0087	0.020259	0.000224	0.010033	0.0810	0.0038	0.7556	4.07
29	0.524	0.10934	0.0088	0.020529	0.000229	0.010033	0.0810	0.0039	0.7573	4.05
30	0.531	0.11062	0.0089	0.020664	0.000235	0.010033	0.0810	0.0039	0.7659	4.04
31	0.785	0.18458	0.0149	0.035116	0.000484	0.016979	0.1351	0.0066	1.1790	8.74
32	0.778	0.18201	0.0147	0.034576	0.000503	0.016979	0.1312	0.0065	1.1646	8.30
33	0.778	0.18137	0.0146	0.034441	0.000527	0.016207	0.1312	0.0065	1.1631	8.08
34	0.566	0.12477	0.0101	0.023636	0.000287	0.011577	0.0926	0.0044	0.8334	4.91
35	0.566	0.12541	0.0101	0.023636	0.000296	0.011577	0.0926	0.0044	0.8340	4.78
36	0.573	0.12670	0.0102	0.023906	0.000296	0.011577	0.0926	0.0045	0.8428	4.94
37	0.545	0.11319	0.0091	0.021205	0.000255	0.010033	0.0810	0.0039	0.7835	3.92
38	0.545	0.11319	0.0091	0.021205	0.000263	0.010033	0.0849	0.0040	0.7874	3.85
39	0.545	0.11319	0.0091	0.021205	0.000272	0.010033	0.0849	0.0040	0.7875	3.79
40	0.566	0.12220	0.0098	0.023096	0.000327	0.010805	0.0888	0.0043	0.8253	4.30
41	0.580	0.12799	0.0103	0.024176	0.000350	0.011577	0.0926	0.0045	0.8516	4.59
42	0.608	0.13635	0.0110	0.025797	0.000384	0.012348	0.1003	0.0048	0.8994	5.02
43	0.750	0.16979	0.0137	0.032145	0.000889	0.015436	0.1235	0.0060	1.1114	5.76
44	0.743	0.16722	0.0135	0.031739	0.000938	0.015436	0.1235	0.0059	1.1011	5.38
45	0.743	0.16529	0.0133	0.031334	0.000980	0.015436	0.1196	0.0059	1.0947	5.02
46	0.679	0.15114	0.0122	0.028633	0.000619	0.013892	0.1119	0.0053	1.0029	5.24
47	0.679	0.15178	0.0122	0.028768	0.000683	0.013892	0.1119	0.0054	1.0038	5.10
48	0.693	0.15371	0.0124	0.029173	0.000767	0.013892	0.1119	0.0055	1.0207	4.98
49	0.665	0.14728	0.0119	0.027823	0.000792	0.013120	0.1080	0.0052	0.9792	4.40
50	0.644	0.14149	0.0114	0.026607	0.000753	0.013120	0.1042	0.0050	0.9463	4.09
51	0.623	0.13570	0.0109	0.025527	0.000714	0.012348	0.1003	0.0048	0.9129	3.81
52	0.615	0.13120	0.0106	0.024716	0.000726	0.012348	0.0965	0.0046	0.8962	3.38
53	0.608	0.12863	0.0104	0.024311	0.000711	0.011577	0.0926	0.0046	0.8812	3.16
54	0.594	0.12606	0.0102	0.023771	0.000691	0.011577	0.0926	0.0044	0.8636	2.95
55	0.637	0.13570	0.0109	0.025527	0.000765	0.012348	0.1003	0.0048	0.9271	3.07
56	0.658	0.14021	0.0113	0.026337	0.000801	0.013120	0.1042	0.0050	0.9589	3.09
57	0.679	0.14471	0.0116	0.027282	0.000828	0.013120	0.1042	0.0051	0.9860	3.08
58	0.729	0.16014	0.0129	0.030254	0.000994	0.014664	0.1158	0.0057	1.0691	4.15
59	0.693	0.15178	0.0123	0.028633	0.000914	0.013892	0.1119	0.0054	1.0181	4.03
60	0.665	0.14535	0.0117	0.027418	0.000842	0.013120	0.1080	0.0051	0.9766	3.92
61	0.573	0.12156	0.0098	0.022960	0.000558	0.010805	0.0888	0.0043	0.8318	3.45
62	0.566	0.12027	0.0097	0.022555	0.000575	0.010805	0.0888	0.0042	0.8229	3.28
63	0.559	0.11898	0.0096	0.022285	0.000584	0.010805	0.0888	0.0042	0.8141	3.13
64	0.538	0.11127	0.0090	0.020935	0.000501	0.010033	0.0810	0.0039	0.7744	2.93
65	0.545	0.11255	0.0091	0.021205	0.000490	0.010033	0.0810	0.0039	0.7831	3.05
66	0.545	0.11384	0.0092	0.021340	0.000478	0.010033	0.0849	0.0040	0.7885	3.16
67	0.545	0.11062	0.0089	0.020664	0.000400	0.010033	0.0810	0.0039	0.7803	3.08
68	0.580	0.12413	0.0100	0.023366	0.000541	0.011577	0.0926	0.0044	0.8467	3.68
69	0.559	0.11963	0.0096	0.022555	0.000492	0.010805	0.0888	0.0042	0.8149	3.52
70	0.552	0.11705	0.0095	0.022015	0.000466	0.010805	0.0849	0.0041	0.8006	3.43
71	0.269	0.05531	0.0045	0.010400	0.000120	0.005402	0.0424	0.0019	0.3889	2.13
72	0.375	0.07525	0.0060	0.014046	0.000155	0.006946	0.0540	0.0026	0.5341	2.85
73	0.311	0.06496	0.0052	0.012156	0.000147	0.006174	0.0463	0.0023	0.4485	2.50
74	0.283	0.05853	0.0048	0.011075	0.000140	0.005402	0.0424	0.0021	0.4074	2.28
75	0.255	0.05338	0.0043	0.010130	0.000133	0.004631	0.0386	0.0019	0.3677	2.06
76	0.368	0.07653	0.0062	0.014317	0.000172	0.006946	0.0579	0.0027	0.5326	2.84
77	0.368	0.07718	0.0062	0.014452	0.000177	0.006946	0.0579	0.0027	0.5334	2.82
78	0.375	0.07911	0.0063	0.014857	0.000184	0.006946	0.0579	0.0028	0.5430	2.83
79	0.283	0.06046	0.0049	0.011480	0.000158	0.005402	0.0463	0.0021	0.4138	2.23
80	0.276	0.05917	0.0048	0.011075	0.000152	0.005402	0.0424	0.0021	0.4010	2.20
81	0.269	0.05724	0.0046	0.010805	0.000147	0.005402	0.0424	0.0020	0.3915	2.16
82	0.439	0.09068	0.0073	0.016883	0.000224	0.008490	0.0656	0.0032	0.6309	2.90
83	0.424	0.08747	0.0071	0.016478	0.000246	0.007718	0.0656	0.0031	0.6121	2.69
84	0.368	0.07846	0.0063	0.014722	0.000231	0.006946	0.0579	0.0028	0.5352	2.47
85	0.333	0.07075	0.0057	0.013371	0.000214	0.006174	0.0502	0.0025	0.4814	2.26
86	0.424	0.08747	0.0071	0.016342	0.000290	0.007718	0.0656	0.0030	0.6120	2.47
87	0.368	0.07782	0.0063	0.014587	0.000263	0.006946	0.0579	0.0028	0.5344	2.29
88	0.424	0.08618	0.0069	0.016072	0.000313	0.007718	0.0617	0.0030	0.6065	2.32
89	0.432	0.08683	0.0070	0.016207	0.000332	0.007718	0.0656	0.0030	0.6183	2.24
90	0.410	0.08297	0.0067	0.015397	0.000335	0.007718	0.0617	0.0029	0.5880	2.08
91	0.403	0.08104	0.0065	0.015127	0.000342	0.007718	0.0579	0.0028	0.5747	1.91
92	0.361	0.07332	0.0059	0.013776	0.000319	0.006946	0.0540	0.0026	0.5177	1.82
93	0.545	0.11448	0.0092	0.021475	0.000570	0.010805	0.0849	0.0040	0.7902	2.85
94	0.538	0.11127	0.0090	0.020935	0.000533	0.010033	0.0810	0.0039	0.7744	2.78
95	0.531	0.10869	0.0088	0.020394	0.000498	0.010033	0.0810	0.0038	0.7638	2.73
96	0.368	0.07268	0.0059	0.013641	0.000322	0.006946	0.0540	0.0025	0.5239	1.60
97	0.375	0.07203	0.0058	0.013371	0.000308	0.006946	0.0540	0.0025	0.5300	1.45
98	0.368	0.06946	0.0055	0.012831	0.000289	0.006174	0.0502	0.0024	0.5147	1.33
99	0.361	0.06753	0.0054	0.012426	0.000274	0.006174	0.0502	0.0023	0.5051	1.24
100	0.446	0.08039	0.0065	0.014857	0.000300	0.007718	0.0579	0.0028	0.6161	1.29
101	1.365	0.31900	0.0257	0.060373	0.001716	0.029328	0.2315	0.0113	2.0444	6.19
102	1.648	0.37238	0.0300	0.069962	0.001168	0.033958	0.2740	0.0131	2.4430	5.12
103	0.333	0.05853	0.0047	0.010670	0.000089	0.005402	0.0424	0.0020	0.4563	1.87
104	0.233	0.04373	0.0035	0.008104	0.000081	0.003859	0.0309	0.0015	0.3251	1.42
105	0.198	0.03602	0.0029	0.006618	0.000067	0.003087	0.0270	0.0012	0.2750	1.09
106	0.156	0.03023	0.0024	0.005538	0.000065	0.003087	0.0232	0.0010	0.2211	0.97
107	0.134	0.02637	0.0021	0.004997	0.000063	0.002315	0.0193	0.0009	0.1905	0.87
108	0.276	0.04952	0.0040	0.009049	0.000079	0.004631	0.0347	0.0017	0.3796	1.57
Maximum	1.648	0.372	0.030	0.070	0.002	0.034	0.274	0.013	**2.443**	**20.017**

Project Construction & Operation - With Mitigation
Cancer Risks by Receptor

7.8608 0.000 0.000 0.000 0.000 0.000 0.000

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	2023 Construction 2023 DPM	2023 Benzene	2023 Ethylbenzene	2023 Formaldehyde	2023 PAHs	2023 Naphthalene	2023 1,3 Butadiene	2023 Aceltaldehyde	2024 Construction 2024 DPM	2024 Benzene	2024 Ethylbenzene	2024 Formaldehyde	2024 PAHs	2024 Naphthalene	2024 1,3 Butadiene	2024 Aceltaldehyde	2025 Operation 2025 DPM	2025 Benzene	2025 Ethylbenzene	2025 Formaldehyde	2025 PAHs	2025 Naphthalene	2025 1,3 Butadiene	2025 Aceltaldehyde
3rd Trimester (10)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infant (10)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Child (3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	14	14	14	14	14	14
Adult (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	54	54	54	54	54	54	54
	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1	1	1	1	1	1	1	1	68	68	68	68	68	68	68	68

Receptor No. (m)	UTM-X (m)	UTM-Y (m)	2023 - Construction Period Average Concentration DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	2024 - Construction Period Average Concentration DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde
1	675482.7	4130716.0	0.04253	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00434	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2	675482.1	4130728.6	0.04137	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00422	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
3	675481.8	4130739.1	0.04049	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00413	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
4	675481.6	4130755.3	0.03899	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00398	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
5	675481.8	4130767.1	0.03806	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00388	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
6	675481.3	4130777.0	0.03637	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00371	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
7	675481.6	4130794.9	0.03363	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00343	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
8	675475.8	4130803.9	0.02806	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00286	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
9	675470.6	4130811.6	0.02407	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00246	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	675452.7	4130814.4	0.01815	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00185	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
11	675439.5	4130814.1	0.01556	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00159	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
12	675430.2	4130814.1	0.01413	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00144	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
13	675414.2	4130814.4	0.01221	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00125	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
14	675400.5	4130814.1	0.01096	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00112	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
15	675389.0	4130814.9	0.01005	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00103	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
16	675483.8	4130699.8	0.04420	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00451	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
17	675473.0	4130699.8	0.03547	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00362	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
18	675460.4	4130699.2	0.02847	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00290	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
19	675445.3	4130699.5	0.02287	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00233	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
20	675433.8	4130699.8	0.01982	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00202	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
21	675422.2	4130700.0	0.01744	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00178	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
22	675403.8	4130706.4	0.01449	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00148	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
23	675393.4	4130702.8	0.01328	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00136	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
24	675381.8	4130699.8	0.01213	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00124	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
25	675365.9	4130697.3	0.01077	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00110	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
26	675351.6	4130696.5	0.00974	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00099	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
27	675340.1	4130696.8	0.00902	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00092	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
28	675320.5	4130699.8	0.00796	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00081	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
29	675320.5	4130710.8	0.00792	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00081	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
30	675320.8	4130722.3	0.00787	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00080	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
31	675433.5	4130751.2	0.01817	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00185	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
32	675431.6	4130766.0	0.01714	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00175	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
33	675431.3	4130775.9	0.01662	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00170	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
34	675358.2	4130736.9	0.00981	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00100	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
35	675356.8	4130753.1	0.00949	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00097	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
36	675360.7	4130745.7	0.00985	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00100	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
37	675320.5	4130761.3	0.00753	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00077	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
38	675320.0	4130772.9	0.00737	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
39	675320.0	4130785.0	0.00721	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00074	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
40	675349.9	4130794.0	0.00836	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00085	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
41	675361.8	4130794.3	0.00898	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00092	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
42	675376.9	4130794.0	0.00991	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00101	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
43	675427.2	4130847.9	0.01117	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00114	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
44	675426.6	4130857.8	0.01029	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00105	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
45	675426.9	4130867.9	0.00944	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00096	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
46	675403.5	4130835.0	0.01019	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00104	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
47	675405.7	4130844.3	0.00983	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00100	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
48	675410.4	4130854.5	0.00952	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00097	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
49	675405.5	4130871.2	0.00822	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00084	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
50	675398.3	4130878.4	0.00755	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00077	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
51	675391.2	4130885.5	0.00695	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00071	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
52	675391.7	4130905.3	0.00596	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00061	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
53	675391.7	4130915.2	0.00547	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00056	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
54	675391.7	4130924.5	0.00503	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00051	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
55	675409.8	4130923.4	0.00515	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00053	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
56	675419.2	4130924.0	0.00513	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00052	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
57	675427.7	4130925.1	0.00504	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00051	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
58	675429.6	4130892.9	0.00739	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
59	675418.6	4130892.1	0.00723	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00074	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
60	675409.3	4130891.6	0.00706	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00072	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
61	675362.3	4130883.3	0.00630	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00064	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
62	675362.3	4130894.6	0.00590	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00060	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
63	675362.3	4130903.7	0.00557	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00057	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
64	675340.1	4130905.0	0.00517	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00053	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
65	675340.1	4130895.4	0.00545	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00056	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
66	675340.3	4130886.4	0.00571	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00058	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
67	675319.7	4130875.9	0.00554	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00056	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
68	675364.5	4130870.7	0.00681	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00069	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
69	675353.0	4130869.9	0.00650	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
70	675346.1	4130869.6	0.00632	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00065	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
71	675228.5	4130571.2	0.00418	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00043	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
72	675263.9	4130633.0	0.00557	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00057	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
73	675242.0	4130634.1	0.00494	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
74	675223.8	4130633.6	0.00450	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00046	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
75	675203.8	4130634.1	0.00408	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00042	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
76	675256.5	4130681.4	0.00553	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00056	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
77	675254.3	4130698.7	0.00549	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00056	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
78	675254.6	4130718.5	0.00550	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00056	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
79	675206.2	4130716.0	0.00436	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00044	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
80	675205.7	4130695.9	0.00433	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00044	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
81	675204.3	4130678.6	0.00426	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00043	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
82	675265.3	4130792.1	0.00545	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00056	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
83	675260.4	4130829.5	0.00500	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00051	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
84	675243.1	4130830.3	0.00465	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00047	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
85	675221.6	4130830.8	0.00428	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00044	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
86	675260.4	4130875.6	0.00447	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00046	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
87	675241.4	4130872.6	0.00422	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00043	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
88	675259.3	4130900.6	0.00413	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00042	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
89	675262.0	4130919.6	0.00389	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00040	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
90	675257.1	4130938.3	0.00357	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00036	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
91	675257.6	4130962.7	0.00322	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00033	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
92	675240.3	4130962.7	0.00313	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00032	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
93	675358.5	4130919.9	0.00494	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
94	675347.7	4130919.9	0.00482	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00049	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
95	675336.5	4130919.1	0.00472	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00048	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
96	675249.9	4131005.9	0.00259	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00026	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
97	675255.7	4131033.9	0.00222	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00023	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
98	675255.7	4131055.9	0.00195	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00020	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
99	675256.2	4131071.6	0.00177	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00018	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
100	675345.8	4131057.8	0.00162	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00016	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
101	675518.9	4130875.1	0.00997	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00102	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
102	675547.1	4130884.0	0.00643	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103	675336.0	4130320.4	0.00339	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00035	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104	675287.6	4130312.5	0.00263	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00027	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
105	675289.7	4130214.0	0.00196	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00020	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
106	675263.6	4130215.6	0.00179	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00018	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
107	675236.5	4130214.6	0.00164	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00017	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
108	675349.1	4130253.4	0.00285	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00029	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
		Maximum	0.04420	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00451	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Receptor No. (m)	2025 Operation Period Average Concentration DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	2023 Cancer Risks DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	2023 Cancer Risks Total
1	0.00151	0.00404	0.00374	0.00367	0.00000024	0.00031	0.00049	0.00145	7.564	0.00000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000	7.5638
2	0.00151	0.00404	0.00374	0.00367	0.00000026	0.00031	0.00049	0.00145	7.357	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	7.3575
3	0.00152	0.00404	0.00374	0.00366	0.00000028	0.00031	0.00049	0.00145	7.201	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	7.2010
4	0.00152	0.00404	0.00374	0.00366	0.00000031	0.00031	0.00049	0.00145	6.934	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	6.9342
5	0.00153	0.00405	0.00375	0.00368	0.00000034	0.00031	0.00049	0.00145	6.769	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	6.7688
6	0.00153	0.00403	0.00374	0.00366	0.00000036	0.00031	0.00049	0.00144	6.468	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	6.4683
7	0.00154	0.00404	0.00374	0.00366	0.00000044	0.00031	0.00049	0.00144	5.981	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	5.9810
8	0.00147	0.00383	0.00355	0.00347	0.00000044	0.00029	0.00047	0.00137	4.990	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	4.9904
9	0.00141	0.00365	0.00339	0.00331	0.00000045	0.00028	0.00044	0.00131	4.281	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	4.2808
10	0.00125	0.00319	0.00296	0.00289	0.00000036	0.00024	0.00039	0.00114	3.228	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.2279
11	0.00115	0.00292	0.00271	0.00264	0.00000031	0.00022	0.00036	0.00104	2.767	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.7673
12	0.00110	0.00276	0.00255	0.00249	0.00000027	0.00021	0.00034	0.00098	2.513	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.5130
13	0.00101	0.00252	0.00233	0.00227	0.00000023	0.00019	0.00031	0.00090	2.171	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.1715
14	0.00095	0.00234	0.00217	0.00212	0.00000021	0.00018	0.00029	0.00083	1.949	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.9492
15	0.00090	0.00222	0.00205	0.00200	0.00000019	0.00017	0.00027	0.00079	1.787	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7874
16	0.00151	0.00405	0.00375	0.00369	0.00000022	0.00031	0.00049	0.00146	7.861	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	7.8608
17	0.00139	0.00372	0.00344	0.00338	0.00000020	0.00028	0.00045	0.00134	6.308	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	6.3082
18	0.00128	0.00338	0.00313	0.00307	0.00000018	0.00026	0.00041	0.00121	5.063	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	5.0633
19	0.00116	0.00305	0.00282	0.00276	0.00000017	0.00023	0.00037	0.00109	4.067	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	4.0673
20	0.00109	0.00282	0.00262	0.00256	0.00000015	0.00021	0.00034	0.00101	3.525	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.5249
21	0.00102	0.00263	0.00243	0.00238	0.00000014	0.00020	0.00032	0.00094	3.102	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.1016
22	0.00093	0.00237	0.00220	0.00215	0.00000013	0.00018	0.00029	0.00085	2.577	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.5770
23	0.00089	0.00224	0.00207	0.00202	0.00000013	0.00017	0.00027	0.00080	2.362	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.3618
24	0.00084	0.00210	0.00195	0.00190	0.00000012	0.00016	0.00026	0.00075	2.157	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.1573
25	0.00079	0.00195	0.00180	0.00175	0.00000011	0.00015	0.00024	0.00069	1.915	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.9154
26	0.00076	0.00183	0.00170	0.00165	0.00000010	0.00014	0.00022	0.00065	1.732	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7322
27	0.00074	0.00176	0.00163	0.00158	0.00000010	0.00013	0.00021	0.00062	1.604	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.6042
28	0.00074	0.00168	0.00155	0.00150	0.00000009	0.00013	0.00021	0.00059	1.416	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.4157
29	0.00074	0.00170	0.00157	0.00152	0.00000009	0.00013	0.00021	0.00060	1.409	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.4085
30	0.00075	0.00172	0.00159	0.00153	0.00000009	0.00013	0.00021	0.00060	1.400	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3996
31	0.00111	0.00287	0.00266	0.00260	0.00000019	0.00022	0.00035	0.00102	3.231	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.2315
32	0.00110	0.00283	0.00262	0.00256	0.00000020	0.00022	0.00034	0.00101	3.048	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	3.0483
33	0.00110	0.00282	0.00261	0.00255	0.00000021	0.00021	0.00034	0.00101	2.956	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	2.9558
34	0.00080	0.00194	0.00180	0.00175	0.00000011	0.00015	0.00024	0.00069	1.745	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7447
35	0.00080	0.00195	0.00180	0.00175	0.00000012	0.00015	0.00024	0.00069	1.688	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.6878
36	0.00081	0.00197	0.00182	0.00177	0.00000012	0.00015	0.00024	0.00070	1.752	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7518
37	0.00077	0.00176	0.00162	0.00157	0.00000010	0.00013	0.00021	0.00061	1.339	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3392
38	0.00077	0.00176	0.00163	0.00157	0.00000010	0.00013	0.00022	0.00062	1.311	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3107
39	0.00077	0.00176	0.00163	0.00157	0.00000011	0.00013	0.00022	0.00062	1.282	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.2823
40	0.00080	0.00190	0.00176	0.00171	0.00000013	0.00014	0.00023	0.00067	1.487	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.4868
41	0.00082	0.00199	0.00184	0.00179	0.00000014	0.00015	0.00024	0.00070	1.597	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.5971
42	0.00086	0.00212	0.00196	0.00191	0.00000015	0.00016	0.00026	0.00075	1.762	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7625
43	0.00106	0.00264	0.00244	0.00238	0.00000035	0.00020	0.00032	0.00094	1.987	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.9865
44	0.00105	0.00260	0.00241	0.00235	0.00000037	0.00020	0.00032	0.00092	1.830	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.8300
45	0.00105	0.00257	0.00238	0.00232	0.00000039	0.00020	0.00031	0.00091	1.679	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.6789
46	0.00096	0.00235	0.00218	0.00212	0.00000025	0.00018	0.00029	0.00083	1.812	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.8122
47	0.00096	0.00236	0.00218	0.00213	0.00000027	0.00018	0.00029	0.00084	1.748	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7482
48	0.00098	0.00239	0.00222	0.00216	0.00000031	0.00018	0.00029	0.00085	1.693	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.6931
49	0.00094	0.00229	0.00212	0.00206	0.00000032	0.00017	0.00028	0.00081	1.462	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.4619
50	0.00091	0.00220	0.00203	0.00197	0.00000030	0.00017	0.00027	0.00078	1.343	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3427
51	0.00088	0.00211	0.00195	0.00189	0.00000028	0.00016	0.00026	0.00074	1.236	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.2360
52	0.00087	0.00204	0.00189	0.00183	0.00000029	0.00016	0.00025	0.00072	1.060	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.0600
53	0.00086	0.00200	0.00186	0.00180	0.00000028	0.00015	0.00024	0.00071	0.973	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9728
54	0.00084	0.00196	0.00182	0.00176	0.00000028	0.00015	0.00024	0.00069	0.895	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8946
55	0.00090	0.00211	0.00195	0.00189	0.00000030	0.00016	0.00026	0.00074	0.916	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9159
56	0.00093	0.00218	0.00202	0.00195	0.00000032	0.00017	0.00027	0.00077	0.912	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9123
57	0.00096	0.00225	0.00208	0.00202	0.00000033	0.00017	0.00027	0.00079	0.896	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8963
58	0.00103	0.00249	0.00231	0.00224	0.00000040	0.00019	0.00030	0.00088	1.314	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.3143
59	0.00098	0.00236	0.00219	0.00212	0.00000036	0.00018	0.00029	0.00084	1.286	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.2858
60	0.00094	0.00226	0.00209	0.00203	0.00000034	0.00017	0.00028	0.00080	1.256	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.2556
61	0.00081	0.00189	0.00175	0.00170	0.00000022	0.00014	0.00023	0.00067	1.120	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.1204
62	0.00080	0.00187	0.00173	0.00167	0.00000023	0.00014	0.00023	0.00066	1.049	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.0493
63	0.00079	0.00185	0.00171	0.00165	0.00000023	0.00014	0.00023	0.00065	0.991	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9906
64	0.00076	0.00173	0.00161	0.00155	0.00000020	0.00013	0.00021	0.00061	0.919	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9195
65	0.00077	0.00175	0.00162	0.00157	0.00000020	0.00013	0.00021	0.00061	0.969	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9693
66	0.00077	0.00177	0.00164	0.00158	0.00000019	0.00013	0.00022	0.00062	1.016	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.0155
67	0.00077	0.00172	0.00159	0.00153	0.00000016	0.00013	0.00021	0.00060	0.985	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9853
68	0.00082	0.00193	0.00179	0.00173	0.00000022	0.00015	0.00024	0.00068	1.211	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.2111
69	0.00079	0.00186	0.00172	0.00167	0.00000020	0.00014	0.00023	0.00065	1.156	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.1560
70	0.00078	0.00182	0.00169	0.00163	0.00000019	0.00014	0.00022	0.00064	1.124	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.1240
71	0.00038	0.00086	0.00080	0.00077	0.00000005	0.00007	0.00011	0.00030	0.743	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7434
72	0.00053	0.00117	0.00108	0.00104	0.00000006	0.00009	0.00014	0.00041	0.991	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9906
73	0.00044	0.00101	0.00093	0.00090	0.00000006	0.00008	0.00012	0.00035	0.879	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8786
74	0.00040	0.00091	0.00085	0.00082	0.00000006	0.00007	0.00011	0.00032	0.800	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8003
75	0.00036	0.00083	0.00077	0.00075	0.00000005	0.00006	0.00010	0.00029	0.726	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7256
76	0.00052	0.00119	0.00110	0.00106	0.00000007	0.00009	0.00015	0.00042	0.983	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9835
77	0.00052	0.00120	0.00111	0.00107	0.00000007	0.00009	0.00015	0.00042	0.976	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9764
78	0.00053	0.00123	0.00113	0.00110	0.00000007	0.00009	0.00015	0.00043	0.978	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9782
79	0.00040	0.00094	0.00087	0.00085	0.00000006	0.00007	0.00012	0.00033	0.775	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7754
80	0.00039	0.00092	0.00085	0.00082	0.00000006	0.00007	0.00011	0.00032	0.770	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7701
81	0.00038	0.00089	0.00082	0.00080	0.00000006	0.00007	0.00011	0.00031	0.758	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7576
82	0.00062	0.00141	0.00130	0.00125	0.00000009	0.00011	0.00017	0.00049	0.969	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.9693
83	0.00060	0.00136	0.00126	0.00122	0.00000010	0.00010	0.00017	0.00048	0.889	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8892
84	0.00052	0.00122	0.00113	0.00109	0.00000009	0.00009	0.00015	0.00043	0.827	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8270
85	0.00047	0.00110	0.00102	0.00099	0.00000009	0.00008	0.00013	0.00039	0.761	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7612
86	0.00060	0.00136	0.00126	0.00121	0.00000012	0.00010	0.00017	0.00047	0.795	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7950
87	0.00052	0.00121	0.00112	0.00108	0.00000011	0.00009	0.00015	0.00043	0.751	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7505
88	0.00060	0.00134	0.00124	0.00119	0.00000012	0.00010	0.00016	0.00047	0.735	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7345
89	0.00061	0.00135	0.00125	0.00120	0.00000013	0.00010	0.00017	0.00047	0.692	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6918
90	0.00058	0.00129	0.00119	0.00114	0.00000013	0.00010	0.00016	0.00045	0.635	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6349
91	0.00057	0.00126	0.00117	0.00112	0.00000014	0.00010	0.00015	0.00044	0.573	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5727
92	0.00051	0.00114	0.00106	0.00102	0.00000013	0.00009	0.00014	0.00040	0.557	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5567
93	0.00077	0.00178	0.00165	0.00159	0.00000023	0.00014	0.00022	0.00062	0.879	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8786
94	0.00076	0.00173	0.00160	0.00155	0.00000021	0.00013	0.00021	0.00061	0.857	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8572
95	0.00075	0.00169	0.00157	0.00151	0.00000020	0.00013	0.00021	0.00059	0.839	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.8394
96	0.00052	0.00113	0.00105	0.00101	0.00000013	0.00009	0.00014	0.00039	0.461	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4606
97	0.00053	0.00112	0.00104	0.00099	0.00000012	0.00009	0.00014	0.00039	0.395	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3948
98	0.00052	0.00108	0.00099	0.00095	0.00000012	0.00008	0.00013	0.00037	0.347	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3468
99	0.00051	0.00105	0.00097	0.00092	0.00000011	0.00008	0.00013	0.00036	0.315	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3148
100	0.00063	0.00125	0.00116	0.00110	0.00000012	0.00010	0.00015	0.00043	0.288	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2881
101	0.00193	0.00496	0.00459	0.00447	0.00000068	0.00038	0.00060	0.00176	1.773	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.7731
102	0.00233	0.00579	0.00536	0.00518	0.00000047	0.00044	0.00071	0.00204	1.144	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	1.1435
103	0.00047	0.00091	0.00084	0.00079	0.00000004	0.00007	0.00011	0.00031	0.603	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6029
104	0.00033	0.00068	0.00063	0.00060	0.00000003	0.00005	0.00008	0.00023	0.468	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4677
105	0.00028	0.00056	0.00051	0.00049	0.00000003	0.00004	0.00007	0.00019	0.349	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3486
106	0.00022	0.00047	0.00043	0.00041	0.00000003	0.00004	0.00006	0.00016	0.318	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3183
107	0.00019	0.00041	0.00038	0.00037	0.00000003	0.00003	0.00005	0.00014	0.292	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2917
108	0.00039	0.00077	0.00071	0.00067	0.00000003	0.00006	0.00009	0.00026	0.507	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5069
Maximum	0.00233	0.00579	0.00536	0.00518	0.00000068	0.00044	0.00071	0.00204	7.861	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**7.861**

Receptor No. (m)	2024 Cancer Risks DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	2024 Cancer Risks Total	2025 Cancer Risks DPM	Benzene	Ethylbenzene	Formaldehyde	PAHs	Naphthalene	1,3 Butadiene	Aceltaldehyde	2025 Cancer Risks Total	Total Cancer Risk
1	0.713	0.00000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7128	1.068	0.25983	0.020927	0.049568	0.000600	0.023925	0.1891	0.0093	1.6215	9.90
2	0.693	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6931	1.068	0.25983	0.0209	0.049568	0.000649	0.023925	0.1891	0.0093	1.6216	9.67
3	0.678	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6783	1.075	0.25983	0.0209	0.049433	0.000699	0.023925	0.1891	0.0093	1.6286	9.51
4	0.654	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6537	1.075	0.25983	0.0209	0.049433	0.000782	0.023925	0.1891	0.0093	1.6287	9.22
5	0.637	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6373	1.0824	0.26048	0.02098	0.04970	0.00085	0.02393	0.18909	0.00933	1.6368	9.04
6	0.609	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.6094	1.082	0.25919	0.0209	0.049433	0.000907	0.023925	0.1891	0.0093	1.6352	8.71
7	0.563	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5634	1.089	0.25983	0.0209	0.049433	0.001096	0.023925	0.1891	0.0093	1.6431	8.19
8	0.470	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4697	1.040	0.24633	0.0199	0.046866	0.001114	0.022382	0.1814	0.0088	1.5667	7.03
9	0.404	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4040	0.998	0.23475	0.0190	0.044705	0.001133	0.021610	0.1698	0.0084	1.4969	6.18
10	0.304	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3039	0.884	0.20517	0.0166	0.039033	0.000908	0.018523	0.1505	0.0073	1.3224	4.85
11	0.261	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2612	0.814	0.18780	0.0152	0.035656	0.000767	0.016979	0.1389	0.0067	1.2156	4.24
12	0.237	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2365	0.778	0.17751	0.0143	0.033630	0.000690	0.016207	0.1312	0.0063	1.1580	3.91
13	0.205	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2053	0.715	0.16207	0.0130	0.030659	0.000587	0.014664	0.1196	0.0058	1.0610	3.44
14	0.184	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1840	0.672	0.15050	0.0121	0.028633	0.000516	0.013892	0.1119	0.0053	0.9950	3.13
15	0.169	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1692	0.637	0.14278	0.0115	0.027012	0.000472	0.013120	0.1042	0.0051	0.9408	2.90
16	0.741	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.7408	1.068	0.26048	0.0210	0.049838	0.000551	0.023925	0.1891	0.0094	1.6225	**10.22**
17	0.595	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.5946	0.983	0.23925	0.0192	0.045651	0.000506	0.021610	0.1737	0.0086	1.4919	8.39
18	0.476	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.4763	0.906	0.21738	0.0175	0.041464	0.000460	0.020066	0.1582	0.0078	1.3684	6.91
19	0.383	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3827	0.821	0.19616	0.0158	0.037277	0.000416	0.017751	0.1428	0.0070	1.2378	5.69
20	0.332	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3318	0.771	0.18137	0.0147	0.034576	0.000388	0.016207	0.1312	0.0065	1.1560	5.01
21	0.292	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2924	0.722	0.16915	0.0136	0.032145	0.000363	0.015436	0.1235	0.0060	1.0818	4.48
22	0.243	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2431	0.658	0.15243	0.0123	0.029038	0.000336	0.013892	0.1119	0.0055	0.9833	3.80
23	0.223	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2234	0.630	0.14407	0.0116	0.027282	0.000314	0.013120	0.1042	0.0051	0.9353	3.52
24	0.204	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2037	0.594	0.13506	0.0109	0.025662	0.000293	0.012348	0.1003	0.0048	0.8837	3.24
25	0.181	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1807	0.559	0.12541	0.0101	0.023636	0.000270	0.011577	0.0926	0.0044	0.8269	2.92
26	0.163	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1626	0.538	0.11770	0.0095	0.022285	0.000253	0.010805	0.0849	0.0042	0.7873	2.68
27	0.151	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1511	0.524	0.11319	0.0091	0.021340	0.000241	0.010033	0.0810	0.0040	0.7625	2.52
28	0.133	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1330	0.524	0.10805	0.0087	0.020259	0.000224	0.010033	0.0810	0.0038	0.7556	2.30
29	0.133	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1330	0.524	0.10934	0.0088	0.020529	0.000229	0.010033	0.0810	0.0039	0.7573	2.30
30	0.131	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1314	0.531	0.11062	0.0089	0.020664	0.000235	0.010033	0.0810	0.0039	0.7659	2.30
31	0.304	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.3039	0.785	0.18458	0.0149	0.035116	0.000484	0.016979	0.1351	0.0066	1.1790	4.71
32	0.287	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2874	0.778	0.18201	0.0147	0.034576	0.000503	0.016979	0.1312	0.0065	1.1646	4.50
33	0.279	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.2792	0.778	0.18137	0.0146	0.034441	0.000527	0.016207	0.1312	0.0065	1.1631	4.40
34	0.164	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1642	0.566	0.12477	0.0101	0.023636	0.000287	0.011577	0.0926	0.0044	0.8334	2.74
35	0.159	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1593	0.566	0.12541	0.0101	0.023636	0.000296	0.011577	0.0926	0.0044	0.8340	2.68
36	0.164	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1642	0.573	0.12670	0.0102	0.023906	0.000296	0.011577	0.0926	0.0045	0.8428	2.76
37	0.126	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1265	0.545	0.11319	0.0091	0.021205	0.000255	0.010033	0.0810	0.0039	0.7835	2.25
38	0.123	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1232	0.545	0.11319	0.0091	0.021205	0.000263	0.010033	0.0849	0.0040	0.7874	2.22
39	0.122	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1215	0.545	0.11319	0.0091	0.021205	0.000272	0.010033	0.0849	0.0040	0.7875	2.19
40	0.140	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1396	0.566	0.12220	0.0098	0.023096	0.000327	0.010805	0.0888	0.0043	0.8253	2.45
41	0.151	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1511	0.580	0.12799	0.0103	0.024176	0.000350	0.011577	0.0926	0.0045	0.8516	2.60
42	0.166	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1659	0.608	0.13635	0.0110	0.025797	0.000384	0.012348	0.1003	0.0048	0.8994	2.83
43	0.187	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1872	0.750	0.16979	0.0137	0.032145	0.000889	0.015436	0.1235	0.0060	1.1114	3.29
44	0.172	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1725	0.743	0.16722	0.0135	0.031739	0.000938	0.015436	0.1235	0.0059	1.1011	3.10
45	0.158	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1577	0.743	0.16529	0.0133	0.031334	0.000980	0.015436	0.1196	0.0059	1.0947	2.93
46	0.171	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1708	0.679	0.15114	0.0122	0.028633	0.000619	0.013892	0.1119	0.0053	1.0029	2.99
47	0.164	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1642	0.679	0.15178	0.0122	0.028768	0.000683	0.013892	0.1119	0.0054	1.0038	2.92
48	0.159	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1593	0.693	0.15371	0.0124	0.029173	0.000767	0.013892	0.1119	0.0055	1.0207	2.87
49	0.138	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1380	0.665	0.14728	0.0119	0.027823	0.000792	0.013120	0.1080	0.0052	0.9792	2.58
50	0.126	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1265	0.644	0.14149	0.0114	0.026607	0.000753	0.013120	0.1042	0.0050	0.9463	2.42
51	0.117	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1166	0.623	0.13570	0.0109	0.025527	0.000714	0.012348	0.1003	0.0048	0.9129	2.27
52	0.100	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1002	0.615	0.13120	0.0106	0.024716	0.000726	0.012348	0.0965	0.0046	0.8962	2.06
53	0.092	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0920	0.608	0.12863	0.0104	0.024311	0.000711	0.011577	0.0926	0.0046	0.8812	1.95
54	0.084	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0838	0.594	0.12606	0.0102	0.023771	0.000691	0.011577	0.0926	0.0044	0.8636	1.84
55	0.087	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0871	0.637	0.13570	0.0109	0.025527	0.000765	0.012348	0.1003	0.0048	0.9271	1.93
56	0.085	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0854	0.658	0.14021	0.0113	0.026337	0.000801	0.013120	0.1042	0.0050	0.9589	1.96
57	0.084	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0838	0.679	0.14471	0.0116	0.027282	0.000828	0.013120	0.1042	0.0051	0.9860	1.97
58	0.123	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1232	0.729	0.16014	0.0129	0.030254	0.000994	0.014664	0.1158	0.0057	1.0691	2.51
59	0.122	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1215	0.693	0.15178	0.0123	0.028633	0.000914	0.013892	0.1119	0.0054	1.0181	2.43
60	0.118	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1183	0.665	0.14535	0.0117	0.027418	0.000842	0.013120	0.1080	0.0051	0.9766	2.35
61	0.105	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1051	0.573	0.12156	0.0098	0.022960	0.000558	0.010805	0.0888	0.0043	0.8318	2.06
62	0.099	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0985	0.566	0.12027	0.0097	0.022555	0.000575	0.010805	0.0888	0.0042	0.8229	1.97
63	0.094	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0936	0.559	0.11898	0.0096	0.022285	0.000584	0.010805	0.0888	0.0042	0.8141	1.90
64	0.087	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0871	0.538	0.11127	0.0090	0.020935	0.000501	0.010033	0.0810	0.0039	0.7744	1.78
65	0.092	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0920	0.545	0.11255	0.0091	0.021205	0.000490	0.010033	0.0810	0.0039	0.7831	1.84
66	0.095	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0953	0.545	0.11384	0.0092	0.021340	0.000478	0.010033	0.0849	0.0040	0.7885	1.90
67	0.092	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0920	0.545	0.11062	0.0089	0.020664	0.000400	0.010033	0.0810	0.0039	0.7803	1.86
68	0.113	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1133	0.580	0.12413	0.0100	0.023366	0.000541	0.011577	0.0926	0.0044	0.8467	2.17
69	0.108	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1084	0.559	0.11963	0.0096	0.022555	0.000492	0.010805	0.0888	0.0042	0.8149	2.08
70	0.107	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1068	0.552	0.11705	0.0095	0.022015	0.000466	0.010805	0.0849	0.0041	0.8006	2.03
71	0.071	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0706	0.269	0.05531	0.0045	0.010400	0.000120	0.005402	0.0424	0.0019	0.3889	1.20
72	0.094	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0936	0.375	0.07525	0.0060	0.014046	0.000155	0.006946	0.0540	0.0026	0.5341	1.62
73	0.082	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0821	0.311	0.06496	0.0052	0.012156	0.000147	0.006174	0.0463	0.0023	0.4485	1.41
74	0.076	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0756	0.283	0.05853	0.0048	0.011075	0.000140	0.005402	0.0424	0.0021	0.4074	1.28
75	0.069	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0690	0.255	0.05338	0.0043	0.010130	0.000133	0.004631	0.0386	0.0019	0.3677	1.16
76	0.092	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0920	0.368	0.07653	0.0062	0.014317	0.000172	0.006946	0.0579	0.0027	0.5326	1.61
77	0.092	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0920	0.368	0.07718	0.0062	0.014452	0.000177	0.006946	0.0579	0.0027	0.5334	1.60
78	0.092	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0920	0.375	0.07911	0.0063	0.014857	0.000184	0.006946	0.0579	0.0028	0.5430	1.61
79	0.072	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0723	0.283	0.06046	0.0049	0.011480	0.000158	0.005402	0.0463	0.0021	0.4138	1.26
80	0.072	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0723	0.276	0.05917	0.0048	0.011075	0.000152	0.005402	0.0424	0.0021	0.4010	1.24
81	0.071	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0706	0.269	0.05724	0.0046	0.010805	0.000147	0.005402	0.0424	0.0020	0.3915	1.22
82	0.092	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0920	0.439	0.09068	0.0073	0.016883	0.000224	0.008490	0.0656	0.0032	0.6309	1.69
83	0.084	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0838	0.424	0.08747	0.0071	0.016478	0.000246	0.007718	0.0656	0.0031	0.6121	1.59
84	0.077	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0772	0.368	0.07846	0.0063	0.014722	0.000231	0.006946	0.0579	0.0028	0.5352	1.44
85	0.072	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0723	0.333	0.07075	0.0057	0.013371	0.000214	0.006174	0.0502	0.0025	0.4814	1.31
86	0.076	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0756	0.424	0.08747	0.0071	0.016342	0.000290	0.007718	0.0656	0.0030	0.6120	1.48
87	0.071	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0706	0.368	0.07782	0.0063	0.014587	0.000263	0.006946	0.0579	0.0028	0.5344	1.36
88	0.069	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0690	0.424	0.08618	0.0069	0.016072	0.000313	0.007718	0.0617	0.0030	0.6065	1.41
89	0.066	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0657	0.432	0.08683	0.0070	0.016207	0.000332	0.007718	0.0656	0.0030	0.6183	1.38
90	0.059	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0591	0.410	0.08297	0.0067	0.015397	0.000335	0.007718	0.0617	0.0029	0.5880	1.28
91	0.054	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0542	0.403	0.08104	0.0065	0.015127	0.000342	0.007718	0.0579	0.0028	0.5747	1.20
92	0.053	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0526	0.361	0.07332	0.0059	0.013776	0.000319	0.006946	0.0540	0.0026	0.5177	1.13
93	0.082	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0821	0.545	0.11448	0.0092	0.021475	0.000570	0.010805	0.0849	0.0040	0.7902	1.75
94	0.080	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0805	0.538	0.11127	0.0090	0.020935	0.000533	0.010033	0.0810	0.0039	0.7744	1.71
95	0.079	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0788	0.531	0.10869	0.0088	0.020394	0.000498	0.010033	0.0810	0.0038	0.7638	1.68
96	0.043	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0427	0.368	0.07268	0.0059	0.013641	0.000322	0.006946	0.0540	0.0025	0.5239	1.03
97	0.038	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0378	0.375	0.07203	0.0058	0.013371	0.000308	0.006946	0.0540	0.0025	0.5300	0.96
98	0.033	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0328	0.368	0.06946	0.0055	0.012831	0.000289	0.006174	0.0502	0.0024	0.5147	0.89
99	0.030	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0296	0.361	0.06753	0.0054	0.012426	0.000274	0.006174	0.0502	0.0023	0.5051	0.85
100	0.026	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0263	0.446	0.08039	0.0065	0.014857	0.000300	0.007718	0.0579	0.0028	0.6161	0.93
101	0.168	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1675	1.365	0.31900	0.0257	0.060373	0.001716	0.029328	0.2315	0.0113	2.0444	3.99
102	0.108	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.1084	1.648	0.37238	0.0300	0.069962	0.001168	0.033958	0.2740	0.0131	2.4430	3.69
103	0.057	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0575	0.333	0.05853	0.0047	0.010670	0.000089	0.005402	0.0424	0.0020	0.4563	1.12
104	0.044	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0443	0.233	0.04373	0.0035	0.008104	0.000081	0.003859	0.0309	0.0015	0.3251	0.84
105	0.033	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0328	0.198	0.03602	0.0029	0.006618	0.000067	0.003087	0.0270	0.0012	0.2750	0.66
106	0.030	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0296	0.156	0.03023	0.0024	0.005538	0.000065	0.003087	0.0232	0.0010	0.2211	0.57
107	0.028	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0279	0.134	0.02637	0.0021	0.004997	0.000063	0.002315	0.0193	0.0009	0.1905	0.51
108	0.048	0.00000	0.00000	0.000000	0.000000	0.000000	0.0000	0.0000	0.0476	0.276	0.04952	0.0040	0.009049	0.000079	0.004631	0.0347	0.0017	0.3796	0.93
Maximum	0.741	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.741**	1.648	0.372	0.030	0.070	0.002	0.034	0.274	0.013	**2.443**	**10.224**

Project Operation Only
Worker Receptors
Cancer Risks by Receptor

	2023 Construction								2024 Construction								2025 Operation							
	2023 DPM	2023 Benzene	2023 Ethylbenzene	2023 Formaldehyde	2023 PAH	2023 Naphthalene	2023 1,3 Butadiene	2023 Acetaldehyde	2024 DPM	2024 Benzene	2024 Ethylbenzene	2024 Formaldehyde	2024 PAH	2024 Naphthalene	2024 1,3 Butadiene	2024 Acetaldehyde	2025 DPM	2025 Benzene	2025 Ethylbenzene	2025 Formaldehyde	2025 PAH	2025 Naphthalene	2025 1,3 Butadiene	2025 Acetaldehyde
3rd Trimester (10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infant (10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Child (3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adult (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	40	40	40	40	40	40	40
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	40	40	40	40	40	40	40

Worker
0.000

Worker Receptor No.	UTM-X (m)	UTM-Y (m)	2023 - Construction Period Average Concentration								2024 - Construction Period Average Concentration								2025 Operation Period Average Concentration								2023 Cancer Risk			
			DPM	Benzene	Ethylbenzene	Formaldehyde	PAH	Naphthalene	1,3 Butadiene	Acetaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde	PAH	Naphthalene	1,3 Butadiene	Acetaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde	PAH	Naphthalene	1,3 Butadiene	Acetaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde
1	675592.1	4130870.2	0.00891	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00299	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00426	0.01105	0.01022	0.00979	0.0000005	0.00087	0.00135	0.00383	0.000	0.00000	0.00000	0.000000
2	675556.4	4130971.4	0.00211	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00071	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00256	0.00487	0.00448	0.00410	0.0000002	0.00038	0.00061	0.00158	0.000	0.00000	0.00000	0.000000
3	675532.5	4131033.0	0.00139	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00047	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00219	0.00397	0.00365	0.00332	0.0000001	0.00031	0.00050	0.00127	0.000	0.00000	0.00000	0.000000
4	675416.2	4131024.0	0.00299	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00100	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00076	0.00155	0.00143	0.00136	0.0000001	0.00013	0.00019	0.00053	0.000	0.00000	0.00000	0.000000
5	675416.2	4131081.1	0.00175	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00059	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00072	0.00136	0.00126	0.00118	0.0000001	0.00011	0.00017	0.00046	0.000	0.00000	0.00000	0.000000
6	675480.3	4131126.8	0.00094	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00032	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00131	0.00224	0.00206	0.00188	0.0000001	0.00018	0.00028	0.00072	0.000	0.00000	0.00000	0.000000
7	675590.9	4131101.3	0.00081	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00027	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00223	0.00365	0.00335	0.00302	0.0000001	0.00029	0.00046	0.00115	0.000	0.00000	0.00000	0.000000
8	675605.7	4130992.3	0.00149	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00328	0.00588	0.00541	0.00490	0.0000001	0.00045	0.00074	0.00187	0.000	0.00000	0.00000	0.000000
9	675658.3	4130898.2	0.00380	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00127	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00309	0.00612	0.00564	0.00528	0.0000003	0.00048	0.00076	0.00205	0.000	0.00000	0.00000	0.000000
10	675877.3	4130553.9	0.02222	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00745	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00401	0.01031	0.00955	0.00932	0.0000005	0.00085	0.00125	0.00368	0.000	0.00000	0.00000	0.000000
11	675827.0	4130694.3	0.01565	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00525	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00370	0.00937	0.00868	0.00845	0.0000009	0.00077	0.00114	0.00333	0.000	0.00000	0.00000	0.000000
12	675947.5	4130668.0	0.01083	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00363	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00215	0.00540	0.00501	0.00488	0.0000005	0.00045	0.00066	0.00193	0.000	0.00000	0.00000	0.000000
13	675923.6	4130710.3	0.00980	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00329	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00214	0.00537	0.00498	0.00485	0.0000007	0.00045	0.00065	0.00191	0.000	0.00000	0.00000	0.000000
14	675909.2	4130741.4	0.00881	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00295	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00208	0.00518	0.00480	0.00468	0.0000008	0.00044	0.00063	0.00184	0.000	0.00000	0.00000	0.000000
15	675783.9	4130782.9	0.01083	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00363	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00333	0.00838	0.00777	0.00756	0.0000017	0.00074	0.00102	0.00298	0.000	0.00000	0.00000	0.000000
16	675818.2	4130792.5	0.00874	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00293	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00257	0.00635	0.00589	0.00573	0.0000012	0.00056	0.00077	0.00226	0.000	0.00000	0.00000	0.000000
17	675894.8	4130764.5	0.00812	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00272	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00203	0.00504	0.00467	0.00455	0.0000008	0.00043	0.00061	0.00179	0.000	0.00000	0.00000	0.000000
18	675925.9	4130791.7	0.00641	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00215	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00162	0.00392	0.00363	0.00353	0.0000007	0.00034	0.00048	0.00139	0.000	0.00000	0.00000	0.000000
19	675953.9	4130790.9	0.00604	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00203	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00147	0.00356	0.00330	0.00321	0.0000006	0.00031	0.00043	0.00126	0.000	0.00000	0.00000	0.000000
20	675776.8	4130904.2	0.00339	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00114	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00151	0.00312	0.00288	0.00275	0.0000003	0.00026	0.00038	0.00107	0.000	0.00000	0.00000	0.000000
21	675763.2	4130936.9	0.00236	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00079	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00133	0.00258	0.00238	0.00225	0.0000002	0.00021	0.00032	0.00088	0.000	0.00000	0.00000	0.000000
22	675827.0	4131034.2	0.00115	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00039	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00076	0.00141	0.00130	0.00122	0.0000001	0.00012	0.00017	0.00047	0.000	0.00000	0.00000	0.000000
23	675863.7	4131023.8	0.00124	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00042	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00071	0.00133	0.00123	0.00116	0.0000001	0.00011	0.00016	0.00045	0.000	0.00000	0.00000	0.000000
24	675671.4	4131074.9	0.00090	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00030	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00126	0.00211	0.00194	0.00178	0.0000001	0.00017	0.00026	0.00069	0.000	0.00000	0.00000	0.000000
		Maximum	0.02222	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00745	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00426	0.01105	0.01022	0.00979	0.0000017	0.00087	0.00135	0.00383	**0.000**	**0.000**	**0.000**	**0.000**

Project Construction & Operation - Without Mitigation
Worker Receptors
Cancer Risks by Receptor

	2023 Construction								2024 Construction								2025 Operation							
	2023 DPM	2023 Benzene	2023 Ethylbenzene	2023 Formaldehyde	2023 PAH	2023 Naphthalene	2023 1,3 Butadiene	2023 Acetaldehyde	2024 DPM	2024 Benzene	2024 Ethylbenzene	2024 Formaldehyde	2024 PAH	2024 Naphthalene	2024 1,3 Butadiene	2024 Acetaldehyde	2025 DPM	2025 Benzene	2025 Ethylbenzene	2025 Formaldehyde	2025 PAH	2025 Naphthalene	2025 1,3 Butadiene	2025 Acetaldehyde
3rd Trimester (10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infant (10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Child (3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adult (1)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	38	38	38	38	38	38	38	38
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	38	38	38	38	38	38	38	38

Worker Receptor No.	UTM-X (m)	UTM-Y (m)	2023 - Construction Period Average Concentration								2024 - Construction Period Average Concentration								2025 Operation Period Average Concentration								2023 Cancer Risk			
			DPM	Benzene	Ethylbenzene	Formaldehyde	PAH	Naphthalene	1,3 Butadiene	Acetaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde	PAH	Naphthalene	1,3 Butadiene	Acetaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde	PAH	Naphthalene	1,3 Butadiene	Acetaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde
1	675592.1	4130870.2	0.00884	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00299	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00426	0.01105	0.01022	0.00979	0.0000005	0.00087	0.00135	0.00383	0.082	0.00000	0.00000	0.000000
2	675556.4	4130971.4	0.00209	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00071	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00256	0.00487	0.00448	0.00410	0.0000002	0.00038	0.00061	0.00158	0.019	0.00000	0.00000	0.000000
3	675532.5	4131033.0	0.00138	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00047	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00219	0.00397	0.00365	0.00332	0.0000001	0.00031	0.00050	0.00127	0.013	0.00000	0.00000	0.000000
4	675416.2	4131024.0	0.00296	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00100	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00076	0.00155	0.00143	0.00136	0.0000001	0.00013	0.00019	0.00053	0.027	0.00000	0.00000	0.000000
5	675416.2	4131081.1	0.00173	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00059	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00072	0.00136	0.00126	0.00118	0.0000001	0.00011	0.00017	0.00046	0.016	0.00000	0.00000	0.000000
6	675480.3	4131126.8	0.00093	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00032	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00131	0.00224	0.00206	0.00188	0.0000001	0.00018	0.00028	0.00072	0.009	0.00000	0.00000	0.000000
7	675590.9	4131101.3	0.00081	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00027	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00223	0.00365	0.00335	0.00302	0.0000001	0.00029	0.00046	0.00115	0.007	0.00000	0.00000	0.000000
8	675605.7	4130992.3	0.00147	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00328	0.00588	0.00541	0.00490	0.0000001	0.00045	0.00074	0.00187	0.014	0.00000	0.00000	0.000000
9	675658.3	4130898.2	0.00376	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00127	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00309	0.00612	0.00564	0.00528	0.0000003	0.00048	0.00076	0.00205	0.035	0.00000	0.00000	0.000000
10	675877.3	4130553.9	0.02203	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00745	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00401	0.01031	0.00955	0.00932	0.0000005	0.00085	0.00125	0.00368	0.203	0.00000	0.00000	0.000000
11	675827.0	4130694.3	0.01552	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00525	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00370	0.00937	0.00868	0.00845	0.0000009	0.00077	0.00114	0.00333	0.143	0.00000	0.00000	0.000000
12	675947.5	4130668.0	0.01074	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00363	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00215	0.00540	0.00501	0.00488	0.0000005	0.00045	0.00066	0.00193	0.099	0.00000	0.00000	0.000000
13	675923.6	4130710.3	0.00971	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00329	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00214	0.00537	0.00498	0.00485	0.0000007	0.00045	0.00065	0.00191	0.090	0.00000	0.00000	0.000000
14	675909.2	4130741.4	0.00873	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00295	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00208	0.00518	0.00480	0.00468	0.0000008	0.00044	0.00063	0.00184	0.081	0.00000	0.00000	0.000000
15	675783.9	4130782.9	0.01073	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00363	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00333	0.00838	0.00777	0.00756	0.0000017	0.00074	0.00102	0.00298	0.099	0.00000	0.00000	0.000000
16	675818.2	4130792.5	0.00867	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00293	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00257	0.00635	0.00589	0.00573	0.0000012	0.00056	0.00077	0.00226	0.080	0.00000	0.00000	0.000000
17	675894.8	4130764.5	0.00805	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00272	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00203	0.00504	0.00467	0.00455	0.0000008	0.00043	0.00061	0.00179	0.074	0.00000	0.00000	0.000000
18	675925.9	4130791.7	0.00635	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00215	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00162	0.00392	0.00363	0.00353	0.0000007	0.00034	0.00048	0.00139	0.059	0.00000	0.00000	0.000000
19	675953.9	4130790.9	0.00599	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00203	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00147	0.00356	0.00330	0.00321	0.0000006	0.00031	0.00043	0.00126	0.055	0.00000	0.00000	0.000000
20	675776.8	4130904.2	0.00337	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00114	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00151	0.00312	0.00288	0.00275	0.0000003	0.00026	0.00038	0.00107	0.031	0.00000	0.00000	0.000000
21	675763.2	4130936.9	0.00234	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00079	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00133	0.00258	0.00238	0.00225	0.0000002	0.00021	0.00032	0.00088	0.022	0.00000	0.00000	0.000000
22	675827.0	4131034.2	0.00114	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00039	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00076	0.00141	0.00130	0.00122	0.0000001	0.00012	0.00017	0.00047	0.011	0.00000	0.00000	0.000000
23	675863.7	4131023.8	0.00123	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00042	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00071	0.00133	0.00123	0.00116	0.0000001	0.00011	0.00016	0.00045	0.011	0.00000	0.00000	0.000000
24	675671.4	4131074.9	0.00089	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00030	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00126	0.00211	0.00194	0.00178	0.0000001	0.00017	0.00026	0.00069	0.008	0.00000	0.00000	0.000000
		Maximum	0.02203	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00745	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00426	0.01105	0.01022	0.00979	0.0000017	0.00087	0.00135	0.00383	**0.203**	**0.000**	**0.000**	**0.000**

Project Construction & Operation - Without Mitigation
Worker Receptors
Cancer Risks by Receptor

	2023 Construction								2024 Construction								2025 Operation							
	2023 DPM	2023 Benzene	2023 Ethylbenzene	2023 Formaldehyde	2023 PAH	2023 Naphthalene	2023 1,3 Butadiene	2023 Aceltaldehyde	2024 DPM	2024 Benzene	2024 Ethylbenzene	2024 Formaldehyde	2024 PAH	2024 Naphthalene	2024 1,3 Butadiene	2024 Aceltaldehyde	2025 DPM	2025 Benzene	2025 Ethylbenzene	2025 Formaldehyde	2025 PAH	2025 Naphthalene	2025 1,3 Butadiene	2025 Aceltaldehyde
3rd Trimester (10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infant (10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Child (3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adult (1)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	38	38	38	38	38	38	38	38
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	38	38	38	38	38	38	38	38

Worker Receptor No.	UTM-X (m)	UTM-Y (m)	2023 - Construction Period Average Concentration								2024 - Construction Period Average Concentration								2025 Operation Period Average Concentration								2023 Cancer Risk			
			DPM	Benzene	Ethylbenzene	Formaldehyde	PAH	Naphthalene	1,3 Butadiene	Aceltaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde	PAH	Naphthalene	1,3 Butadiene	Aceltaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde	PAH	Naphthalene	1,3 Butadiene	Aceltaldehyde	DPM	Benzene	Ethylbenzene	Formaldehyde
1	675592.1	4130870.2	0.00496	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00051	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00426	0.01105	0.01022	0.00979	0.0000005	0.00087	0.00135	0.00383	0.046	0.00000	0.00000	0.000000
2	675556.4	4130971.4	0.00117	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00012	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00256	0.00487	0.00448	0.00410	0.0000002	0.00038	0.00061	0.00158	0.011	0.00000	0.00000	0.000000
3	675532.5	4131033.0	0.00077	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00219	0.00397	0.00365	0.00332	0.0000001	0.00031	0.00050	0.00127	0.007	0.00000	0.00000	0.000000
4	675416.2	4131024.0	0.00166	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00017	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00076	0.00155	0.00143	0.00136	0.0000001	0.00013	0.00019	0.00053	0.015	0.00000	0.00000	0.000000
5	675416.2	4131081.1	0.00097	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00010	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00072	0.00136	0.00126	0.00118	0.0000001	0.00011	0.00017	0.00046	0.009	0.00000	0.00000	0.000000
6	675480.3	4131126.8	0.00052	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00005	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00131	0.00224	0.00206	0.00188	0.0000001	0.00018	0.00028	0.00072	0.005	0.00000	0.00000	0.000000
7	675590.9	4131101.3	0.00045	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00005	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00223	0.00365	0.00335	0.00302	0.0000001	0.00029	0.00046	0.00115	0.004	0.00000	0.00000	0.000000
8	675605.7	4130992.3	0.00083	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00328	0.00588	0.00541	0.00490	0.0000001	0.00045	0.00074	0.00187	0.008	0.00000	0.00000	0.000000
9	675658.3	4130898.2	0.00211	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00022	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00309	0.00612	0.00564	0.00528	0.0000003	0.00048	0.00076	0.00205	0.019	0.00000	0.00000	0.000000
10	675877.3	4130553.9	0.01235	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00126	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00401	0.01031	0.00955	0.00932	0.0000005	0.00085	0.00125	0.00368	0.114	0.00000	0.00000	0.000000
11	675827.0	4130694.3	0.00870	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00089	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00370	0.00937	0.00868	0.00845	0.0000009	0.00077	0.00114	0.00333	0.080	0.00000	0.00000	0.000000
12	675947.5	4130668.0	0.00602	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00061	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00215	0.00540	0.00501	0.00488	0.0000005	0.00045	0.00066	0.00193	0.056	0.00000	0.00000	0.000000
13	675923.6	4130710.3	0.00545	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00056	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00214	0.00537	0.00498	0.00485	0.0000007	0.00045	0.00065	0.00191	0.050	0.00000	0.00000	0.000000
14	675909.2	4130741.4	0.00490	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00208	0.00518	0.00480	0.00468	0.0000008	0.00044	0.00063	0.00184	0.045	0.00000	0.00000	0.000000
15	675783.9	4130782.9	0.00602	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00061	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00333	0.00838	0.00777	0.00756	0.0000017	0.00074	0.00102	0.00298	0.056	0.00000	0.00000	0.000000
16	675818.2	4130792.5	0.00486	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00257	0.00635	0.00589	0.00573	0.0000012	0.00056	0.00077	0.00226	0.045	0.00000	0.00000	0.000000
17	675894.8	4130764.5	0.00451	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00046	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00203	0.00504	0.00467	0.00455	0.0000008	0.00043	0.00061	0.00179	0.042	0.00000	0.00000	0.000000
18	675925.9	4130791.7	0.00356	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00036	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00162	0.00392	0.00363	0.00353	0.0000007	0.00034	0.00048	0.00139	0.033	0.00000	0.00000	0.000000
19	675953.9	4130790.9	0.00336	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00034	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00147	0.00356	0.00330	0.00321	0.0000006	0.00031	0.00043	0.00126	0.031	0.00000	0.00000	0.000000
20	675776.8	4130904.2	0.00189	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00019	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00151	0.00312	0.00288	0.00275	0.0000003	0.00026	0.00038	0.00107	0.017	0.00000	0.00000	0.000000
21	675763.2	4130936.9	0.00131	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00013	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00133	0.00258	0.00238	0.00225	0.0000002	0.00021	0.00032	0.00088	0.012	0.00000	0.00000	0.000000
22	675827.0	4131034.2	0.00064	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00076	0.00141	0.00130	0.00122	0.0000001	0.00012	0.00017	0.00047	0.006	0.00000	0.00000	0.000000
23	675863.7	4131023.8	0.00069	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00071	0.00133	0.00123	0.00116	0.0000001	0.00011	0.00016	0.00045	0.006	0.00000	0.00000	0.000000
24	675671.4	4131074.9	0.00050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00005	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00126	0.00211	0.00194	0.00178	0.0000001	0.00017	0.00026	0.00069	0.005	0.00000	0.00000	0.000000
		Maximum	0.01235	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00126	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00426	0.01105	0.01022	0.00979	0.0000017	0.00087	0.00135	0.00383	**0.114**	**0.000**	**0.000**	**0.000**

EMFAC Results

F

APPENDIX

Appendix F
EMFAC2021 Results
Mattos Ranch Phase II
October 11, 2022

2025 Fuel Demand

Vehicle Class	Fuel	Process	Kgal/day	Fuel Type	Demand
All Other Buses	Dsl	IDLEX	1.74E-05	Diesel	
All Other Buses	Dsl	RUNEX	0.001628	Kgal/day	0.48
LDA	Dsl	RUNEX	0.000741	KGal/yr	174.95
LDT1	Dsl	RUNEX	1.03E-05		
LDT2	Dsl	RUNEX	0.000697	Gas	
LHD1	Dsl	IDLEX	0.000282	Kgal/day	1.36
LHD1	Dsl	RUNEX	0.046127	KGal/yr	497.77
LHD2	Dsl	IDLEX	0.00016		
LHD2	Dsl	RUNEX	0.021113	Hybrid	
MDV	Dsl	RUNEX	0.004113	kgal/day	0.013
MH	Dsl	RUNEX	0.001222	Kgal/yr	4.570
Motor Coach	Dsl	IDLEX	6.31E-05		
Motor Coach	Dsl	RUNEX	0.001441	TOTAL	
PTO	Dsl	RUNEX	0.00536	KGal/yr	677.28
SBUS	Dsl	IDLEX	0.000261	Gal/yr	677284.47
SBUS	Dsl	RUNEX	0.002995		
T6 CAIRP Class 4	Dsl	IDLEX	1.09E-06		
T6 CAIRP Class 4	Dsl	RUNEX	0.000137		
T6 CAIRP Class 5	Dsl	IDLEX	1.46E-06	Mileage	
T6 CAIRP Class 5	Dsl	RUNEX	0.000189	Check:	
T6 CAIRP Class 6	Dsl	IDLEX	4.75E-06		
T6 CAIRP Class 6	Dsl	RUNEX	0.000482	VMT/yr	14,611,421
T6 CAIRP Class 7	Dsl	IDLEX	7.92E-06	mpg	22
T6 CAIRP Class 7	Dsl	RUNEX	0.00286		
T6 Instate Delivery Class 4	Dsl	IDLEX	6.56E-05		
T6 Instate Delivery Class 4	Dsl	RUNEX	0.00125		
T6 Instate Delivery Class 5	Dsl	IDLEX	6.94E-05		
T6 Instate Delivery Class 5	Dsl	RUNEX	0.001343		
T6 Instate Delivery Class 6	Dsl	IDLEX	0.000213		
T6 Instate Delivery Class 6	Dsl	RUNEX	0.004156		
T6 Instate Delivery Class 7	Dsl	IDLEX	7.47E-05		
T6 Instate Delivery Class 7	Dsl	RUNEX	0.002273		
T6 Instate Other Class 4	Dsl	IDLEX	0.000269		
T6 Instate Other Class 4	Dsl	RUNEX	0.005735		
T6 Instate Other Class 5	Dsl	IDLEX	0.000549		
T6 Instate Other Class 5	Dsl	RUNEX	0.012308		
T6 Instate Other Class 6	Dsl	IDLEX	0.000357		
T6 Instate Other Class 6	Dsl	RUNEX	0.00772		
T6 Instate Other Class 7	Dsl	IDLEX	0.000284		
T6 Instate Other Class 7	Dsl	RUNEX	0.005894		
T6 Instate Tractor Class 6	Dsl	IDLEX	7.85E-06		
T6 Instate Tractor Class 6	Dsl	RUNEX	0.000181		

T6 Instate Tractor Class 7	Dsl	IDLEX	0.000308
T6 Instate Tractor Class 7	Dsl	RUNEX	0.008739
T6 OOS Class 4	Dsl	IDLEX	6.33E-07
T6 OOS Class 4	Dsl	RUNEX	7.87E-05
T6 OOS Class 5	Dsl	IDLEX	8.40E-07
T6 OOS Class 5	Dsl	RUNEX	0.000108
T6 OOS Class 6	Dsl	IDLEX	2.75E-06
T6 OOS Class 6	Dsl	RUNEX	0.000276
T6 OOS Class 7	Dsl	IDLEX	4.23E-06
T6 OOS Class 7	Dsl	RUNEX	0.001897
T6 Public Class 4	Dsl	IDLEX	3.16E-05
T6 Public Class 4	Dsl	RUNEX	0.000389
T6 Public Class 5	Dsl	IDLEX	9.17E-05
T6 Public Class 5	Dsl	RUNEX	0.001147
T6 Public Class 6	Dsl	IDLEX	8.30E-05
T6 Public Class 6	Dsl	RUNEX	0.001034
T6 Public Class 7	Dsl	IDLEX	0.000124
T6 Public Class 7	Dsl	RUNEX	0.002
T6 Utility Class 5	Dsl	IDLEX	8.91E-06
T6 Utility Class 5	Dsl	RUNEX	0.000247
T6 Utility Class 6	Dsl	IDLEX	1.69E-06
T6 Utility Class 6	Dsl	RUNEX	4.64E-05
T6 Utility Class 7	Dsl	IDLEX	1.91E-06
T6 Utility Class 7	Dsl	RUNEX	6.45E-05
T7 CAIRP Class 8	Dsl	IDLEX	0.006174
T7 CAIRP Class 8	Dsl	RUNEX	0.080004
T7 NNOOS Class 8	Dsl	IDLEX	0.006672
T7 NNOOS Class 8	Dsl	RUNEX	0.093518
T7 NOOS Class 8	Dsl	IDLEX	0.002879
T7 NOOS Class 8	Dsl	RUNEX	0.034402
T7 Other Port Class 8	Dsl	IDLEX	4.33E-05
T7 Other Port Class 8	Dsl	RUNEX	0.001609
T7 POAK Class 8	Dsl	IDLEX	0.00019
T7 POAK Class 8	Dsl	RUNEX	0.003804
T7 POLA Class 8	Dsl	IDLEX	0.00022
T7 POLA Class 8	Dsl	RUNEX	0.005539
T7 Public Class 8	Dsl	IDLEX	0.000276
T7 Public Class 8	Dsl	RUNEX	0.006704
T7 Single Concrete/Transit Mix Class 8	Dsl	IDLEX	0.000108
T7 Single Concrete/Transit Mix Class 8	Dsl	RUNEX	0.002791
T7 Single Dump Class 8	Dsl	IDLEX	0.000207
T7 Single Dump Class 8	Dsl	RUNEX	0.004106
T7 Single Other Class 8	Dsl	IDLEX	0.000706
T7 Single Other Class 8	Dsl	RUNEX	0.013869
T7 SWCV Class 8	Dsl	IDLEX	8.97E-05

Appendix F
EMFAC2021 Results
Mattos Ranch Phase II
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T7 SWCV Class 8	Dsl	RUNEX	0.006254
T7 Tractor Class 8	Dsl	IDLEX	0.003899
T7 Tractor Class 8	Dsl	RUNEX	0.053797
T7 Utility Class 8	Dsl	IDLEX	6.39E-06
T7 Utility Class 8	Dsl	RUNEX	0.000305
UBUS	Dsl	RUNEX	0.001782
LDA	Gas	RUNEX	0.554068
LDA	Gas	STREX	0.016562
LDT1	Gas	RUNEX	0.050322
LDT1	Gas	STREX	0.001871
LDT2	Gas	RUNEX	0.292286
LDT2	Gas	STREX	0.009189
LHD1	Gas	IDLEX	0.000291
LHD1	Gas	RUNEX	0.077686
LHD1	Gas	STREX	0.000926
LHD2	Gas	IDLEX	5.67E-05
LHD2	Gas	RUNEX	0.014789
LHD2	Gas	STREX	0.000155
MCY	Gas	RUNEX	0.002846
MCY	Gas	STREX	0.00031
MDV	Gas	RUNEX	0.307121
MDV	Gas	STREX	0.01067
MH	Gas	RUNEX	0.005541
MH	Gas	STREX	1.03E-06
OBUS	Gas	IDLEX	1.47E-05
OBUS	Gas	RUNEX	0.002818
OBUS	Gas	STREX	2.52E-05
SBUS	Gas	IDLEX	0.000151
SBUS	Gas	RUNEX	0.002416
SBUS	Gas	STREX	1.29E-05
T6TS	Gas	IDLEX	7.93E-05
T6TS	Gas	RUNEX	0.012856
T6TS	Gas	STREX	0.000136
T7IS	Gas	RUNEX	3.61E-05
T7IS	Gas	STREX	5.16E-07
UBUS	Gas	RUNEX	0.00051
UBUS	Gas	STREX	2.32E-06
LDA	Phe	RUNEX	0.00989
LDA	Phe	STREX	0.000384
LDT1	Phe	RUNEX	4.40E-05
LDT1	Phe	STREX	1.90E-06
LDT2	Phe	RUNEX	0.001188
LDT2	Phe	STREX	5.59E-05
MDV	Phe	RUNEX	0.000904
MDV	Phe	STREX	5.30E-05

Special-Status Species in the Project Vicinity

APPENDIX G

Table 1-1 Special-Status Plant Species with Potential to Occur in the Project Vicinity

Species	Status (Federal/State/ CNPS)	Suitable Habitat Description	Potential to Occur on Project Site
Alkali milk-vetch *(Astragalus tener* var. *tener)*	--/--/1B.2	Alkaline sites in playas, valley and foothill grassland (on adobe clay), and vernal pools; elevation 1-60m. Blooming Period: March - June.	Unlikely. Suitable habitat not found at the project site.
Alkali-sink goldfields (*Lasthenia chrysantha*)	--/--/1B.1	Vernal pools. Alkaline; elevation 0-200m.	Unlikely. Suitable habitat not found at the project site.
Big tarplant *(Blepharizonia plumosa)*	--/--/1B.1	Valley and foothill grassland. Dry hills and plains in annual grassland. Clay to clay-loam soils, usually on slopes and often in burned areas; elevation 15-445m. Blooming Period: July - October.	Unlikely. Suitable habitat not found at the project site.
California alkali grass *(Puccinellia simplex)*	--/--/1B.2	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernally mesic. Sinks, flats,and lake margins; elevation 1-915m. Blooming Period: March - May.	Unlikely. Suitable habitat not found at the project site.
Coulter's goldfields *(Lasthenia glabrata* ssp. *coulteri)*	--/--/1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands; elevation 1-1375m. Blooming Period: February – June.	Unlikely. Suitable habitat not found at the project site.
Delta button-celery *(Eryngium racemosum)*	--/SE/1B.1	Riparian scrub; prefers seasonally inundated floodplain on clay soils; elevation 3-75m. Blooming Period: June - August.	Unlikely. Suitable habitat not found at the project site.
Diamond-petaled California poppy *(Eschscholzia rhombipetala)*	--/--/1B.1	Valley and foothill grassland. Alkalin, clay slopes and flats; elevation 0-97m. Blooming Period: March - April.	Unlikely. Suitable habitat not found at the project site.
Heartscale *(Atriplex cordulata* var. *cordulata)*	--/--/1B.2	Chenopod scrub, valley and foothill grassland, and meadows. Prefers alkaline flats and scalds in the Central Valley, on sandy soils; elevation 1-150m. Blooming Period: April - October.	Unlikely. Suitable habitat not found at the project site.
Hispid's salty bird's-beak *(Chloropyron molle* ssp. *hispidum)*	--/--/1B.1	Meadows, playas, valley and foothill grassland. In damp alkaline soils, especially in alkaline meadows and alkali sinks with Distichlis sp.; elevation 10-155m. Blooming Period: June - September.	Unlikely. Suitable habitat not found at the project site.
Hospital Canyon larkspur *(Delphinium californicum* ssp. *interius)*	--/--/1B.2	Cismontane woodland and chaparral, in wet, boggy meadows, openings in chaparral, and in canyons; elevation 225-1060m. Blooming Period: April - June.	Unlikely. Suitable habitat not found at the project site.
Lemmon's jewel-flower *(Caulanthus lemmonii)*	--/--/1B.2	Pinyon-juniper woodland, valley and foothill grassland; elevation 80-1220m. Blooming Period: March - May.	Unlikely. Suitable habitat not found at the project site.
Lesser saltscale *(Atriplex minuscula)*	--/--/1B.1	Chenopod scrub, playas, and valley and foothill grassland. In alkali sinks in sandy, alkaline soils; elevation 20-100m. Blooming Period: May - October.	Unlikely. Suitable habitat not found at the project site.
Lime Ridge navarretia *(Navarretia gowenii)*	--/--/1B.2	Chaparral, on calciumcarbonate-rich soil with high clay content; elevation 180-305m. Blooming Period: May - June.	Unlikely. Suitable habitat not found at the project site.

Species	Status (Federal/State/ CNPS)	Suitable Habitat Description	Potential to Occur on Project Site
Northern slender pondweed *(Stuckenia filiformis* ssp. *alpina)*	--/--/2B.2	Marshes and swamps. Shallow, clear water of lakes and drainage channels; elevation 5-2325m. Blooming Period: May – July.	Unlikely. Suitable habitat not found at the project site.
Prostrate vernal pool navarretia *(Navarretia prostrata)*	--/--/1B.1	Coastal scrub, valley and foothill grassland, and vernal pools. Alkaline soils in grassland, or in vernal pools; elevation 15-700m. Blooming Period: April - July.	Unlikely. Suitable habitat not found at the project site.
San Joaquin spearscale *(Extriplex joaquinana)*	--/--/1B.2	Alkaline sites in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland; elevation 1-320m. Blooming Period: April - October.	Unlikely. Suitable habitat not found at the project site.
Sanford's arrowhead *(Sagittaria sanfordii)*	--/--/1B.2	Marshes and swamps. Found in standing or slow-moving freshwater ponds, marshes, and ditches; elevation 0-610m. Blooming Period: May - October.	Unlikely. Suitable habitat not found at the project site.
Shining navarretia *(Navarretia nigelliformis* ssp. *radians)*	--/--/1B.2	Cismontane woodland, valley and foothill grassland, and vernal pools; elevation 200-1000m. Blooming Period: May - July.	Unlikely. Suitable habitat not found at the project site.
Spiny-sepaled button-celery *(Eryngium spinosepalum)*	--/--/1B.2	Vernal pools within valley and foothill grassland. Some sites on clay soils of granitic origin; elevation 100-420m. Blooming Period: April - May.	Unlikely. Suitable habitat not found at the project site.
Vernal pool smallscale *(Atriplex persistens)*	--/--/1B.2	Vernal pools on alkaline soils; elevation 10-115m. Blooming Period: July - October.	Unlikely. Suitable habitat not found at the project site.
Wright's trichocoronis *(Trichocoronis wrightii* var. *wrightii)*	--/--/2B.1	Marshes and swamps, riparian forest, meadows and seeps, vernal pools. Mud flats of vernal lakes, drying river beds, alkali meadows; elevation 5-435m. Blooming Period: May – September.	Unlikely. Suitable habitat not found at the project site.

SOURCE: CDFW 2022, CNPS 2022

NOTE: Status Codes:

Federal (USFWS)

FE: Listed as Endangered under the Federal Endangered Species Act.

FT: Listed as Threatened under the Federal Endangered Species Act.

FC: A Candidate for listing as Threatened or Endangered under the Federal Endangered Species Act.

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SSC: Species of Special Concern.
SFP: Fully Protected species under the California Fish and Game Code.
SD: Delisted under the California Endangered Species Act.

CNPS Rare Plant Ranks and Threat Code Extensions
1B: Plants that are considered Rare, Threatened, or Endangered in California and elsewhere.
2B: Plants that are considered Rare, Threatened, or Endangered in California, but more common elsewhere.
.1: Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat).
.2: Fairly endangered in California (20-80% occurrences threatened).
.3: Not very endangered in California (<20% of occurrences threatened or no current threats known).

Table 1-2 Special-Status Wildlife Species with Potential to Occur in the Project Vicinity

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
American badger *(Taxidea taxus)*	--/SSC	Most abundant in drier, open stages of most shrub, forest, and herbaceous habitats. Need sufficient food and open, uncultivated ground with friable soils to dig burrows. Prey on burrowing rodents.	Unlikely. Suitable habitat not found at the project site.
Bald eagle *(Haliaeetus leucocephalus)*	FD/SE	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within one mile of water. Nests in large, old-growth, or dominant live tree with open branches.	Unlikely. Suitable habitat not found at the project site.
Burrowing owl *(Athene cunicularia)*	--/SSC	Open, dry, annual or perennial grasslands, desert, or scrubland, with available small mammal burrows.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
California horned lark *(Eremophila alpestris actia)*	--/SSC	Coastal regions, chiefly from Sonoma County to San Diego County, also within the main part of the San Joaquin Valley and east to the foothills. Prefers short-grass prairie, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Unlikely. Suitable habitat not found at the project site.
California linderiella *(Linderiella occidentalis)*	FSC/--	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools typically has very low alkalinity, conductivity, and total dissolved solids.	Unlikely. Suitable habitat not found at the project site.
California red-legged frog *(Rana draytonii)*	FT/SSC	Rivers, creeks, and stock ponds with pools and overhanging vegetation. Requires dense, shrubby or emergent riparian vegetation, and prefers short riffles and pools with slow-moving, well-oxygenated water. Needs upland habitat to aestivate (remain dormant during dry months) in small mammal burrows, cracks in the soil, or moist leaf litter.	Unlikely. Suitable habitat not found at the project site.
California tiger salamander *(Ambystoma californiense)*	FT/ST	Grasslands and oak woodlands near seasonal pools and stock ponds in central and coastal California. Needs upland habitat to aestivate (remain dormant during dry months) in small mammal burrows, cracks in the soil, or moist leaf litter. Requires seasonal water sources that persist into late March for breeding habitat.	Unlikely. Suitable habitat not found at the project site.
Conservancy fairy shrimp *(Branchinecta conservatio)*	FE/--	Endemic to the grasslands of the northern two-thirds of the central valley; found in large, turbid pools. Also occurs in swales formed by old, braided alluvium filled by winter/spring rains.	Unlikely. Suitable habitat not found at the project site.

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
Foothill yellow-legged frog *(Rana boylii)*	--/SSC	Partly shaded, shallow streams and riffles with rocky substrate in a variety of habitats. Requires at least some cobble-sized substrate for egg-laying and 15 weeks of available water to attain metamorphosis.	Unlikely. Suitable habitat not found at the project site.
Giant garter snake *(Thamnophis gigas)*	FT/ ST	Prefers freshwater marsh and low gradient streams. Adapted to drainage canals and irrigation ditches. The most aquatic garter snake in California.	Unlikely. Suitable habitat not found at the project site.
Golden eagle *(Aquila chrysaetos)*	--/SFP	Rolling foothill mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range. Also uses large trees in open areas.	Unlikely. Suitable habitat not found at the project site.
Hoary bat *(Lasiurus cinereus)*	--/SSC	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
Least Bell's vireo *(Vireo bellii pusillus)*	FE/SE	Summer resident of southern and central California in riparian habitats below 2,000 feet in elevation. Often nests in large shrubs, along margins of bushes or on twigs projecting into pathways.	Unlikely. Suitable habitat not found at the project site.
Loggerhead shrike *(Lanius ludovicianus)*	--/SSC	(Nesting) Broken woodlands, savannah, pinyon-juniper, Joshua tree and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning and fairly dense shrubs and brush for nesting.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
Long-horn fairy shrimp *(Branchinecta longiantenna)*	FE/--	Endemic to the eastern margin of the Central Coast mountains in seasonally astatic grassland vernal pools. Inhabits small, clear-water depressions in sandstone and clear to turbid clay/grass-bottomed pools in shallow swales.	Unlikely. Suitable habitat not found at the project site.
Northern California legless lizard *(Anniella pulchra)*	--/SSC	Sandy or loose loamy soils under sparse vegetation, moist soils. Anniella pulchra is traditionally split into two subspecies: *A. pulchra pulchra* (silvery legless lizard) and *A. pulchra nigra* (black legless lizard), but these subspecies are typically no longer recognized.	Unlikely. Suitable habitat not found at the project site.
Northern harrier *(Circus cyaneus)*	--/SSC	Found near coastal salt and freshwater marshes. Nests and forages in grasslands. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Unlikely. Suitable habitat not found at the project site.
Pallid bat *(Antrozous pallidus)*	--/SSC	Deserts, grasslands, scrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
Prairie falcon *(Falco mexicanus)*	--/SSC	Nesting Habitats. Open terrain, either level or hilly breeding sites located on cliffs. Forages far distances, including to marshlands and ocean shores.	Unlikely. Suitable habitat not found at the project site.
Sacramento splittail *(Pogonichthys macrolepidotus)*	--/SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes. Slow moving river sectins, dead end sloughs, requires flooded vegetation for spawning and foraging for young.	Unlikely. Suitable habitat not found at the project site.
San Joaquin coachwhip *(Masticophis flagellum ruddocki)*	--/SSC	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Requires mammal burrows for refuge and oviposition sites.	Unlikely. Suitable habitat not found at the project site.
San Joaquin kit fox *(Vulpes macrotis mutica)*	FE/ST	Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing, and suitable prey base.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
Steelhead *(Oncorhynchus mykiss irideus)*	FT/--	Coastal stream with clean spawning gravel. Requires cool water and pools. Needs migratory access between natal stream and ocean.	Unlikely. Suitable habitat not found at the project site.
Swainson's hawk *(Buteo swainsoni)*	--/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas, such as grasslands or agricultural fields supporting rodent populations.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
Tricolored blackbird *(Agelaius tricolor)*	--/SE	Areas adjacent to open water with protected nesting substrate, which typically consists of dense, emergent freshwater marsh vegetation.	Unlikely. Suitable habitat not found at the project site.
Vernal pool fairy shrimp *(Branchinecta lynchi)*	FT/--	Endemic to the grasslands of the Central Valley, Central Coast Mtns., and South Coast Mtns. in astatic rain-filled pools. Inhabits small, clear-water sandstone depression pools and grass swale, earth slump, or basalt-flow depression pools.	Unlikely. Suitable habitat not found at the project site.
Vernal pool tadpole shrimp *(Lepidurus packardi)*	FE/--	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in swales of unplowed grasslands.	Unlikely. Suitable habitat not found at the project site.
Western pond turtle *(Emys marmorata)*	--/SSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites (such as rocks or partially submerged logs) and suitable upland habitat for egg-laying (sandy banks or grassy open fields).	Unlikely. Suitable habitat not found at the project site.

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
Western red bat *(Lasiurus blossevillii)*	--/SSC	Roosts primarily in trees, 2-40 feet above the ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
Western spadefoot *(Spea hammondii)*	--/SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands, breeds in winter and spring (January - May) in quiet streams and temporary pools.	Unlikely. Suitable habitat not found at the project site.

SOURCE: CDFW 2022

NOTE: Status Codes:

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Acoustical Analysis

APPENDIX H

ACOUSTICAL ANALYSIS

MATTOS RANCH SUBDIVISION, PHASE 2
NEWMAN, CALIFORNIA

WJVA Report No. 22-12

PREPARED FOR

EMC PLANNING
301 LIGHTHOUSE AVENUE, SUITE C
MONTEREY, CA 93940

PREPARED BY

WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA

NOVEMBER 29, 2022

1. INTRODUCTION

Project Description:

The proposed project, Mattos Ranch Phase 2, consists of a mixed-use development to be located within the City of Newman, California. The project would be adjacent to the already approved (yet to be constructed) Mattos Ranch Phase 1 residential project. The two components of the project are described below. The site plan is provided as Figure 1.

Residential Component:
The residential proposal consists of a General Plan Amendment (Community Commercial to Medium Density Residential), Rezone from C-8 (Highway Commercial) to PD (Planned Development) and Vesting Tentative Tract Map to subdivide 6.1 acres into 43 single-family lots. Since the lots do not conform to R-2 Zoning District standards, a Planned Development zoning is required. (Lots developed in accordance with R-2 single-family standards would not meet GP density requirements.)

Commercial Component:
The developer has provided a potential site layout for the Commercial portion of the proposal. While no specific entitlements will be included with this application, the City would like to include the potential commercial uses as part of the CEQA document.

Environmental Noise Assessment:

This environmental noise assessment has been prepared to determine if significant noise impacts will be produced by the project and to describe mitigation measures for noise if significant impacts are determined. The environmental noise assessment, prepared by WJV Acoustics, Inc. (WJVA), is based upon the project Tentative Subdivision Map (dated 4/21/21), traffic data provided by VRPA Technologies, Inc., and a project site visit on February 15, 2022. Revisions to the Subdivision Map, project traffic information or other project-related information available to WJVA at the time the analysis was prepared may require a reevaluation of the findings and/or recommendations of the report.

Appendix A provides definitions of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported in this analysis are A-weighted sound pressure levels in decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighted sound levels, as they correlate well with public reaction to noise. Appendix B provides examples of sound levels for reference.

2. THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines apply the following questions for the assessment of significant noise impacts for a project:

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

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

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?

a. Noise Level Standards

CITY OF NEWMAN

General Plan:
The City of Newman General[1] Plan provides noise level criteria for land use compatibility for both transportation and non-transportation noise sources. The General Plan sets noise compatibility standards for transportation noise sources in terms of the Day-Night Average Level (L_{dn}). The L_{dn} represents the time-weighted energy average noise level for a 24-hour day, with a 10 dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The L_{dn} represents cumulative exposure to noise over an extended period of time and are therefore calculated based upon *annual average* conditions. Table I provides the General Plan noise level standards for transportation noise sources.

The exterior noise level standard of the noise element is 60 dB L_{dn} for outdoor activity areas of single-family residential uses. While not explicitly stated in the General Plan, exterior noise level standards typically apply at outdoor activity areas of residential land uses. Outdoor activity areas generally include backyards of single-family residences and individual patios or decks and common outdoor activity areas of multi-family developments. The intent of the exterior noise level requirement is to provide an acceptable noise environment for outdoor activities and recreation.

The General Plan also requires that interior noise levels attributable to exterior noise sources not exceed 45 dB L_{dn}. The intent of the interior noise level standard is to provide an acceptable noise environment for indoor communication and sleep.

TABLE I

CITY OF NEWMAN GENERAL PLAN NOISE LEVEL STANDARDS
TRANSPORTATION (NON-AIRCRAFT) NOISE SOURCES

Noise-Sensitive Land Use	Outdoor Activity Areas[1]
	L_{dn} dB
Single-Family Residential	60
Multi-Family Residential, Hotels, and Motels	65
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	65
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches	60
Office Buildings, Business Commercial, and Professional	70
Auditoriums, Concert Halls, Amphitheaters	70

Source: City of Newman General Plan

The General Plan provides noise level standards for stationary (non-transportation) noise sources. Table II provides the City of Newman noise level standards applicable to stationary noise sources.

TABLE II

NON-TRANSPORTATION NOISE LEVEL STANDARDS, dBA
CITY OF NEWMAN

Daytime (7 a.m.-10 p.m.)		Nighttime (10 p.m.-7 a.m.)	
L_{eq}	L_{max}	L_{eq}	L_{max}
55	75	45	65

Each of the noise level standards specified in Table HS-4 shall be reduced by five (5) dBA for pure tone noises, noise consisting primarily of speech or music, or for recurring impulsive noises. Where measured ambient noise levels exceed the standards, the standards shall be increased to the ambient levels.

The standards in Table HS-4 apply at residential or other noise- sensitive land uses, and not on the property of a noise-generating land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures. These noise level standards do not apply to residential units established in conjunction with industrial of commercial uses (e.g. caretaker dwellings).

Source: City of Newman General Plan

The General Plan also provides the following Policies and Actions in regards to noise level exposure, noise level standards and land use compatibility:

- Policy HS-6.1 As a guide for future planning and development decisions the City shall use the Noise and Land Use Compatibility Standards shown in Figure HS-5 (Table I above), the noise level performance standards indicated in Table HS-4 (Table II above) and the projected future noise contours for the buildout of the General Plan.

- Policy HS-6.2 Noise increases at noise sensitive land uses resulting from new projects shall be minimized. Noise-sensitive uses include residential, hotel/motel, schools, libraries, museums, meeting halls, care facilities, churches and hospitals. Exterior noise levels would be measured in residential backyards, patios, outdoor instructional areas of schools, outdoor courtyards and play areas at care facilities or at the property line of undeveloped lands designated as noise-sensitive uses.

- Policy HS-6.3 New non-transportation noise sources, including, but not limited to, industrial and commercial noise sources, mechanical equipment, amplified sound, and on-site truck circulation and deliveries, shall be mitigated so as not to exceed the noise level standards as indicated in Table HS-4 (Table II above).

- Policy HS-6.4 Noise can be mitigated through site design, building design and materials, landscaping, hours of operation and other techniques. This policy does not apply to noise sources as- sociated with operations on lands zoned for agricultural uses.

- Policy HS-6.5 The City shall minimize potential transportation-related noise through the use of setbacks, street circulation design, coordination of routing and other traffic control measures, the construction of noise barriers, and consider use of "quiet" pavements when resurfacing roadways.

- Policy HS-6.6 Where proposed new development of noise-sensitive uses is anticipated to exceed the noise level standards, an acoustical analysis shall be required so that noise mitigation may be included in the project design.

- Policy HS-6.7 New development of noise sensitive land uses shall not be permitted in noise impacted areas unless effective mitigation measures are incorporated into the project design to reduce exterior and interior noise levels to acceptable levels, as specified in Policy HS-6.1 and as follows:

  For new single-family residential development, maintain a standard of 60 L_{dn} (day/night average noise level) for exterior noise in private use areas.

  For new multi-family residential development maintain a standard of 65 L_{dn} in community outdoor recreation areas. Noise standards are not applied to private decks and balconies.

  Interior noise levels shall not exceed 45 L_{dn} in all new residential units (single- and multi-family). Development sites exposed to noise levels exceeding 60 L_{dn} shall be analyzed following protocols in Appendix Chapter 12, Section 1208, A, Sound Transmission Control, 2001 California Building Code.

  Where new residential units (single- and multi-family) would be exposed to intermittent noise levels generated during train operations, maximum

railroad noise levels inside homes shall not exceed 50 dBA in bedrooms or 55 dBA in other occupied spaces. These single event limits are only applicable where there are normally 4 or more train operations per day.

- Policy HS-6.8 Where noise mitigation measures are required to achieve the noise level standards, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered after practical design-related noise mitigation measures have been integrated into the project.

- Policy HS-6.10 No project shall be approved that would create noise levels at school sites that would exceeds 55 dBA, measured at the property lines of the school site.

- Policy HS-6.11 Land uses that emit excessive noise shall not be located adjacent to schools and other sensitive uses unless noise levels can be mitigated to an acceptable level.

- Action HS-6.1 Require the evaluation of mitigation measures for projects that would cause the following criteria to be exceeded or would cause a significant adverse community response:

  Cause the L_{dn} at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level, or

  Cause the L_{dn} at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable".

- Action HS-6.2 Coordinate with the County Sheriff's Department to enforce the California Vehicle Code as it relates to adequate vehicle mufflers, modified exhaust systems and vehicle stereo systems.

- Action HS-6.3 Establish a noise abatement protocol for existing sensitive land uses located in areas anticipated to experience significant noise increases with the implementation of the General Plan. Cumulative traffic noise impacts on existing noise sensitive uses could be reduced through the inclusion of exterior and/or interior sound reduction measures such as set- backs, noise barriers, forced-air mechanical ventilation and sound rated window construction. The City should research sources of funding for these actions.

State of California

There are no state noise standards that are applicable to the project.

Federal Noise Standards

There are no federal noise standards that are applicable to the project.

b. Construction Noise and Vibration

The City of Newman General Plan provides the following guidance in relation to construction noise:

- Policy HS-6.9 During all phases of construction activity, reasonable noise reduction measures shall be utilized to minimize the exposure of neighboring properties to excessive noise levels.

  Noise reduction measures could include, but would not be limited to:

  Construction activities shall normally be limited to the hours of 7 a.m. to 7 p.m. Monday through Friday, and 8 a.m. to 7 p.m. Saturday.

  Use available noise suppression devices and properly maintain and muffle loud construction equipment.

  Avoid staging of construction equipment and unnecessary idling of equipment within 200 feet of noise-sensitive land uses.

There are no state or federal standards that specifically address construction vibration. Some guidance is provided by the Caltrans Transportation and Construction Vibration Guidance Manual[2]. The Manual provides guidance for determining annoyance potential criteria and damage potential threshold criteria. These criteria are provided below in Table III and Table IV, and are presented in terms of peak particle velocity (PPV) in inches per second (in/sec).

TABLE III

GUIDELINE VIBRATION ANNOYANCE POTENTIAL CRITERIA

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.1
Severe	2.0	0.4

Source: Caltrans

TABLE IV

GUIDELINE VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile, historic buildings, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Caltrans

3. SETTING

The proposed Project is located on the east side of Prince Road and west of State Route 33 (SR 33), and adjacent to the east side of Mattos Ranch Subdivision Phase 1, an approved 106-lot single-family residential subdivision on approximately 12.6 acres. The proposed project (Mattos Ranch Phase 2) consists of approximately 11.8 acres of commercial land use, approximately 6.1 acres of residential land uses, and 2.1 acres to be used as a storm basin. Mattos Ranch Phase 1 and Phase 2 would consist of a combined 34.8 acres of developed land.

The project site is currently undeveloped land under agricultural production. The overall project site is generally bound by agricultural lands to the south and the southeast, commercial/industrial land uses to the west, and a mixture of existing and planned residential land uses to the north and the west. Existing sources of noise in the general project vicinity include noise associated with vehicle traffic on SR 33 and Prince Road, noise associated with agricultural and industrial land uses, railroad operations along the Southern Pacific Railroad line and occasional aircraft overflights.

a. Background Noise Level Measurements

Existing noise levels in the project vicinity are dominated by traffic noise along Prince Road and other local roadways and noise associated with various agricultural land uses near the project site. Measurements of existing ambient noise levels in the project vicinity were conducted on February 15 & 16, 2022. Long-term (24-hour) ambient noise level measurements were conducted at two (2) locations (sites LT-1 and LT-2). Ambient noise levels were measured for a period of 24 continuous hours at the long-term ambient noise measurement sites. Site LT-1 was located within the western portion of the project site, in the vicinity of proposed residential land uses along Prince Road. The LT-2 was located near the southeast corner of the project site, near SR 33 and in the vicinity of proposed commercial land uses. The location of long-term ambient noise monitoring sites LT-1 and LT-2 are provided as Figure 2.

Measured hourly energy average noise levels (L_{eq}) at site LT-1 ranged from a low of 50.3 dB between 10:00 p.m. and 11:00 p.m. to a high of 63.4 dBA between 5:00 p.m. and 6:00 p.m. Hourly maximum (L_{max}) noise levels at site LT-1 ranged from 72.7 to 89.9 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 35.0 to 49.0 dBA. The L_{90} is a statistical descriptor that defines the noise level exceeded 90% of the time during each hour of the sample period. The L_{90} is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft, and other local noise sources. The measured L_{dn} value at site LT-1 was 63.1 dB L_{dn}. Figure 3 graphically depicts hourly variations in ambient noise levels at site LT-1. Figure 4 provides a photograph of measurement site LT-1.

Measured hourly energy average noise levels (L_{eq}) at site LT-2 ranged from a low of 44.4 dB between 11:00 p.m. and midnight to a high of 58.4 dBA between 6:00 a.m. and 7:00 a.m. Hourly maximum (L_{max}) noise levels at site LT-2 ranged from 59.3 to 78.1 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 37.0 to 50.4 dBA. The measured L_{dn} value at site LT-2 was 57.8 dB L_{dn}. Figure 5 graphically depicts hourly variations in ambient noise levels at site LT-2. Figure 6 provides a photograph of measurement site LT-2.

Additionally, short-term (15-minute) ambient noise level measurements were conducted at three (3) locations (Sites ST-1 through ST-3). Two (2) individual measurements were taken at each of the six short-term sites to quantify ambient noise levels in the morning and afternoon hours. The locations of the long-term and short-term noise monitoring sites are shown in Figure 2.

Table V summarizes short-term noise measurement results. The noise measurement data included energy average (L_{eq}) maximum (L_{max}) as well as five individual statistical parameters. Observations were made of the dominant noise sources affecting the measurements. The statistical parameters describe the percent of time a noise level was exceeded during the measurement period. For instance, the L_{90} describes the noise level exceeded 90 percent of the time during the measurement period, and is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft and other local noise sources.

Short-term noise measurements were conducted for 15-minute periods at each of the three sites. Site ST-1 and ST-2 were both located near the northern portion of the overall project site, in the vicinity of existing multi-family residential land uses. Site ST-3 was located near the eastern portion of the overall project site in the vicinity of proposed commercial/retail land uses near SR 33. The locations of the short-term ambient noise measurement sites are provided as Figure 2.

TABLE V

SUMMARY OF SHORT-TERM NOISE MEASUREMENT DATA
MATTOS RANCH PHASE 2, NEWMAN
FEBRUARY 15 & 16, 2022

Site	Time	A-Weighted Decibels, dBA							Sources
		L_{eq}	L_{max}	L_2	L_8	L_{25}	L_{50}	L_{90}	
ST-1	9:35 a.m.	48.7	66.5	58.2	55.0	49.2	46.2	37.7	TR, AC
ST-1	4:00 p.m.	46.8	64.2	56.1	53.3	47.2	44.4	34.0	TR, D
ST-2	9:55 a.m.	43.8	62.7	55.0	51.8	46.6	42.4	33.8	TR, AG, C
ST-2	4:20 p.m.	47.6	74.1	59.7	54.2	51.1	43.0	36.3	TR
ST-3	10:20 p.m.	56.8	81.4	68.9	60.4	58.8	50.7	43.8	TR, C
ST-3	4:45 p.m.	57.4	80.6	66.5	60.7	56.4	51.2	44.4	TR, AC

TR: Traffic AC: Aircraft AG: Agricultural Activities C: Construction Activities B: Birds D: Barking Dogs
Source: WJV Acoustics, Inc.

4. NOISE IMPACTS TO SITE SENSITIVE RECEPTORS

a. Project Traffic Noise Impacts on Existing Noise-Sensitive Land Uses Outside Project Site (No Impact)

WJVA utilized the FHWA Traffic Noise Model[3] to quantify expected project-related increases in traffic noise exposure along roadways in the project vicinity. The FHWA Model is a standard analytical method used by state and local agencies for roadway traffic noise prediction. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ±1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Average Daily Traffic (ADT) volumes for the analyzed receptor locations were provided by the project traffic engineer, VRPA Technologies, Inc. Truck percentages and the day/night distribution of traffic were estimated by WJVA, based upon previous studies conducted in the project vicinity since project-specific data were not available from government sources. The Noise modeling assumptions used to calculate project traffic noise are provided as Appendix C.

Traffic noise exposure levels for 2024 Without Project, 2024 With Project, 2044 Cumulative Without Project and 2044 Cumulative With Project traffic scenarios were calculated based upon the FHWA Model and the above-described model inputs and assumptions. Project-related significant impacts would occur if an increase in traffic noise associated with the project would result in noise levels exceeding the City's applicable noise level standards at the location(s) of sensitive receptors. For the purpose of this analysis a significant impact was also assumed to occur if traffic noise levels were to increase by 3 dB at sensitive receptor locations where noise levels already exceed the City's applicable noise level standards (without the project), as 3 dB generally represents the threshold of perception in change for the human ear.

The City's exterior noise level standard for residential land uses is 60 dB L_{dn} for single-family residential land uses and 65 dB L_{dn} for multi-family residential land uses. Traffic noise was modeled at seven (7) receptor locations (six receptor locations for 2024 conditions). The seven modeled receptors are located at roadway setback distances representative of the sensitive receptors (residences) along each analyzed roadway segment with adjacent sensitive receptors. The receptor locations are described below and provided graphically on Figure 7.

- R-1: Residential land use located approximately 50 feet from the centerline of Inyo Ave.
- R-2: Residential land use located approximately 120 feet from the centerline of Inyo Ave.
- R-3: Residential land use located approximately 75 feet from the centerline of Prince Rd.
- R-4: Residential land use located approximately 140 feet from the centerline of SR 33.
- R-5: Residential land use located approximately 210 feet from the centerline of SR 33.

- R-6: Residential land use located approximately 100 feet from the centerline of Inyo Ave.

2024 Conditions:
Table VI provides 2024 traffic noise exposure levels at the six analyzed representative receptor locations, and provides what the project contribution would be to 2024 plus project conditions.

TABLE VI

PROJECT CONTRIBUTION TO TRAFFIC NOISE, dB, L_{dn}
OPENING YEAR 2024 CONDITIONS
MATTOS RANCH PHASE 2, NEWMAN

Modeled Receptor	2024 Conditions Without Project Contribution	2024 Conditions Plus Project	Project Contribution	Significant Impact?
R-1	54	55	+1	No
R-2	51	52	+1	No
R-3	52	52	0	No
R-4	54	57	+3	No
R-5	51	54	+3	No
R-6	46	48	+2	No

Source: WJV Acoustics, Inc.
VRPA Technologies, Inc.

Reference to Table VI indicates that the project's contribution to 2024 traffic conditions noise exposure levels at the modeled representative receptor locations would not result in noise levels to exceed the City's noise level standard, nor result in an increase of 3 dB in any sensitive receptor locations where noise levels already exceed the City's noise level standard without the implementation of the project.

2044 Cumulative Conditions:

Table VII provides 2044 Cumulative traffic noise exposure levels at the seven analyzed representative receptor locations, and provides what the project contribution would be to 2044 Cumulative plus project conditions.

TABLE VII

PROJECT CONTRIBUTION TO TRAFFIC NOISE, dB, L_{dn}
HORIZON YEAR 2044 CUMULATIVE CONDITIONS
MATTOS RANCH PHASE 2, NEWMAN

Modeled Receptor	2044 Conditions Without Project Contribution	2044 Conditions Plus Project	Project Contribution	Significant Impact?
R-1	56	56	0	No
R-2	53	53	0	No
R-3	53	53	0	No
R-4	56	58	+2	No
R-5	53	55	+2	No
R-6	48	49	+1	No

Source: WJV Acoustics, Inc.
VRPA Technologies, Inc.

Reference to Table VII indicates that the project's contribution to Cumulative 2044 traffic conditions noise exposure levels at the modeled representative receptor locations would not result in noise levels to exceed the City's noise level standard, nor result in an increase of 3 dB in any sensitive receptor locations where noise levels already exceed the City's noise level standard without the implementation of the project.

b. Noise from Construction (No Impact)

Construction noise would occur at various locations within and near the project site through the buildout period. Existing sensitive receptors could be located as close as 50 feet from construction activities. Table VIII provides typical construction-related noise levels at distances of 50, 100 feet, 200 feet, and 300 feet.

Construction noise is not considered to be a significant impact if construction is limited to the allowed hours and construction equipment is adequately maintained and muffled. Extraordinary noise-producing activities (e.g., pile driving) are not anticipated. The City of Newman provides hourly limitations on construction activities and provides best management practices that should be employed to minimize construction noise impacts.

TABLE VIII

TYPICAL CONSTRUCTION EQUIPMENT MAXIMUM NOISE LEVELS, dBA

Type of Equipment	50 Ft.	100 Ft.	200 Ft.	300 Ft.
Concrete Saw	90	84	78	74
Crane	81	75	69	65
Excavator	81	75	69	65
Front End Loader	79	73	67	63
Jackhammer	89	83	77	73
Paver	77	71	65	61
Pneumatic Tools	85	79	73	69
Dozer	81	76	70	66
Rollers	80	74	68	64
Trucks	86	80	72	70
Pumps	80	74	68	64
Scrapers	87	81	75	71
Portable Generators	81	74	68	64
Backhoe	86	80	74	70
Grader	86	80	74	70

Source: FHWA
Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek & Newman, 1987

A noise impact could occur if construction activities do not incorporate appropriate best management practices in regards to construction-related noise. The following construction-related guidelines and best management practices are provided within the City of Newman General Plan.

Guidelines and Best Management Practices:
The following guidelines and best management practices should be applied during periods of project construction.

- Construction activities shall normally be limited to the hours of 7 a.m. to 7 p.m. Monday through Friday, and 8 a.m. to 7 p.m. Saturday.

- Use available noise suppression devices and properly maintain and muffle loud construction equipment.

- Avoid staging of construction equipment and unnecessary idling of equipment within 200 feet of noise-sensitive land uses.

c. Vibration Impacts (No Impact)

The dominant sources of man-made vibration are sonic booms, blasting, pile driving, pavement breaking, demolition, diesel locomotives, and rail-car coupling. None of these activities are anticipated to occur with construction or operation of the proposed project. Vibration from construction activities could be detected at the closest sensitive land uses, especially during movements by heavy equipment or loaded trucks and during some paving activities. Typical vibration levels at distances of 25, 100 feet and 300 feet are summarized by Table IX. These levels would not be expected to exceed any significant threshold levels for annoyance or damage, as provided above in Table III and Table IV.

TABLE IX

TYPICAL VIBRATION LEVELS DURING CONSTRUCTION

	PPV (in/sec)		
Equipment	**@ 25´**	**@ 100´**	**@ 300´**
Bulldozer (Large)	0.089	0.019	0.006
Bulldozer (Small)	0.003	0.0006	0.0002
Loaded Truck	0.076	0.017	0.005
Jackhammer	0.035	0.008	0.002
Vibratory Roller	0.210	0.046	0.013
Caisson Drilling	0.089	0.019	0.006

Source: *Caltrans*

5. NOISE IMPACTS TO PROPOSED ON-SITE SENSITIVE RECEPTORS

a. Traffic Noise Impacts to Proposed On-Site Receptors (No Impact)

The City of Newman General Plan Noise Element establishes an exterior noise level standard of 60 dB L_{dn} for outdoor activity areas of single-family residential uses. Outdoor activity areas generally include backyards of single-family residences. The noise element also requires that interior noise levels attributable to exterior noise sources not exceed 45 dB L_{dn}.

Proposed Mattos Ranch Phase 2 residential land uses (43 single-family lots) would not be located in close proximity to any arterial roadways or SR 33. As such, noise exposure levels would not exceed any applicable City of Newman exterior or interior noise levels at any proposed single-family residential lots.

b. Proposed Impacts From Operational On-Site Sources (Less Than Significant With Mitigation)

The proposed Project includes approximately 11.8 acres of commercial land uses, to be located along the eastern portion of the overall project site, adjacent to the west side of SR 33. Anticipated tenants were not known at the time this analysis was prepared. It is anticipated that the commercial park would include approximately 25,000 square feet of restaurant space (five buildings plus attached) and approximately 82,000 square feet of commercial space (three buildings). According to the Mattos Ranch Commercial Park Conceptual Site Plan, provided as Figure 8, three of the five restaurants would include drive-thru operations. The anticipated hours of operation and frequency and timing of deliveries was not known at the time this analysis was prepared.

The noise level standards applicable to these proposed land uses are provided above in Table II. The applicable noise standards become 5 dB more restrictive during nighttime hours. As described in Table II, the City of Newman General Plan considers nighttime hours to occur between 10:00 p.m. and 7:00 a.m.

Sensitive receptors (single-family residential land uses) are proposed along the western portion of the Commercial Park (Mattos Ranch Phase 2). Additionally, there is one existing single-family residence at the northwestern tip of the project site (currently indicated as parking area

As described above, there were no known proposed tenants at the time this analysis was prepared. It is anticipated that there will be a mix of commercia retail and restaurant l uses. A wide variety of noise sources can be associated with such commercial retail land uses. The noise levels produced by such sources can also be highly variable and could potentially impact existing off-site and proposed on-site sensitive receptors. Typical examples of stationary noise sources associated with such land uses include:

- HVAC/Mechanical equipment
- Truck deliveries

- Parking lot activities (closing of car doors and trunks, stereos, alarms etc.)
- Drive-Thru operations
- Loading Dock Activities

HVAC Mechanical Equipment:
It is assumed that the project would include roof-mounted HVAC units on the proposed buildings. The heating, ventilating, and air conditioning (HVAC) requirements for the buildings would likely require the use of multiple packaged roof-top units. For the purpose of noise and aesthetics, roof-mounted HVAC units are typically shielded by means of a roof parapet. WJVA has conducted reference noise level measurements at numerous commercial and retail buildings with roof-mounted HVAC units. Noise levels typically range between approximately 45-50 dB at a distance of 50 feet from the building façade, the approximate distance from the closest proposed residential land uses to any potential roof-mounted HVAC units. Such noise levels would not be expected to exceed City of Newman noise level standards or exceed existing ambient noise levels.

Truck Movements:
At the time of this analysis, truck delivery times and frequency as well as truck access route (or routes) had not been designated for all potential uses. It is anticipated that truck deliveries and on-site truck movements could occur at any time during the day and night, at the commercial spaces located adjacent to proposed Mattos Ranch Phase 2 residential land uses. Truck movements could occur as close as fifty (50) feet from these proposed residential land uses.

WJVA has conducted measurements of the noise levels produced by slowly moving trucks for a number of studies. Such truck movements would be expected to produce noise levels in the range of 71 to 77 dBA at a distance of 50 feet. The range in measured truck noise levels is due to differences in the size of trucks, their speed of movement and whether they have refrigeration units in operation during the pass-by.

Noise levels associated with truck movements along the rear side of commercial spaces adjacent to proposed residential land uses could exceed the City of Newman daytime maximum noise level standard by up to 2 dB and the nighttime maximum noise level standard by up to 12 dB. Mitigation measures must therefore be considered.

Parking Lot Activities:
Noise due to traffic in parking lots is typically limited by low speeds and is not usually considered to be significant. Human activity in parking lots that can produce noise includes voices, stereo systems and the opening and closing of car doors and trunk lids. Such activities can occur at any time. The noise levels associated with these activities cannot be precisely defined due to variables such as the number of parking movements, time of day and other factors. It is typical for a passing car in a parking lot to produce a maximum noise level of 60-65 dBA at a distance of 50 feet, which is comparable to the level of a raised voice.

For this project, parking would be dispersed throughout the overall project area. The closest proposed parking areas would be located at least 50 feet from the closest proposed residential land uses to the west. At this distance, maximum (L_{max}) parking lot vehicle movements would be

expected to be approximately 60-65 dB. Such levels would not exceed any of the City's applicable noise levels standards at the closest proposed residential land uses.

Drive-Thru Retail:
The proposed project could include multiple retail areas that would likely include drive-thru operations (the existing Commercial Park Conceptual Site Plan indicates as many as three drive-thru operations). While the exact tenants and type of retail stores were not known at this time, it is assumed that amplified speech would be incorporated into drive-thru restaurant operations.

In order to assess potential project noise levels associated with drive-thru operations, WJVA utilized reference noise levels measured at a Wendy's drive-thru restaurant located on South Mooney Boulevard in Visalia. Measurements were conducted during the early afternoon of July 11, 2011 between 12:45 p.m. and 1:45 p.m. using the previously-described noise monitoring equipment.

The microphone used by customers to order food and the loudspeaker used by employees to confirm orders are both integrated into a menu board that is located a few feet from the drive-thru lane at the approximate height of a typical car window. Vehicles would enter the drive-thru lane from the west and then turn to the north along the east side of the restaurant.

Reference noise measurements were obtained at a distance of approximately 40 feet from the menu board containing the microphone/loudspeaker system at an angle of about 45° toward the rear of the vehicle being served. This provided a worst-case exposure to sound from the loudspeaker system since the vehicle was not located directly between the loudspeaker and measurement location. Cars were lined up in the access lane during the noise measurement period indicating that the drive-thru lane was operating at or near a peak level of activity.

Each ordering cycle was observed to take approximately 60 seconds including vehicle movements. A typical ordering cycle included 5-10 seconds of loudspeaker use with typical maximum noise levels in the range of 60-62 dBA at the 40 foot-reference location. Vehicles moving through the drive-thru lane produced noise levels in the range of 55-60 dBA at the same distance. Vehicles parked at the ordering position (between the menu board and measurement site) were observed to provide significant acoustic shielding during the ordering sequence. The effects of such shielding are reflected by the noise measurement data. Noise levels were measured to approximately 60 dB L_{eq} at the measurement site, and included noise from all sources, including the loudspeaker, vehicle idling and movements and HVAC equipment.

The closest proposed noise-sensitive receptors (residential land uses) to the proposed retail drive-thru operations would be located approximately 40 feet to the west, the approximate distance the above-described reference noise level measurements were conducted from the Wendy's menu board. These noise levels could exceed City of Newman daytime noise level standards by up to 5 dB and nighttime noise level standards by up to 15 dB. Mitigation measures must therefore be considered.

Loading Dock Activities:
It is not known if the proposed commercial land uses would include a loading dock at the rear of any of the retail spaces. The Mattos Ranch Commercial Park Conceptual Site Plan (Figure 8) indicates "Loading Zone" at the rear of commercial spaces. Additionally, the frequency and timing of any potential deliveries and loading dock activities was not known at the time this analysis was prepared. For the purpose of this analysis, it was assumed that loading docks could be included a the rear of the commercial spaces.

Noise sources typically associated with loading dock activities include truck engines, the operation of truck-mounted refrigeration units, fork lifts, the banging of hand carts and roll-up doors, noise from P.A. systems, and the voices of truck drivers and store employees. Truck engines and/or refrigeration units are typically turned off while trucks are in loading dock areas to reduce noise and save energy.

Based upon noise level measurements conducted by WJVA for other studies, loading dock noise levels would be expected to be in the range of approximately 65 to 83 dBA at a distance of 50 feet (closest proposed residential land uses to the west). Such levels could exceed the applicable City of Newman maximum daytime noise level standards by up to 8 dB and nighttime maximum noise level standards by up to 18 dB. Mitigation measures must therefore be considered.

Potential Impacts:
Noise levels associated with truck movements, loading dock activities and drive-thru restaurant operations would be expected to exceed the City of Newman daytime and nighttime noise level standards at proposed residential land uses (Mattos Ranch Phase 2) west of the Commercial Park. Mitigation measures must therefore be considered.

- Truck movements along the rear of commercial spaces could exceed daytime maximum noise level standard by up to 2 dB and the nighttime maximum noise level standard by up to 12 dB at proposed residential land uses west of the project site.

- Drive-thru restaurant operations could exceed daytime noise level standards by up to 5 dB and nighttime noise level standards by up to 15 dB at proposed residential land uses west of the project site.

- Loading dock activities could exceed daytime noise level standards by up to 8 dB and nighttime maximum noise level standards by up to 18 dB.

Mitigation Measures:
Commercial Park project-related noise levels would be expected to exceed City of Newman daytime noise levels by up to 2 to 8 dB and nighttime noise level standards by up to 12 to 18 dB. Mitigation measures must therefore be considered. WJVA analyzed the effectiveness of a sound wall to mitigate project-related noise levels at adjacent proposed residential land uses. Sound walls of various heights were analyzed for each of the three sources described above, with potential to exceed noise level standards at proposed residential land uses (Mattos Ranch Phase 2).

A computer model was used to determine the required height of a sound wall along the proposed residential frontage west of the Commercial Park. The model calculates sound wall insertion loss (noise reduction) based upon the distance from the source to the wall, the distance from wall to the receptor, and the relative heights of the sources and receptors.

The model calculations indicate that a sound wall constructed to a minimum height of nine (9) feet above project grade elevation would reduce noise levels associated with truck movements, drive-thru restaurant operations and loading dock activities during the daytime hours of 7:00 a.m. to 10:00 p.m. However, due to the proximity of these noise sources to proposed residential land uses (Mattos Ranch Phase 2) and the associated noise levels, it would not be feasible to construct a sound wall along the project site residential adjacency frontage capable of mitigating noise levels to below applicable nighttime noise level standards. Therefore, it will also be necessary to restrict these activities to daytime hours only.

In order to comply with City of Newman residential noise level standards, the Commercial project must incorporate the following mitigation measures:

- Construct 9-Foot Sound Wall along the western portion of the project site, with residential adjacency, as indicated on Figure 8.

- All truck deliveries, loading dock activities and drive-thru restaurant operations must be limited to the hours of 7:00 a.m. to 10:00 p.m.

c. Noise Impacts from Nearby Airports or Airstrips (No Impact)

The Project site is not located within two miles of a public airport or private airstrip. The Gustine Municipal Airport is located approximately 4 miles southeast of the project site.

6. IMPACT SUMMARY

Residential Component:
The proposed Mattos Ranch Phase 2 residential project (43 proposed single-family lots) will comply with all City of Newman exterior and interior noise level standards provided that air conditioning or mechanical ventilation is included in residential construction design, allowing doors and windows to remain closed for noise insulation purposes.

Commercial Component:
Noise levels associated with the proposed Mattos Ranch Commercial Park would be expected to exceed City of Newman daytime and nighttime noise levels at proposed residential land uses to the west. These potential exceedances are summarized below:

- Truck movements along the rear of commercial spaces could exceed daytime maximum noise level standard by up to 2 dB and the nighttime maximum noise level standard by up to 12 dB at proposed residential land uses west of the project site.

- Drive-thru restaurant operations could exceed daytime noise level standards by up to 5 dB and nighttime noise level standards by up to 15 dB at proposed residential land uses west of the project site.

- Loading dock activities (if proposed) could exceed daytime noise level standards by up to 8 dB and nighttime maximum noise level standards by up to 18 dB.

The incorporation of appropriate mitigation measures would reduce project-related noise levels to below City of Newman daytime noise level standards at proposed residential land uses west of the project site. It is not feasible to mitigate such noise levels to below City of Newman nighttime noise level standards at proposed residential land uses west of the project site. Potential Mitigation Measures are summarized below:

- Construct 9-Foot Sound Wall along the western portion of the project site, with residential adjacency, as indicated on Figure 8.

- All truck deliveries, loading dock activities and drive-thru restaurant operations must be limited to the hours of 7:00 a.m. to 10:00 p.m.

Construction Guidelines and Best Management Practices:
The following guidelines and best management practices should be applied during periods of project construction.

- Construction activities shall normally be limited to the hours of 7 a.m. to 7 p.m. Monday through Friday, and 8 a.m. to 7 p.m. Saturday.

- Use available noise suppression devices and properly maintain and muffle loud construction equipment.

- Avoid staging of construction equipment and unnecessary idling of equipment within 200 feet of noise-sensitive land uses.

7. SOURCES CONSULTED

1. City of Newman, *Newman 2030 General Plan*, April 10, 2007

2. California Department of Transportation, *Transportation and Construction Vibration Guidance Manual,* April 2020

3. Federal Highway Administration, *Traffic Noise Model, Version 2.5,* April 14, 2004.

FIGURE 1: PROJECT SITE PLAN

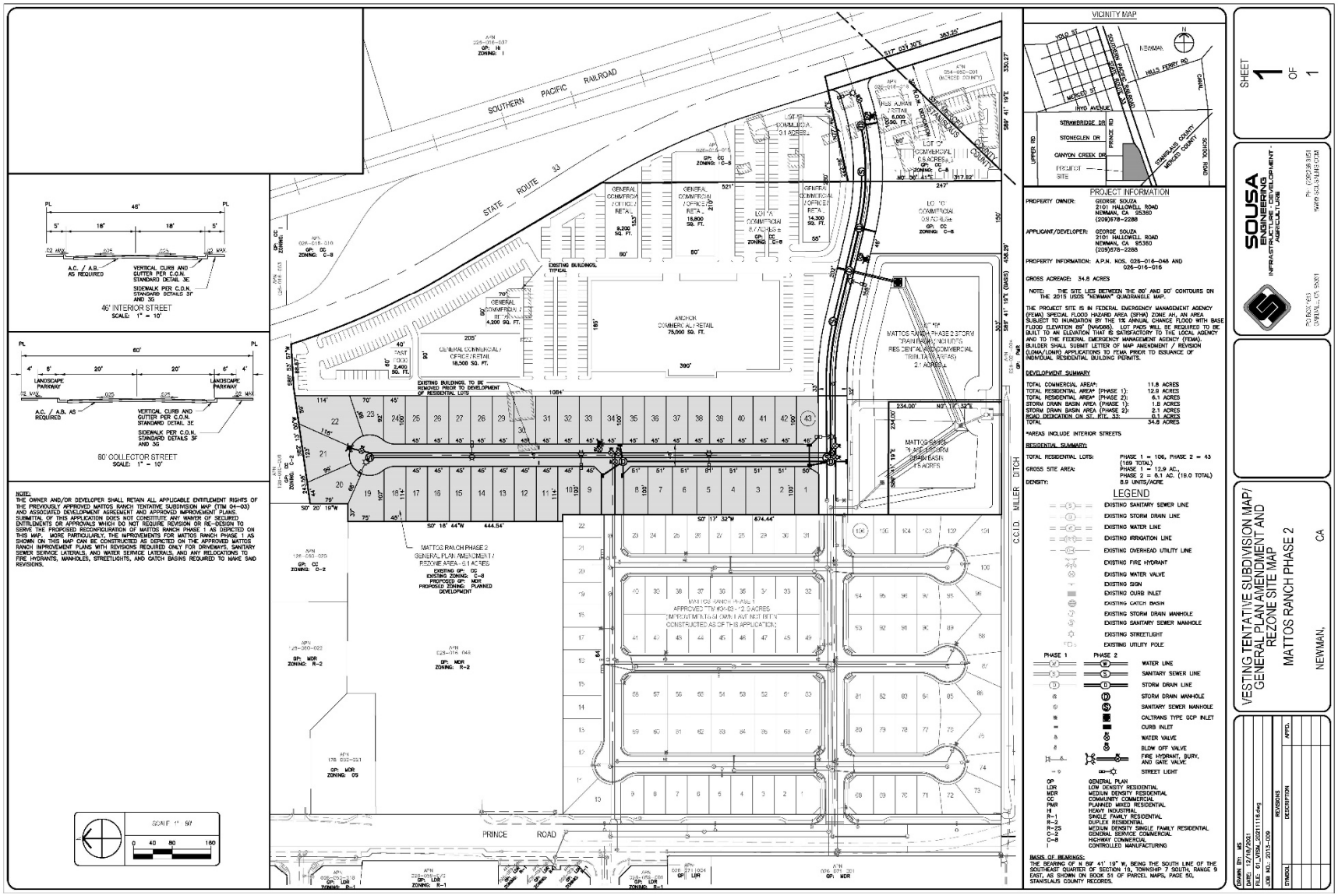


FIGURE 2: PROJECT VICINITY AND AMBIENT NOISE MONITORING SITES

FIGURE 3: HOURLY NOISE LEVELS AT SITE LT-1

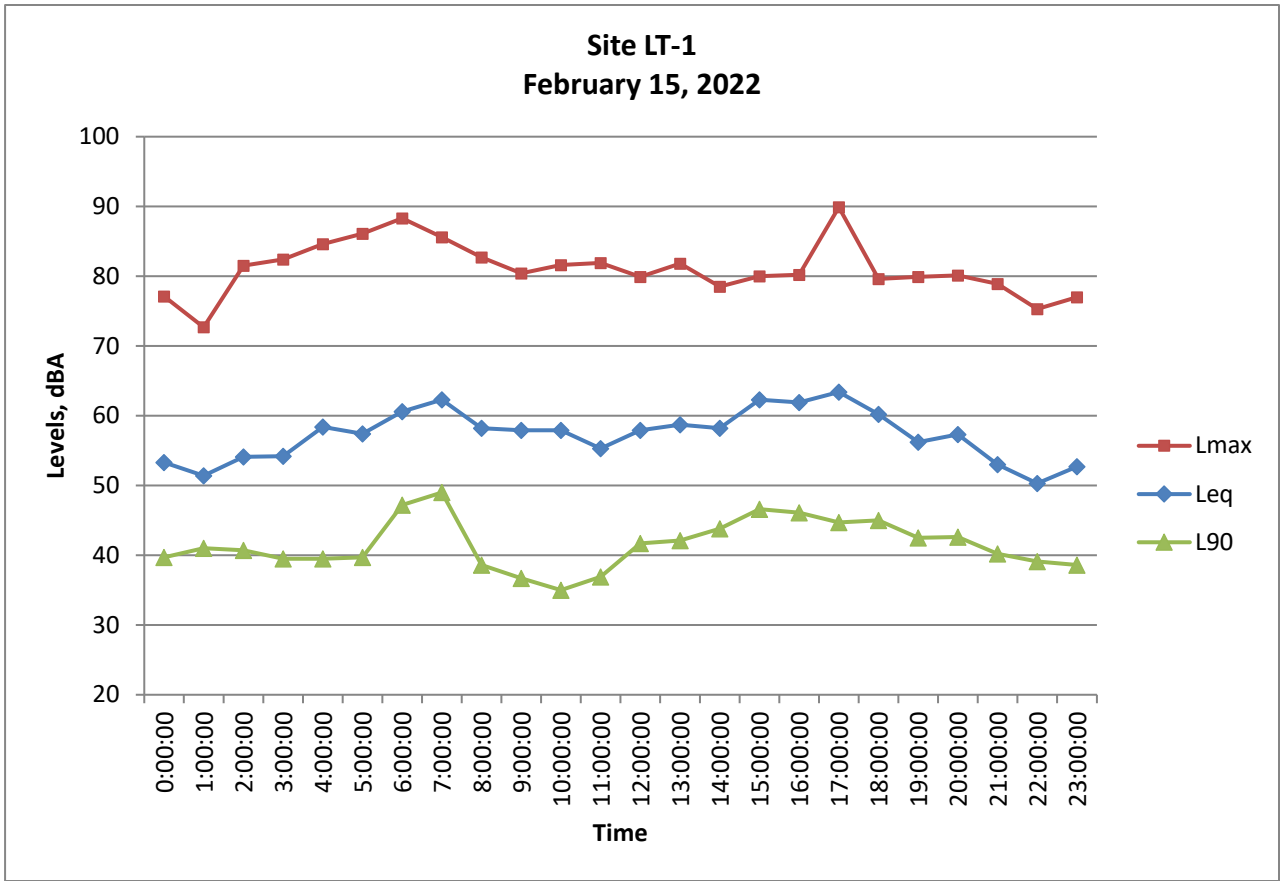


FIGURE 4: NOISE MEASUREMENT SITE LT-1

FIGURE 5: HOURLY NOISE LEVELS AT SITE LT-2

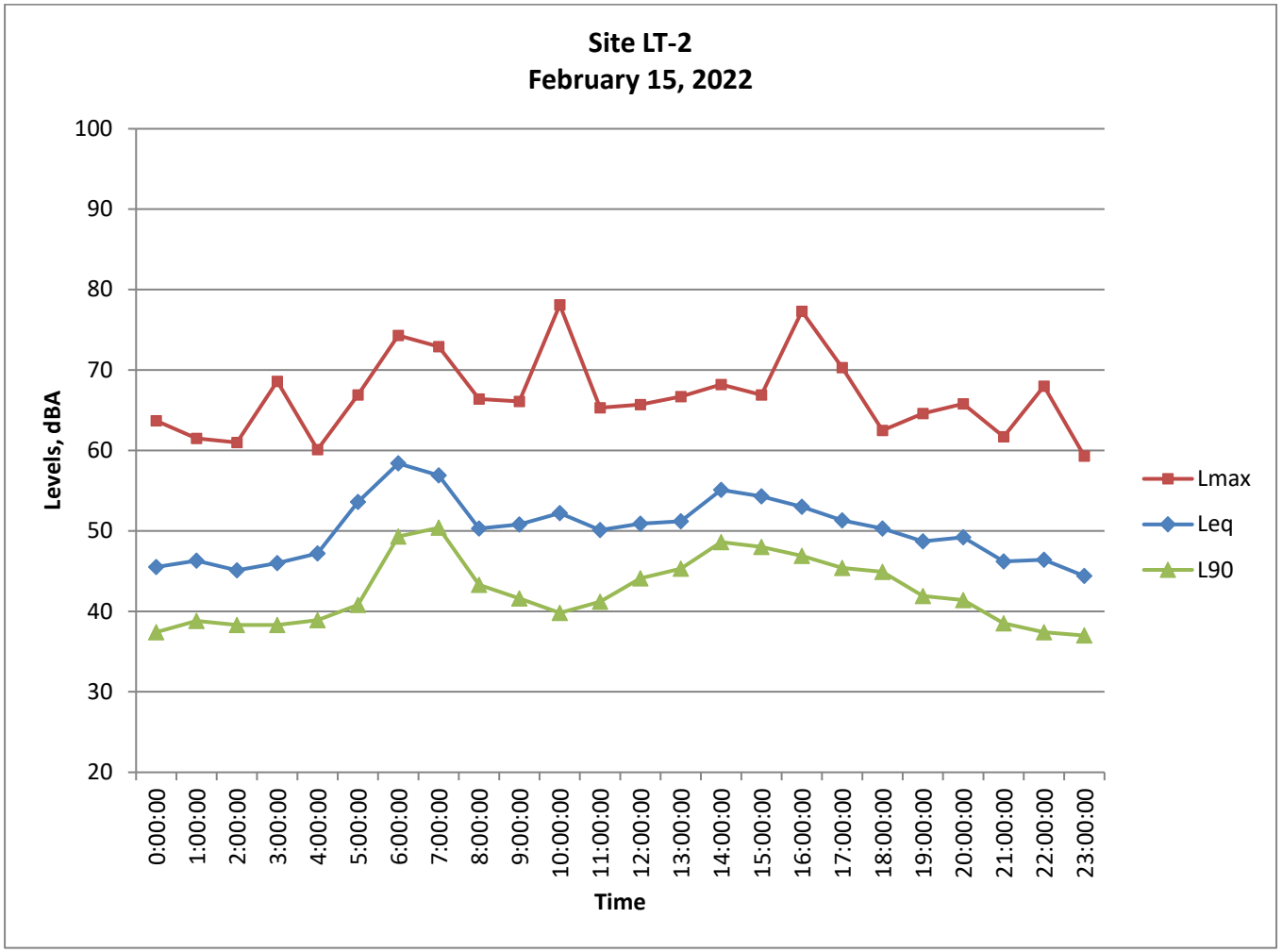
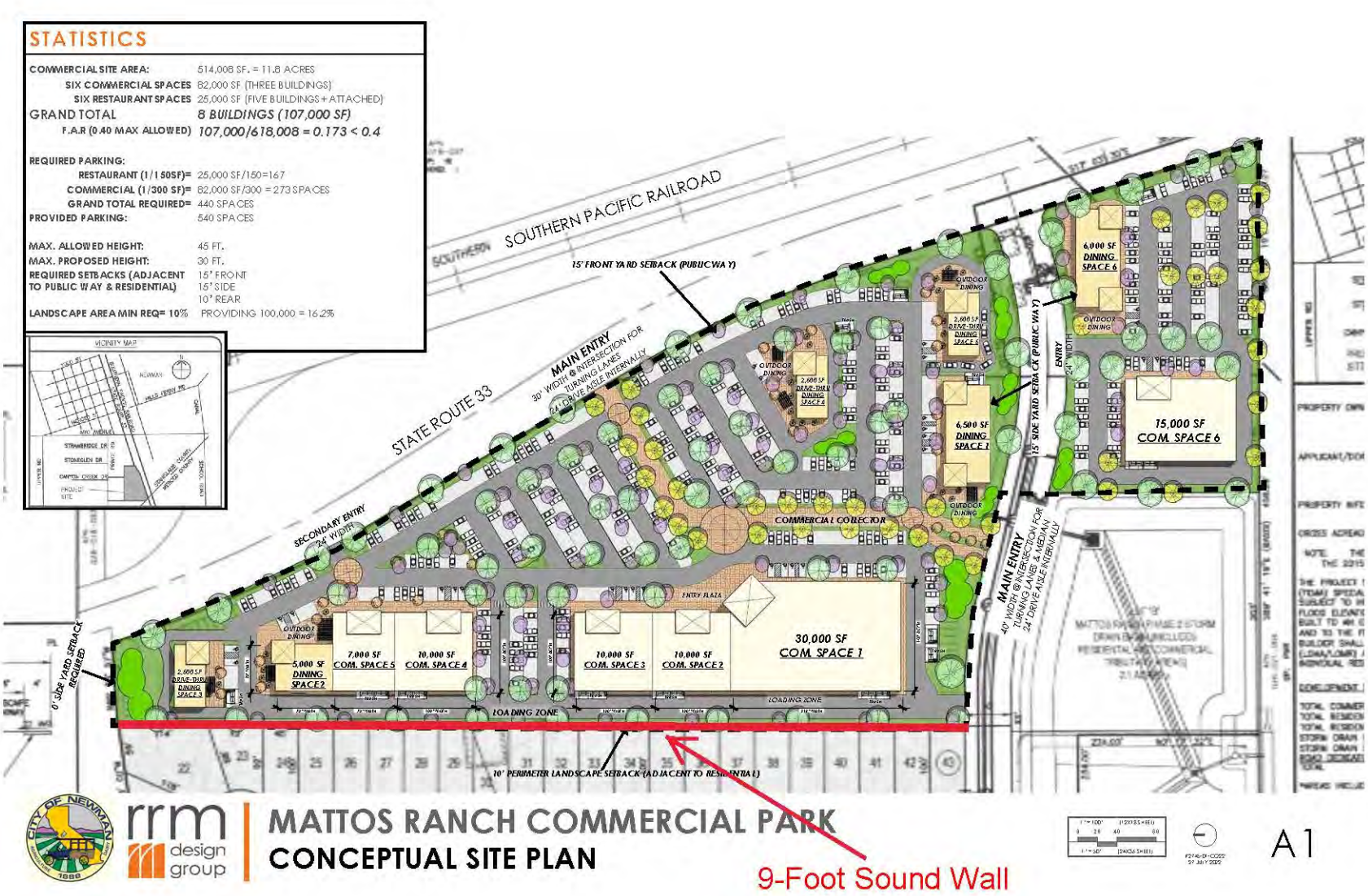


FIGURE 6: NOISE MEASUREMENT SITE LT-2

FIGURE 7: MODELED TRAFFIC NOISE RECEPTOR LOCATIONS

FIGURE 8: COMMERCIAL PARK CONCEPTUAL SITE PLAN



APPENDIX A-1

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

NOISE LEVEL REDUCTION (NLR): The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of "noise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

SOUND LEVEL: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

SOUND TRANSMISSION CLASS (STC): The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

APPENDIX B
EXAMPLES OF SOUND LEVELS

NOISE SOURCE	SOUND LEVEL	SUBJECTIVE DESCRIPTION
AMPLIFIED ROCK 'N ROLL ▸	120 dB	
JET TAKEOFF @ 200 FT ▸		DEAFENING
	100 dB	
BUSY URBAN STREET ▸		VERY LOUD
	80 dB	
FREEWAY TRAFFIC @ 50 FT ▸		LOUD
CONVERSATION @ 6 FT ▸	60 dB	
TYPICAL OFFICE INTERIOR ▸		MODERATE
SOFT RADIO MUSIC ▸	40 dB	
RESIDENTIAL INTERIOR ▸		FAINT
WHISPER @ 6 FT ▸	20 dB	
HUMAN BREATHING ▸		VERY FAINT
	0 dB	

APPENDIX C

TRAFFIC NOISE MODELING CALCULATIONS

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
October 22, 2022

Project #:	22-12
Description:	2024 NP
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB)	60	65	70	75					

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	SR 33	n/o Inyo Ave R-4	11190	90		10	2	1	25	140	
2	SR 33	s/o Inyo Ave R-5	9930	90		10	2	1	25	210	
3	Inyo Ave	w/o SR 33	3720	90		10	2	1	25	100	
4	Inyo Ave	e/o SR 33 R-6	1020	90		10	2	1	25	100	
5	Inyo Ave	w/o Prince Road R-1	2360	90		10	2	1	25	50	
6	Inyo Ave	e/o Prince Road R-2	4170	90		10	2	1	25	120	
7	Prince Road	s/o Inyo Ave R-3	2370	90		10	2	1	25	75	

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
October 22, 2022

Project #:	22-12
Description:	2024 +Project
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB) 60, 65, 70, 75

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	SR 33	n/o Inyo Ave R-4	19320	90		10	2	1	25	140	
2	SR 33	s/o Inyo Ave R-5	19230	90		10	2	1	25	210	
3	Inyo Ave	w/o SR 33	4310	90		10	2	1	25	100	
4	Inyo Ave	e/o SR 33 R-6	1600	90		10	2	1	25	100	
5	Inyo Ave	w/o Prince Road R-1	2940	90		10	2	1	25	50	
6	Inyo Ave	e/o Prince Road R-2	4750	90		10	2	1	25	120	
7	Prince Road	s/o Inyo Ave R-3	2370	90		10	2	1	25	75	

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
October 22, 2022

Project #:	22-12
Description:	2044 No Project
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB)	60	65	70	75					

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	SR 33	n/o Inyo Ave R-4	15900	90		10	2	1	25	140	
2	SR 33	s/o Inyo Ave R-5	14070	90		10	2	1	25	210	
3	Inyo Ave	w/o SR 33	5390	90		10	2	1	25	100	
4	Inyo Ave	e/o SR 33 R-6	1460	90		10	2	1	25	100	
5	Inyo Ave	w/o Prince Road R-1	3470	90		10	2	1	25	50	
6	Inyo Ave	e/o Prince Road R-2	6060	90		10	2	1	25	120	
7	Prince Road	s/o Inyo Ave R-3	3390	90		10	2	1	25	75	

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
October 22, 2022

Project #:	22-12
Description:	2044 + Project
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB)	60	65	70	75					

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	SR 33	n/o Inyo Ave R-4	24040	90		10	2	1	25	140	
2	SR 33	s/o Inyo Ave R-5	23360	90		10	2	1	25	210	
3	Inyo Ave	w/o SR 33	5960	90		10	2	1	25	100	
4	Inyo Ave	e/o SR 33 R-6	2040	90		10	2	1	25	100	
5	Inyo Ave	w/o Prince Road R-1	4050	90		10	2	1	25	50	
6	Inyo Ave	e/o Prince Road R-2	6640	90		10	2	1	25	120	
7	Prince Road	s/o Inyo Ave R-3	3390	90		10	2	1	25	75	
8	Prince Road	n/o CR	2570	90		10	2	1	25	100	
9	Prince Road	s/o CR	1680	90		10	2	1	25	60	

VMT Analysis

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APPENDIX

MEMORANDUM

TO: Justin Hendrix, City of Newman

FROM: Erik Ruehr, VRPA Technologies, Inc.

DATE: September 6, 2022

RE: Mattos Ranch 2
Vehicle Miles Traveled (VMT) Analysis

This memorandum provides a vehicle miles traveled (VMT) analysis for the proposed Mattos Ranch 2 mixed-use development in the City of Newman. The analysis was conducted to meet the requirements for transportation analysis under the California Environmental Quality Act (CEQA). The remainder of the memorandum includes sections describing background information, the project description, trip generation, VMT analysis methodology, and VMT analysis.

BACKGROUND INFORMATION

Per the requirements of Senate Bill 743 (SB 743), VMT is the new performance measure used in CEQA transportation analysis. VMT became the required performance measure on July 1, 2020 replacing the previous performance measure which was level of service (LOS). The VMT generated by land development projects is compared to various screening criteria and significance thresholds to determine whether the level of VMT would be considered to be significant.

CEQA allows agencies to adopt formal methodologies and thresholds of significance that will be used for environmental evaluation or to use methodologies and thresholds of significance determined on a case-by-case basis. The City of Newman has not adopted methodologies and thresholds of significance for VMT analysis and the analysis conducted for this project was based statewide guidance as well as regional guidance provided by other agencies located in the San Joaquin Valley.

Additional detail is provided in the sections that follow.

4630 W. Jennifer, Suite 105, Fresno, CA 93722 · Phone (559) 271-1200 · Fax (559) 271-1269
www.vrpatechnologies.com

PROJECT DESCRIPTION

The project is located between SR 33 and Prince Road on the south side of the City of Newman. Plans call for implementation of the following development:

- ✓ Single Family Residential: 43 d.u.
- ✓ General Commercial/Retail: 82,000 s.f.
- ✓ Restaurant/Retail: 25,000 s.f.

The project site plan is shown in Exhibit 1.

TRIP GENERATION

Exhibit 2 shows the expected trip generation for the project as determined by the Institute of Transportation Engineers Trip Generation Manual, 11th Edition. A total of 9,123 external daily trips, 373 external AM peak hour trips, and 888 external PM peak hour trips are expected to be generated.

Project trip generation was determined using trip generation rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). The considerations described above led to the recommended trip generation for daily, AM peak hour (7:00-9:00am), and PM peak hour (4:00-6:00pm) shown in Exhibit 2.

For the purposes of the trip generation, the retail/restaurant portions of the project have been categorized together as a retail center.

VMT ANALYSIS METHODOLOGY

The methodology for VMT analysis was developed in consideration of statewide and regional guidance. The Governor's Office of Planning and Research (OPR) has provided statewide guidance for VMT analysis in its Technical Advisory for Evaluating Transportation Impacts in CEQA (OPR 2018).

Rather than relying on statewide guidance, many agencies throughout California have prepared guidance that takes into account factors specific to regional and/or local conditions. At the time of this VMT analysis, regional guidance was not available through the Stanislaus Council of Governments (StanCOG) or Stanislaus County. Therefore, regional guidance prepared within the San Joaquin Valley was considered.

VMT guidance provided by three agencies in the San Joaquin Valley, the Fresno Council of Governments (Fresno COG), the City of Fresno, and the City of Visalia was considered to be applicable in the City of Newman. Although the guidance provided by these three agencies is very similar, the guidance provided by Fresno COG is specifically referenced for VMT analysis of the Mattos Ranch 2 project.

Both the statewide VMT analysis guidance prepared by OPR and the VMT guidance provided by Fresno COG mention the use of a screening process to determine whether projects can be screened out of

requiring a detailed VMT analysis and be presumed to have a less than significant impact. The OPR guidance includes the following statement:

"Many agencies use 'screening thresholds' to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (See e.g., CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix G.) As explained below, this technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing."

Fresno COG recommends that a project may be screened out of requiring a detailed VMT analysis due to proximity to transit, project type (retail development of less than 50,000 sq. ft., affordable housing, or government/public service, small project size, or location within a low VMT area). None of these screening criteria are considered to apply to the Mattos Ranch 2 project.

In the case of projects that are not screened out, a VMT analysis is necessary and the methodology for the VMT analysis depends on the type of project. For mixed-use projects, Fresno COG recommends that the VMT analysis be based on the predominant land use or by analyzing each of the components of the project separately while taking into account any trips made internal to the site.

Based on the trip generation shown in Exhibit 2, the retail portion of the site generates 9,647 out of the 10,111 daily trips, or 95.4% of the total trips generated at the site. Therefore, the project will be analyzed as retail.

Retail projects are analyzed based on net change in VMT. Projects that result in a net increase in VMT would indicate a potentially significant impact while projects that result in a net decrease in VMT would have a less than significant impact. Fresno COG recommends running the Fresno COG activity-based model to evaluate retail projects. Since this option is not applicable in Newman, state guidance was consulted to determine a methodology for retail projects.

The statewide OPR guidance includes the following statement:

"Because new retail development typically redistributes shopping trips rather than creating new trips, estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts.
By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant.

Many cities and counties define local-serving and regional-serving retail in their zoning codes. Lead agencies may refer to those local definitions when available, but should also consider any project-specific information, such as market studies or economic impacts analyses that might bear on customers' travel behavior. Because lead agencies will best understand their own communities and the likely travel

behaviors of future project users, they are likely in the best position to decide when a project will likely be local-serving. Generally, however, retail development including stores larger than 50,000 square feet might be considered regional-serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT."

Based on the guidance described above, the VMT analysis focused on whether the proposed project was local-serving (in which case it would have a less than significant impact) or regional-serving (in which case additional analysis would need to be conducted to determine whether the project would result in a net increase or decrease in VMT).

VMT ANALYSIS

The following analysis is provided to determine whether the project is local-serving:

- ✓ For Newman residents, the proposed retail development is likely to provide some retail opportunities that are already available in Newman and some retail opportunities that are only currently available in larger cities such as Turlock, Atwater, Merced, and Los Banos. In all of these cases new trips to the proposed development would be expected to occur if they would be more convenient (i.e. shorter) than trips that are made to other destinations. Therefore, new trips to the proposed retail development made by Newman residents would be expected to reduce VMT.

- ✓ For residents of rural areas adjacent to Newman, the proposed retail development is likely to provide some retail opportunities that are already available in Newman and some retail opportunities that are only currently available in larger cities mentioned above. In all of these cases, new trips to the proposed development would be expected to occur if they would be more convenient (i.e. shorter) than trips that are made to other destinations. Therefore, new trips to the proposed retail development made by residents of rural areas adjacent to Newman would be expected to reduce VMT.

- ✓ Residents of larger cities near Newman such as Turlock, Atwater, Merced, and Los Banos would be expected to have retail opportunities in their cities of residence that would be more convenient than the proposed retail center. Therefore, no change in trip-making and no change in VMT would be expected based on residents of the cities mentioned above.

The combined effect of the considerations described above is that the proposed retail center could be considered to be a local-serving retail use that would result in a net decrease in VMT.

Since the project is considered to be predominantly retail and because the retail component of the project is considered to be local-serving the project is considered to have a less than significant VMT impact.

Please contact me if you have any questions. I can be reached by email at eruehr@vrpatechnologies.com or by phone at 858/361-7151.


STATISTICS
COMMERCIAL SITE AREA: 514,008 SF. = 11.8 ACRES
SIX COMMERCIAL SPACES 82,000 SF (THREE BUILDINGS)
SIX RESTAURANT SPACES 25,000 SF (FIVE BUILDINGS+ ATTACHED)
GRAND TOTAL 8 BUILDINGS (107,000 SF)
F.A.R (0.40 MAX ALLOWED) 107,000/618,008 = 0.173 < 0.4
REQUIRED PARKING:
RESTAURANT (1/150SF)= 25,000 SF/150=167
COMMERCIAL (1/300 SF)= 82,000 SF/300 = 273 SPACES
GRAND TOTAL REQUIRED= 440 SPACES
PROVIDED PARKING: 540 SPACES
MAX. ALLOWED HEIGHT: 45 FT.
MAX. PROPOSED HEIGHT: 30 FT.
REQUIRED SETBACKS (ADJACENT TO PUBLIC WAY & RESIDENTIAL) 15' FRONT
15' SIDE
10' REAR
LANDSCAPE AREA MIN REQ= 10% PROVIDING 100,000 = 16.2%
VICINITY MAP
SOUTHERN PACIFIC RAILROAD
STATE ROUTE 33
15' FRONT YARD SETBACK (PUBLIC WAY)
MAIN ENTRY
30' WIDTH @ INTERSECTION FOR TURNING LANES
24' DRIVE AISLE INTERNALLY
SECONDARY ENTRY
24' WIDTH
COMMERCIAL COLLECTOR
ENTRY PLAZA
LOADING ZONE
0' SIDE YARD SETBACK REQUIRED
10' PERIMETER LANDSCAPE SETBACK (ADJACENT TO RESIDENTIAL)
15' SIDE YARD SETBACK (PUBLIC WAY)
ENTRY
24' WIDTH
MAIN ENTRY
40' WIDTH @ INTERSECTION FOR TURNING LANES & MEDIAN
24' DRIVE AISLE INTERNALLY
6,000 SF DINING SPACE 6
15,000 SF COM. SPACE 6
6,500 SF DINING SPACE 1
30,000 SF COM. SPACE 1
10,000 SF COM. SPACE 2
10,000 SF COM. SPACE 3
10,000 SF COM. SPACE 4
7,000 SF COM. SPACE 5
5,000 SF DINING SPACE 2
2,500 SF DRIVE-THRU DINING SPACE 3
2,500 SF DRIVE-THRU DINING SPACE 4
2,500 SF DRIVE-THRU DINING SPACE 5
OUTDOOR DINING
CITY OF NEWMAN
rrm design group
MATTOS RANCH COMMERCIAL PARK
CONCEPTUAL SITE PLAN
A1

Exhibit 2

Mattos Ranch 2

Project Trip Generation

LAND USE (ITE LAND USE CODE)	QUANTITY (DWELLING UNITS OR 1,000 SQUARE FEET)	DAILY TRIP ENDS (ADT)		WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
Single Family Residential (210)	43	10.80	464	0.81	26:74	9	26	35	1.05	62:38	28	17	45
Retail Center (821)	107.0	90.16	9,647	3.53	62:38	234	144	378	8.785	48:52	451	489	940
SUBTOTAL TRIP GENERATION			**10,111**			**243**	**169**	**413**			**479**	**506**	**985**
Internal Vehicle Trips (5%)			**506**			**12**	**8**	**21**			**24**	**25**	**50**
Pass By Trips/Retail Center Only (5%)			**482**			**12**	**7**	**19**			**23**	**24**	**47**
TOTAL EXTERNAL TRIP GENERATION			**9,123**			**219**	**154**	**373**			**432**	**457**	**888**