Appendix A

Notice of Preparation and
Scoping Comments

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT

The Hub, Sacramento State Research Park Project
California State University, Sacramento

Date: March 22, 2021

To: Responsible Agencies, Trustee Agencies, and Interested Persons

Lead Agency: California State University, Sacramento

Subject: The Hub, Sacramento State Research Park Project

Review Period: March 22, 2021 – April 21, 2021

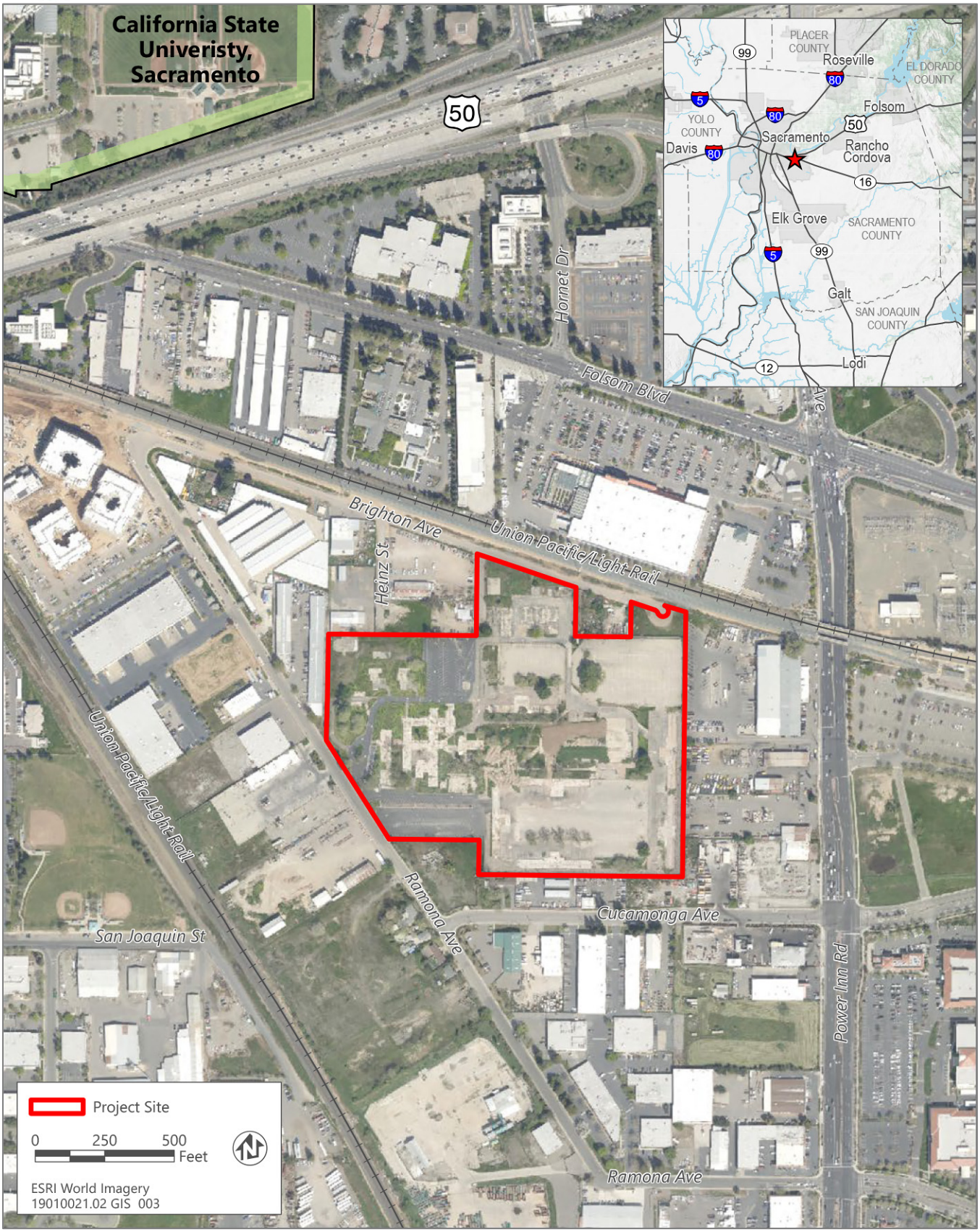
Purpose of Notice: In accordance with the California Environmental Quality Act (CEQA), California State University, Sacramento (Sacramento State) is distributing a notice of preparation (NOP) to solicit comments on the scope of an environmental impact report (EIR) that is being prepared for The Hub, Sacramento State Research Park Project (project). The California State University (CSU) Board of Trustees is the lead agency responsible for approval of the project and as such is also responsible for complying with the provisions of CEQA.

This NOP has been prepared pursuant to Sections 15082 and 15083 of the CEQA Guidelines. This NOP starts a public scoping period that will assist CSU in the preparation of the Draft EIR. The public scoping period is for 30 days and will run from March 22, 2021 to April 21, 2021. The purpose of the NOP is to provide sufficient information about the project and its potential environmental impacts to allow agencies and the interested parties the opportunity to provide a meaningful response related to the scope and content of the EIR, including possible environmental impacts, mitigation measures, and alternatives.

Project Location: The 25-acre Ramona Property (project site), which is entirely owned and operated by Sacramento State, is located at 3001 Ramona Avenue in the City of Sacramento, California and is approximately one-quarter mile south of the Sacramento State main campus (Figure 1). The project site is within a highly urbanized and industrial portion of the City of Sacramento, bounded by Brighton Avenue to the north, Power Inn Road to the east, Cucamonga Avenue to the south, and Ramona Avenue to the west. U.S. Highway 50 (US 50) is located less than 0.5 miles north of the site.

Description of Project: The project proposes development of the project site in two phases with academic, research, and office space that support the academic programming of Sacramento State. Phase I of the project (Figure 2) would include construction and operation of the Sacramento Municipal Utility District (SMUD)-affiliated nonprofit California Mobility Center (CMC) testing and manufacturing facility (ramp-up facility) and a new office building/crime laboratory for the California Department of Justice (CADOJ). The proposed CMC would consist of a research facility for mobility technologies such as electric vehicles, autonomous transportation, battery storage, and transit; a showcase building; and an approximately three-acre test track for CMC autonomous vehicles and surface parking, occupying approximately 11 acres within the northern half of the site. Under Phase I, the CADOJ facility would occupy approximately nine acres in the southern half of the site for a building and secure parking. Both the CMC and CADOJ facilities would provide opportunities for integration with Sacramento State instruction: classes, hands-on learning, internships, etc.

The remaining five acres of the project site would accommodate a central plaza/green space, landscaping and stormwater detention areas, bicycle and pedestrian pathways, and internal access roads. Phase II of the project, as shown in Figure 3, would replace Phase I surface parking in the eastern portion of the project site with two mixed-use buildings. As currently envisioned, the Phase II buildings would provide academic, administrative, and/or research office space with ground-level retail and parking, as well as additional space for CMC expansion, adjacent to the testing and manufacturing facility.



Source: adapted by Ascent Environmental in 2021

Figure 1 The Hub, Sacramento State Research Park, Project Site

Legend

- California Mobility Center
- California Department of Justice (CADOJ)
- Project Boundary
- Future Users
- Secure Parking Entry
- Vehicular Circulation
- Parking
- Ped/Bike Circulation

Program

	California Mobility Center	California Department of Justice (CADOJ)	Future Users	Total s.f./ Acres
	①②	③		
Phase I	166,800 GSF	250,000 GSF		416,800 GSF
Phase II				
Other				
Total Site Acres	10.86 AC	6.59 AC	1.61 AC	19.06 AC
Parking	112,500 SF 250 spaces	121,500 SF 270 spaces	22,500 SF 50 spaces	234,720 GSF 570 spaces
Site Detention/ Stormwater	18,950 SF	12,710 SF	11,250 SF	42,910 GSF
				651,520 GSF

North

0' 50' 100' 200'

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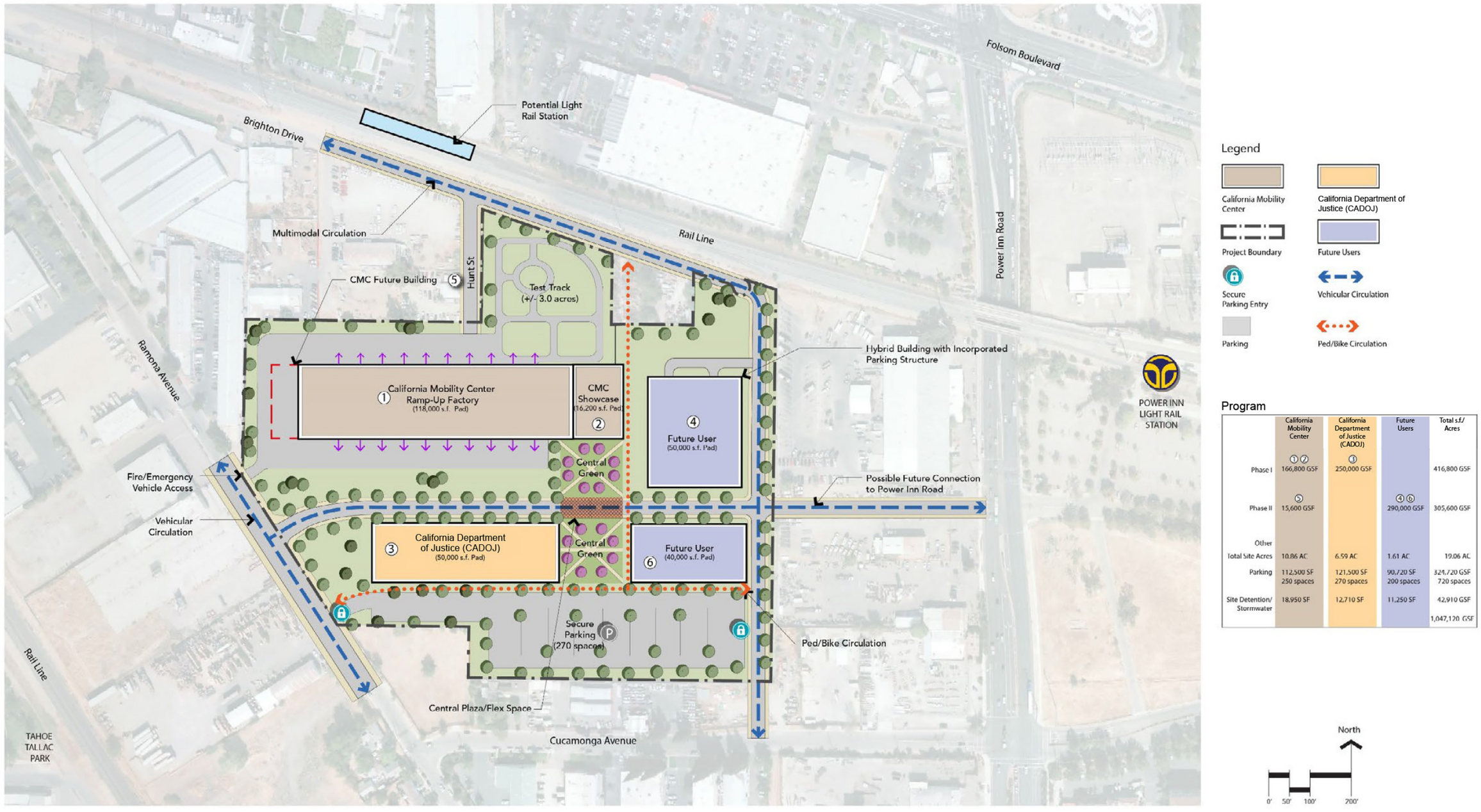
Source: Image provided by Sacramento State in 2021

Figure 2 The Hub, Sacramento State Research Park, Project Concept Phase I



	California Mobility Center	California Department of Justice (CADOJ)	Future Users	Total s.f./ Acres
Phase I	①② 166,800 GSF	③ 250,000 GSF		416,800 GSF
Phase II	⑤ 15,600 GSF		④⑥ 290,000 GSF	305,600 GSF
Other				
Total Site Acres	10.86 AC	6.59 AC	1.61 AC	19.06 AC
Parking	112,500 SF 250 spaces	121,500 SF 270 spaces	90,720 SF 200 spaces	324,720 GSF 720 spaces
Site Detention/ Stormwater	18,950 SF	12,710 SF	11,250 SF	42,910 GSF
				1,047,120 GSF

19010021.01 GRX 002

Source: Image provided by Sacramento State in 2021

Figure 3 The Hub, Sacramento State Research Park, Project Concept Phase II

Potential Permits and Approvals Required: Elements of the project could be subject to permitting and/or approval by agencies other than the CSU Board of Trustees. As the lead agency pursuant to CEQA, CSU is responsible for considering the adequacy of the EIR and determining whether to approve the project. Permits that may be required from other agencies include:

- Central Valley Regional Water Quality Control Board: National Pollutant Discharge Elimination System construction stormwater permit (Notice of Intent to proceed under General Construction Permit), discharge permit for stormwater, general order for dewatering, recycled water permit
- California Department of Transportation: Permits for movement of oversized or excessive loads on State highways
- Sacramento Metropolitan Air Quality Management District: Authority to construct, permit to operate
- City of Sacramento: Sidewalk and roadway encroachment permits, utility connection permits, utility easements, tree removal permits

Potential Environmental Effects: The EIR will describe the significant direct and indirect environmental impacts of the project. The EIR also will evaluate the cumulative impacts of the project, defined as impacts that could be exacerbated when considered in conjunction with other related past, present, and reasonably foreseeable future projects. Sacramento State anticipates that the project could result in potentially significant environmental impacts in the following resource areas, which will be further evaluated in the EIR:

- **Aesthetics:** Temporary and long-term changes in views or visual character of the project site, as viewed by motorists from public vantagepoints on US 50, 59th Street, Power Inn Road, and Ramona Avenue.
- **Air Quality**: Temporary increases in air pollutant emissions associated with construction and long-term increases in pollutant emissions associated with project operations and associated vehicular trips.
- **Biological Resources**: Although the project site is a disturbed, vacant sit in an urban setting, the potential for impacts to biological resources, including tree removal, nesting birds, and bats, will be evaluated.
- **Cultural Resources**: Disturbance of known or unknown archaeological or tribal cultural resources.
- **Energy**: Utilization of energy for construction and operation of the project.
- **Greenhouse Gas Emissions:** Temporary increases in greenhouse gas (GHG) emissions associated with mobile-source exhaust from construction worker commute trips, truck haul trips, and equipment (e.g., excavators, graders); and long-term increases in GHG emissions associated with project operations, including stationary and mobile sources.
- **Hazards and Hazardous Materials:** Potential risks associated with accident or upset conditions during construction or due to the potential use, storage, or transportation of hazardous materials related to project operations.
- **Noise:** Temporary increases in noise (including off-site, vehicle traffic noise) and vibration levels during construction; and long-term increases in noise from project operation, including stationary and mobile sources.
- **Transportation and Traffic:** Temporary and long-term increases in vehicular trips, potential traffic hazards on local roadways, parking, and impacts to transit, pedestrian, or bicycle facilities due to construction and operations.
- **Utilities and Service Systems:** Increased demand for water, wastewater service, electricity, or natural gas at the project site and the potential need to increase the capacity of existing infrastructure.

The aforementioned issue areas and associated impacts will be evaluated in detail in the EIR. As necessary, feasible and practicable mitigation measures will be recommended to reduce any identified significant or potentially significant impacts.

Sacramento State anticipates that the project would not result in significant environmental impacts to the following resources and does not propose to evaluate them in depth in the EIR: agriculture and forest resources, cultural resources (historic resources only), geology and soils, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, and wildfire. Brief discussions of these resources will be provided in the EIR with explanations as to why significant impacts to each resource are not anticipated.

Comment Period: Written comments on the NOP can be sent anytime during the NOP review period which begins March 22, 2021 to April 21, 2021. Sacramento State will accept written or electronic comments submitted by 5:00 p.m. on April 21, 2021, to the following address:

Tania Nunez, Project Manager
California State University, Sacramento, Planning, Design, & Construction
6000 J Street
Sacramento, CA 95819
Email: tania.nunez@csus.edu

Comments provided via email should include "The Hub, Sacramento State Research Park Project NOP Scoping Comment" in the subject line and the name and physical address of the commenter in the body of the email.

Public Scoping Meeting: Sacramento State will host a public scoping meeting to inform interested parties about the project, and to provide agencies and the public with an opportunity to provide comments on the scope and content of the EIR. In accordance with public health orders, the scoping meeting will be held via webinar only.

- Wednesday April 7, 2021 5:30 p.m. to 6:30 p.m.
- Participants must register to attend the scoping meeting here: https://csus.zoom.us/meeting/register/tZIkdeirpj0uHte6I55YYi6H_HdpC-Gm--ll

  After registering, you will receive the link to log-into the webinar on April 7th.

21 April 2021

Tania Nunez
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COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, THE HUB, SACRAMENTO STATE RESEARCH PARK PROJECT, SCH#2021030485, SACRAMENTO COUNTY

Pursuant to the State Clearinghouse's 22 March 2021 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for The Hub, Sacramento State Research Park Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has

adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the

State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]
The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit
Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

Clean Water Act Section 404 Permit
If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage

under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-0335 or Angela.Nguyen-Tan@waterboards.ca.gov.

Angela Nguyen-Tan
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Department of Toxic Substances Control

Jared Blumenfeld
Secretary for
Environmental Protection

Meredith Williams, Ph.D.
Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Gavin Newsom
Governor

March 25, 2021

Ms. Tania Nunez
California State University
Board of Trustees
6000 J Street
Sacramento, CA 95819
Tania.Nunez@csus.edu

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE HUB, SACRAMENTO STATE RESEARCH PARK PROJECT – DATED MARCH 22, 2021 (STATE CLEARINGHOUSE NUMBER: 2021030485)

Ms. Nunez:

The Department of Toxic Substances Control (DTSC) received a Notice of Preparation of an Environmental Impact Report (EIR) for The Hub, Sacramento State Research Park Project (Project). The Lead Agency is receiving this notice from DTSC because the Project includes one or more of the following: groundbreaking activities, work in close proximity to a roadway, work in close proximity to mining or suspected mining or former mining activities, presence of site buildings that may require demolition or modifications, importation of backfill soil, and/or work on or in close proximity to an agricultural or former agricultural site.

DTSC recommends that the following issues be evaluated in the EIR Hazards and Hazardous Materials section:

1. The EIR should acknowledge the potential for historic or future activities on or near the project site to result in the release of hazardous wastes/substances on the project site. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The EIR should also identify the mechanism(s) to initiate any required investigation and/or remediation and the government agency who will be responsible for providing appropriate regulatory oversight.
2. Refiners in the United States started adding lead compounds to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive

in California. Tailpipe emissions from automobiles using leaded gasoline contained lead and resulted in aerially deposited lead (ADL) being deposited in and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil DTSC, recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the project described in the EIR.

3. If any sites within the project area or sites located within the vicinity of the project have been used or are suspected of having been used for mining activities, proper investigation for mine waste should be discussed in the EIR. DTSC recommends that any project sites with current and/or former mining operations onsite or in the project site area should be evaluated for mine waste according to DTSC's 1998 Abandoned Mine Land Mines Preliminary Assessment Handbook (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/11/aml_handbook.pdf).

4. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006 *Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers* (https://dtsc.ca.gov/wpcontent/uploads/sites/31/2018/09/Guidance_Lead_Contamination_050118.pdf).

5. If any projects initiated as part of the proposed project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to *DTSC's 2001 Information Advisory Clean Imported Fill Material* (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMP_FS_Cleanfill-Schools.pdf).

6. If any sites included as part of the proposed project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the EIR. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 *Interim Guidance for Sampling Agricultural Properties (Third Revision)* (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/Ag-Guidance-Rev-3-August-7-2008-2.pdf).

DTSC appreciates the opportunity to comment on the EIR. Should you need any assistance with an environmental investigation, please submit a request for Lead Agency Oversight Application, which can be found at: https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/VCP_App-1460.doc. Additional information regarding voluntary agreements with DTSC can be found at: https://dtsc.ca.gov/brownfields/.

If you have any questions, please contact me at (916) 255-3710 or via email at Gavin.McCreary@dtsc.ca.gov.

Sincerely,

Gavin McCreary
Project Manager
Site Evaluation and Remediation Unit
Site Mitigation and Restoration Program
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and Research
State Clearinghouse
State.Clearinghouse@opr.ca.gov

Mr. Dave Kereazis
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
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NATIVE AMERICAN HERITAGE COMMISSION

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March 24, 2021

Tania Nunez
California State University (CSU) Board of Trustees (CSU Sacramento)
6000 J Street
Sacramento, CA 95819

Re: 2021030485, The Hub, Sacramento State Research Park Project, Sacramento County

Dear Ms. Nunez:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez
Cultural Resources Analyst

cc: State Clearinghouse

Regional Transit

Sacramento Regional Transit District
A Public Transit Agency
and Equal Opportunity Employer

Administrative Offices
1400 29th Street
Sacramento, CA 95816
916-321-2800

Mailing Address
P.O. Box 2110
Sacramento, CA 95812-2110

Human Resources
2810 O Street
Sacramento, CA 95816
916-556-0299

Customer Service &
Sales Center
1225 R Street
Sacramento, CA 95811

Route, Schedule & Fare
Information
916-321-BUSS (2877)
TDD 916-483-HEAR (4327)
www.sacrt.com

Public Transit Since 1973

April 21, 2021

Tania Nunez
Project Manager
California State University, Sacramento, Planning, Design & Construction
6000 J Street
Sacramento, CA 95819

PROJECT TITLE:	The Hub, Sacramento State Research Park Project
TYPE OF DOCUMENT:	Notice of Preparation for Draft Environmental Impact Report

Dear Ms. Nunez,

Thank you for the opportunity to review the Notice of Preparation (NOP) for the Sacramento State Research Park Project, otherwise known as "The Hub". As described in the NOP, the project site encompasses 25 acres in a highly urbanized and industrial portion of the City of Sacramento, and is approximately one-quarter mile south of the Sacramento State main campus.

Sacramento Regional Transit District (SacRT) has been involved in the Ramona Master Plan community working groups with the master plan project team, and various stakeholders to discuss the project background and preferred development concepts. SacRT feels that this project is a very important addition to the region, including phases that support the academic programming of Sacramento State. SacRT will continue to be involved in all phases of this project, and looks forward to serving this community once developed.

The project site is located with ¼ mile of SacRT's Power Inn Light Rail Station. We anticipate an increase in transit demand as this project develops, and are prepared to work in partnership with Sacramento State, the City of Sacramento, and others to consider transit access, infrastructure, and operational improvements needed in order for members of the public to access the site.

SacRT recognizes that there may be temporary and long-term increases in vehicular trips due to this project, which would result in increased VMTs in the region. With that said, we will be carefully considering the

environmental analysis related to VMTs, and are prepared to recommend necessary outcomes to provide a safe, efficient circulation system that promotes transit options and pedestrian circulation to reduce VMTs through encouraging non-vehicular trips.

SacRT also looks forward to reviewing a transportation and circulation analysis to identify connectivity improvements between the project site, the existing Power Inn Light Rail Station, and potential bus routing. We are also open to the possibility of a new station location that is more accessible to the project site.

SacRT recognizes the importance of the environmental impact analysis, and will continue to work with Sacramento State, City staff, and others to provide data and assist in the process, when necessary.

Thank you again for the opportunity to comment on the NOP for the Hub. Please send any subsequent documents and notices that pertain to this project as they become available. If you have further questions regarding these requests, please contact me at 916.556.0518 or spoe@sacrt.com.

Sincerely,

Sarah Poe

Sarah Poe
Planner

c: James Boyle, Planning Director

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

April 21, 2021

Tania Nunez, Project Manager
California State University, Sacramento
Planning, Design, & Construction
6000 J Street
Sacramento, CA 95819
tania.nunez@csus.edu

Subject: **The Hub Research Park Project NOP**
State Clearinghouse # 2021030485

Dear Tania Nunez:

The Sacramento Metropolitan Air Quality Management District (Sac Metro Air District) thanks California State University Sacramento (CSUS) for the opportunity to review the Notice of Preparation (NOP) for an Environmental Impact Report (EIR) for The Hub Research Park Project (The Hub), a proposal to develop 25 acres in the City of Sacramento, with academic, research, and office space that support CSUS academic programming. Please accept our comments on air quality considerations for project California Environmental Quality Act (CEQA) review.

CEQA Review
Please reference Sac Metro Air District's guidance on reviewing projects under CEQA, The Guide to Air Quality Assessment in Sacramento County (CEQA Guide), in preparing The Hub EIR. Below are recommendations for CEQA analysis of project-specific components, using the CEQA Guide. Sac Metro Air District recommends that The Hub EIR's analysis of cumulative air quality impacts use methods of disclosing and mitigating these impacts found in the CEQA Guide's chapter on Cumulative Air Quality Impacts.

Construction Analysis
The Hub EIR's construction analysis should quantify and disclose projected construction emissions of Criteria Pollutants, pollutants regulated by the Clean Air Act, using methods referenced in the CEQA Guide's chapter on Construction-Generated Criteria Air Pollutant and Precursor Emissions. If construction emissions are projected to exceed applicable Sac Metro Air District thresholds of significance, the EIR should incorporate mitigation measures for construction emissions, using methods in this chapter.

All projects must implement Sac Metro Air District Basic Construction Emission Control Practices in order to use the non-zero particulate matter CEQA thresholds of significance. These are also helpful to ensure compliance with Sac Metro Air District's Rule 403, Fugitive Dust.

Please note that all projects are subject to Sac Metro Air District rules and regulations at the time of construction. Please visit our website to find a list of the most common rules that apply at the construction phase of projects.

Operational Analysis
The Hub EIR's analysis of operational emissions should quantify and disclose projected operational emissions of Criteria Pollutants, using methods referenced in the CEQA Guide's chapter on Operational Criteria Air Pollutant and Precursor Emissions. If operational emissions are projected to exceed applicable Sac Metro Air District thresholds of significance, the EIR should incorporate mitigation measures for those emissions, using methods in this chapter.

For projects that will exceed Sac Metro Air District's operational emissions thresholds of significance for reactive organic gases, oxides of nitrogen, or particulate matter, Sac Metro Air District recommends the project proponent develop an Air Quality Mitigation Plan (AQMP) with measures to reduce operational emissions by 15% or more. The AQMP can be a standalone document or incorporated into the environmental document. The AQMP must be referenced in the EIR as an air quality mitigation measure, appended to the document, and referenced as a condition of approval by the lead agency.

Sac Metro Air District recommends using its Recommended Guidance for Land Use Emission Reductions to develop AQMP measures. Should the project develop an AQMP, Sac Metro Air District respectfully requests consultation to review the AQMP for technical adequacy prior to inclusion in the draft EIR.

Analysis of operational Criteria Pollutants should also include an analysis of health effects that may result from operational emissions, pursuant to the "Friant Ranch" decision. In December 2018 the California Supreme Court issued a decision in the Sierra Club v. County of Fresno case regarding the "Friant Ranch" project ((2018) 6 Cal. 5th 502). The Court determined that CEQA air quality analysis should include a reasonable effort to connect a project's air quality impacts to likely health consequences or explain in meaningful detail why it is not feasible to do so. To analyze health effects pursuant to the Friant Ranch decision, consult Sac Metro Air District's Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District.

Greenhouse Gas Analysis
The Hub EIR's analysis should quantify and disclose projected greenhouse gas (GHG) emissions resulting from project construction and operations, using methods referenced in the CEQA Guide's chapter on Greenhouse Gas Emissions. If GHG emissions are projected to exceed applicable Sac Metro Air District thresholds of significance, the EIR should incorporate mitigation measures for those emissions, using methods in this chapter.

Under Sac Metro Air District's GHG thresholds of significance, projects that are not subject to a Qualified Climate Action Plan must implement Best Management Practices (BMPs) including the following.

1. No natural gas: projects shall be designed and constructed without natural gas infrastructure

2. Electric vehicle (EV) ready: projects shall meet the current California Green Building Standards Code (CalGreen) Tier 2 standards, except all EV capable spaces shall instead be EV ready

3. After implementation of the first two BMPs, if the project's operational emissions exceed 1,100 metric tons of GHG emissions per year, then the project must demonstrate that it meets the California Governor's Office of Planning and Research SB 743 Technical Advisory de minimis criteria for vehicle miles traveled, or reduce project vehicle miles traveled by 15% residential and 15% worker relative to averages for Sacramento County, with no net increase in retail vehicle miles traveled.

For quick reference, please visit our Greenhouse Gas Threshold Applicability flow chart.

Toxic Air Contaminants
The Hub includes manufacturing uses, which are often associated with toxic air contaminant (TAC) emissions. Using methods referenced in the CEQA Guide's chapter on TAC Emissions, the Hub EIR should include a discussion of whether the project would locate any permitted or nonpermitted sources of TACs in locations with strong potential to affect human health, a significance determination about TAC exposure resulting from project operations without mitigation, and a discussion of feasible mitigation necessary to reduce TAC exposure resulting from project operations to a less-than-significant level.

Permitting Requirements
Please be aware that the project's manufacturing uses may require an Authority to Construct and Permit to Operate from the Sac Metro Air District. Please contact the Sac Metro Air District at 916-874-4800 or permitting@airquality.org with comments or questions on permit or registration requirements. For permit application forms and instructions, please visit the following page on the Sac Metro Air District website: http://www.airquality.org/Businesses/Permits-Registration-Programs.

Urban Heat Island Effect
The Sac Metro Air District participated in the 2020 Capital Region Transportation Sector Urban Heat Island Mitigation Project (UHI Project), producing a report on urban heat island effect impacts on the Sacramento region, and mitigation strategies for these impacts. The urban heat island effect already presents a serious challenge for our region, according to the report. Urbanized areas in Sacramento range 3 to 9 degrees Fahrenheit warmer than surrounding areas, which results in decreased air quality and associated public health impacts. The urban heat island results from the conversion of undeveloped land to urbanized land.

Consistent with mitigation strategies identified in the UHI Project report, Sac Metro Air District recommends the following project measures:

- New pavement for the project is "cool pavement," with an albedo of at least 0.25-0.5

- All project structures utilize certified cool roofs. The 2019 California Building Energy Efficiency Standards suggests an aged solar reflectance of at least 0.63 for low-sloped roofs and at least 0.20 for steep-sloped roofs, and minimum thermal emittance of 0.75. The Cool Roof Rating Council provides a product directory of roofs.

- Landscaping incorporates new trees to shade new and existing pavements and structures to the full extent feasible. Parking lots have at least 50% tree shade coverage, and shade trees line pedestrian paths to provide continuous shade coverage there. Please reference the Sacramento

Tree Foundation's Shady Eighty guide for a directory of air-quality supportive trees with information for each species on shade canopy, necessary distance between plantings, and more.

Conclusion

Thank you for your attention to our comments. If you have questions about them, please contact me at mwright@airquality.org or 916-874-4207.

Sincerely,

Molly Wright, AICP
Air Quality Planner / Analyst

cc: Paul Philley, AICP, CEQA and Land Use Program Supervisor, Sac Metro Air District
Steve Mosunic, Permitting Program Supervisor, Sac Metro Air District

SMUD®

Sent Via E-Mail

April 21, 2021

Tania Nunez, Project Manager
California State University, Sacramento, Planning, Design, & Construction
6000 J Street
Sacramento, CA 95819
tania.nunez@csus.edu

Subject: **The Hub, Sacramento State Research Project | NOP | 2021030485**

Dear Ms. Nunez:

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the Notice of Preparation (NOP) for The Hub, Sacramento State Research Project (Project, SCH 2021030485). SMUD is the primary energy provider for Sacramento County and the proposed Project area. SMUD's vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region. As a Responsible Agency, SMUD aims to ensure that the proposed Project limits the potential for significant environmental effects on SMUD facilities, employees, and customers.

It is our desire that the Project will acknowledge any impacts related to the following:

- Overhead and or underground transmission and distribution line easements. Please view the following links on smud.org for more information regarding transmission encroachment:
  - https://www.smud.org/en/Business-Solutions-and-Rebates/Design-and-Construction-Services
  - https://www.smud.org/en/Corporate/Do-Business-with-SMUD/Land-Use/Transmission-Right-of-Way
- Utility line routing
- Electrical load needs/requirements
- Energy Efficiency
- Climate Change
- Cumulative impacts related to the need for increased electrical delivery
- The potential need to relocate and or remove any SMUD infrastructure that may be affected in or around the project area

More specifically, SMUD would like to have the following details related to the electrical infrastructure incorporated into the project description:

- SMUD would like to obtain additional details regarding the proposed Regional Transit station North of Brighton drive to ensure that there will not be any conflicts with SMUD transmission lines that run parallel with Brighton drive.

- SMUD would like to obtain additional details regarding any proposed above ground and subsurface improvements North of Brighton drive to ensure that there will not be any conflicts with SMUD transmission lines that run parallel with Brighton drive.

SMUD would like to be involved with discussing the above areas of interest as well as discussing any other potential issues. We aim to be partners in the efficient and sustainable delivery of the proposed Project. Please ensure that the information included in this response is conveyed to the Project planners and the appropriate Project proponents.

Environmental leadership is a core value of SMUD, and we look forward to collaborating with you on this Project. Again, we appreciate the opportunity to provide input on this NOP. If you have any questions regarding this letter, please do not hesitate to contact me at 916.732.6676, or by email at rob.ferrera@smud.org.

Sincerely,

Rob Ferrera
Environmental Services Specialist
Sacramento Municipal Utility District
6201 S Street
Sacramento, CA 95817

cc: Entitlements

YOCHA DEHE
CULTURAL RESOURCES

March 26, 2021

California State University, Sacramento, Planning, Design & Construction
Attn: Tania Nunez, Project Manager
6000 J Street
Sacramento, CA 95819

RE: Hub Sac State Research Park Project YD-03232021-01

Dear Ms. Nunez:

Thank you for your project notification letter dated, March 22, 2021, regarding cultural information on or near the proposed Hub Sac State Research Park Project, Sacramento County. We appreciate your effort to contact us.

The Cultural Resources Department has reviewed the project and concluded that it is not within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we respectively decline any comment on this project. However, based on the information provided, please defer correspondence to the following:

United Auburn Indian Community
Attn: Tribal Historic Preservation Officer
10720 Indian Hill Road
Auburn, CA 95603

Wilton Rancheria
Attn: Tribal Historic Preservation Officer
9728 Kent Street
Elk Grove, CA 95624

Please refer to identification number YD – 03232021-01 in any future correspondence with Yocha Dehe Wintun Nation concerning this project.

Thank you for providing us with this notice and the opportunity to comment.

Sincerely,

DocuSigned by:
Isaac Bojorquez
A61DE454C98B40A...

Isaac Bojorquez
Director of Cultural Resources

cc: United Auburn Indian Community

Appendix B

Air Quality, Greenhouse Gas, and Energy Modeling

CalEEMod Inputs (Construction)

Name:	The Hub
Project Number:	19010021.02
Project Location:	3001 Ramona Ave Sacramento CA
County:	Sacramento
Climate Zone:	6
Land Use Setting:	Urban
Operational Year:	2029
Utility Company:	SMUD (Electricity); Pacific Gas & Electric (NG)
Air Basin:	Sacramento Valley Air Basin
Air District:	SMAQMD

Land Use	FGSF	GSF	1000 GSF	Acres	
Phase 1					
Manufacturing	118,800	118,800	118.8	2.73	
General Office Building	21,600	32,400	32.4	0.50	
Other Asphalt Surfaces				3.00	
Parking Lot	72,000	72,000	72.0	1.65	
Research & Development	50,000	250,000	250.0	1.15	
Parking Lot	140,000	140,000	140.0	3.21	
Parking Lot	26,000	26,000	26.0	0.60	
Road				2.08	
City Park				9.47	
Total	**428,400**	**639,200**	**639**	**24**	
Phase 2					
Manufacturing	15,600	15,600	15.6	0.36	
General Office Building	64,000	189,500	189.5	0.00	***Acreage is considered under the parking s**
Strip Mall	14,500	14,500	14.5	0.00	***Acreage is considered under the parking s**
Parking Structure	64,000	180,000	180.0	1.47	
General Office Building	26,000	52,000	52.0	0.60	
Total	**184,100**	**451,600**	**452**	**2**	
	612,500	**1,090,800**	**1,091**	**27**	

Demolition Haul Data*

Component	Amount to be Demolished (SF)*	Haul Truck Capacity (Ton)	Haul Distance (miles)	Total Trip Ends	Duration (days)	Trip Ends/ day
Parking Lot	72,000	15	20	9,493	68	279
Parking Lot	26,000					
Total	98,000			**9,493**		

*Based on cubic yards provided by the applicant.

CalEEMod Inputs (Operations)

Name:	The Hub
Project Number:	19010021.02
Project Location:	3001 Ramona Ave Sacramento CA
County:	Sacramento
Climate Zone:	6
Land Use Setting:	Urban
Operational Year:	2029
Utility Company:	SMUD (Electricity); Pacific Gas & Electric (NG)
Air Basin:	Sacramento Valley Air Basin
Air District:	SMAQMD

Land Use	FGSF	GSF	1000 GSF	Acres
Phase 1				
Manufacturing	118,800	118,800	118.8	2.73
General Office Building	21,600	32,400	32.4	0.50
Other Asphalt Surfaces (test track)				3.00
Parking Lot	72,000	72,000	72.0	1.65
Research & Development	50,000	250,000	250.0	1.15
Parking Lot	140,000	140,000	140.0	3.21
Parking Lot	26,000	26,000	26.0	0.60
Road				2.08
City Park				9.47
Sub Total	**428,400**	**639,200**	**639**	**24**
Phase 2				
Manufacturing	15,600	15,600	15.6	0.36
General Office Building	64,000	189,500	189.5	0.00
Strip Mall	14,500	14,500	14.5	0.00
Parking Structure	64,000	180,000	180.0	1.47
General Office Building	26,000	52,000	52.0	0.60
Sub Total	**184,100**	**451,600**	**452**	**2**
Total	**612,500**	**1,090,800**	**1,091**	**27**
Both Phases				
Manufacturing	134,400	134,400	134.4	3.09
General Office Building	111,600	273,900	273.9	1.09
Research & Development	50,000	250,000	250.0	1.15
Strip Mall	14,500	14,500	14.5	0.00
Other Asphalt Surfaces				3.00
Parking Structure	64,000	180,000	180.0	1.47
Parking Lot	238,000	238,000	238	7.54
City Park				9.47
Total	**612,500**	**1,090,800**	**1,091**	**27**

Construction Schedule Adjustment

Phase 1

Phase Name	Phase Type	CalEEMod Total Days	Portion of Construction Schedule	Construction Schedule for 33 months	Check
Site Preparation	Site Preparation	10	2%	16	2%
Grading	Grading	35	8%	55	8%
Building Construction	Building Construction	370	81%	581	81%
Paving	Paving	20	4%	31	4%
Architectural Coating	Architectural Coating	20	4%	31	4%
		455	100%	715	100%

Phase 2

Phase Name	Phase Type	CalEEMod Total Days	Portion of Construction Schedule	Construction Schedule for 2 year phase	Check
Demolition	Demolition	20	7%	39	7%
Site Preparation	Site Preparation	3	1%	6	1%
Grading	Grading	6	2%	12	2%
Building Construction	Building Construction	220	82%	425	82%
Paving	Paving	10	4%	19	4%
Architectural Coating	Architectural Coating	10	4%	19	4%
		269	100%	520	100%

CalEEMod VMT Calculator (UNMITIGATED SCENARIO)

This calcultor was created based on the default trip inputs for the unmitigated CalEEMod run. The calculator calculateds the annual VMT from the proposed project using the same methodology from CalEEMod, described in Appendix A, for the UNMITIGATED SCENARIO. This calculator can be used to adjust land use trip rates for the MITIGATED PROJECT scenario which is based on the traffic study conducted for the project

Trip Type

CalEEMod defaults based on land uses inputted

Land Use	Miles			Trip %			Trip Purpose		
	H-w or C-W	H-S or C-C	H-O or C-O	H-w or C-W	H-S or C-C	H-O or C-O	Primary	Diverted	Pass-by
General Office Building	10.00	5.00	6.50	33.0%	48.0%	19.0%	77.0%	19.0%	4.0%
Manufacturing	10.00	5.00	6.50	59.0%	28.0%	13.0%	92.0%	5.0%	3.0%
Research & Development	10.00	5.00	6.50	33.0%	48.0%	19.0%	82.0%	15.0%	3.0%
Strip Mall	10.00	5.00	6.50	16.6%	64.4%	19.0%	45.0%	40.0%	15.0%
City Park	10.00	5.00	6.50	33.0%	48.0%	19.0%	66.0%	28.0%	6.0%

Total Trips

Total Trips = (TripRate weekday x 5 +Trip Sat + Trip Sun)

Average Daily Trips Based on CalEEMod Trip Gen Defaults per land use unit. Total trips Calculated

Land Use	Average Daily Trip Rate			
	weekday	Saturday	Sunday	Total Trips (weekly)
General Office Building	2,667.79	605.32	191.73	**14,135.98**
Manufacturing	528.19	862.85	684.096	**4,187.90**
Research & Development	2,815.00	475.00	277.5	**14,827.50**
Strip Mall	642.64	609.58	296.235	**4,119.02**
City Park	7.39	18.56	20.7393	**76.23**

Trip Length Calc

AVG Trip Length = Link % primary x trip length primary+link % divertedx0.25x length trip primary+link % passbyx0.1

Trip length calculated for each trip type based on trip purpose % and length defaults from CalEEMod

Land Use

		trip length			trip length			
General Office Building	link % primary	primary	link % diverted	Constant (0.25)	primary	link % passby	constant	Trip Length
H-W or c-w	77.0%	10.00	19.0%	0.25	10	4.0%	0.1	8.2
h-s or c-c	77.0%	5.00	19.0%	0.25	5	4.0%	0.1	4.1
h-o or c-o	77.0%	6.50	19.0%	0.25	6.5	4.0%	0.1	5.3
		trip length			trip length			
Manufacturing	link % primary	primary	link % diverted	Constant (0.25)	primary	link % passby	constant	Trip Length
H-W or c-w	92.0%	10.00	5.0%	0.25	10.00	3.0%	0.1	9.3
h-s or c-c	92.0%	5.00	5.0%	0.25	5.00	3.0%	0.1	4.7
h-o or c-o	92.0%	6.50	5.0%	0.25	6.50	3.0%	0.1	6.1
		trip length			trip length			
Research & Development	link % primary	primary	link % diverted	Constant (0.25)	primary	link % passby	constant	Trip Length
H-W or c-w	82.0%	10.00	15.0%	0.25	10.00	3.0%	0.1	8.6
h-s or c-c	82.0%	5.00	15.0%	0.25	5.00	3.0%	0.1	4.3
h-o or c-o	82.0%	6.50	15.0%	0.25	6.50	3.0%	0.1	5.6
		trip length			trip length			
Strip Mall	link % primary	primary	link % diverted	Constant (0.25)	primary	link % passby	constant	Trip Length
H-W or c-w	45.0%	10.00	40.0%	0.25	10.00	15.0%	0.1	5.5
h-s or c-c	45.0%	5.00	40.0%	0.25	5.00	15.0%	0.1	2.8
h-o or c-o	45.0%	6.50	40.0%	0.25	6.50	15.0%	0.1	3.6
		trip length			trip length			
City Park	link % primary	primary	link % diverted	Constant (0.25)	primary	link % passby	constant	Trip Length
H-W or c-w	66.0%	10.00	28.0%	0.25	10.00	6.0%	0.1	7.3
h-s or c-c	66.0%	5.00	28.0%	0.25	5.00	6.0%	0.1	3.7
h-o or c-o	66.0%	6.50	28.0%	0.25	6.50	6.0%	0.1	4.8

VMT Calc Per Land Use Type (Weekly)

VMT = #Trips x AVG Trip Length per land use and trip type

Trip number for each trip type are derived by multiplying the total trips for each land use calculated above in the Total Trip Calcs by the trip % shown in the Trip Type table for each land use

General Office Building	**# trips**	**trip length**	**Weekly VMT**	**Annual VMT**
H-W or c-w	4,665	8.2	38,154	
h-s or c-c	6,785	4.1	27,762	
h-o or c-o	2,686	5.3	14,283	4,170,323.72
Manufacturing				
H-W or c-w	2,471	9.3	23,048	
h-s or c-c	1,173	4.7	5,471	
h-o or c-o	544	6.1	3,302	1,654,670.40
Research & Development				
h-s or c-c	4,893	8.6	41,973	
h-o or c-o	7,117	4.3	30,536	
h-o or c-o	2,817	5.6	15,711	4,587,445.38
Strip Mall				
H-W or c-w	684	5.5	3,771	
h-s or c-c	2,653	2.8	7,335	
h-o or c-o	783	3.6	2,810	723,583.25
City Park				
H-W or c-w	25	7.3	184	
h-s or c-c	37	3.7	134	
h-o or c-o	14	4.8	69	20,092.45
Total VMT			214,541	11,156,115.20

Annual VMT Calc

the calculated weekly VMT for each land use is summed. This value is multiplied by 50 weeks/year to equal the annual VMT number calculated by CalEEMod

Summed Weekly VMT from Each Land Use	214,540.68		
Weeks per Year CalEEMod Uses for Annual VMT	52.00	52.0000	52.14285714
Calculated Annual VMT	**11,156,115**		

CalEEMod VMT Calculator (UNMITIGATED SCENARIO)

This calcultor was created based on the default trip inputs for the unmitigated CalEEMod run. The calculator calculateds the annual VMT from the proposed project using the same methodology from CalEEMod, described in Appendix A, for the UNMITIGATED SCENARIO. This calculator can be used to adjust land use trip rates for the MITIGATED PROJECT scenario which is based on the traffic study conducted for the project

Daily VMT Provided	89571	347	days per year
Annual VMT Provided	23,288,460		https://ww3.arb.ca.gov/cc/inventory/

Trip Type

CalEEMod defaults based on land uses inputted

Land Use	Miles			Trip %			Trip Purpose		
	H-w or C-W	H-S or C-C	H-O or C-O	H-w or C-W	H-S or C-C	H-O or C-O	Primary	Diverted	Pass-by
General Office Building	11.00	10.00	10.30	33.0%	48.0%	19.0%	100.0%	0.0%	0.0%
Manufacturing	0.00	0.00	0.00	59.0%	28.0%	13.0%	100.0%	0.0%	0.0%
Research & Development	0.00	0.00	0.00	33.0%	48.0%	19.0%	100.0%	0.0%	0.0%
Strip Mall	0.00	0.00	0.00	16.6%	64.4%	19.0%	100.0%	0.0%	0.0%
City Park	0.00	0.00	0.00	33.0%	48.0%	19.0%	100.0%	0.0%	0.0%

Total Trips

Total Trips = (TripRate weekday x 5 +Trip Sat + Trip Sun)

Average Daily Trips Based on CalEEMod Trip Gen Defaults per land use unit. Total trips Calculated

Land Use	Average Daily Trip Rate			
	weekday	Saturday	Sunday	Total Trips (weekly)
General Office Building	8,627.85000	0.00	0.00	**43,139.25**
Manufacturing	0.00	0.00	0.00	**0.00**
Research & Development	0.00	0.00	0.00	**0.00**
Strip Mall	0.00	0.00	0.00	**0.00**
City Park	0.00	0.00	0.00	**0.00**

Trip Length Calc

AVG Trip Length = Link % primary x trip length primary+link % divertedx0.25x length trip primary+link % passbyx0.1

Trip length calculated for each trip type based on trip purpose % and length defaults from CalEEMod

Land Use

		trip length			trip length			
General Office Building	link % primary	primary	link % diverted	Constant (0.25)	primary	link % passby	constant	Trip Length
H-W or c-w	100.0%	11.00	0.0%	0.25	11	0.0%	0.1	11.0
h-s or c-c	100.0%	10.00	0.0%	0.25	10	0.0%	0.1	10.0
h-o or c-o	100.0%	10.30	0.0%	0.25	10.3	0.0%	0.1	10.3
Manufacturing	link % primary	trip length primary	link % diverted	Constant (0.25)	trip length primary	link % passby	constant	Trip Length
H-W or c-w	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
h-s or c-c	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
h-o or c-o	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
Research & Development	link % primary	trip length primary	link % diverted	Constant (0.25)	trip length primary	link % passby	constant	Trip Length
H-W or c-w	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
h-s or c-c	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
h-o or c-o	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
Strip Mall	link % primary	trip length primary	link % diverted	Constant (0.25)	trip length primary	link % passby	constant	Trip Length
H-W or c-w	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
h-s or c-c	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
h-o or c-o	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
City Park	link % primary	trip length primary	link % diverted	Constant (0.25)	trip length primary	link % passby	constant	Trip Length
H-W or c-w	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
h-s or c-c	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0
h-o or c-o	100.0%	0.00	0.0%	0.25	0.00	0.0%	0.1	0.0

VMT Calc Per Land Use Type (Weekly)

VMT = #Trips x AVG Trip Length per land use and trip type

Trip number for each trip type are derived by multiplying the total trips for each land use calculated above in the Total Trip Calcs by the trip % shown in the Trip Type table for each land use

General Office Building	**# trips**	**trip length**	**Weekly VMT**	**Annual VMT**
H-W or c-w	14,236	11.0	156,595	
h-s or c-c	20,707	10.0	207,068	
h-o or c-o	8,196	10.3	84,424	23,300,544.27
Manufacturing				
H-W or c-w	0	0.0	-	
h-s or c-c	0	0.0	-	
h-o or c-o	0	0.0	-	-
Research & Development				
h-s or c-c	0	0.0	-	
h-o or c-o	0	0.0	-	
h-o or c-o	0	0.0	-	-
Strip Mall				
H-W or c-w	0	0.0	-	
h-s or c-c	0	0.0	-	
h-o or c-o	0	0.0	-	-
City Park				
H-W or c-w	0	0.0	-	
h-s or c-c	0	0.0	-	
h-o or c-o	0	0.0	-	-
Total VMT			448,087	23,300,544.27

Annual VMT Calc

the calculated weekly VMT for each land use is summed. This value is multiplied by 50 weeks/year to equal the annual VMT number calculated by CalEEMod

Summed Weekly VMT from Each Land Use	448,087.39			
Weeks per Year CalEEMod Uses for Annual VMT	52.00		52.0000	52.14285714
Calculated Annual VMT	**23,300,544**			

Construction Emissions

UNMITIGATED - Phase I

Construction - Annual

tons/year

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023	0.2251	2.0239	1.9758	0.0054	0.5809	0.0753	0.6562	0.2276	0.0698	0.2974
2024	0.4047	3.1740	3.9460	0.0127	0.6471	0.0898	0.7369	0.1758	0.0846	0.2604
2025	0.3709	2.9329	3.7539	0.0121	0.6229	0.0772	0.7001	0.1692	0.0727	0.2419
2026	1.9453	0.1144	0.2215	0.0004	0.0127	0.0055	0.0182	0.0034	0.0051	0.0085
Max	1.9453	3.1740	3.9460	0.0127	0.6471	0.0898	0.7369	0.2276	0.0846	0.2974

tons/year - Rounded

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023	0.2	2.0	2.0	0.0	0.6	0.1	0.7	0.2	0.1	0.3
2024	0.4	3.2	3.9	0.0	0.6	0.1	0.7	0.2	0.1	0.3
2025	0.4	2.9	3.8	0.0	0.6	0.1	0.7	0.2	0.1	0.2
2026	1.9	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	1.9	3.2	3.9	0.0	0.6	0.1	0.7	0.2	0.1	0.3

Construction - Summer

lb/day

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023	3.5575	34.5480	33.0467	0.1020	19.7939	1.4253	21.0607	10.1388	1.3113	11.3042
2024	3.3317	23.6589	31.8861	0.1000	5.1082	0.6855	5.7936	1.3834	0.6452	2.0286
2025	3.1205	22.4171	30.8842	0.0981	5.1080	0.5978	5.7058	1.3833	0.5628	1.9462
2026	124.5442	8.5992	14.9111	0.0237	0.7683	0.4190	0.8233	0.2038	0.3855	0.4158
Max	124.5442	34.5480	33.0467	0.1020	19.7939	1.4253	21.0607	10.1388	1.3113	11.3042

Construction - Winter

lb/day

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023	3.3814	34.5553	31.4041	0.0981	19.7939	1.4253	21.0607	10.1388	1.3113	11.3042
2024	3.1432	24.5363	30.4214	0.0963	5.1082	0.6860	5.7942	1.3834	0.6458	2.0292
2025	2.9445	23.2657	29.5622	0.0945	5.1080	0.5983	5.7063	1.3833	0.5633	1.9466
2026	124.5133	8.6032	14.8714	0.0236	0.7683	0.4190	0.8233	0.2038	0.3855	0.4158
Max	124.5133	34.5553	31.4041	0.0981	19.7939	1.4253	21.0607	10.1388	1.3113	11.3042

lb/day - Max

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023	3.6	34.6	33.0	0.1	19.8	1.4	21.1	10.1	1.3	11.3
2024	3.3	24.5	31.9	0.1	5.1	0.7	5.8	1.4	0.6	2.0
2025	3.1	23.3	30.9	0.1	5.1	0.6	5.7	1.4	0.6	1.9
2026	124.5	8.6	14.9	0.0	0.8	0.4	0.8	0.2	0.4	0.4
Max	124.5	34.6	33.0	0.1	19.8	1.4	21.1	10.1	1.3	11.3

MITGATED Phase I

Operations - Annual

tons/year

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023	0.2251	2.0239	1.9758	0.0054	0.3426	0.0753	0.4178	0.1248	0.0698	0.1946
2024	0.4047	3.1740	3.9460	0.0127	0.5991	0.0898	0.6889	0.1640	0.0846	0.2486
2025	0.3709	2.9329	3.7539	0.0121	0.5766	0.0772	0.6539	0.1579	0.0727	0.2305
2026	1.9453	0.1144	0.2215	0.0004	0.0117	0.0055	0.0172	0.0031	0.0051	0.0082
Max	1.9453	3.1740	3.9460	0.0127	0.5991	0.0898	0.6889	0.1640	0.0846	0.2486

tons/year - Rounded

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023	0.2	2.0	2.0	0.0	0.3	0.1	0.4	0.1	0.1	0.2
2024	0.4	3.2	3.9	0.0	0.6	0.1	0.7	0.2	0.1	0.2
2025	0.4	2.9	3.8	0.0	0.6	0.1	0.7	0.2	0.1	0.2
2026	1.9	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	1.9	3.2	3.9	0.0	0.6	0.1	0.7	0.2	0.1	0.2

Construction - Summer

lb/day

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023	3.5575	34.5480	33.0467	0.1020	8.9719	1.4253	10.2386	4.5798	1.3113	5.7452
2024	3.3317	23.6589	31.8861	0.1000	4.7263	0.6855	5.4118	1.2897	0.6452	1.9349
2025	3.1205	22.4171	30.8842	0.0981	4.7262	0.5978	5.3240	1.2896	0.5628	1.8524
2026	124.5442	8.5992	14.9111	0.0237	0.7082	0.4190	0.7632	0.1891	0.3855	0.4136
Max	124.54	34.55	33.05	0.10	8.97	1.43	10.24	4.58	1.31	5.75

Construction - Winter

lb/day

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023	3.3814	34.5553	31.4041	0.0981	8.9719	1.4253	10.2386	4.5798	1.3113	5.7452
2024	3.1432	24.5363	30.4214	0.0963	4.7263	0.6860	5.4123	1.2897	0.6458	1.9354
2025	2.9445	23.2657	29.5622	0.0945	4.7262	0.5983	5.3245	1.2896	0.5633	1.8529
2026	124.5133	8.6032	14.8714	0.0236	0.7082	0.4190	0.7632	0.1891	0.3855	0.4136
Max	124.51	34.56	31.40	0.10	8.97	1.43	10.24	4.58	1.31	5.75

lb/day - Max

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023	3.6	34.6	33.0	0.1	9.0	1.4	10.2	4.6	1.3	5.7
2024	3.3	24.5	31.9	0.1	4.7	0.7	5.4	1.3	0.6	1.9
2025	3.1	23.3	30.9	0.1	4.7	0.6	5.3	1.3	0.6	1.9
2026	124.5	8.6	14.9	0.0	0.7	0.4	0.8	0.2	0.4	0.4
Max	124.5	34.6	33.0	0.1	9.0	1.4	10.2	4.6	1.3	5.7

UNMITIGATED - Phase II

Construction - Annual

tons/year

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2027	0.2358	1.9771	2.1837	0.0056	0.2708	0.0654	0.3362	0.0758	0.0621	0.1380
2028	1.5059	1.7921	2.1045	0.0054	0.1843	0.0582	0.2425	0.0501	0.0556	0.1057
Max	1.5059	1.9771	2.1837	0.0056	0.2708	0.0654	0.3362	0.0758	0.0621	0.1380

tons/year - Rounded

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2027	0.2	2.0	2.2	0.0	0.3	0.1	0.3	0.1	0.1	0.1
2028	1.5	1.8	2.1	0.0	0.2	0.1	0.2	0.1	0.1	0.1
Max	1.5	2.0	2.2	0.0	0.3	0.1	0.3	0.1	0.1	0.1

Construction - Summer

lb/day

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2027	2.0063	15.3611	18.4249	0.0480	7.1587	0.5579	7.6550	3.4449	0.5211	3.9016
2028	135.3998	15.2963	18.2481	0.0475	1.6932	0.4922	2.1853	0.4592	0.4709	0.9300
Max	135.3998	15.3611	18.4249	0.0480	7.1587	0.5579	7.6550	3.4449	0.5211	3.9016

Construction - Winter

lb/day

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2027	1.9560	15.6409	18.0647	0.0469	7.1587	0.5579	7.6550	3.4449	0.5212	3.9016
2028	135.3910	15.5700	17.9106	0.0464	1.6932	0.4923	2.1854	0.4592	0.4710	0.9302
Max	135.3910	15.6409	18.0647	0.0469	7.1587	0.5579	7.6550	3.4449	0.5212	3.9016

lb/day - Max

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2027	2.0	15.6	18.4	0.0	7.2	0.6	7.7	3.4	0.5	3.9
2028	135.4	15.6	18.2	0.0	1.7	0.5	2.2	0.5	0.5	0.9
Max	135.4	15.6	18.4	0.0	7.2	0.6	7.7	3.4	0.5	3.9

MITGATED - Phase II

Operations - Annual

tons/year

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2027	0.2358	1.9771	2.1837	0.0056	0.2044	0.0654	0.2697	0.0569	0.0621	0.1190
2028	1.5059	1.7921	2.1045	0.0054	0.1706	0.0582	0.2289	0.0468	0.0556	0.1024
Max	1.5059	1.9771	2.1837	0.0056	0.2044	0.0654	0.2697	0.0569	0.0621	0.1190

tons/year - Rounded

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2027	0.2	2.0	2.2	0.0	0.2	0.1	0.3	0.1	0.1	0.1
2028	1.5	1.8	2.1	0.0	0.2	0.1	0.2	0.0	0.1	0.1
Max	1.5	2.0	2.2	0.0	0.2	0.1	0.3	0.1	0.1	0.1

Construction - Summer

lb/day

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2027	2.0063	15.3611	18.4249	0.0480	3.2573	0.5579	3.7537	1.5599	0.5211	2.0165
2028	135.3998	15.2963	18.2481	0.0475	1.5670	0.4922	2.0591	0.4282	0.4709	0.8991
Max	135.3998	15.3611	18.4249	0.0480	3.2573	0.5579	3.7537	1.5599	0.5211	2.0165

Construction - Winter

lb/day

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2027	1.9560	15.6409	18.0647	0.0469	3.2573	0.5579	3.7537	1.5599	0.5212	2.0165
2028	135.3910	15.5700	17.9106	0.0464	1.5670	0.4923	2.0593	0.4282	0.4710	0.8992
Max	135.3910	15.6409	18.0647	0.0469	3.2573	0.5579	3.7537	1.5599	0.5212	2.0165

lb/day - Max

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2027	2.0	15.6	18.4	0.0	3.3	0.6	3.8	1.6	0.5	2.0
2028	135.4	15.6	18.2	0.0	1.6	0.5	2.1	0.4	0.5	0.9
Max	135.4	15.6	18.4	0.0	3.3	0.6	3.8	1.6	0.5	2.0

Operations Emissions

Operations - Annual
tons/year

	ROG	NOx	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	2.9877	0.0001		0.0001	0.0001		0.0001	0.0001
Energy	0.0084	0.0761		0.0058	0.0058		0.0058	0.0058
Mobile	3.0825	4.2206	8.6305	0.0532	8.6836	2.3065	0.0497	2.3561
Total	6.0786	4.2968	8.6305	0.0590	8.6894	2.3065	0.0555	2.3619

tons/year - Rounded

	ROG	NOx	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Mobile	3.1	4.2	8.6	0.1	8.7	2.3	0.0	2.4
Total	6.1	4.3	8.6	0.1	8.7	2.3	0.1	2.4
SMAQMD Threshold	-	-	-	-	14.6	-	-	15

Operations - Summer
lb/day

	ROG	NOx	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	16.3744	0.0010		0.0004	0.0004		0.0004	0.0004
Energy	0.0459	0.4170		0.0317	0.0317		0.0317	0.0317
Mobile	28.3670	29.7997	68.7417	0.4092	69.1509	18.3196	0.3823	18.7019
Total	44.7873	30.2177	68.7417	0.4413	69.1830	18.3196	0.4144	18.7340

lb/day - Winter

	ROG	NOx	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	16.3744	0.0010		0.0004	0.0004		0.0004	0.0004
Energy	0.0459	0.4170		0.0317	0.0317		0.0317	0.0317
Mobile	23.0444	34.4978	68.7417	0.4095	69.1513	18.3196	0.3826	18.7022
Total	39.4647	34.9158	68.7417	0.4416	69.1834	18.3196	0.4147	18.7343

lb/day - Max

	ROG	NOx	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	16	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0
Mobile	28	34	69	0	69	18	0	19
Total	44.8	34.9	68.7	0.4	69.2	18.3	0.4	18.7
SMAQMD Threshold	65	65	-	-	80	-	-	82

*Energy emissions are estimated by assuming half of CA DOJ building SF would use natural gas. Therefore, CalEEMod defaults have been divided by 2.

GHG Emissions Inventory

Construction - Unmitigated

		$MTCO_2e$ Total*
Phase 1		
	2023	497
	2024	1,210
	2025	1,154
	2026	36
Phase 2		
	2027	512
	2028	489

*CalEEMod, Version 2020.0.4

Operation*

Proposed				
Area	**0.029200**	$MTCO_2e$/Year**	0.000381%
Electricity	**291**	$MTCO_2e$/Year	3.8%
Natural Gas	**83**	$MTCO_2e$/Year	1.1%
Mobile	**7,163**	$MTCO_2e$/Year	93.6%
Solid Waste	**230**	$MTCO_2e$/Year	3.0%
Water	**174**	$MTCO_2e$/Year	2.3%
EVSE	**-285**	$MTCO_2e$/Year	-3.7%
Total	**7,655**	**$MTCO_2e$/Year**	103.7%

EVSE Emissions

	EV Chargers		
1	Number of Parking Spaces with EV Chargers	71	From calcualted number of electrically connected parking spaces
2	Connections per Charging Station	1	2 Connections at each charging station
3	Average Charging Hours per Connection per Day	3	Note 1
4	Average Total Hours Charging per year for all Connections	55,380	Item 1 * Item 2 * Item 3 * 260
5	Typical Average Charging Rate (kWh/hr)	6	Note 2
6	Total kWh charged per year	332,280	Item 4 * Item 5
7	Total MWh charged per year	332	Item 6 / 1000
8	**Public Charging Stations**		
9	Average Efficiency of EV LDV (kWh/100 mi)	34.0	Note 3
10	Average Efficiency of EV LDV (miles per kWh)	2.9	100 mi / Item 9
11	Number of Equivalent Miles Charged per year (gasoline miles avoided)	977,294	Item 6 * Item 10
12			
13	SMUD CO2 intensity in 2028 (lbs/MWh)	93.0	Note 4
14			
15	CO2 running emission factor for gasoline vehicles in 2035 (g/mi)	306.3	Note 5
16			
17	Annual CO2 Emissions Saved through Charging (tons per year)	330.0	Item 11 * Item 15 converted to tons
18	Annual CO2 Emissions Saved through Charging (metric tons per year)	299.4	Convert Item 17 to metric tons
19	Annual CO2 Emissions from Electricity required to charge (metric tons per year)	14.0	Item 7 * Item 13 converted to metric tons
20	**Net Annual CO2 Emissions Saved (metric tons per year)**	**285.4**	Item 18 minus Item 19

Off-Model Electricity Calculations

All buildings, with the exception of some natural gas use for the laboratory building, would be all-electric. Natural gas demand for the lab building was obtained from nonresidential non-title 24 KBTU/yr values in CalEEMod. Project-specific energy use was available by building, except for the retail use. CalEEMod natural gas default demand was converted to electricty for the retail use.

Project Land Uses

1. Electricity

	KWH/YR*	MWH/YR	lb/CO2	lb/CH4	lb/N2O	lb/CO2e	MT/CO2e
California Mobility Center							
Showcase Building	380,059	380	35,361	3.80	0	35,456	16
Factory	1,300,645	1,301	121,012	13.01	0	124,888	57
Surface Parking	141,853	142	13,198	1.42	0	13,198	6
CA Department of Justice							
CA DOJ Consolidated Facility Building	4,032,258	4,032	375,161	40.32	0	375,161	170
Future User #1							
Office/Academic	2,392,962	2,393	222,641	23.93	0	222,641	101
Retail (strip mall in CalEEMod)**	185,511	186	17,260	1.86	0	17,260	8
Structured Parking **	469,795	470	43,710	4.70	0	43,710	20
Future User #2							
Office/Academic	609,971	610	56,752	6.10	0	56,752	26
Site							
Surface Parking	22,111	22	2,057	0.22	0	2,057	1
	9,535,165	9,535	887,152	95.35	0	891,123	**404**
With Solar***	6,888,093.8	6,888	640,868	68.88		640,868	291

Notes

*Annual electricity demand for all uses except retail were provided by CSU (See Project Elec. Demand Tab). For the retail use, default CalEEMod energy (electricity + NG) rates were used.

**NG demand was converted to electricity using default NG demand from CaLEEMod. Solar assumptions are 81250 SF of PV that generate

2. Natural Gas

	Non-T24 KBTU/YR/SF	Size (SF)	KBTU/Yr	MMBTU/YR	lb/CO2	lb/CH4	lb/N2O	MT/CO2e
DOJ Consolidated Facililty Building (R&D in CalEEMod)*	12.42	125,000	1,552,500	1,553	182647.0591	3.50073225	3.348525	82.84
			455011.7233	455.011723				

*the only natural gas use would be associated with the DOJ Consolidated Facility Building, represented as R&D in CalEEMod. Non Title 24 NG rates were used to estimate NG demand.

**CalEEMod Appendix D, Climate Zone 6

Energy Proportions

	MWh/yr	%
Electricity	6,888	94%
Natural Gas Converted to Electricity	455	6%
Total	7,343	100%

Emission and Conversion Factors

Natural Gas	**lb/MMBTU**
CO2 NBIO	117.647059
CH4	0.0022549
N20	0.00215686

Electricity	
SMUD Intensity Factors (lb/MWh)	**lb/MWh**
CO2	93.04
CH4	0.01
N2O	0

Converions	
kWh/kBTU	3.412
kWh/MWh	1000
lb/MT	2205

IPCC Fourth Assessment Report (Avg)	
CO2	1
CH4	25
N2O	298

The Hub - Sacramento State Research Park
Development Concepte - Estimated Annual Energy Use

	# Stories	Total Area (GSF)	Site EUI (kbtu/sf-yr)	Anticipated Solar (Area)	Anticipated Solar (kw)	Anticipated Solar (kwh)	Annual Gross Energy (kbtu/sf-yr)	Annual Gross Energy (kwh)	Annual Net Energy (kwh)
California Mobility Center									
Showcase Building	1	32,400	40	5,250	92	116,147	1,296,000	380,059	263,912
Factory	1	134,400	33	35,000	616	774,312	4,435,200	1,300,645	526,333
Surface Parking **	1	166,800	2.9	41,000	722	907,051	483,720	141,853	(765,198)
CA Department of Justice							-	-	-
CA DOJ Consolidated Facility Building	5	250,000	55.0		None		13,750,000	4,032,258	4,032,258
Future User #1							-	-	-
Office/Academic	3	204,000	40		None		8,160,000	2,392,962	2,392,962
Structured Parking **	NA	180,000	8.9				1,602,000	469,795	469,795
Future User #2							-	-	-
Office/Academic	2	52,000	40		None		2,080,000	609,971	609,971
Site								-	-
Surface Parking **	NA	26,000	2.9		None		75,400	22,111	22,111
								Total	**7,552,144**

2022 Title 24 Compliance	
Phase 1 Solar Requirement (kWPV)	1,256
Phase 2 Solar Requirement (kWPV)	850
Total (kWPV Required)	**2,106**
Project (kWPV)	1,430
Needed (kWPV)	676
Additional SF	38,401
Total SF	**119,651**
Project kWh	1,797,510
Needed KWh	849,561
Total kWh	**2,647,071**

PV Capacity Factor	3.13	Climate zone12: CEC 2022 Title 24
Energy Conversion Factors	3.41	btuh/watt
Assumed Solar Efficiency	17.6	watts/sf (premium panels assumed)
Assumed Solar Generation	1257	Kwh/yer per nominal installed Kw

** Per Energy star, parking lot ligting is 0.30 w/sf for enclosed and 0.15 w/sf for open. When lighting and ventilation are considereder, enclosed lots aer 8.9 EUI and open lots are 2.9 EUI.
https://www.energystar.gov/sites/default/files/tools/Parking_August_2018_EN_508.pdf?6f81-cd61

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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

CSUS The Hub Construction Phase 1

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	32.40	1000sqft	0.50	32,400.00	0
Research & Development	250.00	1000sqft	1.15	250,000.00	0
Manufacturing	118.80	1000sqft	2.73	118,800.00	0
Other Non-Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0
Other Non-Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	72.00	1000sqft	1.65	72,000.00	0
Parking Lot	140.00	1000sqft	3.21	140,000.00	0
Parking Lot	26.00	1000sqft	0.60	26,000.00	0
City Park	9.47	Acre	9.47	412,513.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SMUD Invensity Factors adjusted accoding to RPS.

Land Use - Lot acreage adjusted according to FGSF

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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

Construction Phase - Adjusted based on 33 month schedule

Grading -

Construction Off-road Equipment Mitigation - Clean Paved Road % PM Reduction - SCAQMD Rule 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	31.00
tblConstructionPhase	NumDays	370.00	581.00
tblConstructionPhase	NumDays	35.00	55.00
tblConstructionPhase	NumDays	20.00	31.00
tblConstructionPhase	NumDays	10.00	16.00
tblConstructionPhase	PhaseEndDate	3/18/2025	3/16/2026
tblConstructionPhase	PhaseEndDate	1/21/2025	12/18/2025
tblConstructionPhase	PhaseEndDate	8/22/2023	9/27/2023
tblConstructionPhase	PhaseEndDate	2/18/2025	1/30/2026
tblConstructionPhase	PhaseEndDate	7/4/2023	7/12/2023
tblConstructionPhase	PhaseStartDate	2/19/2025	2/2/2026
tblConstructionPhase	PhaseStartDate	8/23/2023	9/28/2023
tblConstructionPhase	PhaseStartDate	7/5/2023	7/13/2023
tblConstructionPhase	PhaseStartDate	1/22/2025	12/19/2025
tblLandUse	LotAcreage	0.74	0.50
tblLandUse	LotAcreage	5.74	1.15
tblProjectCharacteristics	CH4IntensityFactor	0.033	0
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0

2.0 Emissions Summary

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

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	0.2251	2.0239	1.9758	5.3700e-003	0.5809	0.0753	0.6562	0.2276	0.0698	0.2974	0.0000	488.2043	488.2043	0.0821	0.0220	496.8209
2024	0.4047	3.1740	3.9460	0.0127	0.6471	0.0898	0.7369	0.1758	0.0846	0.2604	0.0000	1,182.6703	1,182.6703	0.0952	0.0836	1,209.9736
2025	0.3709	2.9329	3.7539	0.0121	0.6229	0.0772	0.7001	0.1692	0.0727	0.2419	0.0000	1,128.4548	1,128.4548	0.0929	0.0785	1,154.1702
2026	1.9453	0.1144	0.2215	4.0000e-004	0.0127	5.4600e-003	0.0182	3.3800e-003	5.0900e-003	8.4700e-003	0.0000	35.4492	35.4492	7.5800e-003	2.4000e-004	35.7099
Maximum	**1.9453**	**3.1740**	**3.9460**	**0.0127**	**0.6471**	**0.0898**	**0.7369**	**0.2276**	**0.0846**	**0.2974**	**0.0000**	**1,182.6703**	**1,182.6703**	**0.0952**	**0.0836**	**1,209.9736**

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
Year	tons/yr										MT/yr					
2023	0.2251	2.0239	1.9758	5.3700e-003	0.3426	0.0753	0.4178	0.1248	0.0698	0.1946	0.0000	488.2040	488.2040	0.0821	0.0220	496.8206
2024	0.4047	3.1740	3.9460	0.0127	0.5991	0.0898	0.6889	0.1640	0.0846	0.2486	0.0000	1,182.6699	1,182.6699	0.0952	0.0836	1,209.9733

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2025	0.3709	2.9329	3.7539	0.0121	0.5766	0.0772	0.6539	0.1579	0.0727	0.2305	0.0000	1,128.4545	1,128.4545	0.0929	0.0785	1,154.1698
2026	1.9453	0.1144	0.2215	4.0000e-004	0.0117	5.4600e-003	0.0172	3.1400e-003	5.0900e-003	8.2300e-003	0.0000	35.4492	35.4492	7.5800e-003	2.4000e-004	35.7098
Maximum	**1.9453**	**3.1740**	**3.9460**	**0.0127**	**0.5991**	**0.0898**	**0.6889**	**0.1640**	**0.0846**	**0.2486**	**0.0000**	**1,182.6699**	**1,182.6699**	**0.0952**	**0.0836**	**1,209.9733**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**17.90**	**0.00**	**15.80**	**21.91**	**0.00**	**15.62**	**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	**6-21-2023**	**9-20-2023**	1.1863	1.1863
2	**9-21-2023**	**12-20-2023**	0.9684	0.9684
3	**12-21-2023**	**3-20-2024**	0.9053	0.9053
4	**3-21-2024**	**6-20-2024**	0.8895	0.8895
5	**6-21-2024**	**9-20-2024**	0.8868	0.8868
6	**9-21-2024**	**12-20-2024**	0.8971	0.8971
7	**12-21-2024**	**3-20-2025**	0.8482	0.8482
8	**3-21-2025**	**6-20-2025**	0.8417	0.8417
9	**6-21-2025**	**9-20-2025**	0.8391	0.8391
10	**9-21-2025**	**12-20-2025**	0.8379	0.8379
11	**12-21-2025**	**3-20-2026**	2.0787	2.0787
		Highest	2.0787	2.0787

3.0 Construction Detail

Construction Phase

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/21/2023	7/12/2023	5	16	
2	Grading	Grading	7/13/2023	9/27/2023	5	55	
3	Building Construction	Building Construction	9/28/2023	12/18/2025	5	581	
4	Paving	Paving	12/19/2025	1/30/2026	5	31	
5	Architectural Coating	Architectural Coating	2/2/2026	3/16/2026	5	31	

Acres of Grading (Site Preparation Phase): 24

Acres of Grading (Grading Phase): 165

Acres of Paving: 10.54

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 601,800; Non-Residential Outdoor: 200,600; Striped Parking Area: 27,557

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
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
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37

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

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

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
Architectural Coating	1	101.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	506.00	209.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					0.1573	0.0000	0.1573	0.0808	0.0000	0.0808	0.0000	0.0000	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

Off-Road	0.0213	0.2202	0.1460	3.0000e-004		0.0101	0.0101		9.3200e-003	9.3200e-003	0.0000	26.7606	26.7606	8.6500e-003	0.0000	26.9769
Total	**0.0213**	**0.2202**	**0.1460**	**3.0000e-004**	**0.1573**	**0.0101**	**0.1674**	**0.0808**	**9.3200e-003**	**0.0901**	**0.0000**	**26.7606**	**26.7606**	**8.6500e-003**	**0.0000**	**26.9769**

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	4.1000e-004	2.6000e-004	3.3600e-003	1.0000e-005	1.0600e-003	1.0000e-005	1.0600e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8484	0.8484	3.0000e-005	2.0000e-005	0.8563
Total	**4.1000e-004**	**2.6000e-004**	**3.3600e-003**	**1.0000e-005**	**1.0600e-003**	**1.0000e-005**	**1.0600e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8484**	**0.8484**	**3.0000e-005**	**2.0000e-005**	**0.8563**

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					

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

Fugitive Dust					0.0708	0.0000	0.0708	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2202	0.1460	3.0000e-004		0.0101	0.0101		9.3200e-003	9.3200e-003	0.0000	26.7605	26.7605	8.6500e-003	0.0000	26.9769
Total	**0.0213**	**0.2202**	**0.1460**	**3.0000e-004**	**0.0708**	**0.0101**	**0.0809**	**0.0364**	**9.3200e-003**	**0.0457**	**0.0000**	**26.7605**	**26.7605**	**8.6500e-003**	**0.0000**	**26.9769**

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	4.1000e-004	2.6000e-004	3.3600e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.8000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8484	0.8484	3.0000e-005	2.0000e-005	0.8563
Total	**4.1000e-004**	**2.6000e-004**	**3.3600e-003**	**1.0000e-005**	**9.8000e-004**	**1.0000e-005**	**9.8000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8484**	**0.8484**	**3.0000e-005**	**2.0000e-005**	**0.8563**

3.3 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

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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					
Fugitive Dust					0.2531	0.0000	0.2531	0.1005	0.0000	0.1005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0914	0.9492	0.7714	1.7100e-003		0.0392	0.0392		0.0360	0.0360	0.0000	149.9718	149.9718	0.0485	0.0000	151.1844
Total	**0.0914**	**0.9492**	**0.7714**	**1.7100e-003**	**0.2531**	**0.0392**	**0.2923**	**0.1005**	**0.0360**	**0.1365**	**0.0000**	**149.9718**	**149.9718**	**0.0485**	**0.0000**	**151.1844**

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	1.5800e-003	9.8000e-004	0.0128	3.0000e-005	4.0400e-003	2.0000e-005	4.0600e-003	1.0700e-003	2.0000e-005	1.0900e-003	0.0000	3.2405	3.2405	1.0000e-004	9.0000e-005	3.2707
Total	**1.5800e-003**	**9.8000e-004**	**0.0128**	**3.0000e-005**	**4.0400e-003**	**2.0000e-005**	**4.0600e-003**	**1.0700e-003**	**2.0000e-005**	**1.0900e-003**	**0.0000**	**3.2405**	**3.2405**	**1.0000e-004**	**9.0000e-005**	**3.2707**

Mitigated Construction On-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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					
Fugitive Dust					0.1139	0.0000	0.1139	0.0452	0.0000	0.0452	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0914	0.9492	0.7714	1.7100e-003		0.0392	0.0392		0.0360	0.0360	0.0000	149.9717	149.9717	0.0485	0.0000	151.1842
Total	**0.0914**	**0.9492**	**0.7714**	**1.7100e-003**	**0.1139**	**0.0392**	**0.1531**	**0.0452**	**0.0360**	**0.0813**	**0.0000**	**149.9717**	**149.9717**	**0.0485**	**0.0000**	**151.1842**

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	1.5800e-003	9.8000e-004	0.0128	3.0000e-005	3.7300e-003	2.0000e-005	3.7500e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	3.2405	3.2405	1.0000e-004	9.0000e-005	3.2707
Total	**1.5800e-003**	**9.8000e-004**	**0.0128**	**3.0000e-005**	**3.7300e-003**	**2.0000e-005**	**3.7500e-003**	**1.0000e-003**	**2.0000e-005**	**1.0200e-003**	**0.0000**	**3.2405**	**3.2405**	**1.0000e-004**	**9.0000e-005**	**3.2707**

3.4 Building Construction - 2023

Unmitigated Construction On-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					
Off-Road	0.0527	0.4819	0.5442	9.0000e-004		0.0234	0.0234		0.0221	0.0221	0.0000	77.6546	77.6546	0.0185	0.0000	78.1164
Total	**0.0527**	**0.4819**	**0.5442**	**9.0000e-004**		**0.0234**	**0.0234**		**0.0221**	**0.0221**	**0.0000**	**77.6546**	**77.6546**	**0.0185**	**0.0000**	**78.1164**

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	9.1300e-003	0.3413	0.1029	1.3300e-003	0.0410	1.8200e-003	0.0428	0.0119	1.7400e-003	0.0136	0.0000	129.8563	129.8563	3.2000e-003	0.0191	135.6145
Worker	0.0486	0.0301	0.3952	1.0800e-003	0.1245	6.6000e-004	0.1252	0.0331	6.1000e-004	0.0337	0.0000	99.8721	99.8721	3.1600e-003	2.8500e-003	100.8017
Total	**0.0578**	**0.3714**	**0.4981**	**2.4100e-003**	**0.1655**	**2.4800e-003**	**0.1680**	**0.0450**	**2.3500e-003**	**0.0473**	**0.0000**	**229.7284**	**229.7284**	**6.3600e-003**	**0.0219**	**236.4162**

Mitigated Construction On-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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					
Off-Road	0.0527	0.4819	0.5442	9.0000e-004		0.0234	0.0234		0.0221	0.0221	0.0000	77.6545	77.6545	0.0185	0.0000	78.1163
Total	**0.0527**	**0.4819**	**0.5442**	**9.0000e-004**		**0.0234**	**0.0234**		**0.0221**	**0.0221**	**0.0000**	**77.6545**	**77.6545**	**0.0185**	**0.0000**	**78.1163**

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	9.1300e-003	0.3413	0.1029	1.3300e-003	0.0384	1.8200e-003	0.0402	0.0112	1.7400e-003	0.0130	0.0000	129.8563	129.8563	3.2000e-003	0.0191	135.6145
Worker	0.0486	0.0301	0.3952	1.0800e-003	0.1148	6.6000e-004	0.1155	0.0307	6.1000e-004	0.0314	0.0000	99.8721	99.8721	3.1600e-003	2.8500e-003	100.8017
Total	**0.0578**	**0.3714**	**0.4981**	**2.4100e-003**	**0.1532**	**2.4800e-003**	**0.1557**	**0.0419**	**2.3500e-003**	**0.0443**	**0.0000**	**229.7284**	**229.7284**	**6.3600e-003**	**0.0219**	**236.4162**

3.4 Building Construction - 2024

Unmitigated Construction On-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					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

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	0.0342	1.3082	0.3898	5.1200e-003	0.1603	7.0100e-003	0.1673	0.0463	6.7000e-003	0.0530	0.0000	498.1522	498.1522	0.0122	0.0733	520.2870
Worker	0.1778	0.1047	1.4383	4.0700e-003	0.4868	2.4800e-003	0.4893	0.1295	2.2800e-003	0.1318	0.0000	380.7958	380.7958	0.0112	0.0104	384.1688
Total	**0.2119**	**1.4129**	**1.8281**	**9.1900e-003**	**0.6471**	**9.4900e-003**	**0.6566**	**0.1758**	**8.9800e-003**	**0.1848**	**0.0000**	**878.9480**	**878.9480**	**0.0234**	**0.0836**	**904.4558**

Mitigated Construction On-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					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

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	0.0342	1.3082	0.3898	5.1200e-003	0.1501	7.0100e-003	0.1571	0.0438	6.7000e-003	0.0505	0.0000	498.1522	498.1522	0.0122	0.0733	520.2870
Worker	0.1778	0.1047	1.4383	4.0700e-003	0.4490	2.4800e-003	0.4514	0.1202	2.2800e-003	0.1225	0.0000	380.7958	380.7958	0.0112	0.0104	384.1688
Total	**0.2119**	**1.4129**	**1.8281**	**9.1900e-003**	**0.5991**	**9.4900e-003**	**0.6085**	**0.1640**	**8.9800e-003**	**0.1730**	**0.0000**	**878.9480**	**878.9480**	**0.0234**	**0.0836**	**904.4558**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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					
Off-Road	0.1723	1.5712	2.0267	3.4000e-003		0.0665	0.0665		0.0625	0.0625	0.0000	292.2185	292.2185	0.0687	0.0000	293.9358
Total	**0.1723**	**1.5712**	**2.0267**	**3.4000e-003**		**0.0665**	**0.0665**		**0.0625**	**0.0625**	**0.0000**	**292.2185**	**292.2185**	**0.0687**	**0.0000**	**293.9358**

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	0.0317	1.2327	0.3662	4.8200e-003	0.1541	6.6000e-003	0.1607	0.0446	6.3200e-003	0.0509	0.0000	469.4453	469.4453	0.0115	0.0692	490.3417
Worker	0.1606	0.0904	1.2940	3.7800e-003	0.4683	2.2800e-003	0.4705	0.1245	2.1000e-003	0.1266	0.0000	357.4039	357.4039	9.7900e-003	9.3300e-003	360.4296
Total	**0.1922**	**1.3230**	**1.6602**	**8.6000e-003**	**0.6224**	**8.8800e-003**	**0.6313**	**0.1691**	**8.4200e-003**	**0.1775**	**0.0000**	**826.8492**	**826.8492**	**0.0213**	**0.0785**	**850.7713**

Mitigated Construction On-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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					
Off-Road	0.1723	1.5712	2.0267	3.4000e-003		0.0665	0.0665		0.0625	0.0625	0.0000	292.2182	292.2182	0.0687	0.0000	293.9355
Total	**0.1723**	**1.5712**	**2.0267**	**3.4000e-003**		**0.0665**	**0.0665**		**0.0625**	**0.0625**	**0.0000**	**292.2182**	**292.2182**	**0.0687**	**0.0000**	**293.9355**

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	0.0317	1.2327	0.3662	4.8200e-003	0.1444	6.6000e-003	0.1510	0.0422	6.3200e-003	0.0485	0.0000	469.4453	469.4453	0.0115	0.0692	490.3417
Worker	0.1606	0.0904	1.2940	3.7800e-003	0.4318	2.2800e-003	0.4341	0.1156	2.1000e-003	0.1177	0.0000	357.4039	357.4039	9.7900e-003	9.3300e-003	360.4296
Total	**0.1922**	**1.3230**	**1.6602**	**8.6000e-003**	**0.5762**	**8.8800e-003**	**0.5851**	**0.1578**	**8.4200e-003**	**0.1662**	**0.0000**	**826.8492**	**826.8492**	**0.0213**	**0.0785**	**850.7713**

3.5 Paving - 2025

Unmitigated Construction On-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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					
Off-Road	4.1200e-003	0.0386	0.0656	1.0000e-004		1.8800e-003	1.8800e-003		1.7300e-003	1.7300e-003	0.0000	9.0087	9.0087	2.9100e-003	0.0000	9.0815
Paving	2.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2000e-003**	**0.0386**	**0.0656**	**1.0000e-004**		**1.8800e-003**	**1.8800e-003**		**1.7300e-003**	**1.7300e-003**	**0.0000**	**9.0087**	**9.0087**	**2.9100e-003**	**0.0000**	**9.0815**

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	1.7000e-004	1.0000e-004	1.3700e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3784	0.3784	1.0000e-005	1.0000e-005	0.3816
Total	**1.7000e-004**	**1.0000e-004**	**1.3700e-003**	**0.0000**	**5.0000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3784**	**0.3784**	**1.0000e-005**	**1.0000e-005**	**0.3816**

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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

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	4.1200e-003	0.0386	0.0656	1.0000e-004		1.8800e-003	1.8800e-003		1.7300e-003	1.7300e-003	0.0000	9.0087	9.0087	2.9100e-003	0.0000	9.0815
Paving	2.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2000e-003**	**0.0386**	**0.0656**	**1.0000e-004**		**1.8800e-003**	**1.8800e-003**		**1.7300e-003**	**1.7300e-003**	**0.0000**	**9.0087**	**9.0087**	**2.9100e-003**	**0.0000**	**9.0815**

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	1.7000e-004	1.0000e-004	1.3700e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3784	0.3784	1.0000e-005	1.0000e-005	0.3816
Total	**1.7000e-004**	**1.0000e-004**	**1.3700e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3784**	**0.3784**	**1.0000e-005**	**1.0000e-005**	**0.3816**

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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

3.5 Paving - 2026

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	0.0101	0.0944	0.1604	2.5000e-004		4.6000e-003	4.6000e-003		4.2400e-003	4.2400e-003	0.0000	22.0212	22.0212	7.1200e-003	0.0000	22.1992
Paving	5.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0152**	**0.0944**	**0.1604**	**2.5000e-004**		**4.6000e-003**	**4.6000e-003**		**4.2400e-003**	**4.2400e-003**	**0.0000**	**22.0212**	**22.0212**	**7.1200e-003**	**0.0000**	**22.1992**

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	3.9000e-004	2.1000e-004	3.1500e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9030	0.9030	2.0000e-005	2.0000e-005	0.9104
Total	**3.9000e-004**	**2.1000e-004**	**3.1500e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9030**	**0.9030**	**2.0000e-005**	**2.0000e-005**	**0.9104**

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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

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	0.0101	0.0944	0.1604	2.5000e-004		4.6000e-003	4.6000e-003		4.2400e-003	4.2400e-003	0.0000	22.0212	22.0212	7.1200e-003	0.0000	22.1992
Paving	5.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0152**	**0.0944**	**0.1604**	**2.5000e-004**		**4.6000e-003**	**4.6000e-003**		**4.2400e-003**	**4.2400e-003**	**0.0000**	**22.0212**	**22.0212**	**7.1200e-003**	**0.0000**	**22.1992**

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	3.9000e-004	2.1000e-004	3.1500e-003	1.0000e-005	1.1200e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9030	0.9030	2.0000e-005	2.0000e-005	0.9104
Total	**3.9000e-004**	**2.1000e-004**	**3.1500e-003**	**1.0000e-005**	**1.1200e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.9030**	**0.9030**	**2.0000e-005**	**2.0000e-005**	**0.9104**

CSUS The Hub Construction Phase 1 - Sacramento County, Annual

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

3.6 Architectural Coating - 2026

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	1.9234					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6500e-003	0.0178	0.0280	5.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	3.9575	3.9575	2.2000e-004	0.0000	3.9629
Total	**1.9261**	**0.0178**	**0.0280**	**5.0000e-005**		**8.0000e-004**	**8.0000e-004**		**8.0000e-004**	**8.0000e-004**	**0.0000**	**3.9575**	**3.9575**	**2.2000e-004**	**0.0000**	**3.9629**

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	3.7200e-003	2.0100e-003	0.0299	9.0000e-005	0.0115	5.0000e-005	0.0116	3.0600e-003	5.0000e-005	3.1100e-003	0.0000	8.5675	8.5675	2.2000e-004	2.2000e-004	8.6373

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

Total	**3.7200e-003**	**2.0100e-003**	**0.0299**	**9.0000e-005**	**0.0115**	**5.0000e-005**	**0.0116**	**3.0600e-003**	**5.0000e-005**	**3.1100e-003**	**0.0000**	**8.5675**	**8.5675**	**2.2000e-004**	**2.2000e-004**	**8.6373**

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	1.9234					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6500e-003	0.0178	0.0280	5.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	3.9575	3.9575	2.2000e-004	0.0000	3.9629
Total	**1.9261**	**0.0178**	**0.0280**	**5.0000e-005**		**8.0000e-004**	**8.0000e-004**		**8.0000e-004**	**8.0000e-004**	**0.0000**	**3.9575**	**3.9575**	**2.2000e-004**	**0.0000**	**3.9629**

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

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

Worker	3.7200e-003	2.0100e-003	0.0299	9.0000e-005	0.0106	5.0000e-005	0.0107	2.8400e-003	5.0000e-005	2.8900e-003	0.0000	8.5675	8.5675	2.2000e-004	2.2000e-004	8.6373
Total	**3.7200e-003**	**2.0100e-003**	**0.0299**	**9.0000e-005**	**0.0106**	**5.0000e-005**	**0.0107**	**2.8400e-003**	**5.0000e-005**	**2.8900e-003**	**0.0000**	**8.5675**	**8.5675**	**2.2000e-004**	**2.2000e-004**	**8.6373**

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

CSUS The Hub Construction Phase 1

Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	32.40	1000sqft	0.50	32,400.00	0
Research & Development	250.00	1000sqft	1.15	250,000.00	0
Manufacturing	118.80	1000sqft	2.73	118,800.00	0
Other Non-Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0
Other Non-Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	72.00	1000sqft	1.65	72,000.00	0
Parking Lot	140.00	1000sqft	3.21	140,000.00	0
Parking Lot	26.00	1000sqft	0.60	26,000.00	0
City Park	9.47	Acre	9.47	412,513.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SMUD Invensity Factors adjusted accoding to RPS.

Land Use - Lot acreage adjusted according to FGSF

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

Construction Phase - Adjusted based on 33 month schedule

Grading -

Construction Off-road Equipment Mitigation - Clean Paved Road % PM Reduction - SCAQMD Rule 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	31.00
tblConstructionPhase	NumDays	370.00	581.00
tblConstructionPhase	NumDays	35.00	55.00
tblConstructionPhase	NumDays	20.00	31.00
tblConstructionPhase	NumDays	10.00	16.00
tblConstructionPhase	PhaseEndDate	3/18/2025	3/16/2026
tblConstructionPhase	PhaseEndDate	1/21/2025	12/18/2025
tblConstructionPhase	PhaseEndDate	8/22/2023	9/27/2023
tblConstructionPhase	PhaseEndDate	2/18/2025	1/30/2026
tblConstructionPhase	PhaseEndDate	7/4/2023	7/12/2023
tblConstructionPhase	PhaseStartDate	2/19/2025	2/2/2026
tblConstructionPhase	PhaseStartDate	8/23/2023	9/28/2023
tblConstructionPhase	PhaseStartDate	7/5/2023	7/13/2023
tblConstructionPhase	PhaseStartDate	1/22/2025	12/19/2025
tblLandUse	LotAcreage	0.74	0.50
tblLandUse	LotAcreage	5.74	1.15
tblProjectCharacteristics	CH4IntensityFactor	0.033	0
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0

2.0 Emissions Summary

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2023	3.5575	34.5480	33.0467	0.1020	19.7939	1.4253	21.0607	10.1388	1.3113	11.3042	0.0000	10,428.0363	10,428.0363	1.9481	0.7146	10,661.2926
2024	3.3317	23.6589	31.8861	0.1000	5.1082	0.6855	5.7936	1.3834	0.6452	2.0286	0.0000	10,256.3654	10,256.3654	0.7962	0.6979	10,484.2560
2025	3.1205	22.4171	30.8842	0.0981	5.1080	0.5978	5.7058	1.3833	0.5628	1.9462	0.0000	10,086.4888	10,086.4888	0.7823	0.6813	10,309.0606
2026	124.5442	8.5992	14.9111	0.0237	0.7683	0.4190	0.8233	0.2038	0.3855	0.4158	0.0000	2,305.8396	2,305.8396	0.7159	0.0145	2,324.3773
Maximum	**124.5442**	**34.5480**	**33.0467**	**0.1020**	**19.7939**	**1.4253**	**21.0607**	**10.1388**	**1.3113**	**11.3042**	**0.0000**	**10,428.0363**	**10,428.0363**	**1.9481**	**0.7146**	**10,661.2926**

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
Year	lb/day										lb/day					
2023	3.5575	34.5480	33.0467	0.1020	8.9719	1.4253	10.2386	4.5798	1.3113	5.7452	0.0000	10,428.0363	10,428.0363	1.9481	0.7146	10,661.2926
2024	3.3317	23.6589	31.8861	0.1000	4.7263	0.6855	5.4118	1.2897	0.6452	1.9349	0.0000	10,256.3654	10,256.3654	0.7962	0.6979	10,484.2560

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

2025	3.1205	22.4171	30.8842	0.0981	4.7262	0.5978	5.3240	1.2896	0.5628	1.8524	0.0000	10,086.4888	10,086.4888	0.7823	0.6813	10,309.0606
2026	124.5442	8.5992	14.9111	0.0237	0.7082	0.4190	0.7632	0.1891	0.3855	0.4136	0.0000	2,305.8396	2,305.8396	0.7159	0.0145	2,324.3773
Maximum	**124.5442**	**34.5480**	**33.0467**	**0.1020**	**8.9719**	**1.4253**	**10.2386**	**4.5798**	**1.3113**	**5.7452**	**0.0000**	**10,428.0363**	**10,428.0363**	**1.9481**	**0.7146**	**10,661.2926**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**37.84**	**0.00**	**34.89**	**43.95**	**0.00**	**36.63**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/21/2023	7/12/2023	5	16	
2	Grading	Grading	7/13/2023	9/27/2023	5	55	
3	Building Construction	Building Construction	9/28/2023	12/18/2025	5	581	
4	Paving	Paving	12/19/2025	1/30/2026	5	31	
5	Architectural Coating	Architectural Coating	2/2/2026	3/16/2026	5	31	

Acres of Grading (Site Preparation Phase): 24

Acres of Grading (Grading Phase): 165

Acres of Paving: 10.54

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 601,800; Non-Residential Outdoor: 200,600; Striped Parking Area: 27,557

OffRoad Equipment

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

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

Trips and VMT

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
Architectural Coating	1	101.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	506.00	209.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	lb/day										lb/day					
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
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

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

Worker	0.0607	0.0291	0.4906	1.2500e-003	0.1369	7.1000e-004	0.1376	0.0363	6.5000e-004	0.0370		128.1058	128.1058	3.5200e-003	3.1500e-003	129.1312
Total	**0.0607**	**0.0291**	**0.4906**	**1.2500e-003**	**0.1369**	**7.1000e-004**	**0.1376**	**0.0363**	**6.5000e-004**	**0.0370**		**128.1058**	**128.1058**	**3.5200e-003**	**3.1500e-003**	**129.1312**

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	lb/day										lb/day					
Fugitive Dust					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**8.8457**	**1.2660**	**10.1117**	**4.5461**	**1.1647**	**5.7108**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	lb/day										lb/day					
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

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

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
Worker	0.0607	0.0291	0.4906	1.2500e-003	0.1262	7.1000e-004	0.1269	0.0337	6.5000e-004	0.0343		128.1058	128.1058	3.5200e-003	3.1500e-003	129.1312
Total	**0.0607**	**0.0291**	**0.4906**	**1.2500e-003**	**0.1262**	**7.1000e-004**	**0.1269**	**0.0337**	**6.5000e-004**	**0.0343**		**128.1058**	**128.1058**	**3.5200e-003**	**3.1500e-003**	**129.1312**

3.3 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	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

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	lb/day										lb/day					

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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
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
Worker	0.0674	0.0324	0.5451	1.3900e-003	0.1521	7.8000e-004	0.1529	0.0404	7.2000e-004	0.0411		142.3398	142.3398	3.9100e-003	3.5000e-003	143.4791
Total	**0.0674**	**0.0324**	**0.5451**	**1.3900e-003**	**0.1521**	**7.8000e-004**	**0.1529**	**0.0404**	**7.2000e-004**	**0.0411**		**142.3398**	**142.3398**	**3.9100e-003**	**3.5000e-003**	**143.4791**

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	lb/day										lb/day					
Fugitive Dust					4.1416	0.0000	4.1416	1.6442	0.0000	1.6442			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**4.1416**	**1.4245**	**5.5661**	**1.6442**	**1.3105**	**2.9547**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

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

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

Category	lb/day										lb/day					
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
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
Worker	0.0674	0.0324	0.5451	1.3900e-003	0.1402	7.8000e-004	0.1410	0.0374	7.2000e-004	0.0382		142.3398	142.3398	3.9100e-003	3.5000e-003	143.4791
Total	**0.0674**	**0.0324**	**0.5451**	**1.3900e-003**	**0.1402**	**7.8000e-004**	**0.1410**	**0.0374**	**7.2000e-004**	**0.0382**		**142.3398**	**142.3398**	**3.9100e-003**	**3.5000e-003**	**143.4791**

3.4 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	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

Category	lb/day										lb/day					
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
Vendor	0.2796	9.6775	3.0127	0.0398	1.2592	0.0540	1.3132	0.3624	0.0517	0.4141		4,271.6301	4,271.6301	0.1056	0.6262	4,460.8651
Worker	1.7051	0.8192	13.7900	0.0352	3.8491	0.0198	3.8690	1.0210	0.0183	1.0393		3,601.1963	3,601.1963	0.0988	0.0884	3,630.0214
Total	**1.9847**	**10.4968**	**16.8027**	**0.0750**	**5.1083**	**0.0739**	**5.1822**	**1.3834**	**0.0700**	**1.4534**		**7,872.8264**	**7,872.8264**	**0.2044**	**0.7146**	**8,090.8865**

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	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

Category	lb/day										lb/day					
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
Vendor	0.2796	9.6775	3.0127	0.0398	1.1784	0.0540	1.2324	0.3426	0.0517	0.3943		4,271.6301	4,271.6301	0.1056	0.6262	4,460.8651
Worker	1.7051	0.8192	13.7900	0.0352	3.5481	0.0198	3.5679	0.9471	0.0183	0.9654		3,601.1963	3,601.1963	0.0988	0.0884	3,630.0214
Total	**1.9847**	**10.4968**	**16.8027**	**0.0750**	**4.7264**	**0.0739**	**4.8003**	**1.2897**	**0.0700**	**1.3597**		**7,872.8264**	**7,872.8264**	**0.2044**	**0.7146**	**8,090.8865**

3.4 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	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

Category	lb/day										lb/day					
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
Vendor	0.2675	9.4854	2.9182	0.0391	1.2590	0.0533	1.3123	0.3624	0.0509	0.4133		4,190.2774	4,190.2774	0.1026	0.6157	4,376.3109
Worker	1.5926	0.7298	12.8011	0.0340	3.8491	0.0189	3.8680	1.0210	0.0174	1.0384		3,510.3891	3,510.3891	0.0893	0.0823	3,537.1375
Total	**1.8601**	**10.2152**	**15.7192**	**0.0731**	**5.1082**	**0.0722**	**5.1803**	**1.3834**	**0.0683**	**1.4517**		**7,700.6665**	**7,700.6665**	**0.1919**	**0.6979**	**7,913.4484**

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	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

Category	lb/day										lb/day					
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
Vendor	0.2675	9.4854	2.9182	0.0391	1.1782	0.0533	1.2315	0.3425	0.0509	0.3935		4,190.2774	4,190.2774	0.1026	0.6157	4,376.3109
Worker	1.5926	0.7298	12.8011	0.0340	3.5481	0.0189	3.5670	0.9471	0.0174	0.9645		3,510.3891	3,510.3891	0.0893	0.0823	3,537.1375
Total	**1.8601**	**10.2152**	**15.7192**	**0.0731**	**4.7263**	**0.0722**	**4.7984**	**1.2897**	**0.0683**	**1.3580**		**7,700.6665**	**7,700.6665**	**0.1919**	**0.6979**	**7,913.4484**

3.4 Building Construction - 2025

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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

Category	lb/day										lb/day					
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
Vendor	0.2579	9.2923	2.8497	0.0382	1.2589	0.0522	1.3111	0.3623	0.0499	0.4122		4,105.3090	4,105.3090	0.1005	0.6043	4,287.9097
Worker	1.4952	0.6552	11.9498	0.0329	3.8491	0.0181	3.8672	1.0210	0.0166	1.0377		3,424.7054	3,424.7054	0.0808	0.0769	3,449.6529
Total	**1.7531**	**9.9475**	**14.7995**	**0.0711**	**5.1080**	**0.0703**	**5.1783**	**1.3833**	**0.0666**	**1.4499**		**7,530.0144**	**7,530.0144**	**0.1813**	**0.6813**	**7,737.5625**

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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

Category	lb/day										lb/day					
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
Vendor	0.2579	9.2923	2.8497	0.0382	1.1781	0.0522	1.2303	0.3425	0.0499	0.3924		4,105.3090	4,105.3090	0.1005	0.6043	4,287.9097
Worker	1.4952	0.6552	11.9498	0.0329	3.5481	0.0181	3.5662	0.9471	0.0166	0.9638		3,424.7054	3,424.7054	0.0808	0.0769	3,449.6529
Total	**1.7531**	**9.9475**	**14.7995**	**0.0711**	**4.7262**	**0.0703**	**4.7964**	**1.2896**	**0.0666**	**1.3562**		**7,530.0144**	**7,530.0144**	**0.1813**	**0.6813**	**7,737.5625**

3.5 Paving - 2025

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.4615					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3766**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

Unmitigated Construction Off-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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	lb/day										lb/day					
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
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
Worker	0.0443	0.0194	0.3542	9.7000e-004	0.1141	5.4000e-004	0.1146	0.0303	4.9000e-004	0.0308		101.5229	101.5229	2.4000e-003	2.2800e-003	102.2624
Total	**0.0443**	**0.0194**	**0.3542**	**9.7000e-004**	**0.1141**	**5.4000e-004**	**0.1146**	**0.0303**	**4.9000e-004**	**0.0308**		**101.5229**	**101.5229**	**2.4000e-003**	**2.2800e-003**	**102.2624**

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.4615					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3766**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

Mitigated Construction Off-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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	lb/day										lb/day					
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
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
Worker	0.0443	0.0194	0.3542	9.7000e-004	0.1052	5.4000e-004	0.1057	0.0281	4.9000e-004	0.0286		101.5229	101.5229	2.4000e-003	2.2800e-003	102.2624
Total	**0.0443**	**0.0194**	**0.3542**	**9.7000e-004**	**0.1052**	**5.4000e-004**	**0.1057**	**0.0281**	**4.9000e-004**	**0.0286**		**101.5229**	**101.5229**	**2.4000e-003**	**2.2800e-003**	**102.2624**

3.5 Paving - 2026

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.4615					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3766**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

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	lb/day										lb/day					
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
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
Worker	0.0418	0.0176	0.3331	9.4000e-004	0.1141	5.1000e-004	0.1146	0.0303	4.7000e-004	0.0307		99.0944	99.0944	2.1800e-003	2.1500e-003	99.7895
Total	**0.0418**	**0.0176**	**0.3331**	**9.4000e-004**	**0.1141**	**5.1000e-004**	**0.1146**	**0.0303**	**4.7000e-004**	**0.0307**		**99.0944**	**99.0944**	**2.1800e-003**	**2.1500e-003**	**99.7895**

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.4615					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3766**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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	lb/day										lb/day					
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
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
Worker	0.0418	0.0176	0.3331	9.4000e-004	0.1052	5.1000e-004	0.1057	0.0281	4.7000e-004	0.0286		99.0944	99.0944	2.1800e-003	2.1500e-003	99.7895
Total	**0.0418**	**0.0176**	**0.3331**	**9.4000e-004**	**0.1052**	**5.1000e-004**	**0.1057**	**0.0281**	**4.7000e-004**	**0.0286**		**99.0944**	**99.0944**	**2.1800e-003**	**2.1500e-003**	**99.7895**

3.6 Architectural Coating - 2026

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	lb/day										lb/day					
Archit. Coating	124.0920					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**124.2628**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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

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	lb/day										lb/day					
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
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
Worker	0.2814	0.1186	2.2429	6.3500e-003	0.7683	3.4400e-003	0.7717	0.2038	3.1600e-003	0.2070		667.2356	667.2356	0.0147	0.0145	671.9157
Total	**0.2814**	**0.1186**	**2.2429**	**6.3500e-003**	**0.7683**	**3.4400e-003**	**0.7717**	**0.2038**	**3.1600e-003**	**0.2070**		**667.2356**	**667.2356**	**0.0147**	**0.0145**	**671.9157**

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	lb/day										lb/day					
Archit. Coating	124.0920					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**124.2628**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

CSUS The Hub Construction Phase 1 - Sacramento County, Summer

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	lb/day										lb/day					
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
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
Worker	0.2814	0.1186	2.2429	6.3500e-003	0.7082	3.4400e-003	0.7117	0.1891	3.1600e-003	0.1922		667.2356	667.2356	0.0147	0.0145	671.9157
Total	**0.2814**	**0.1186**	**2.2429**	**6.3500e-003**	**0.7082**	**3.4400e-003**	**0.7117**	**0.1891**	**3.1600e-003**	**0.1922**		**667.2356**	**667.2356**	**0.0147**	**0.0145**	**671.9157**

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

CSUS The Hub Construction Phase 1

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	32.40	1000sqft	0.50	32,400.00	0
Research & Development	250.00	1000sqft	1.15	250,000.00	0
Manufacturing	118.80	1000sqft	2.73	118,800.00	0
Other Non-Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0
Other Non-Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	72.00	1000sqft	1.65	72,000.00	0
Parking Lot	140.00	1000sqft	3.21	140,000.00	0
Parking Lot	26.00	1000sqft	0.60	26,000.00	0
City Park	9.47	Acre	9.47	412,513.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SMUD Invensity Factors adjusted accoding to RPS.

Land Use - Lot acreage adjusted according to FGSF

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

Construction Phase - Adjusted based on 33 month schedule

Grading -

Construction Off-road Equipment Mitigation - Clean Paved Road % PM Reduction - SCAQMD Rule 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	31.00
tblConstructionPhase	NumDays	370.00	581.00
tblConstructionPhase	NumDays	35.00	55.00
tblConstructionPhase	NumDays	20.00	31.00
tblConstructionPhase	NumDays	10.00	16.00
tblConstructionPhase	PhaseEndDate	3/18/2025	3/16/2026
tblConstructionPhase	PhaseEndDate	1/21/2025	12/18/2025
tblConstructionPhase	PhaseEndDate	8/22/2023	9/27/2023
tblConstructionPhase	PhaseEndDate	2/18/2025	1/30/2026
tblConstructionPhase	PhaseEndDate	7/4/2023	7/12/2023
tblConstructionPhase	PhaseStartDate	2/19/2025	2/2/2026
tblConstructionPhase	PhaseStartDate	8/23/2023	9/28/2023
tblConstructionPhase	PhaseStartDate	7/5/2023	7/13/2023
tblConstructionPhase	PhaseStartDate	1/22/2025	12/19/2025
tblLandUse	LotAcreage	0.74	0.50
tblLandUse	LotAcreage	5.74	1.15
tblProjectCharacteristics	CH4IntensityFactor	0.033	0
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0

2.0 Emissions Summary

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2023	3.3814	34.5553	31.4041	0.0981	19.7939	1.4253	21.0607	10.1388	1.3113	11.3042	0.0000	10,033.2769	10,033.2769	1.9487	0.7291	10,271.2151
2024	3.1432	24.5363	30.4214	0.0963	5.1082	0.6860	5.7942	1.3834	0.6458	2.0292	0.0000	9,873.1363	9,873.1363	0.8099	0.7114	10,105.3833
2025	2.9445	23.2657	29.5622	0.0945	5.1080	0.5983	5.7063	1.3833	0.5633	1.9466	0.0000	9,713.9764	9,713.9764	0.7950	0.6939	9,940.6257
2026	124.5133	8.6032	14.8714	0.0236	0.7683	0.4190	0.8233	0.2038	0.3855	0.4158	0.0000	2,294.9671	2,294.9671	0.7163	0.0166	2,313.6070
Maximum	**124.5133**	**34.5553**	**31.4041**	**0.0981**	**19.7939**	**1.4253**	**21.0607**	**10.1388**	**1.3113**	**11.3042**	**0.0000**	**10,033.2769**	**10,033.2769**	**1.9487**	**0.7291**	**10,271.2151**

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
Year	lb/day										lb/day					
2023	3.3814	34.5553	31.4041	0.0981	8.9719	1.4253	10.2386	4.5798	1.3113	5.7452	0.0000	10,033.2769	10,033.2769	1.9487	0.7291	10,271.2151
2024	3.1432	24.5363	30.4214	0.0963	4.7263	0.6860	5.4123	1.2897	0.6458	1.9354	0.0000	9,873.1363	9,873.1363	0.8099	0.7114	10,105.3833

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

2025	2.9445	23.2657	29.5622	0.0945	4.7262	0.5983	5.3245	1.2896	0.5633	1.8529	0.0000	9,713.9764	9,713.9764	0.7950	0.6939	9,940.6257
2026	124.5133	8.6032	14.8714	0.0236	0.7082	0.4190	0.7632	0.1891	0.3855	0.4136	0.0000	2,294.9671	2,294.9671	0.7163	0.0166	2,313.6070
Maximum	**124.5133**	**34.5553**	**31.4041**	**0.0981**	**8.9719**	**1.4253**	**10.2386**	**4.5798**	**1.3113**	**5.7452**	**0.0000**	**10,033.2769**	**10,033.2769**	**1.9487**	**0.7291**	**10,271.2151**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**37.84**	**0.00**	**34.88**	**43.95**	**0.00**	**36.63**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/21/2023	7/12/2023	5	16	
2	Grading	Grading	7/13/2023	9/27/2023	5	55	
3	Building Construction	Building Construction	9/28/2023	12/18/2025	5	581	
4	Paving	Paving	12/19/2025	1/30/2026	5	31	
5	Architectural Coating	Architectural Coating	2/2/2026	3/16/2026	5	31	

Acres of Grading (Site Preparation Phase): 24

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

Acres of Grading (Grading Phase): 165

Acres of Paving: 10.54

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 601,800; Non-Residential Outdoor: 200,600; Striped Parking Area: 27,557

OffRoad Equipment

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

Trips and VMT

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

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

Architectural Coating	1	101.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	506.00	209.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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	lb/day										lb/day					
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
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
Worker	0.0537	0.0358	0.4272	1.1100e-003	0.1369	7.1000e-004	0.1376	0.0363	6.5000e-004	0.0370		113.9541	113.9541	4.0500e-003	3.6100e-003	115.1305
Total	**0.0537**	**0.0358**	**0.4272**	**1.1100e-003**	**0.1369**	**7.1000e-004**	**0.1376**	**0.0363**	**6.5000e-004**	**0.0370**		**113.9541**	**113.9541**	**4.0500e-003**	**3.6100e-003**	**115.1305**

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	lb/day										lb/day					
Fugitive Dust					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**8.8457**	**1.2660**	**10.1117**	**4.5461**	**1.1647**	**5.7108**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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	lb/day										lb/day					
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
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
Worker	0.0537	0.0358	0.4272	1.1100e-003	0.1262	7.1000e-004	0.1269	0.0337	6.5000e-004	0.0343		113.9541	113.9541	4.0500e-003	3.6100e-003	115.1305
Total	**0.0537**	**0.0358**	**0.4272**	**1.1100e-003**	**0.1262**	**7.1000e-004**	**0.1269**	**0.0337**	**6.5000e-004**	**0.0343**		**113.9541**	**113.9541**	**4.0500e-003**	**3.6100e-003**	**115.1305**

3.3 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	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

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	lb/day										lb/day					
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
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
Worker	0.0597	0.0397	0.4747	1.2400e-003	0.1521	7.8000e-004	0.1529	0.0404	7.2000e-004	0.0411		126.6156	126.6156	4.5000e-003	4.0100e-003	127.9228
Total	**0.0597**	**0.0397**	**0.4747**	**1.2400e-003**	**0.1521**	**7.8000e-004**	**0.1529**	**0.0404**	**7.2000e-004**	**0.0411**		**126.6156**	**126.6156**	**4.5000e-003**	**4.0100e-003**	**127.9228**

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	lb/day										lb/day					
Fugitive Dust					4.1416	0.0000	4.1416	1.6442	0.0000	1.6442			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**4.1416**	**1.4245**	**5.5661**	**1.6442**	**1.3105**	**2.9547**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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	lb/day										lb/day					
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
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
Worker	0.0597	0.0397	0.4747	1.2400e-003	0.1402	7.8000e-004	0.1410	0.0374	7.2000e-004	0.0382		126.6156	126.6156	4.5000e-003	4.0100e-003	127.9228
Total	**0.0597**	**0.0397**	**0.4747**	**1.2400e-003**	**0.1402**	**7.8000e-004**	**0.1410**	**0.0374**	**7.2000e-004**	**0.0382**		**126.6156**	**126.6156**	**4.5000e-003**	**4.0100e-003**	**127.9228**

3.4 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	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

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	lb/day										lb/day					
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
Vendor	0.2704	10.4011	3.1499	0.0399	1.2592	0.0547	1.3138	0.3624	0.0523	0.4147		4,274.6916	4,274.6916	0.1051	0.6277	4,464.3618
Worker	1.5101	1.0052	12.0102	0.0313	3.8491	0.0198	3.8690	1.0210	0.0183	1.0393		3,203.3754	3,203.3754	0.1138	0.1014	3,236.4473
Total	**1.7804**	**11.4063**	**15.1601**	**0.0712**	**5.1083**	**0.0745**	**5.1828**	**1.3834**	**0.0706**	**1.4540**		**7,478.0670**	**7,478.0670**	**0.2189**	**0.7291**	**7,700.8090**

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	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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	lb/day										lb/day					
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
Vendor	0.2704	10.4011	3.1499	0.0399	1.1784	0.0547	1.2330	0.3426	0.0523	0.3949		4,274.6916	4,274.6916	0.1051	0.6277	4,464.3618
Worker	1.5101	1.0052	12.0102	0.0313	3.5481	0.0198	3.5679	0.9471	0.0183	0.9654		3,203.3754	3,203.3754	0.1138	0.1014	3,236.4473
Total	**1.7804**	**11.4063**	**15.1601**	**0.0712**	**4.7264**	**0.0745**	**4.8009**	**1.2897**	**0.0706**	**1.3603**		**7,478.0670**	**7,478.0670**	**0.2189**	**0.7291**	**7,700.8090**

3.4 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	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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	lb/day										lb/day					
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
Vendor	0.2582	10.1976	3.0527	0.0391	1.2590	0.0538	1.3128	0.3624	0.0515	0.4138		4,193.8126	4,193.8126	0.1021	0.6171	4,380.2652
Worker	1.4134	0.8949	11.2019	0.0303	3.8491	0.0189	3.8680	1.0210	0.0174	1.0384		3,123.6248	3,123.6248	0.1034	0.0943	3,154.3104
Total	**1.6716**	**11.0925**	**14.2546**	**0.0694**	**5.1082**	**0.0727**	**5.1809**	**1.3834**	**0.0689**	**1.4523**		**7,317.4374**	**7,317.4374**	**0.2055**	**0.7114**	**7,534.5756**

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	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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	lb/day										lb/day					
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
Vendor	0.2582	10.1976	3.0527	0.0391	1.1782	0.0538	1.2320	0.3425	0.0515	0.3940		4,193.8126	4,193.8126	0.1021	0.6171	4,380.2652
Worker	1.4134	0.8949	11.2019	0.0303	3.5481	0.0189	3.5670	0.9471	0.0174	0.9645		3,123.6248	3,123.6248	0.1034	0.0943	3,154.3104
Total	**1.6716**	**11.0925**	**14.2546**	**0.0694**	**4.7263**	**0.0727**	**4.7990**	**1.2897**	**0.0689**	**1.3585**		**7,317.4374**	**7,317.4374**	**0.2055**	**0.7114**	**7,534.5756**

3.4 Building Construction - 2025

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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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	lb/day										lb/day					
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
Vendor	0.2485	9.9930	2.9808	0.0383	1.2589	0.0527	1.3116	0.3623	0.0504	0.4127		4,109.2357	4,109.2357	0.1000	0.6057	4,292.2446
Worker	1.3286	0.8030	10.4968	0.0293	3.8491	0.0181	3.8672	1.0210	0.0166	1.0377		3,048.2663	3,048.2663	0.0941	0.0881	3,076.8830
Total	**1.5771**	**10.7960**	**13.4775**	**0.0675**	**5.1080**	**0.0708**	**5.1788**	**1.3833**	**0.0670**	**1.4504**		**7,157.5020**	**7,157.5020**	**0.1941**	**0.6939**	**7,369.1276**

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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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	lb/day										lb/day					
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
Vendor	0.2485	9.9930	2.9808	0.0383	1.1781	0.0527	1.2308	0.3425	0.0504	0.3929		4,109.2357	4,109.2357	0.1000	0.6057	4,292.2446
Worker	1.3286	0.8030	10.4968	0.0293	3.5481	0.0181	3.5662	0.9471	0.0166	0.9638		3,048.2663	3,048.2663	0.0941	0.0881	3,076.8830
Total	**1.5771**	**10.7960**	**13.4775**	**0.0675**	**4.7262**	**0.0708**	**4.7969**	**1.2896**	**0.0670**	**1.3567**		**7,157.5020**	**7,157.5020**	**0.1941**	**0.6939**	**7,369.1276**

3.5 Paving - 2025

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.4615					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3766**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

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	lb/day										lb/day					
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
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
Worker	0.0394	0.0238	0.3112	8.7000e-004	0.1141	5.4000e-004	0.1146	0.0303	4.9000e-004	0.0308		90.3636	90.3636	2.7900e-003	2.6100e-003	91.2120
Total	**0.0394**	**0.0238**	**0.3112**	**8.7000e-004**	**0.1141**	**5.4000e-004**	**0.1146**	**0.0303**	**4.9000e-004**	**0.0308**		**90.3636**	**90.3636**	**2.7900e-003**	**2.6100e-003**	**91.2120**

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.4615					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3766**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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	lb/day										lb/day					
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
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
Worker	0.0394	0.0238	0.3112	8.7000e-004	0.1052	5.4000e-004	0.1057	0.0281	4.9000e-004	0.0286		90.3636	90.3636	2.7900e-003	2.6100e-003	91.2120
Total	**0.0394**	**0.0238**	**0.3112**	**8.7000e-004**	**0.1052**	**5.4000e-004**	**0.1057**	**0.0281**	**4.9000e-004**	**0.0286**		**90.3636**	**90.3636**	**2.7900e-003**	**2.6100e-003**	**91.2120**

3.5 Paving - 2026

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.4615					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3766**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

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	lb/day										lb/day					
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
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
Worker	0.0372	0.0216	0.2934	8.4000e-004	0.1141	5.1000e-004	0.1146	0.0303	4.7000e-004	0.0307		88.2220	88.2220	2.5500e-003	2.4600e-003	89.0192
Total	**0.0372**	**0.0216**	**0.2934**	**8.4000e-004**	**0.1141**	**5.1000e-004**	**0.1146**	**0.0303**	**4.7000e-004**	**0.0307**		**88.2220**	**88.2220**	**2.5500e-003**	**2.4600e-003**	**89.0192**

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.4615					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3766**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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	lb/day										lb/day					
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
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
Worker	0.0372	0.0216	0.2934	8.4000e-004	0.1052	5.1000e-004	0.1057	0.0281	4.7000e-004	0.0286		88.2220	88.2220	2.5500e-003	2.4600e-003	89.0192
Total	**0.0372**	**0.0216**	**0.2934**	**8.4000e-004**	**0.1052**	**5.1000e-004**	**0.1057**	**0.0281**	**4.7000e-004**	**0.0286**		**88.2220**	**88.2220**	**2.5500e-003**	**2.4600e-003**	**89.0192**

3.6 Architectural Coating - 2026

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	lb/day										lb/day					
Archit. Coating	124.0920					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

Total	**124.2628**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	lb/day										lb/day					
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
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
Worker	0.2505	0.1453	1.9757	5.6600e-003	0.7683	3.4400e-003	0.7717	0.2038	3.1600e-003	0.2070		594.0280	594.0280	0.0172	0.0166	599.3956
Total	**0.2505**	**0.1453**	**1.9757**	**5.6600e-003**	**0.7683**	**3.4400e-003**	**0.7717**	**0.2038**	**3.1600e-003**	**0.2070**		**594.0280**	**594.0280**	**0.0172**	**0.0166**	**599.3956**

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	lb/day										lb/day					
Archit. Coating	124.0920					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

CSUS The Hub Construction Phase 1 - Sacramento County, Winter

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

Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**124.2628**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	lb/day										lb/day					
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
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
Worker	0.2505	0.1453	1.9757	5.6600e-003	0.7082	3.4400e-003	0.7117	0.1891	3.1600e-003	0.1922		594.0280	594.0280	0.0172	0.0166	599.3956
Total	**0.2505**	**0.1453**	**1.9757**	**5.6600e-003**	**0.7082**	**3.4400e-003**	**0.7117**	**0.1891**	**3.1600e-003**	**0.1922**		**594.0280**	**594.0280**	**0.0172**	**0.0166**	**599.3956**

CSUS The Hub Construction Phase 2 - Sacramento County, Annual

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

CSUS The Hub Construction Phase 2

Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	189.50	1000sqft	0.00	189,500.00	0
General Office Building	52.00	1000sqft	0.60	52,000.00	0
Manufacturing	15.60	1000sqft	0.36	15,600.00	0
Enclosed Parking with Elevator	180.00	1000sqft	1.47	180,000.00	0
Strip Mall	14.50	1000sqft	0.00	14,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SMUD Invensity Factors adjusted accoding to RPS.

Land Use - Lot acreage adjusted according to FGSF

Construction Phase - Adjusted for 2 year construction schedule

Demolition -

Construction Off-road Equipment Mitigation - Clean Paved Road % PM Reduction - SCAQMD Rule 1186

Grading -

CSUS The Hub Construction Phase 2 - Sacramento County, Annual

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	39.00
tblConstructionPhase	NumDays	3.00	6.00
tblConstructionPhase	NumDays	6.00	12.00
tblConstructionPhase	NumDays	220.00	425.00
tblConstructionPhase	NumDays	10.00	19.00
tblConstructionPhase	NumDays	10.00	19.00
tblConstructionPhase	PhaseEndDate	1/28/2027	2/24/2027
tblConstructionPhase	PhaseEndDate	2/2/2027	3/4/2027
tblConstructionPhase	PhaseEndDate	2/10/2027	3/22/2027
tblConstructionPhase	PhaseEndDate	12/15/2027	11/6/2028
tblConstructionPhase	PhaseEndDate	12/29/2027	12/1/2028
tblConstructionPhase	PhaseEndDate	1/12/2028	12/28/2028
tblConstructionPhase	PhaseStartDate	1/29/2027	2/25/2027
tblConstructionPhase	PhaseStartDate	2/3/2027	3/5/2027
tblConstructionPhase	PhaseStartDate	2/11/2027	3/23/2027
tblConstructionPhase	PhaseStartDate	12/16/2027	11/7/2028
tblConstructionPhase	PhaseStartDate	12/30/2027	12/2/2028
tblLandUse	LotAcreage	4.35	0.00
tblLandUse	LotAcreage	1.19	0.60
tblLandUse	LotAcreage	4.13	1.47
tblLandUse	LotAcreage	0.33	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0

CSUS The Hub Construction Phase 2 - Sacramento County, Annual

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

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					
2027	0.2358	1.9771	2.1837	5.6200e-003	0.2708	0.0654	0.3362	0.0758	0.0621	0.1380	0.0000	503.4030	503.4030	0.0607	0.0233	511.8727
2028	1.5059	1.7921	2.1045	5.3700e-003	0.1843	0.0582	0.2425	0.0501	0.0556	0.1057	0.0000	480.9593	480.9593	0.0524	0.0226	489.0044
Maximum	**1.5059**	**1.9771**	**2.1837**	**5.6200e-003**	**0.2708**	**0.0654**	**0.3362**	**0.0758**	**0.0621**	**0.1380**	**0.0000**	**503.4030**	**503.4030**	**0.0607**	**0.0233**	**511.8727**

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
Year	tons/yr										MT/yr					
2027	0.2358	1.9771	2.1837	5.6200e-003	0.2044	0.0654	0.2697	0.0569	0.0621	0.1190	0.0000	503.4027	503.4027	0.0607	0.0233	511.8724
2028	1.5059	1.7921	2.1045	5.3700e-003	0.1706	0.0582	0.2289	0.0468	0.0556	0.1024	0.0000	480.9590	480.9590	0.0524	0.0226	489.0041
Maximum	**1.5059**	**1.9771**	**2.1837**	**5.6200e-003**	**0.2044**	**0.0654**	**0.2697**	**0.0569**	**0.0621**	**0.1190**	**0.0000**	**503.4027**	**503.4027**	**0.0607**	**0.0233**	**511.8724**

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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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**17.60**	**0.00**	**13.84**	**17.68**	**0.00**	**9.14**	**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	**1-1-2027**	**3-31-2027**	0.4931	0.4931
2	**4-1-2027**	**6-30-2027**	0.5644	0.5644
3	**7-1-2027**	**9-30-2027**	0.5706	0.5706
4	**10-1-2027**	**12-31-2027**	0.5782	0.5782
5	**1-1-2028**	**3-31-2028**	0.5688	0.5688
6	**4-1-2028**	**6-30-2028**	0.5615	0.5615
7	**7-1-2028**	**9-30-2028**	0.5677	0.5677
		Highest	0.5782	0.5782

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	1/1/2027	2/24/2027	5	39	
2	Site Preparation	Site Preparation	2/25/2027	3/4/2027	5	6	
3	Grading	Grading	3/5/2027	3/22/2027	5	12	
4	Building Construction	Building Construction	3/23/2027	11/6/2028	5	425	
5	Paving	Paving	11/7/2028	12/1/2028	5	19	
6	Architectural Coating	Architectural Coating	12/2/2028	12/28/2028	5	19	

Acres of Grading (Site Preparation Phase): 9

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

Acres of Grading (Grading Phase): 12

Acres of Paving: 1.47

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 407,400; Non-Residential Outdoor: 135,800; Striped Parking Area: 10,800

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	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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

Trips and VMT

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	5	13.00	0.00	446.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	164.00	74.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	33.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2027

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					0.0503	0.0000	0.0503	7.6100e-003	0.0000	7.6100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0261	0.2517	0.2600	4.7000e-004		0.0106	0.0106		9.9300e-003	9.9300e-003	0.0000	41.1435	41.1435	0.0104	0.0000	41.4030
Total	**0.0261**	**0.2517**	**0.2600**	**4.7000e-004**	**0.0503**	**0.0106**	**0.0609**	**7.6100e-003**	**9.9300e-003**	**0.0175**	**0.0000**	**41.1435**	**41.1435**	**0.0104**	**0.0000**	**41.4030**

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

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	5.4000e-004	0.0319	7.1900e-003	1.3000e-004	3.7700e-003	2.4000e-004	4.0100e-003	1.0300e-003	2.3000e-004	1.2600e-003	0.0000	12.7292	12.7292	5.1000e-004	2.0200e-003	13.3435
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	5.7000e-004	3.0000e-004	4.5900e-003	1.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	5.0000e-004	1.0000e-005	5.0000e-004	0.0000	1.3562	1.3562	3.0000e-005	3.0000e-005	1.3669
Total	**1.1100e-003**	**0.0322**	**0.0118**	**1.4000e-004**	**5.6300e-003**	**2.5000e-004**	**5.8800e-003**	**1.5300e-003**	**2.4000e-004**	**1.7600e-003**	**0.0000**	**14.0854**	**14.0854**	**5.4000e-004**	**2.0500e-003**	**14.7104**

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					0.0226	0.0000	0.0226	3.4300e-003	0.0000	3.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0261	0.2517	0.2600	4.7000e-004		0.0106	0.0106		9.9300e-003	9.9300e-003	0.0000	41.1435	41.1435	0.0104	0.0000	41.4029

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

Total	**0.0261**	**0.2517**	**0.2600**	**4.7000e-004**	**0.0226**	**0.0106**	**0.0333**	**3.4300e-003**	**9.9300e-003**	**0.0134**	**0.0000**	**41.1435**	**41.1435**	**0.0104**	**0.0000**	**41.4029**

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	5.4000e-004	0.0319	7.1900e-003	1.3000e-004	3.5100e-003	2.4000e-004	3.7500e-003	9.7000e-004	2.3000e-004	1.2000e-003	0.0000	12.7292	12.7292	5.1000e-004	2.0200e-003	13.3435
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	5.7000e-004	3.0000e-004	4.5900e-003	1.0000e-005	1.7200e-003	1.0000e-005	1.7300e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.3562	1.3562	3.0000e-005	3.0000e-005	1.3669
Total	**1.1100e-003**	**0.0322**	**0.0118**	**1.4000e-004**	**5.2300e-003**	**2.5000e-004**	**5.4800e-003**	**1.4300e-003**	**2.4000e-004**	**1.6700e-003**	**0.0000**	**14.0854**	**14.0854**	**5.4000e-004**	**2.0500e-003**	**14.7104**

3.3 Site Preparation - 2027

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					4.7700e-003	0.0000	4.7700e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	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

Off-Road	3.3000e-003	0.0330	0.0268	7.0000e-005		1.2300e-003	1.2300e-003		1.1300e-003	1.1300e-003	0.0000	6.4574	6.4574	2.0900e-003	0.0000	6.5096
Total	**3.3000e-003**	**0.0330**	**0.0268**	**7.0000e-005**	**4.7700e-003**	**1.2300e-003**	**6.0000e-003**	**5.2000e-004**	**1.1300e-003**	**1.6500e-003**	**0.0000**	**6.4574**	**6.4574**	**2.0900e-003**	**0.0000**	**6.5096**

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	5.0000e-005	3.0000e-005	4.3000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1284	0.1284	0.0000	0.0000	0.1294
Total	**5.0000e-005**	**3.0000e-005**	**4.3000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1284**	**0.1284**	**0.0000**	**0.0000**	**0.1294**

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					

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

Fugitive Dust					2.1500e-003	0.0000	2.1500e-003	2.3000e-004	0.0000	2.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3000e-003	0.0330	0.0268	7.0000e-005		1.2300e-003	1.2300e-003		1.1300e-003	1.1300e-003	0.0000	6.4574	6.4574	2.0900e-003	0.0000	6.5096
Total	**3.3000e-003**	**0.0330**	**0.0268**	**7.0000e-005**	**2.1500e-003**	**1.2300e-003**	**3.3800e-003**	**2.3000e-004**	**1.1300e-003**	**1.3600e-003**	**0.0000**	**6.4574**	**6.4574**	**2.0900e-003**	**0.0000**	**6.5096**

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	5.0000e-005	3.0000e-005	4.3000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1284	0.1284	0.0000	0.0000	0.1294
Total	**5.0000e-005**	**3.0000e-005**	**4.3000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1284**	**0.1284**	**0.0000**	**0.0000**	**0.1294**

3.4 Grading - 2027

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

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Category	tons/yr										MT/yr					
Fugitive Dust					0.0425	0.0000	0.0425	0.0206	0.0000	0.0206	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1400e-003	0.0746	0.0510	1.2000e-004		2.9800e-003	2.9800e-003		2.7400e-003	2.7400e-003	0.0000	10.8633	10.8633	3.5100e-003	0.0000	10.9512
Total	**7.1400e-003**	**0.0746**	**0.0510**	**1.2000e-004**	**0.0425**	**2.9800e-003**	**0.0455**	**0.0206**	**2.7400e-003**	**0.0233**	**0.0000**	**10.8633**	**10.8633**	**3.5100e-003**	**0.0000**	**10.9512**

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	1.3000e-004	7.0000e-005	1.0900e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3210	0.3210	1.0000e-005	1.0000e-005	0.3235
Total	**1.3000e-004**	**7.0000e-005**	**1.0900e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3210**	**0.3210**	**1.0000e-005**	**1.0000e-005**	**0.3235**

Mitigated Construction On-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					
Fugitive Dust					0.0191	0.0000	0.0191	9.2500e-003	0.0000	9.2500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1400e-003	0.0746	0.0510	1.2000e-004		2.9800e-003	2.9800e-003		2.7400e-003	2.7400e-003	0.0000	10.8633	10.8633	3.5100e-003	0.0000	10.9512
Total	**7.1400e-003**	**0.0746**	**0.0510**	**1.2000e-004**	**0.0191**	**2.9800e-003**	**0.0221**	**9.2500e-003**	**2.7400e-003**	**0.0120**	**0.0000**	**10.8633**	**10.8633**	**3.5100e-003**	**0.0000**	**10.9512**

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	1.3000e-004	7.0000e-005	1.0900e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3210	0.3210	1.0000e-005	1.0000e-005	0.3235
Total	**1.3000e-004**	**7.0000e-005**	**1.0900e-003**	**0.0000**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3210**	**0.3210**	**1.0000e-005**	**1.0000e-005**	**0.3235**

3.5 Building Construction - 2027

Unmitigated Construction On-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					
Off-Road	0.1520	1.2264	1.4287	2.5500e-003		0.0479	0.0479		0.0459	0.0459	0.0000	211.8900	211.8900	0.0389	0.0000	212.8615
Total	**0.1520**	**1.2264**	**1.4287**	**2.5500e-003**		**0.0479**	**0.0479**		**0.0459**	**0.0459**	**0.0000**	**211.8900**	**211.8900**	**0.0389**	**0.0000**	**212.8615**

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	8.4700e-003	0.3396	0.1011	1.3200e-003	0.0442	1.8000e-003	0.0460	0.0128	1.7200e-003	0.0145	0.0000	129.0210	129.0210	3.1300e-003	0.0191	134.7853
Worker	0.0375	0.0196	0.3028	9.3000e-004	0.1229	5.4000e-004	0.1234	0.0327	5.0000e-004	0.0332	0.0000	89.4930	89.4930	2.1500e-003	2.1900e-003	90.1988
Total	**0.0460**	**0.3592**	**0.4039**	**2.2500e-003**	**0.1670**	**2.3400e-003**	**0.1694**	**0.0455**	**2.2200e-003**	**0.0477**	**0.0000**	**218.5140**	**218.5140**	**5.2800e-003**	**0.0213**	**224.9841**

Mitigated Construction On-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Annual

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					
Off-Road	0.1520	1.2264	1.4287	2.5500e-003		0.0479	0.0479		0.0459	0.0459	0.0000	211.8898	211.8898	0.0389	0.0000	212.8613
Total	**0.1520**	**1.2264**	**1.4287**	**2.5500e-003**		**0.0479**	**0.0479**		**0.0459**	**0.0459**	**0.0000**	**211.8898**	**211.8898**	**0.0389**	**0.0000**	**212.8613**

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	8.4700e-003	0.3396	0.1011	1.3200e-003	0.0414	1.8000e-003	0.0432	0.0121	1.7200e-003	0.0138	0.0000	129.0210	129.0210	3.1300e-003	0.0191	134.7853
Worker	0.0375	0.0196	0.3028	9.3000e-004	0.1133	5.4000e-004	0.1138	0.0303	5.0000e-004	0.0308	0.0000	89.4930	89.4930	2.1500e-003	2.1900e-003	90.1988
Total	**0.0460**	**0.3592**	**0.4039**	**2.2500e-003**	**0.1547**	**2.3400e-003**	**0.1570**	**0.0424**	**2.2200e-003**	**0.0446**	**0.0000**	**218.5140**	**218.5140**	**5.2800e-003**	**0.0213**	**224.9841**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Annual

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					
Off-Road	0.1646	1.3286	1.5478	2.7700e-003		0.0519	0.0519		0.0497	0.0497	0.0000	229.5475	229.5475	0.0421	0.0000	230.6000
Total	**0.1646**	**1.3286**	**1.5478**	**2.7700e-003**		**0.0519**	**0.0519**		**0.0497**	**0.0497**	**0.0000**	**229.5475**	**229.5475**	**0.0421**	**0.0000**	**230.6000**

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	8.9000e-003	0.3619	0.1080	1.4000e-003	0.0478	1.9100e-003	0.0498	0.0138	1.8300e-003	0.0157	0.0000	136.9026	136.9026	3.3200e-003	0.0203	143.0286
Worker	0.0385	0.0196	0.3128	9.8000e-004	0.1331	5.5000e-004	0.1336	0.0354	5.0000e-004	0.0359	0.0000	94.9569	94.9569	2.1500e-003	2.2600e-003	95.6851
Total	**0.0474**	**0.3815**	**0.4208**	**2.3800e-003**	**0.1809**	**2.4600e-003**	**0.1834**	**0.0492**	**2.3300e-003**	**0.0516**	**0.0000**	**231.8595**	**231.8595**	**5.4700e-003**	**0.0225**	**238.7138**

Mitigated Construction On-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Annual

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					
Off-Road	0.1646	1.3286	1.5478	2.7700e-003		0.0519	0.0519		0.0497	0.0497	0.0000	229.5473	229.5473	0.0421	0.0000	230.5997
Total	**0.1646**	**1.3286**	**1.5478**	**2.7700e-003**		**0.0519**	**0.0519**		**0.0497**	**0.0497**	**0.0000**	**229.5473**	**229.5473**	**0.0421**	**0.0000**	**230.5997**

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	8.9000e-003	0.3619	0.1080	1.4000e-003	0.0448	1.9100e-003	0.0467	0.0131	1.8300e-003	0.0149	0.0000	136.9026	136.9026	3.3200e-003	0.0203	143.0286
Worker	0.0385	0.0196	0.3128	9.8000e-004	0.1227	5.5000e-004	0.1233	0.0329	5.0000e-004	0.0334	0.0000	94.9569	94.9569	2.1500e-003	2.2600e-003	95.6851
Total	**0.0474**	**0.3815**	**0.4208**	**2.3800e-003**	**0.1676**	**2.4600e-003**	**0.1700**	**0.0459**	**2.3300e-003**	**0.0483**	**0.0000**	**231.8595**	**231.8595**	**5.4700e-003**	**0.0225**	**238.7138**

3.6 Paving - 2028

Unmitigated Construction On-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Annual

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					
Off-Road	7.4600e-003	0.0707	0.1109	1.7000e-004		3.3300e-003	3.3300e-003		3.0700e-003	3.0700e-003	0.0000	14.7373	14.7373	4.6700e-003	0.0000	14.8540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.4600e-003**	**0.0707**	**0.1109**	**1.7000e-004**		**3.3300e-003**	**3.3300e-003**		**3.0700e-003**	**3.0700e-003**	**0.0000**	**14.7373**	**14.7373**	**4.6700e-003**	**0.0000**	**14.8540**

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	1.5000e-004	2.4600e-003	1.0000e-005	1.0500e-003	0.0000	1.0500e-003	2.8000e-004	0.0000	2.8000e-004	0.0000	0.7467	0.7467	2.0000e-005	2.0000e-005	0.7524
Total	**3.0000e-004**	**1.5000e-004**	**2.4600e-003**	**1.0000e-005**	**1.0500e-003**	**0.0000**	**1.0500e-003**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**0.7467**	**0.7467**	**2.0000e-005**	**2.0000e-005**	**0.7524**

CSUS The Hub Construction Phase 2 - Sacramento County, Annual

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

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	7.4600e-003	0.0707	0.1109	1.7000e-004		3.3300e-003	3.3300e-003		3.0700e-003	3.0700e-003	0.0000	14.7373	14.7373	4.6700e-003	0.0000	14.8540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.4600e-003**	**0.0707**	**0.1109**	**1.7000e-004**		**3.3300e-003**	**3.3300e-003**		**3.0700e-003**	**3.0700e-003**	**0.0000**	**14.7373**	**14.7373**	**4.6700e-003**	**0.0000**	**14.8540**

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	1.5000e-004	2.4600e-003	1.0000e-005	9.7000e-004	0.0000	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7467	0.7467	2.0000e-005	2.0000e-005	0.7524
Total	**3.0000e-004**	**1.5000e-004**	**2.4600e-003**	**1.0000e-005**	**9.7000e-004**	**0.0000**	**9.7000e-004**	**2.6000e-004**	**0.0000**	**2.6000e-004**	**0.0000**	**0.7467**	**0.7467**	**2.0000e-005**	**2.0000e-005**	**0.7524**

CSUS The Hub Construction Phase 2 - Sacramento County, Annual

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

3.7 Architectural Coating - 2028

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	1.2839					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6200e-003	0.0109	0.0172	3.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	2.4256	2.4256	1.3000e-004	0.0000	2.4289
Total	**1.2855**	**0.0109**	**0.0172**	**3.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**2.4256**	**2.4256**	**1.3000e-004**	**0.0000**	**2.4289**

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	6.7000e-004	3.4000e-004	5.4100e-003	2.0000e-005	2.3000e-003	1.0000e-005	2.3100e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.6427	1.6427	4.0000e-005	4.0000e-005	1.6553
Total	**6.7000e-004**	**3.4000e-004**	**5.4100e-003**	**2.0000e-005**	**2.3000e-003**	**1.0000e-005**	**2.3100e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**1.6427**	**1.6427**	**4.0000e-005**	**4.0000e-005**	**1.6553**

CSUS The Hub Construction Phase 2 - Sacramento County, Annual

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

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	1.2839					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6200e-003	0.0109	0.0172	3.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	2.4256	2.4256	1.3000e-004	0.0000	2.4289
Total	**1.2855**	**0.0109**	**0.0172**	**3.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**2.4256**	**2.4256**	**1.3000e-004**	**0.0000**	**2.4289**

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	6.7000e-004	3.4000e-004	5.4100e-003	2.0000e-005	2.1200e-003	1.0000e-005	2.1300e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.6427	1.6427	4.0000e-005	4.0000e-005	1.6553
Total	**6.7000e-004**	**3.4000e-004**	**5.4100e-003**	**2.0000e-005**	**2.1200e-003**	**1.0000e-005**	**2.1300e-003**	**5.7000e-004**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**1.6427**	**1.6427**	**4.0000e-005**	**4.0000e-005**	**1.6553**

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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

CSUS The Hub Construction Phase 2

Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	189.50	1000sqft	0.00	189,500.00	0
General Office Building	52.00	1000sqft	0.60	52,000.00	0
Manufacturing	15.60	1000sqft	0.36	15,600.00	0
Enclosed Parking with Elevator	180.00	1000sqft	1.47	180,000.00	0
Strip Mall	14.50	1000sqft	0.00	14,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SMUD Invensity Factors adjusted accoding to RPS.

Land Use - Lot acreage adjusted according to FGSF

Construction Phase - Adjusted for 2 year construction schedule

Demolition -

Construction Off-road Equipment Mitigation - Clean Paved Road % PM Reduction - SCAQMD Rule 1186

Grading -

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	39.00
tblConstructionPhase	NumDays	3.00	6.00
tblConstructionPhase	NumDays	6.00	12.00
tblConstructionPhase	NumDays	220.00	425.00
tblConstructionPhase	NumDays	10.00	19.00
tblConstructionPhase	NumDays	10.00	19.00
tblConstructionPhase	PhaseEndDate	1/28/2027	2/24/2027
tblConstructionPhase	PhaseEndDate	2/2/2027	3/4/2027
tblConstructionPhase	PhaseEndDate	2/10/2027	3/22/2027
tblConstructionPhase	PhaseEndDate	12/15/2027	11/6/2028
tblConstructionPhase	PhaseEndDate	12/29/2027	12/1/2028
tblConstructionPhase	PhaseEndDate	1/12/2028	12/28/2028
tblConstructionPhase	PhaseStartDate	1/29/2027	2/25/2027
tblConstructionPhase	PhaseStartDate	2/3/2027	3/5/2027
tblConstructionPhase	PhaseStartDate	2/11/2027	3/23/2027
tblConstructionPhase	PhaseStartDate	12/16/2027	11/7/2028
tblConstructionPhase	PhaseStartDate	12/30/2027	12/2/2028
tblLandUse	LotAcreage	4.35	0.00
tblLandUse	LotAcreage	1.19	0.60
tblLandUse	LotAcreage	4.13	1.47
tblLandUse	LotAcreage	0.33	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0

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CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2027	2.0063	15.3611	18.4249	0.0480	7.1587	0.5579	7.6550	3.4449	0.5211	3.9016	0.0000	4,742.5223	4,742.5223	0.7684	0.2283	4,822.4359
2028	135.3998	15.2963	18.2481	0.0475	1.6932	0.4922	2.1853	0.4592	0.4709	0.9300	0.0000	4,691.9831	4,691.9831	0.5438	0.2234	4,770.3736
Maximum	**135.3998**	**15.3611**	**18.4249**	**0.0480**	**7.1587**	**0.5579**	**7.6550**	**3.4449**	**0.5211**	**3.9016**	**0.0000**	**4,742.5223**	**4,742.5223**	**0.7684**	**0.2283**	**4,822.4359**

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
Year	lb/day										lb/day					
2027	2.0063	15.3611	18.4249	0.0480	3.2573	0.5579	3.7537	1.5599	0.5211	2.0165	0.0000	4,742.5223	4,742.5223	0.7684	0.2283	4,822.4359
2028	135.3998	15.2963	18.2481	0.0475	1.5670	0.4922	2.0591	0.4282	0.4709	0.8991	0.0000	4,691.9831	4,691.9831	0.5438	0.2234	4,770.3736
Maximum	**135.3998**	**15.3611**	**18.4249**	**0.0480**	**3.2573**	**0.5579**	**3.7537**	**1.5599**	**0.5211**	**2.0165**	**0.0000**	**4,742.5223**	**4,742.5223**	**0.7684**	**0.2283**	**4,822.4359**

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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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**45.50**	**0.00**	**40.93**	**49.08**	**0.00**	**39.66**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	1/1/2027	2/24/2027	5	39	
2	Site Preparation	Site Preparation	2/25/2027	3/4/2027	5	6	
3	Grading	Grading	3/5/2027	3/22/2027	5	12	
4	Building Construction	Building Construction	3/23/2027	11/6/2028	5	425	
5	Paving	Paving	11/7/2028	12/1/2028	5	19	
6	Architectural Coating	Architectural Coating	12/2/2028	12/28/2028	5	19	

Acres of Grading (Site Preparation Phase): 9

Acres of Grading (Grading Phase): 12

Acres of Paving: 1.47

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 407,400; Non-Residential Outdoor: 135,800; Striped Parking Area: 10,800

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	Rubber Tired Dozers	1	8.00	247	0.40

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

Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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	5	13.00	0.00	446.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	164.00	74.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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

Architectural Coating		1	33.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2027

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	lb/day										lb/day					
Fugitive Dust					2.5788	0.0000	2.5788	0.3905	0.0000	0.3905			0.0000			0.0000
Off-Road	1.3396	12.9057	13.3316	0.0242		0.5452	0.5452		0.5091	0.5091		2,325.7934	2,325.7934	0.5866		2,340.4584
Total	**1.3396**	**12.9057**	**13.3316**	**0.0242**	**2.5788**	**0.5452**	**3.1241**	**0.3905**	**0.5091**	**0.8995**		**2,325.7934**	**2,325.7934**	**0.5866**		**2,340.4584**

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	lb/day										lb/day					

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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

Hauling	0.0283	1.5450	0.3662	6.5800e-003	0.1992	0.0122	0.2115	0.0545	0.0117	0.0663		719.3439	719.3439	0.0288	0.1141	754.0630
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
Worker	0.0342	0.0140	0.2731	7.9000e-004	0.0989	4.2000e-004	0.0993	0.0262	3.9000e-004	0.0266		83.9437	83.9437	1.7300e-003	1.7700e-003	84.5136
Total	**0.0625**	**1.5589**	**0.6394**	**7.3700e-003**	**0.2981**	**0.0127**	**0.3108**	**0.0808**	**0.0121**	**0.0929**		**803.2876**	**803.2876**	**0.0306**	**0.1159**	**838.5766**

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	lb/day										lb/day					
Fugitive Dust					1.1605	0.0000	1.1605	0.1757	0.0000	0.1757			0.0000			0.0000
Off-Road	1.3396	12.9057	13.3316	0.0242		0.5452	0.5452		0.5091	0.5091	0.0000	2,325.7934	2,325.7934	0.5866		2,340.4584
Total	**1.3396**	**12.9057**	**13.3316**	**0.0242**	**1.1605**	**0.5452**	**1.7057**	**0.1757**	**0.5091**	**0.6848**	**0.0000**	**2,325.7934**	**2,325.7934**	**0.5866**		**2,340.4584**

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

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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

Category	lb/day										lb/day					
Hauling	0.0283	1.5450	0.3662	6.5800e-003	0.1856	0.0122	0.1979	0.0512	0.0117	0.0629		719.3439	719.3439	0.0288	0.1141	754.0630
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
Worker	0.0342	0.0140	0.2731	7.9000e-004	0.0912	4.2000e-004	0.0916	0.0243	3.9000e-004	0.0247		83.9437	83.9437	1.7300e-003	1.7700e-003	84.5136
Total	**0.0625**	**1.5589**	**0.6394**	**7.3700e-003**	**0.2768**	**0.0127**	**0.2894**	**0.0755**	**0.0121**	**0.0876**		**803.2876**	**803.2876**	**0.0306**	**0.1159**	**838.5766**

3.3 Site Preparation - 2027

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	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.0985	10.9957	8.9257	0.0245		0.4094	0.4094		0.3766	0.3766		2,372.6856	2,372.6856	0.7674		2,391.8700
Total	**1.0985**	**10.9957**	**8.9257**	**0.0245**	**1.5908**	**0.4094**	**2.0001**	**0.1718**	**0.3766**	**0.5484**		**2,372.6856**	**2,372.6856**	**0.7674**		**2,391.8700**

Unmitigated Construction Off-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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	lb/day										lb/day					
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
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
Worker	0.0210	8.5800e-003	0.1681	4.9000e-004	0.0609	2.6000e-004	0.0611	0.0161	2.4000e-004	0.0164		51.6577	51.6577	1.0600e-003	1.0900e-003	52.0084
Total	**0.0210**	**8.5800e-003**	**0.1681**	**4.9000e-004**	**0.0609**	**2.6000e-004**	**0.0611**	**0.0161**	**2.4000e-004**	**0.0164**		**51.6577**	**51.6577**	**1.0600e-003**	**1.0900e-003**	**52.0084**

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	lb/day										lb/day					
Fugitive Dust					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	1.0985	10.9957	8.9257	0.0245		0.4094	0.4094		0.3766	0.3766	0.0000	2,372.6856	2,372.6856	0.7674		2,391.8700
Total	**1.0985**	**10.9957**	**8.9257**	**0.0245**	**0.7158**	**0.4094**	**1.1252**	**0.0773**	**0.3766**	**0.4539**	**0.0000**	**2,372.6856**	**2,372.6856**	**0.7674**		**2,391.8700**

Mitigated Construction Off-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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	lb/day										lb/day					
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
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
Worker	0.0210	8.5800e-003	0.1681	4.9000e-004	0.0561	2.6000e-004	0.0564	0.0150	2.4000e-004	0.0152		51.6577	51.6577	1.0600e-003	1.0900e-003	52.0084
Total	**0.0210**	**8.5800e-003**	**0.1681**	**4.9000e-004**	**0.0561**	**2.6000e-004**	**0.0564**	**0.0150**	**2.4000e-004**	**0.0152**		**51.6577**	**51.6577**	**1.0600e-003**	**1.0900e-003**	**52.0084**

3.4 Grading - 2027

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	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.1904	12.4243	8.4937	0.0206		0.4961	0.4961		0.4564	0.4564		1,995.7975	1,995.7975	0.6455		2,011.9345
Total	**1.1904**	**12.4243**	**8.4937**	**0.0206**	**7.0826**	**0.4961**	**7.5787**	**3.4247**	**0.4564**	**3.8811**		**1,995.7975**	**1,995.7975**	**0.6455**		**2,011.9345**

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

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	lb/day										lb/day					
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
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
Worker	0.0263	0.0107	0.2101	6.1000e-004	0.0761	3.2000e-004	0.0764	0.0202	3.0000e-004	0.0205		64.5721	64.5721	1.3300e-003	1.3600e-003	65.0105
Total	**0.0263**	**0.0107**	**0.2101**	**6.1000e-004**	**0.0761**	**3.2000e-004**	**0.0764**	**0.0202**	**3.0000e-004**	**0.0205**		**64.5721**	**64.5721**	**1.3300e-003**	**1.3600e-003**	**65.0105**

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	lb/day										lb/day					
Fugitive Dust					3.1872	0.0000	3.1872	1.5411	0.0000	1.5411			0.0000			0.0000
Off-Road	1.1904	12.4243	8.4937	0.0206		0.4961	0.4961		0.4564	0.4564	0.0000	1,995.7975	1,995.7975	0.6455		2,011.9345
Total	**1.1904**	**12.4243**	**8.4937**	**0.0206**	**3.1872**	**0.4961**	**3.6832**	**1.5411**	**0.4564**	**1.9975**	**0.0000**	**1,995.7975**	**1,995.7975**	**0.6455**		**2,011.9345**

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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	lb/day										lb/day					
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
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
Worker	0.0263	0.0107	0.2101	6.1000e-004	0.0701	3.2000e-004	0.0704	0.0187	3.0000e-004	0.0190		64.5721	64.5721	1.3300e-003	1.3600e-003	65.0105
Total	**0.0263**	**0.0107**	**0.2101**	**6.1000e-004**	**0.0701**	**3.2000e-004**	**0.0704**	**0.0187**	**3.0000e-004**	**0.0190**		**64.5721**	**64.5721**	**1.3300e-003**	**1.3600e-003**	**65.0105**

3.5 Building Construction - 2027

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	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498		2,289.8898	2,289.8898	0.4200		2,300.3887
Total	**1.4897**	**12.0233**	**14.0072**	**0.0250**		**0.4700**	**0.4700**		**0.4498**	**0.4498**		**2,289.8898**	**2,289.8898**	**0.4200**		**2,300.3887**

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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

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	lb/day										lb/day					
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
Vendor	0.0853	3.1618	0.9722	0.0130	0.4456	0.0176	0.4633	0.1283	0.0169	0.1451		1,393.6505	1,393.6505	0.0339	0.2060	1,455.8756
Worker	0.4313	0.1760	3.4456	0.0100	1.2476	5.2800e-003	1.2528	0.3309	4.8600e-003	0.3358		1,058.9820	1,058.9820	0.0218	0.0223	1,066.1716
Total	**0.5166**	**3.3378**	**4.4177**	**0.0230**	**1.6932**	**0.0229**	**1.7161**	**0.4592**	**0.0217**	**0.4809**		**2,452.6325**	**2,452.6325**	**0.0557**	**0.2283**	**2,522.0473**

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	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498	0.0000	2,289.8898	2,289.8898	0.4200		2,300.3887
Total	**1.4897**	**12.0233**	**14.0072**	**0.0250**		**0.4700**	**0.4700**		**0.4498**	**0.4498**	**0.0000**	**2,289.8898**	**2,289.8898**	**0.4200**		**2,300.3887**

Mitigated Construction Off-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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	lb/day										lb/day					
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
Vendor	0.0853	3.1618	0.9722	0.0130	0.4170	0.0176	0.4346	0.1212	0.0169	0.1381		1,393.6505	1,393.6505	0.0339	0.2060	1,455.8756
Worker	0.4313	0.1760	3.4456	0.0100	1.1500	5.2800e-003	1.1553	0.3070	4.8600e-003	0.3118		1,058.9820	1,058.9820	0.0218	0.0223	1,066.1716
Total	**0.5166**	**3.3378**	**4.4177**	**0.0230**	**1.5670**	**0.0229**	**1.5899**	**0.4282**	**0.0217**	**0.4499**		**2,452.6325**	**2,452.6325**	**0.0557**	**0.2283**	**2,522.0473**

3.5 Building Construction - 2028

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	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498		2,289.8898	2,289.8898	0.4200		2,300.3887
Total	**1.4897**	**12.0233**	**14.0072**	**0.0250**		**0.4700**	**0.4700**		**0.4498**	**0.4498**		**2,289.8898**	**2,289.8898**	**0.4200**		**2,300.3887**

Unmitigated Construction Off-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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	lb/day										lb/day					
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
Vendor	0.0828	3.1107	0.9587	0.0127	0.4456	0.0172	0.4629	0.1282	0.0165	0.1447		1,364.9828	1,364.9828	0.0332	0.2021	1,426.0262
Worker	0.4080	0.1623	3.2823	9.7200e-003	1.2476	4.9600e-003	1.2525	0.3309	4.5600e-003	0.3355		1,037.1105	1,037.1105	0.0201	0.0213	1,043.9587
Total	**0.4909**	**3.2730**	**4.2409**	**0.0224**	**1.6932**	**0.0222**	**1.7154**	**0.4592**	**0.0211**	**0.4802**		**2,402.0933**	**2,402.0933**	**0.0533**	**0.2234**	**2,469.9849**

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	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498	0.0000	2,289.8898	2,289.8898	0.4200		2,300.3887
Total	**1.4897**	**12.0233**	**14.0072**	**0.0250**		**0.4700**	**0.4700**		**0.4498**	**0.4498**	**0.0000**	**2,289.8898**	**2,289.8898**	**0.4200**		**2,300.3887**

Mitigated Construction Off-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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	lb/day										lb/day					
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
Vendor	0.0828	3.1107	0.9587	0.0127	0.4170	0.0172	0.4342	0.1212	0.0165	0.1377		1,364.9828	1,364.9828	0.0332	0.2021	1,426.0262
Worker	0.4080	0.1623	3.2823	9.7200e-003	1.1500	4.9600e-003	1.1549	0.3070	4.5600e-003	0.3115		1,037.1105	1,037.1105	0.0201	0.0213	1,043.9587
Total	**0.4909**	**3.2730**	**4.2409**	**0.0224**	**1.5670**	**0.0222**	**1.5892**	**0.4282**	**0.0211**	**0.4492**		**2,402.0933**	**2,402.0933**	**0.0533**	**0.2234**	**2,469.9849**

3.6 Paving - 2028

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	lb/day										lb/day					
Off-Road	0.7854	7.4371	11.6737	0.0179		0.3503	0.3503		0.3234	0.3234		1,710.0067	1,710.0067	0.5420		1,723.5556
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7854**	**7.4371**	**11.6737**	**0.0179**		**0.3503**	**0.3503**		**0.3234**	**0.3234**		**1,710.0067**	**1,710.0067**	**0.5420**		**1,723.5556**

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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

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	lb/day										lb/day					
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
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
Worker	0.0373	0.0149	0.3002	8.9000e-004	0.1141	4.5000e-004	0.1146	0.0303	4.2000e-004	0.0307		94.8577	94.8577	1.8300e-003	1.9500e-003	95.4840
Total	**0.0373**	**0.0149**	**0.3002**	**8.9000e-004**	**0.1141**	**4.5000e-004**	**0.1146**	**0.0303**	**4.2000e-004**	**0.0307**		**94.8577**	**94.8577**	**1.8300e-003**	**1.9500e-003**	**95.4840**

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	lb/day										lb/day					
Off-Road	0.7854	7.4371	11.6737	0.0179		0.3503	0.3503		0.3234	0.3234	0.0000	1,710.0067	1,710.0067	0.5420		1,723.5556
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7854**	**7.4371**	**11.6737**	**0.0179**		**0.3503**	**0.3503**		**0.3234**	**0.3234**	**0.0000**	**1,710.0067**	**1,710.0067**	**0.5420**		**1,723.5556**

CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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	lb/day										lb/day					
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
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
Worker	0.0373	0.0149	0.3002	8.9000e-004	0.1052	4.5000e-004	0.1056	0.0281	4.2000e-004	0.0285		94.8577	94.8577	1.8300e-003	1.9500e-003	95.4840
Total	**0.0373**	**0.0149**	**0.3002**	**8.9000e-004**	**0.1052**	**4.5000e-004**	**0.1056**	**0.0281**	**4.2000e-004**	**0.0285**		**94.8577**	**94.8577**	**1.8300e-003**	**1.9500e-003**	**95.4840**

3.7 Architectural Coating - 2028

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	lb/day										lb/day					
Archit. Coating	135.1468					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**135.3177**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

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CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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

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	lb/day										lb/day					
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
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
Worker	0.0821	0.0327	0.6605	1.9600e-003	0.2510	1.0000e-003	0.2520	0.0666	9.2000e-004	0.0675		208.6869	208.6869	4.0400e-003	4.2900e-003	210.0649
Total	**0.0821**	**0.0327**	**0.6605**	**1.9600e-003**	**0.2510**	**1.0000e-003**	**0.2520**	**0.0666**	**9.2000e-004**	**0.0675**		**208.6869**	**208.6869**	**4.0400e-003**	**4.2900e-003**	**210.0649**

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	lb/day										lb/day					
Archit. Coating	135.1468					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**135.3177**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

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CSUS The Hub Construction Phase 2 - Sacramento County, Summer

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	lb/day										lb/day					
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
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
Worker	0.0821	0.0327	0.6605	1.9600e-003	0.2314	1.0000e-003	0.2324	0.0618	9.2000e-004	0.0627		208.6869	208.6869	4.0400e-003	4.2900e-003	210.0649
Total	**0.0821**	**0.0327**	**0.6605**	**1.9600e-003**	**0.2314**	**1.0000e-003**	**0.2324**	**0.0618**	**9.2000e-004**	**0.0627**		**208.6869**	**208.6869**	**4.0400e-003**	**4.2900e-003**	**210.0649**

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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

CSUS The Hub Construction Phase 2

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	189.50	1000sqft	0.00	189,500.00	0
General Office Building	52.00	1000sqft	0.60	52,000.00	0
Manufacturing	15.60	1000sqft	0.36	15,600.00	0
Enclosed Parking with Elevator	180.00	1000sqft	1.47	180,000.00	0
Strip Mall	14.50	1000sqft	0.00	14,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SMUD Invensity Factors adjusted accoding to RPS.

Land Use - Lot acreage adjusted according to FGSF

Construction Phase - Adjusted for 2 year construction schedule

Demolition -

Construction Off-road Equipment Mitigation - Clean Paved Road % PM Reduction - SCAQMD Rule 1186

Grading -

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CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	39.00
tblConstructionPhase	NumDays	3.00	6.00
tblConstructionPhase	NumDays	6.00	12.00
tblConstructionPhase	NumDays	220.00	425.00
tblConstructionPhase	NumDays	10.00	19.00
tblConstructionPhase	NumDays	10.00	19.00
tblConstructionPhase	PhaseEndDate	1/28/2027	2/24/2027
tblConstructionPhase	PhaseEndDate	2/2/2027	3/4/2027
tblConstructionPhase	PhaseEndDate	2/10/2027	3/22/2027
tblConstructionPhase	PhaseEndDate	12/15/2027	11/6/2028
tblConstructionPhase	PhaseEndDate	12/29/2027	12/1/2028
tblConstructionPhase	PhaseEndDate	1/12/2028	12/28/2028
tblConstructionPhase	PhaseStartDate	1/29/2027	2/25/2027
tblConstructionPhase	PhaseStartDate	2/3/2027	3/5/2027
tblConstructionPhase	PhaseStartDate	2/11/2027	3/23/2027
tblConstructionPhase	PhaseStartDate	12/16/2027	11/7/2028
tblConstructionPhase	PhaseStartDate	12/30/2027	12/2/2028
tblLandUse	LotAcreage	4.35	0.00
tblLandUse	LotAcreage	1.19	0.60
tblLandUse	LotAcreage	4.13	1.47
tblLandUse	LotAcreage	0.33	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2027	1.9560	15.6409	18.0647	0.0469	7.1587	0.5579	7.6550	3.4449	0.5212	3.9016	0.0000	4,628.1054	4,628.1054	0.7686	0.2320	4,709.2135
2028	135.3910	15.5700	17.9106	0.0464	1.6932	0.4923	2.1854	0.4592	0.4710	0.9302	0.0000	4,580.1504	4,580.1504	0.5441	0.2269	4,659.6823
Maximum	**135.3910**	**15.6409**	**18.0647**	**0.0469**	**7.1587**	**0.5579**	**7.6550**	**3.4449**	**0.5212**	**3.9016**	**0.0000**	**4,628.1054**	**4,628.1054**	**0.7686**	**0.2320**	**4,709.2135**

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
Year	lb/day										lb/day					
2027	1.9560	15.6409	18.0647	0.0469	3.2573	0.5579	3.7537	1.5599	0.5212	2.0165	0.0000	4,628.1054	4,628.1054	0.7686	0.2320	4,709.2135
2028	135.3910	15.5700	17.9106	0.0464	1.5670	0.4923	2.0593	0.4282	0.4710	0.8992	0.0000	4,580.1504	4,580.1504	0.5441	0.2269	4,659.6823
Maximum	**135.3910**	**15.6409**	**18.0647**	**0.0469**	**3.2573**	**0.5579**	**3.7537**	**1.5599**	**0.5212**	**2.0165**	**0.0000**	**4,628.1054**	**4,628.1054**	**0.7686**	**0.2320**	**4,709.2135**

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**45.50**	**0.00**	**40.93**	**49.08**	**0.00**	**39.66**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	1/1/2027	2/24/2027	5	39	
2	Site Preparation	Site Preparation	2/25/2027	3/4/2027	5	6	
3	Grading	Grading	3/5/2027	3/22/2027	5	12	
4	Building Construction	Building Construction	3/23/2027	11/6/2028	5	425	
5	Paving	Paving	11/7/2028	12/1/2028	5	19	
6	Architectural Coating	Architectural Coating	12/2/2028	12/28/2028	5	19	

Acres of Grading (Site Preparation Phase): 9

Acres of Grading (Grading Phase): 12

Acres of Paving: 1.47

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 407,400; Non-Residential Outdoor: 135,800; Striped Parking Area: 10,800

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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

Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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	5	13.00	0.00	446.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	164.00	74.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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

Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	33.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2027

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	lb/day										lb/day					
Fugitive Dust					2.5788	0.0000	2.5788	0.3905	0.0000	0.3905			0.0000			0.0000
Off-Road	1.3396	12.9057	13.3316	0.0242		0.5452	0.5452		0.5091	0.5091		2,325.7934	2,325.7934	0.5866		2,340.4584
Total	**1.3396**	**12.9057**	**13.3316**	**0.0242**	**2.5788**	**0.5452**	**3.1241**	**0.3905**	**0.5091**	**0.8995**		**2,325.7934**	**2,325.7934**	**0.5866**		**2,340.4584**

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

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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

Category	lb/day										lb/day					
Hauling	0.0268	1.6715	0.3723	6.5900e-003	0.1992	0.0123	0.2115	0.0545	0.0117	0.0663		719.8693	719.8693	0.0287	0.1142	754.6129
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
Worker	0.0305	0.0171	0.2411	7.1000e-004	0.0989	4.2000e-004	0.0993	0.0262	3.9000e-004	0.0266		74.7457	74.7457	2.0300e-003	2.0200e-003	75.3993
Total	**0.0572**	**1.6886**	**0.6134**	**7.3000e-003**	**0.2981**	**0.0127**	**0.3108**	**0.0808**	**0.0121**	**0.0929**		**794.6151**	**794.6151**	**0.0308**	**0.1162**	**830.0122**

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	lb/day										lb/day					
Fugitive Dust					1.1605	0.0000	1.1605	0.1757	0.0000	0.1757			0.0000			0.0000
Off-Road	1.3396	12.9057	13.3316	0.0242		0.5452	0.5452		0.5091	0.5091	0.0000	2,325.7934	2,325.7934	0.5866		2,340.4584
Total	**1.3396**	**12.9057**	**13.3316**	**0.0242**	**1.1605**	**0.5452**	**1.7057**	**0.1757**	**0.5091**	**0.6848**	**0.0000**	**2,325.7934**	**2,325.7934**	**0.5866**		**2,340.4584**

Mitigated Construction Off-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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	lb/day										lb/day					
Hauling	0.0268	1.6715	0.3723	6.5900e-003	0.1856	0.0123	0.1979	0.0512	0.0117	0.0629		719.8693	719.8693	0.0287	0.1142	754.6129
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
Worker	0.0305	0.0171	0.2411	7.1000e-004	0.0912	4.2000e-004	0.0916	0.0243	3.9000e-004	0.0247		74.7457	74.7457	2.0300e-003	2.0200e-003	75.3993
Total	**0.0572**	**1.6886**	**0.6134**	**7.3000e-003**	**0.2768**	**0.0127**	**0.2895**	**0.0755**	**0.0121**	**0.0877**		**794.6151**	**794.6151**	**0.0308**	**0.1162**	**830.0122**

3.3 Site Preparation - 2027

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	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.0985	10.9957	8.9257	0.0245		0.4094	0.4094		0.3766	0.3766		2,372.6856	2,372.6856	0.7674		2,391.8700
Total	**1.0985**	**10.9957**	**8.9257**	**0.0245**	**1.5908**	**0.4094**	**2.0001**	**0.1718**	**0.3766**	**0.5484**		**2,372.6856**	**2,372.6856**	**0.7674**		**2,391.8700**

Unmitigated Construction Off-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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	lb/day										lb/day					
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
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
Worker	0.0188	0.0105	0.1484	4.3000e-004	0.0609	2.6000e-004	0.0611	0.0161	2.4000e-004	0.0164		45.9974	45.9974	1.2500e-003	1.2400e-003	46.3995
Total	**0.0188**	**0.0105**	**0.1484**	**4.3000e-004**	**0.0609**	**2.6000e-004**	**0.0611**	**0.0161**	**2.4000e-004**	**0.0164**		**45.9974**	**45.9974**	**1.2500e-003**	**1.2400e-003**	**46.3995**

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	lb/day										lb/day					
Fugitive Dust					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	1.0985	10.9957	8.9257	0.0245		0.4094	0.4094		0.3766	0.3766	0.0000	2,372.6856	2,372.6856	0.7674		2,391.8700
Total	**1.0985**	**10.9957**	**8.9257**	**0.0245**	**0.7158**	**0.4094**	**1.1252**	**0.0773**	**0.3766**	**0.4539**	**0.0000**	**2,372.6856**	**2,372.6856**	**0.7674**		**2,391.8700**

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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	lb/day										lb/day					
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
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
Worker	0.0188	0.0105	0.1484	4.3000e-004	0.0561	2.6000e-004	0.0564	0.0150	2.4000e-004	0.0152		45.9974	45.9974	1.2500e-003	1.2400e-003	46.3995
Total	**0.0188**	**0.0105**	**0.1484**	**4.3000e-004**	**0.0561**	**2.6000e-004**	**0.0564**	**0.0150**	**2.4000e-004**	**0.0152**		**45.9974**	**45.9974**	**1.2500e-003**	**1.2400e-003**	**46.3995**

3.4 Grading - 2027

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	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.1904	12.4243	8.4937	0.0206		0.4961	0.4961		0.4564	0.4564		1,995.7975	1,995.7975	0.6455		2,011.9345
Total	**1.1904**	**12.4243**	**8.4937**	**0.0206**	**7.0826**	**0.4961**	**7.5787**	**3.4247**	**0.4564**	**3.8811**		**1,995.7975**	**1,995.7975**	**0.6455**		**2,011.9345**

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CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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

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	lb/day										lb/day					
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
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
Worker	0.0235	0.0131	0.1855	5.4000e-004	0.0761	3.2000e-004	0.0764	0.0202	3.0000e-004	0.0205		57.4967	57.4967	1.5600e-003	1.5600e-003	57.9994
Total	**0.0235**	**0.0131**	**0.1855**	**5.4000e-004**	**0.0761**	**3.2000e-004**	**0.0764**	**0.0202**	**3.0000e-004**	**0.0205**		**57.4967**	**57.4967**	**1.5600e-003**	**1.5600e-003**	**57.9994**

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	lb/day										lb/day					
Fugitive Dust					3.1872	0.0000	3.1872	1.5411	0.0000	1.5411			0.0000			0.0000
Off-Road	1.1904	12.4243	8.4937	0.0206		0.4961	0.4961		0.4564	0.4564	0.0000	1,995.7975	1,995.7975	0.6455		2,011.9345
Total	**1.1904**	**12.4243**	**8.4937**	**0.0206**	**3.1872**	**0.4961**	**3.6832**	**1.5411**	**0.4564**	**1.9975**	**0.0000**	**1,995.7975**	**1,995.7975**	**0.6455**		**2,011.9345**

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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	lb/day										lb/day					
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
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
Worker	0.0235	0.0131	0.1855	5.4000e-004	0.0701	3.2000e-004	0.0704	0.0187	3.0000e-004	0.0190		57.4967	57.4967	1.5600e-003	1.5600e-003	57.9994
Total	**0.0235**	**0.0131**	**0.1855**	**5.4000e-004**	**0.0701**	**3.2000e-004**	**0.0704**	**0.0187**	**3.0000e-004**	**0.0190**		**57.4967**	**57.4967**	**1.5600e-003**	**1.5600e-003**	**57.9994**

3.5 Building Construction - 2027

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	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498		2,289.8898	2,289.8898	0.4200		2,300.3887
Total	**1.4897**	**12.0233**	**14.0072**	**0.0250**		**0.4700**	**0.4700**		**0.4498**	**0.4498**		**2,289.8898**	**2,289.8898**	**0.4200**		**2,300.3887**

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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

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	lb/day										lb/day					
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
Vendor	0.0818	3.4021	1.0159	0.0130	0.4456	0.0178	0.4634	0.1283	0.0170	0.1452		1,395.2698	1,395.2698	0.0337	0.2065	1,457.6343
Worker	0.3845	0.2155	3.0416	8.9100e-003	1.2476	5.2800e-003	1.2528	0.3309	4.8600e-003	0.3358		942.9458	942.9458	0.0256	0.0255	951.1905
Total	**0.4663**	**3.6176**	**4.0575**	**0.0219**	**1.6932**	**0.0230**	**1.7162**	**0.4592**	**0.0218**	**0.4810**		**2,338.2156**	**2,338.2156**	**0.0593**	**0.2320**	**2,408.8249**

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	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498	0.0000	2,289.8898	2,289.8898	0.4200		2,300.3887
Total	**1.4897**	**12.0233**	**14.0072**	**0.0250**		**0.4700**	**0.4700**		**0.4498**	**0.4498**	**0.0000**	**2,289.8898**	**2,289.8898**	**0.4200**		**2,300.3887**

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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	lb/day										lb/day					
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
Vendor	0.0818	3.4021	1.0159	0.0130	0.4170	0.0178	0.4348	0.1212	0.0170	0.1382		1,395.2698	1,395.2698	0.0337	0.2065	1,457.6343
Worker	0.3845	0.2155	3.0416	8.9100e-003	1.1500	5.2800e-003	1.1553	0.3070	4.8600e-003	0.3118		942.9458	942.9458	0.0256	0.0255	951.1905
Total	**0.4663**	**3.6176**	**4.0575**	**0.0219**	**1.5670**	**0.0230**	**1.5900**	**0.4282**	**0.0218**	**0.4500**		**2,338.2156**	**2,338.2156**	**0.0593**	**0.2320**	**2,408.8249**

3.5 Building Construction - 2028

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	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498		2,289.8898	2,289.8898	0.4200		2,300.3887
Total	**1.4897**	**12.0233**	**14.0072**	**0.0250**		**0.4700**	**0.4700**		**0.4498**	**0.4498**		**2,289.8898**	**2,289.8898**	**0.4200**		**2,300.3887**

Unmitigated Construction Off-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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	lb/day										lb/day					
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
Vendor	0.0793	3.3480	1.0011	0.0127	0.4456	0.0174	0.4630	0.1282	0.0166	0.1449		1,366.6880	1,366.6880	0.0331	0.2025	1,427.8692
Worker	0.3640	0.1987	2.9023	8.6600e-003	1.2476	4.9600e-003	1.2525	0.3309	4.5600e-003	0.3355		923.5726	923.5726	0.0236	0.0244	931.4244
Total	**0.4433**	**3.5467**	**3.9034**	**0.0214**	**1.6932**	**0.0223**	**1.7155**	**0.4592**	**0.0212**	**0.4803**		**2,290.2606**	**2,290.2606**	**0.0567**	**0.2269**	**2,359.2936**

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	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498	0.0000	2,289.8898	2,289.8898	0.4200		2,300.3887
Total	**1.4897**	**12.0233**	**14.0072**	**0.0250**		**0.4700**	**0.4700**		**0.4498**	**0.4498**	**0.0000**	**2,289.8898**	**2,289.8898**	**0.4200**		**2,300.3887**

Mitigated Construction Off-Site

CSUS The Hub Construction Phase 2 - Sacramento County, Winter

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	lb/day										lb/day					
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
Vendor	0.0793	3.3480	1.0011	0.0127	0.4170	0.0174	0.4344	0.1212	0.0166	0.1378		1,366.6880	1,366.6880	0.0331	0.2025	1,427.8692
Worker	0.3640	0.1987	2.9023	8.6600e-003	1.1500	4.9600e-003	1.1549	0.3070	4.5600e-003	0.3115		923.5726	923.5726	0.0236	0.0244	931.4244
Total	**0.4433**	**3.5467**	**3.9034**	**0.0214**	**1.5670**	**0.0223**	**1.5893**	**0.4282**	**0.0212**	**0.4494**		**2,290.2606**	**2,290.2606**	**0.0567**	**0.2269**	**2,359.2936**

3.6 Paving - 2028

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	lb/day										lb/day					
Off-Road	0.7854	7.4371	11.6737	0.0179		0.3503	0.3503		0.3234	0.3234		1,710.0067	1,710.0067	0.5420		1,723.5556
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7854**	**7.4371**	**11.6737**	**0.0179**		**0.3503**	**0.3503**		**0.3234**	**0.3234**		**1,710.0067**	**1,710.0067**	**0.5420**		**1,723.5556**

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

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	lb/day										lb/day					
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
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
Worker	0.0333	0.0182	0.2655	7.9000e-004	0.1141	4.5000e-004	0.1146	0.0303	4.2000e-004	0.0307		84.4731	84.4731	2.1600e-003	2.2300e-003	85.1913
Total	**0.0333**	**0.0182**	**0.2655**	**7.9000e-004**	**0.1141**	**4.5000e-004**	**0.1146**	**0.0303**	**4.2000e-004**	**0.0307**		**84.4731**	**84.4731**	**2.1600e-003**	**2.2300e-003**	**85.1913**

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	lb/day										lb/day					
Off-Road	0.7854	7.4371	11.6737	0.0179		0.3503	0.3503		0.3234	0.3234	0.0000	1,710.0067	1,710.0067	0.5420		1,723.5556
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7854**	**7.4371**	**11.6737**	**0.0179**		**0.3503**	**0.3503**		**0.3234**	**0.3234**	**0.0000**	**1,710.0067**	**1,710.0067**	**0.5420**		**1,723.5556**

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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	lb/day										lb/day					
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
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
Worker	0.0333	0.0182	0.2655	7.9000e-004	0.1052	4.5000e-004	0.1056	0.0281	4.2000e-004	0.0285		84.4731	84.4731	2.1600e-003	2.2300e-003	85.1913
Total	**0.0333**	**0.0182**	**0.2655**	**7.9000e-004**	**0.1052**	**4.5000e-004**	**0.1056**	**0.0281**	**4.2000e-004**	**0.0285**		**84.4731**	**84.4731**	**2.1600e-003**	**2.2300e-003**	**85.1913**

3.7 Architectural Coating - 2028

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	lb/day										lb/day					
Archit. Coating	135.1468					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**135.3177**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

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

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	lb/day										lb/day					
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
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
Worker	0.0733	0.0400	0.5840	1.7400e-003	0.2510	1.0000e-003	0.2520	0.0666	9.2000e-004	0.0675		185.8408	185.8408	4.7500e-003	4.9000e-003	187.4208
Total	**0.0733**	**0.0400**	**0.5840**	**1.7400e-003**	**0.2510**	**1.0000e-003**	**0.2520**	**0.0666**	**9.2000e-004**	**0.0675**		**185.8408**	**185.8408**	**4.7500e-003**	**4.9000e-003**	**187.4208**

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	lb/day										lb/day					
Archit. Coating	135.1468					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**135.3177**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

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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	lb/day										lb/day					
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
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
Worker	0.0733	0.0400	0.5840	1.7400e-003	0.2314	1.0000e-003	0.2324	0.0618	9.2000e-004	0.0627		185.8408	185.8408	4.7500e-003	4.9000e-003	187.4208
Total	**0.0733**	**0.0400**	**0.5840**	**1.7400e-003**	**0.2314**	**1.0000e-003**	**0.2324**	**0.0618**	**9.2000e-004**	**0.0627**		**185.8408**	**185.8408**	**4.7500e-003**	**4.9000e-003**	**187.4208**

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

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	273.90	1000sqft	1.09	273,900.00	0
Research & Development	250.00	1000sqft	1.15	250,000.00	0
Manufacturing	134.40	1000sqft	3.09	134,400.00	0
Enclosed Parking with Elevator	180.00	1000sqft	1.47	180,000.00	0
Other Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0
Parking Lot	238.00	1000sqft	7.54	238,000.00	0
City Park	9.47	Acre	9.47	412,513.20	0
Strip Mall	14.50	1000sqft	0.00	14,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0.01	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors adjusted to meet RPS

Land Use - Lot acreage adjusted according to FGSF

Construction Phase - Operational model run - construction emissions evaluated in separate model.

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

Vehicle Trips - Adjusted trips to meet 78,765 annual VMT

Energy Use - Electricity estimated off-model; Natural gas estimated in seperate model run

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	5.33	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	2.98	0.00
tblEnergyUse	NT24NG	0.68	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	0.93	0.00
tblEnergyUse	T24E	3.50	0.00
tblEnergyUse	T24E	4.44	0.00
tblEnergyUse	T24E	3.05	0.00
tblEnergyUse	T24E	3.05	0.00
tblEnergyUse	T24E	2.91	0.00
tblEnergyUse	T24NG	12.30	0.00
tblEnergyUse	T24NG	23.15	0.00
tblEnergyUse	T24NG	23.15	0.00

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

tblEnergyUse	T24NG	4.44	0.00
tblLandUse	LotAcreage	6.29	1.09
tblLandUse	LotAcreage	5.74	1.15
tblLandUse	LotAcreage	4.13	1.47
tblLandUse	LotAcreage	5.46	7.54
tblLandUse	LotAcreage	0.33	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.01
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0
tblVehicleTrips	CC_TL	5.00	10.00
tblVehicleTrips	CNW_TL	6.50	10.30
tblVehicleTrips	CW_TL	10.00	11.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	31.50

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

tblVehicleTrips	WD_TR	3.93	0.00
tblVehicleTrips	WD_TR	11.26	0.00
tblVehicleTrips	WD_TR	44.32	0.00

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					
Area	2.9877	1.3000e-004	0.0140	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0274	0.0274	7.0000e-005	0.0000	0.0292
Energy	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
Mobile	3.0825	4.2206	31.9256	0.0730	8.6305	0.0532	8.6836	2.3065	0.0497	2.3561	0.0000	7,059.7321	7,059.7321	0.4182	0.3131	7,163.4985
Waste						0.0000	0.0000		0.0000	0.0000	92.6512	0.0000	92.6512	5.4755	0.0000	229.5393
Water						0.0000	0.0000		0.0000	0.0000	72.0902	49.0168	121.1070	0.2534	0.1568	174.1601
Total	**6.0702**	**4.2207**	**31.9396**	**0.0730**	**8.6305**	**0.0532**	**8.6837**	**2.3065**	**0.0497**	**2.3562**	**164.7414**	**7,108.7763**	**7,273.5176**	**6.1472**	**0.4699**	**7,567.2271**

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

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Category	tons/yr										MT/yr					
Area	2.9877	1.3000e-004	0.0140	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0274	0.0274	7.0000e-005	0.0000	0.0292
Energy	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
Mobile	3.0825	4.2206	31.9256	0.0730	8.6305	0.0532	8.6836	2.3065	0.0497	2.3561	0.0000	7,059.7321	7,059.7321	0.4182	0.3131	7,163.4985
Waste						0.0000	0.0000		0.0000	0.0000	92.6512	0.0000	92.6512	5.4755	0.0000	229.5393
Water						0.0000	0.0000		0.0000	0.0000	72.0902	49.0168	121.1070	0.2534	0.1568	174.1601
Total	**6.0702**	**4.2207**	**31.9396**	**0.0730**	**8.6305**	**0.0532**	**8.6837**	**2.3065**	**0.0497**	**2.3562**	**164.7414**	**7,108.7763**	**7,273.5176**	**6.1472**	**0.4699**	**7,567.2271**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	3.0825	4.2206	31.9256	0.0730	8.6305	0.0532	8.6836	2.3065	0.0497	2.3561	0.0000	7,059.7321	7,059.7321	0.4182	0.3131	7,163.4985

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Unmitigated	3.0825	4.2206	31.9256	0.0730	8.6305	0.0532	8.6836	2.3065	0.0497	2.3561	0.0000	7,059.7321	7,059.7321	0.4182	0.3131	7,163.4985

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	8,627.85	0.00	0.00	23,300,544	23,300,544
Manufacturing	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Total	8,627.85	0.00	0.00	23,300,544	23,300,544

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	10.00	5.00	6.50	33.00	48.00	19.00	66	28	6
Enclosed Parking with Elevator	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
General Office Building	11.00	10.00	10.30	33.00	48.00	19.00	100	0	0
Manufacturing	10.00	5.00	6.50	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Parking Lot	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Research & Development	10.00	5.00	6.50	33.00	48.00	19.00	82	15	3
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Enclosed Parking with Elevator	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028

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General Office Building	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Manufacturing	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Other Asphalt Surfaces	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Parking Lot	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Research & Development	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Strip Mall	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

5.2 Energy by Land Use - NaturalGas

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

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					
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
Enclosed Parking with Elevator	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
General Office Building	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
Manufacturing	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
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
Research & Development	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
Strip Mall	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
Total		**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**

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	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					

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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
Enclosed Parking with Elevator	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
General Office Building	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
Manufacturing	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
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
Research & Development	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
Strip Mall	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
Total		**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**

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
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Manufacturing	0	0.0000	0.0000	0.0000	0.0000

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Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Manufacturing	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	2.9877	1.3000e-004	0.0140	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0274	0.0274	7.0000e-005	0.0000	0.0292
Unmitigated	2.9877	1.3000e-004	0.0140	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0274	0.0274	7.0000e-005	0.0000	0.0292

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	0.3195					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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

Consumer Products	2.6670					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2900e-003	1.3000e-004	0.0140	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0274	0.0274	7.0000e-005	0.0000	0.0292
Total	**2.9877**	**1.3000e-004**	**0.0140**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0274**	**0.0274**	**7.0000e-005**	**0.0000**	**0.0292**

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	0.3195					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.6670					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2900e-003	1.3000e-004	0.0140	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0274	0.0274	7.0000e-005	0.0000	0.0292
Total	**2.9877**	**1.3000e-004**	**0.0140**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0274**	**0.0274**	**7.0000e-005**	**0.0000**	**0.0292**

7.0 Water Detail

7.1 Mitigation Measures Water

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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	121.1070	0.2534	0.1568	174.1601
Unmitigated	121.1070	0.2534	0.1568	174.1601

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 11.2833	1.6666	1.8000e-004	0.0000	1.6711
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	48.6813 / 29.8369	31.8672	0.0609	0.0375	44.5503
Manufacturing	31.08 / 0	17.5316	0.0386	0.0239	25.6214
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

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

Research & Development	122.923 / 0	69.3385	0.1525	0.0946	101.3343
Strip Mall	1.07405 / 0.65829	0.7031	1.3400e-003	8.3000e-004	0.9829
Total		**121.1070**	**0.2534**	**0.1568**	**174.1601**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 11.2833	1.6666	1.8000e-004	0.0000	1.6711
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	48.6813 / 29.8369	31.8672	0.0609	0.0375	44.5503
Manufacturing	31.08 / 0	17.5316	0.0386	0.0239	25.6214
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
Research & Development	122.923 / 0	69.3385	0.1525	0.0946	101.3343
Strip Mall	1.07405 / 0.65829	0.7031	1.3400e-003	8.3000e-004	0.9829
Total		**121.1070**	**0.2534**	**0.1568**	**174.1601**

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	92.6512	5.4755	0.0000	229.5393
Unmitigated	92.6512	5.4755	0.0000	229.5393

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.81	0.1644	9.7200e-003	0.0000	0.4074
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	254.73	51.7079	3.0559	0.0000	128.1041

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

Manufacturing	166.66	33.8305	1.9993	0.0000	83.8136
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	19	3.8568	0.2279	0.0000	9.5551
Strip Mall	15.23	3.0916	0.1827	0.0000	7.6592
Total		**92.6512**	**5.4755**	**0.0000**	**229.5393**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.81	0.1644	9.7200e-003	0.0000	0.4074
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	254.73	51.7079	3.0559	0.0000	128.1041
Manufacturing	166.66	33.8305	1.9993	0.0000	83.8136
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	19	3.8568	0.2279	0.0000	9.5551

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

Strip Mall	15.23	3.0916	0.1827	0.0000	7.6592
Total		**92.6512**	**5.4755**	**0.0000**	**229.5393**

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

CSUS The Hub Operations - Sacramento County, Summer

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

CSUS The Hub Operations

Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	273.90	1000sqft	1.09	273,900.00	0
Research & Development	250.00	1000sqft	1.15	250,000.00	0
Manufacturing	134.40	1000sqft	3.09	134,400.00	0
Enclosed Parking with Elevator	180.00	1000sqft	1.47	180,000.00	0
Other Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0
Parking Lot	238.00	1000sqft	7.54	238,000.00	0
City Park	9.47	Acre	9.47	412,513.20	0
Strip Mall	14.50	1000sqft	0.00	14,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0.01	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors adjusted to meet RPS

Land Use - Lot acreage adjusted according to FGSF

Construction Phase - Operational model run - construction emissions evaluated in separate model.

Date: 12/28/2021 2:54 PM

CSUS The Hub Operations - Sacramento County, Summer

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

Vehicle Trips - Adjusted trips to meet 78,765 annual VMT

Energy Use - Electricity estimated off-model; Natural gas estimated in seperate model run

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	5.33	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	2.98	0.00
tblEnergyUse	NT24NG	0.68	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	0.93	0.00
tblEnergyUse	T24E	3.50	0.00
tblEnergyUse	T24E	4.44	0.00
tblEnergyUse	T24E	3.05	0.00
tblEnergyUse	T24E	3.05	0.00
tblEnergyUse	T24E	2.91	0.00
tblEnergyUse	T24NG	12.30	0.00
tblEnergyUse	T24NG	23.15	0.00
tblEnergyUse	T24NG	23.15	0.00

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

tblEnergyUse	T24NG	4.44	0.00
tblLandUse	LotAcreage	6.29	1.09
tblLandUse	LotAcreage	5.74	1.15
tblLandUse	LotAcreage	4.13	1.47
tblLandUse	LotAcreage	5.46	7.54
tblLandUse	LotAcreage	0.33	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.01
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0
tblVehicleTrips	CC_TL	5.00	10.00
tblVehicleTrips	CNW_TL	6.50	10.30
tblVehicleTrips	CW_TL	10.00	11.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	31.50

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

tblVehicleTrips	WD_TR	3.93	0.00
tblVehicleTrips	WD_TR	11.26	0.00
tblVehicleTrips	WD_TR	44.32	0.00

2.0 Emissions Summary

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	lb/day										lb/day					
Area	16.3744	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572
Energy	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
Mobile	28.3670	29.7997	268.2615	0.6041	68.7417	0.4092	69.1509	18.3196	0.3823	18.7019		64,367.1839	64,367.1839	3.4411	2.5526	65,213.8843
Total	**44.7414**	**29.8008**	**268.3739**	**0.6041**	**68.7417**	**0.4096**	**69.1513**	**18.3196**	**0.3827**	**18.7023**		**64,367.4253**	**64,367.4253**	**3.4418**	**2.5526**	**65,214.1414**

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	lb/day										lb/day					

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

Area	16.3744	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572
Energy	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
Mobile	28.3670	29.7997	268.2615	0.6041	68.7417	0.4092	69.1509	18.3196	0.3823	18.7019		64,367.1839	64,367.1839	3.4411	2.5526	65,213.8843
Total	**44.7414**	**29.8008**	**268.3739**	**0.6041**	**68.7417**	**0.4096**	**69.1513**	**18.3196**	**0.3827**	**18.7023**		**64,367.4253**	**64,367.4253**	**3.4418**	**2.5526**	**65,214.1414**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Mitigated	28.3670	29.7997	268.2615	0.6041	68.7417	0.4092	69.1509	18.3196	0.3823	18.7019		64,367.1839	64,367.1839	3.4411	2.5526	65,213.8843
Unmitigated	28.3670	29.7997	268.2615	0.6041	68.7417	0.4092	69.1509	18.3196	0.3823	18.7019		64,367.1839	64,367.1839	3.4411	2.5526	65,213.8843

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated

CSUS The Hub Operations - Sacramento County, Summer

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

Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	8,627.85	0.00	0.00	23,300,544	23,300,544
Manufacturing	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Total	8,627.85	0.00	0.00	23,300,544	23,300,544

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	10.00	5.00	6.50	33.00	48.00	19.00	66	28	6
Enclosed Parking with Elevator	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
General Office Building	11.00	10.00	10.30	33.00	48.00	19.00	100	0	0
Manufacturing	10.00	5.00	6.50	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Parking Lot	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Research & Development	10.00	5.00	6.50	33.00	48.00	19.00	82	15	3
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Enclosed Parking with Elevator	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
General Office Building	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Manufacturing	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Other Asphalt Surfaces	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Parking Lot	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Research & Development	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028

CSUS The Hub Operations - Sacramento County, Summer

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

Strip Mall	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028

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	lb/day										lb/day					
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

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	lb/day										lb/day					
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

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

Enclosed Parking with Elevator	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
General Office Building	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
Manufacturing	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
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
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
Research & Development	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
Strip Mall	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
Total		**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**

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	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
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
Enclosed Parking with Elevator	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
General Office Building	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
Manufacturing	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
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

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

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
Research & Development	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
Strip Mall	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
Total		**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**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	lb/day										lb/day					
Mitigated	16.3744	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572
Unmitigated	16.3744	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572

6.2 Area by SubCategory

Unmitigated

CSUS The Hub Operations - Sacramento County, Summer

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
SubCategory	lb/day										lb/day					
Architectural Coating	1.7505					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	14.6135					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0103	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572
Total	**16.3744**	**1.0200e-003**	**0.1124**	**1.0000e-005**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**		**0.2415**	**0.2415**	**6.3000e-004**		**0.2572**

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	lb/day										lb/day					
Architectural Coating	1.7505					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	14.6135					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0103	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572
Total	**16.3744**	**1.0200e-003**	**0.1124**	**1.0000e-005**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**		**0.2415**	**0.2415**	**6.3000e-004**		**0.2572**

7.0 Water Detail

CSUS The Hub Operations - Sacramento County, Summer

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

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

CSUS The Hub Operations - Sacramento County, Winter

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

CSUS The Hub Operations

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	273.90	1000sqft	1.09	273,900.00	0
Research & Development	250.00	1000sqft	1.15	250,000.00	0
Manufacturing	134.40	1000sqft	3.09	134,400.00	0
Enclosed Parking with Elevator	180.00	1000sqft	1.47	180,000.00	0
Other Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0
Parking Lot	238.00	1000sqft	7.54	238,000.00	0
City Park	9.47	Acre	9.47	412,513.20	0
Strip Mall	14.50	1000sqft	0.00	14,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0.01	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors adjusted to meet RPS

Land Use - Lot acreage adjusted according to FGSF

Construction Phase - Operational model run - construction emissions evaluated in separate model.

Date: 12/28/2021 2:56 PM

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

Vehicle Trips - Adjusted trips to meet 78,765 annual VMT

Energy Use - Electricity estimated off-model; Natural gas estimated in seperate model run

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	5.33	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	2.98	0.00
tblEnergyUse	NT24NG	0.68	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	0.93	0.00
tblEnergyUse	T24E	3.50	0.00
tblEnergyUse	T24E	4.44	0.00
tblEnergyUse	T24E	3.05	0.00
tblEnergyUse	T24E	3.05	0.00
tblEnergyUse	T24E	2.91	0.00
tblEnergyUse	T24NG	12.30	0.00
tblEnergyUse	T24NG	23.15	0.00
tblEnergyUse	T24NG	23.15	0.00

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

tblEnergyUse	T24NG	4.44	0.00
tblLandUse	LotAcreage	6.29	1.09
tblLandUse	LotAcreage	5.74	1.15
tblLandUse	LotAcreage	4.13	1.47
tblLandUse	LotAcreage	5.46	7.54
tblLandUse	LotAcreage	0.33	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.01
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0
tblVehicleTrips	CC_TL	5.00	10.00
tblVehicleTrips	CNW_TL	6.50	10.30
tblVehicleTrips	CW_TL	10.00	11.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	31.50

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

tblVehicleTrips	WD_TR	3.93	0.00
tblVehicleTrips	WD_TR	11.26	0.00
tblVehicleTrips	WD_TR	44.32	0.00

2.0 Emissions Summary

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	lb/day										lb/day					
Area	16.3744	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572
Energy	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
Mobile	23.0444	34.4978	259.0978	0.5518	68.7417	0.4095	69.1513	18.3196	0.3826	18.7022		58,783.4823	58,783.4823	3.7477	2.7707	59,702.8277
Total	**39.4188**	**34.4988**	**259.2102**	**0.5518**	**68.7417**	**0.4099**	**69.1517**	**18.3196**	**0.3830**	**18.7026**		**58,783.7237**	**58,783.7237**	**3.7483**	**2.7707**	**59,703.0848**

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

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

Category	lb/day										lb/day					
Area	16.3744	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572
Energy	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
Mobile	23.0444	34.4978	259.0978	0.5518	68.7417	0.4095	69.1513	18.3196	0.3826	18.7022		58,783.4823	58,783.4823	3.7477	2.7707	59,702.8277
Total	**39.4188**	**34.4988**	**259.2102**	**0.5518**	**68.7417**	**0.4099**	**69.1517**	**18.3196**	**0.3830**	**18.7026**		**58,783.7237**	**58,783.7237**	**3.7483**	**2.7707**	**59,703.0848**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Mitigated	23.0444	34.4978	259.0978	0.5518	68.7417	0.4095	69.1513	18.3196	0.3826	18.7022		58,783.4823	58,783.4823	3.7477	2.7707	59,702.8277
Unmitigated	23.0444	34.4978	259.0978	0.5518	68.7417	0.4095	69.1513	18.3196	0.3826	18.7022		58,783.4823	58,783.4823	3.7477	2.7707	59,702.8277

CSUS The Hub Operations - Sacramento County, Winter

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	8,627.85	0.00	0.00	23,300,544	23,300,544
Manufacturing	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Total	8,627.85	0.00	0.00	23,300,544	23,300,544

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	10.00	5.00	6.50	33.00	48.00	19.00	66	28	6
Enclosed Parking with Elevator	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
General Office Building	11.00	10.00	10.30	33.00	48.00	19.00	100	0	0
Manufacturing	10.00	5.00	6.50	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Parking Lot	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Research & Development	10.00	5.00	6.50	33.00	48.00	19.00	82	15	3
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Enclosed Parking with Elevator	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
General Office Building	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Manufacturing	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Other Asphalt Surfaces	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028

CSUS The Hub Operations - Sacramento County, Winter

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

Parking Lot	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Research & Development	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028
Strip Mall	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.009520	0.000843	0.000625	0.025098	0.000893	0.0028

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	lb/day										lb/day					
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

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

CSUS The Hub Operations - Sacramento County, Winter

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

Land Use	kBTU/yr	lb/day										lb/day					
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
Enclosed Parking with Elevator	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
General Office Building	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
Manufacturing	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
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
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
Research & Development	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
Strip Mall	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
Total		**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**

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	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
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
Enclosed Parking with Elevator	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
General Office Building	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

CSUS The Hub Operations - Sacramento County, Winter

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

Manufacturing	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
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
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
Research & Development	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
Strip Mall	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
Total		**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**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	lb/day										lb/day					
Mitigated	16.3744	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572
Unmitigated	16.3744	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572

6.2 Area by SubCategory

Unmitigated

CSUS The Hub Operations - Sacramento County, Winter

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
SubCategory	lb/day										lb/day					
Architectural Coating	1.7505					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	14.6135					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0103	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572
Total	**16.3744**	**1.0200e-003**	**0.1124**	**1.0000e-005**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**		**0.2415**	**0.2415**	**6.3000e-004**		**0.2572**

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	lb/day										lb/day					
Architectural Coating	1.7505					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	14.6135					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0103	1.0200e-003	0.1124	1.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		0.2415	0.2415	6.3000e-004		0.2572
Total	**16.3744**	**1.0200e-003**	**0.1124**	**1.0000e-005**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**		**0.2415**	**0.2415**	**6.3000e-004**		**0.2572**

CSUS The Hub Operations - Sacramento County, Winter

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

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

The Hub - Energy Use - Sacramento County, Annual

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

The Hub - Energy Use

Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	125.00	1000sqft	0.50	125,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0.01	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors adjusted to meet RPS

Land Use - Assume half of DOJ facility would use natural gas

Construction Phase - no construction

Grading - no construction

Vehicle Trips - no vehicle trips

Consumer Products - no area sources

Area Coating - no area sources

Landscape Equipment - no area sources

Energy Use - Building electricity is estimated off-model. Default Nontitle 24 natural gas use for the CA DOJ building has been maintaned. To be conservative, the lab is assumed to be half of the total building SF

Water And Wastewater - no water use

The Hub - Energy Use - Sacramento County, Annual

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

Solid Waste - no solid waste

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	100	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	100.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	PhaseEndDate	6/16/2022	6/9/2022
tblConstructionPhase	PhaseEndDate	6/2/2022	1/13/2022
tblConstructionPhase	PhaseEndDate	1/10/2022	12/27/2021
tblConstructionPhase	PhaseEndDate	1/13/2022	1/11/2022
tblConstructionPhase	PhaseEndDate	6/9/2022	6/2/2022
tblConstructionPhase	PhaseEndDate	1/11/2022	1/10/2022
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	T24E	3.05	0.00
tblEnergyUse	T24NG	23.15	0.00
tblLandscapeEquipment	NumberSummerDays	250	0

The Hub - Energy Use - Sacramento County, Annual

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

tblLandUse	LotAcreage	2.87	0.50
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.01
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0
tblSolidWaste	SolidWasteGenerationRate	9.50	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	11.26	0.00
tblWater	IndoorWaterUseRate	61,461,743.40	0.00

2.0 Emissions Summary

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					
Area	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
Energy	8.3700e-003	0.0761	0.0639	4.6000e-004		5.7800e-003	5.7800e-003		5.7800e-003	5.7800e-003	0.0000	82.8473	82.8473	1.5900e-003	1.5200e-003	83.3396
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3700e-003**	**0.0761**	**0.0639**	**4.6000e-004**	**0.0000**	**5.7800e-003**	**5.7800e-003**	**0.0000**	**5.7800e-003**	**5.7800e-003**	**0.0000**	**82.8473**	**82.8473**	**1.5900e-003**	**1.5200e-003**	**83.3396**

The Hub - Energy Use - Sacramento County, Annual

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

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	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
Energy	8.3700e-003	0.0761	0.0639	4.6000e-004		5.7800e-003	5.7800e-003		5.7800e-003	5.7800e-003	0.0000	82.8473	82.8473	1.5900e-003	1.5200e-003	83.3396
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3700e-003**	**0.0761**	**0.0639**	**4.6000e-004**	**0.0000**	**5.7800e-003**	**5.7800e-003**	**0.0000**	**5.7800e-003**	**5.7800e-003**	**0.0000**	**82.8473**	**82.8473**	**1.5900e-003**	**1.5200e-003**	**83.3396**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

Unmitigated

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The Hub - Energy Use - Sacramento County, Annual

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					
Research & Development	1.5525e+006	8.3700e-003	0.0761	0.0639	4.6000e-004		5.7800e-003	5.7800e-003		5.7800e-003	5.7800e-003	0.0000	82.8473	82.8473	1.5900e-003	1.5200e-003	83.3396
Total		**8.3700e-003**	**0.0761**	**0.0639**	**4.6000e-004**		**5.7800e-003**	**5.7800e-003**		**5.7800e-003**	**5.7800e-003**	**0.0000**	**82.8473**	**82.8473**	**1.5900e-003**	**1.5200e-003**	**83.3396**

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	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Research & Development	1.5525e+006	8.3700e-003	0.0761	0.0639	4.6000e-004		5.7800e-003	5.7800e-003		5.7800e-003	5.7800e-003	0.0000	82.8473	82.8473	1.5900e-003	1.5200e-003	83.3396
Total		**8.3700e-003**	**0.0761**	**0.0639**	**4.6000e-004**		**5.7800e-003**	**5.7800e-003**		**5.7800e-003**	**5.7800e-003**	**0.0000**	**82.8473**	**82.8473**	**1.5900e-003**	**1.5200e-003**	**83.3396**

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The Hub - Energy Use - Sacramento County, Summer

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

The Hub - Energy Use

Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	125.00	1000sqft	0.50	125,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0.01	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors adjusted to meet RPS

Land Use - Assume half of DOJ facility would use natural gas

Construction Phase - no construction

Grading - no construction

Vehicle Trips - no vehicle trips

Consumer Products - no area sources

Area Coating - no area sources

Landscape Equipment - no area sources

Energy Use - Building electricity is estimated off-model. Default Nontitle 24 natural gas use for the CA DOJ building has been maintaned. To be conservative, the lab is assumed to be half of the total building SF

Water And Wastewater - no water use

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The Hub - Energy Use - Sacramento County, Summer

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

Solid Waste - no solid waste

Architectural Coating - no construction

Trips and VMT - no construction

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	62,500.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	187,500.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	100	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	62500	0
tblAreaCoating	Area_Nonresidential_Interior	187500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	100.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	PhaseEndDate	6/16/2022	6/9/2022
tblConstructionPhase	PhaseEndDate	6/2/2022	1/13/2022

The Hub - Energy Use - Sacramento County, Summer

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

tblConstructionPhase	PhaseEndDate	1/10/2022	12/27/2021
tblConstructionPhase	PhaseEndDate	1/13/2022	1/11/2022
tblConstructionPhase	PhaseEndDate	6/9/2022	6/2/2022
tblConstructionPhase	PhaseEndDate	1/11/2022	1/10/2022
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	T24E	3.05	0.00
tblEnergyUse	T24NG	23.15	0.00
tblLandscapeEquipment	NumberSummerDays	250	0
tblLandUse	LotAcreage	2.87	0.50
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.01
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0
tblSolidWaste	SolidWasteGenerationRate	9.50	0.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	40.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	11.26	0.00

The Hub - Energy Use - Sacramento County, Summer

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

tblWater	IndoorWaterUseRate	61,461,743.40	0.00

2.0 Emissions Summary

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	lb/day										lb/day					
Area	1.1700e-003	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0274	0.0274	7.0000e-005		0.0291
Energy	0.0459	0.4170	0.3503	2.5000e-003		0.0317	0.0317		0.0317	0.0317		500.4029	500.4029	9.5900e-003	9.1700e-003	503.3766
Mobile	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
Total	**0.0470**	**0.4171**	**0.3630**	**2.5000e-003**	**0.0000**	**0.0317**	**0.0317**	**0.0000**	**0.0317**	**0.0317**		**500.4303**	**500.4303**	**9.6600e-003**	**9.1700e-003**	**503.4057**

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	lb/day										lb/day					
Area	1.1700e-003	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0274	0.0274	7.0000e-005		0.0291

The Hub - Energy Use - Sacramento County, Summer

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

Energy	0.0459	0.4170	0.3503	2.5000e-003		0.0317	0.0317		0.0317	0.0317		500.4029	500.4029	9.5900e-003	9.1700e-003	503.3766
Mobile	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
Total	**0.0470**	**0.4171**	**0.3630**	**2.5000e-003**	**0.0000**	**0.0317**	**0.0317**	**0.0000**	**0.0317**	**0.0317**		**500.4303**	**500.4303**	**9.6600e-003**	**9.1700e-003**	**503.4057**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Research & Development	4253.42	0.0459	0.4170	0.3503	2.5000e-003		0.0317	0.0317		0.0317	0.0317		500.4029	500.4029	9.5900e-003	9.1700e-003	503.3766
Total		**0.0459**	**0.4170**	**0.3503**	**2.5000e-003**		**0.0317**	**0.0317**		**0.0317**	**0.0317**		**500.4029**	**500.4029**	**9.5900e-003**	**9.1700e-003**	**503.3766**

Mitigated

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The Hub - Energy Use - Sacramento County, Summer

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	lb/day										lb/day					
Research & Development	4.25342	0.0459	0.4170	0.3503	2.5000e-003		0.0317	0.0317		0.0317	0.0317		500.4029	500.4029	9.5900e-003	9.1700e-003	503.3766
Total		**0.0459**	**0.4170**	**0.3503**	**2.5000e-003**		**0.0317**	**0.0317**		**0.0317**	**0.0317**		**500.4029**	**500.4029**	**9.5900e-003**	**9.1700e-003**	**503.3766**

The Hub - Energy Use - Sacramento County, Winter

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

The Hub - Energy Use

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	125.00	1000sqft	0.50	125,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2028
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	93.04	**CH4 Intensity (lb/MWhr)**	0.01	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors adjusted to meet RPS

Land Use - Assume half of DOJ facility would use natural gas

Construction Phase - no construction

Grading - no construction

Vehicle Trips - no vehicle trips

Consumer Products - no area sources

Area Coating - no area sources

Landscape Equipment - no area sources

Energy Use - Building electricity is estimated off-model. Default Nontitle 24 natural gas use for the CA DOJ building has been maintaned. To be conservative, the lab is assumed to be half of the total building SF

Water And Wastewater - no water use

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The Hub - Energy Use - Sacramento County, Winter

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

Solid Waste - no solid waste

Architectural Coating - no construction

Trips and VMT - no construction

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	62,500.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	187,500.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	100	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	62500	0
tblAreaCoating	Area_Nonresidential_Interior	187500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	100.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	PhaseEndDate	6/16/2022	6/9/2022
tblConstructionPhase	PhaseEndDate	6/2/2022	1/13/2022

The Hub - Energy Use - Sacramento County, Winter

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

tblConstructionPhase	PhaseEndDate	1/10/2022	12/27/2021
tblConstructionPhase	PhaseEndDate	1/13/2022	1/11/2022
tblConstructionPhase	PhaseEndDate	6/9/2022	6/2/2022
tblConstructionPhase	PhaseEndDate	1/11/2022	1/10/2022
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	T24E	3.05	0.00
tblEnergyUse	T24NG	23.15	0.00
tblLandscapeEquipment	NumberSummerDays	250	0
tblLandUse	LotAcreage	2.87	0.50
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.01
tblProjectCharacteristics	CO2IntensityFactor	357.98	93.04
tblProjectCharacteristics	N2OIntensityFactor	0.004	0
tblSolidWaste	SolidWasteGenerationRate	9.50	0.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	40.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	11.26	0.00

The Hub - Energy Use - Sacramento County, Winter

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

tblWater	IndoorWaterUseRate	61,461,743.40	0.00

2.0 Emissions Summary

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	lb/day										lb/day					
Area	1.1700e-003	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0274	0.0274	7.0000e-005		0.0291
Energy	0.0459	0.4170	0.3503	2.5000e-003		0.0317	0.0317		0.0317	0.0317		500.4029	500.4029	9.5900e-003	9.1700e-003	503.3766
Mobile	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
Total	**0.0470**	**0.4171**	**0.3630**	**2.5000e-003**	**0.0000**	**0.0317**	**0.0317**	**0.0000**	**0.0317**	**0.0317**		**500.4303**	**500.4303**	**9.6600e-003**	**9.1700e-003**	**503.4057**

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	lb/day										lb/day					
Area	1.1700e-003	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0274	0.0274	7.0000e-005		0.0291

The Hub - Energy Use - Sacramento County, Winter

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

Energy	0.0459	0.4170	0.3503	2.5000e-003		0.0317	0.0317		0.0317	0.0317		500.4029	500.4029	9.5900e-003	9.1700e-003	503.3766
Mobile	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
Total	**0.0470**	**0.4171**	**0.3630**	**2.5000e-003**	**0.0000**	**0.0317**	**0.0317**	**0.0000**	**0.0317**	**0.0317**		**500.4303**	**500.4303**	**9.6600e-003**	**9.1700e-003**	**503.4057**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Research & Development	4253.42	0.0459	0.4170	0.3503	2.5000e-003		0.0317	0.0317		0.0317	0.0317		500.4029	500.4029	9.5900e-003	9.1700e-003	503.3766
Total		**0.0459**	**0.4170**	**0.3503**	**2.5000e-003**		**0.0317**	**0.0317**		**0.0317**	**0.0317**		**500.4029**	**500.4029**	**9.5900e-003**	**9.1700e-003**	**503.3766**

Mitigated

The Hub - Energy Use - Sacramento County, Winter

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	lb/day										lb/day					
Research & Development	4.25342	0.0459	0.4170	0.3503	2.5000e-003		0.0317	0.0317		0.0317	0.0317		500.4029	500.4029	9.5900e-003	9.1700e-003	503.3766
Total		**0.0459**	**0.4170**	**0.3503**	**2.5000e-003**		**0.0317**	**0.0317**		**0.0317**	**0.0317**		**500.4029**	**500.4029**	**9.5900e-003**	**9.1700e-003**	**503.3766**

Operational Energy Summary

Land Use	Electricity kWh/year	Electricity MWh/year	Natural Gas kBTU/year	Natural Gas therm/year
California Mobility Center			0	0
Showcase Building	380,059	380	0	0
Factory	1,300,645	1,301	0	0
Surface Parking	141,853	142	0	0
CA Department of Justice			0	0
CA DOJ Consolidated Facility Building	4,032,258	4,032	1,552,500	15,525
Future User #1				
Office/Academic	2,392,962	2,393	0	0
Retail (strip mall in CalEEMod)**	185,511	186		
Structured Parking **	469794.7214	469.7947214		
Future User #2				
Office/Academic	609,971	609.9706745		
Site				
Surface Parking	22111.43695	22.11143695		
TOTAL	**9,535,165**	**9,535**	**1,552,500**	**15,525**
Solar Generation	-2,647,071	-2,647		
With Solar* **	**6,888,094**	**6,888**		

therm/kbtu	100.000000
kBTU/MMBT	1000
kwh/mwh	1000

Energy Calculations Summary

Operational Fuel Use Summary

Fuel Type	Fleet Mix (%)	Gallons per Mile	Annual VMT	Gallons
Gasoline	98.81%	0.04	23,288,460	910,388
Diesel	1.19%	0.12		32,172

Notes:

1. Fleet mix calculated from CalEEMod default values.
2. Gallons per mile calculated from EMFAC 2021.
3. Annual VMT obtained from CalEEMod output file.

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Sacramento
Calendar Year: 2028
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed miles/hr	Fuel	Population vehicles	VMT miles/day	Trips trips/day	Gasoline Fuel Consumption 1,000 gallons/day	Diesel Fuel Consumption 1,000 gallons/day
Sacrament	2028	All Other Buses	Aggregate	Aggregate	Diesel	485.9239591	24999.68837	4324.723236		2.73742375
Sacrament	2028	LDA	Aggregate	Aggregate	Gasoline	490168.1273	17967218.11	2251477.259	584.5945249	
Sacrament	2028	LDA	Aggregate	Aggregate	Diesel	1162.295927	30714.13158	4805.610233		0.688626399
Sacrament	2028	LDT1	Aggregate	Aggregate	Gasoline	44959.46674	1420412.946	195437.0041	55.55676255	
Sacrament	2028	LDT1	Aggregate	Aggregate	Diesel	3.80781528	40.57065225	11.08988502		0.001626367
Sacrament	2028	LDT2	Aggregate	Aggregate	Gasoline	249195.6027	9276498.938	1151664.488	372.2669513	
Sacrament	2028	LDT2	Aggregate	Aggregate	Diesel	825.6901458	32391.9091	3897.084261		0.952766297
Sacrament	2028	LHD1	Aggregate	Aggregate	Gasoline	19547.60282	699123.4566	291230.1561	70.13270056	
Sacrament	2028	LHD1	Aggregate	Aggregate	Diesel	13131.43325	464412.1145	165176.911		28.8019549
Sacrament	2028	LHD2	Aggregate	Aggregate	Gasoline	2693.110936	95186.85863	40123.34022	10.67727854	
Sacrament	2028	LHD2	Aggregate	Aggregate	Diesel	5299.078818	194724.1605	66655.74529		14.41896929
Sacrament	2028	MCY	Aggregate	Aggregate	Gasoline	26721.97771	141939.4496	53443.95543	3.501410947	
Sacrament	2028	MDV	Aggregate	Aggregate	Gasoline	153063.5365	5339114.491	694864.838	262.1592035	
Sacrament	2028	MDV	Aggregate	Aggregate	Diesel	2458.378389	86281.17396	11246.8921		3.41654962
Sacrament	2028	MH	Aggregate	Aggregate	Gasoline	2312.09966	20964.58295	231.30245	4.749203177	
Sacrament	2028	MH	Aggregate	Aggregate	Diesel	1061.491178	9474.313914	106.1491178		1.009658833
Sacrament	2028	Motor Coach	Aggregate	Aggregate	Diesel	107.5842684	13094.37912	2472.286487		2.284884309
Sacrament	2028	OBUS	Aggregate	Aggregate	Gasoline	451.3776517	17710.34129	9031.164054	3.641351285	
Sacrament	2028	PTO	Aggregate	Aggregate	Diesel	0	24115.6873	0		4.647982671
Sacrament	2028	SBUS	Aggregate	Aggregate	Gasoline	130.9634768	6912.292085	523.8539073	0.67455706	
Sacrament	2028	SBUS	Aggregate	Aggregate	Diesel	969.1504564	21023.26263	14033.29861		2.554280652
Sacrament	2028	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	88.35660784	17738.86121	2030.434848		1.733786607
Sacrament	2028	T6 CAIRP small	Aggregate	Aggregate	Diesel	81.55642155	4562.889288	1874.166567		0.492501015
Sacrament	2028	T6 instate heavy	Aggregate	Aggregate	Diesel	1987.474025	96208.19711	23544.30732		10.6765779
Sacrament	2028	T6 instate small	Aggregate	Aggregate	Diesel	8818.502825	345684.6463	108933.9923		40.00240788
Sacrament	2028	T6 OOS heavy	Aggregate	Aggregate	Diesel	42.13935276	10865.84243	968.3623263		1.04159768
Sacrament	2028	T6 OOS small	Aggregate	Aggregate	Diesel	44.25080395	2483.127854	1016.883475		0.257634997
Sacrament	2028	T6 Public	Aggregate	Aggregate	Diesel	4202.451971	172929.9887	21558.57861		21.37956829
Sacrament	2028	T6 Utility	Aggregate	Aggregate	Diesel	55.22045853	2296.384428	706.8218692		0.253548191
Sacrament	2028	T6TS	Aggregate	Aggregate	Gasoline	1727.598755	79748.5943	34565.7959	16.67346805	
Sacrament	2028	T7 CAIRP	Aggregate	Aggregate	Diesel	965.0297221	194225.1698	22176.38301		29.78155166
Sacrament	2028	T7 NNOOS	Aggregate	Aggregate	Diesel	866.699487	238473.8659	19916.75421		34.64137382
Sacrament	2028	T7 NOOS	Aggregate	Aggregate	Diesel	374.1814793	86710.85712	8598.690395		13.0386905
Sacrament	2028	T7 Other Port	Aggregate	Aggregate	Diesel	10.9100043	2272.608705	178.4876704		0.365943854
Sacrament	2028	T7 POAK	Aggregate	Aggregate	Diesel	36.4726957	3818.784364	596.6933017		0.633114606
Sacrament	2028	T7 Public	Aggregate	Aggregate	Diesel	4124.615392	175875.7106	21159.27696		32.55728623
Sacrament	2028	T7 Single	Aggregate	Aggregate	Diesel	2235.131612	118142.3182	21054.93978		19.73174128
Sacrament	2028	T7 SWCV	Aggregate	Aggregate	Diesel	223.6676262	14507.82888	1028.87108		6.095040974
Sacrament	2028	T7 Tractor	Aggregate	Aggregate	Diesel	1167.343921	81014.79543	16961.50717		12.82691179
Sacrament	2028	T7 Utility	Aggregate	Aggregate	Diesel	30.3777326	1301.972234	388.8349773		0.219497232
Sacrament	2028	T7IS	Aggregate	Aggregate	Gasoline	4.022204413	157.0822675	80.4762659	0.040669919	
Sacrament	2028	UBUS	Aggregate	Aggregate	Gasoline	195.2350744	14818.02266	780.9402977	3.153958837	
Sacrament	2028	UBUS	Aggregate	Aggregate	Diesel	6.050057269	282.0517609	24.20022908		0.030099922
									1387.82	**287.27**

TOTAL	37,550,472		22.4	0.04
Total (Gas)	35,079,805		25.3	0.04
Total (Diesel)	2,470,667		8.6	0.12

Annual VMT
23,288,460

	Mix (%)	**Miles**	**Gallons**
Gas	98.8%	23,011,770	910,388
Diesel	1.2%	276,690	32,172

Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
All Project Land Uses	0.556441	0.056316	0.182404	0.123746	0.022308	0.005587	0.013387	0.00952	0.000843	0.000625	0.025098	0.000893	0.002832

Gas	98.8%
Diesel	1.2%

Minor Project Health Effects Tool

Latitude	38.54669	**<-- Step 1: Input latitude (Please chose a value between 38.0 and 39.7)**
Longitude	-121.41299	**<-- Step 2: Input longitude (Please chose a value between -122.5 and -120.0)**

PM2.5 Health Endpoint	Age Range[1]	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year)[2,5] (Mean)	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2] (Mean)	Percent of Background Health Incidences Across the 5-Air-District Region[3]	Total Number of Health Incidences Across the 5-Air-District Region (per year)[4]
Respiratory					
Emergency Room Visits, Asthma	0 - 99	1.2	1.1	0.0059%	18419
Hospital Admissions, Asthma	0 - 64	0.078	0.072	0.0039%	1846
Hospital Admissions, All Respiratory	65 - 99	0.35	0.31	0.0016%	19644
Cardiovascular					
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions)	65 - 99	0.19	0.18	0.00074%	24037
Acute Myocardial Infarction, Nonfatal	18 - 24	0.00010	0.000093	0.0025%	4
Acute Myocardial Infarction, Nonfatal	25 - 44	0.0091	0.0086	0.0028%	308
Acute Myocardial Infarction, Nonfatal	45 - 54	0.021	0.020	0.0027%	741
Acute Myocardial Infarction, Nonfatal	55 - 64	0.035	0.033	0.0027%	1239
Acute Myocardial Infarction, Nonfatal	65 - 99	0.12	0.11	0.0023%	5052
Mortality					
Mortality, All Cause	30 - 99	2.3	2.1	0.0048%	44766

Ozone Health Endpoint	Age Range[1]	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year)[2,5] (Mean)	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2] (Mean)	Percent of Background Health Incidences Across the 5-Air-District Region[3]	Total Number of Health Incidences Across the 5-Air-District Region (per year)[4]
Respiratory					
Hospital Admissions, All Respiratory	65 - 99	0.085	0.069	0.00035%	19644
Emergency Room Visits, Asthma	0 - 17	0.44	0.38	0.0064%	5859
Emergency Room Visits, Asthma	18 - 99	0.69	0.60	0.0048%	12560
Mortality					
Mortality, Non-Accidental	0 - 99	0.053	0.045	0.00015%	30386

1. Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.

2. Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are shown for the Reduced Sacramento 4-km Modeling Domain and the 5-Air-District Region.

3. The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.

4. The total number of health incidences across the 5-Air-District Region is calculated based on the modeling data. The information is presented to assist in providing overall health context.

5. The technical specifications and map for the Reduced Sacramento 4-km Modeling Domain are included in Appendix A, Table A-1 and Appendix B, Figure B-2 of the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District.*

Sac Metro Air District Minor Project Health Effects Tool, version 2, published June 2020

Construction Energy Summary

Construction Fuel Usage Summary

Construction Year	Diesel Off-road Equipment (gallons)	Diesel On-road (gallons)	Diesel Off-road & On-road (gallons)	Gasoline On-road (gallons)
Phase 1				
2023	15,837	224	16,061	13,699
2024	18,178	222	18,400	50,681
2025	1,252	221	1,473	47,935
2026	1,337	0	1,337	814
Sub Total	36,604	667	37,271	113,129
Phase 2				
2027	15,788	1,503	17,291	12,417
2028	1,058	1,503	2,560	12,743
Sub Total	16,846	3,006	19,852	25,160

Total Gasoline	**138,289**	**gallons**
Total Diesel	**57,122**	**gallons**

Phase 1 Construction Offroad Equipment

2023

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Average Daily Factor	Diesel Fuel Usage
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40	16	0.6	1,138
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37	16	0.6	551
Grading	Excavators	2	8.00	158	0.38	55	0.6	1,585
Grading	Graders	1	8.00	187	0.41	55	0.6	1,012
Grading	Rubber Tired Dozers	1	8.00	247	0.40	55	0.6	1,304
Grading	Scrapers	2	8.00	367	0.48	55	0.6	4,651
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37	55	0.6	947
Building Construction	Cranes	1	7.00	231	0.29	67	0.6	943
Building Construction	Forklifts	3	8.00	89	0.20	67	0.6	859
Building Construction	Generator Sets	1	8.00	84	0.74	67	0.6	1,000
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37	67	0.6	1,515
Building Construction	Welders	1	8.00	46	0.45	67	0.6	333
							Sub TOTAL	**15,837**

2024

Building Construction	Cranes	1	7.00	231	0.29	262	0.6	3,686
Building Construction	Forklifts	3	8.00	89	0.20	262	0.6	3,358
Building Construction	Generator Sets	1	8.00	84	0.74	262	0.6	3,909
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37	262	0.6	5,924
Building Construction	Welders	1	8.00	46	0.45	262	0.6	1,302
							Sub TOTAL	**18,178**

2025

Building Construction	Cranes	1	7.00	231	0.29	252	0.6	3,545
Building Construction	Forklifts	3	8.00	89	0.20	252	0.6	3,230
Building Construction	Generator Sets	1	8.00	84	0.74	252	0.6	3,759
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37	252	0.6	5,698
Building Construction	Welders	1	8.00	46	0.45	252	0.6	1,252
							Sub TOTAL	**17,484**

	Year	Start Date	End Date	Network Days
Phase 1				
Site Preparation	2023	6/21/2023	7/12/2023	16
Grading	2023	7/13/2023	9/27/2023	55
Building Construction	2023	9/28/2023	12/31/2023	67
	2024	1/1/2024	12/31/2024	262
	2025	1/1/2025	12/18/2025	252
Paving	2026	12/19/2025	1/30/2026	31
Architectural Coating	2026	2/2/2026	3/16/2026	31
Phase 2				
Demolition	2027	1/1/2027	2/24/2027	39
Site Preparation	2027	2/25/2027	3/4/2027	6
Grading	2027	3/5/2027	3/22/2027	12
Building Construction	2027	3/23/2027	12/31/2027	204
	2028	1/1/2028	11/6/2028	221
Paving	2028	11/7/2028	12/1/2028	19
Architectural Coating	2028	12/2/2028	12/28/2028	19

2026

Paving	Pavers	2	8.00	130	0.42	19	0.6	498
Paving	Paving Equipment	2	8.00	132	0.36	19	0.6	433
Paving	Rollers	2	8.00	80	0.38	19	0.6	277
Architectural Coating	Air Compressors	1	6.00	78	0.48	19	0.6	128
							Sub TOTAL	**1,337**
							Phase 1 TOTAL	**52,836**

Phase 2 Construction Offroad Equipment

2027

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Average Daily Factor	Diesel Fuel Usage
Demolition	Concrete/Industrial Saws	1	8	81	0.73	39	0.6	553
Demolition	Rubber Tired Dozers	1	8	247	0.4	39	0.6	925
Demolition	Tractors/Loaders/Backhoes	3	8	97	0.37	39	0.6	1,008
Site Preparation	Graders	1	8	187	0.41	6	0.6	110
Site Preparation	Scrapers	1	8	367	0.48	6	0.6	254
Site Preparation	Tractors/Loaders/Backhoes	1	7	97	0.37	6	0.6	45
Grading	Graders	1	8	187	0.41	12	0.6	221
Grading	Rubber Tired Dozers	1	8	247	0.4	12	0.6	285
Grading	Tractors/Loaders/Backhoes	2	7	97	0.37	12	0.6	181
Building Construction	Cranes	1	8	231	0.29	204	0.6	3,280
Building Construction	Forklifts	2	7	89	0.2	204	0.6	1,525
Building Construction	Generator Sets	1	8	84	0.74	204	0.6	3,043
Building Construction	Tractors/Loaders/Backhoes	1	6	97	0.37	204	0.6	1,318
Building Construction	Welders	3	8	46	0.45	204	0.6	3,040
							Sub TOTAL	**15,788**

2028

Paving	Cement and Mortar Mixers	1	8	9	0.56	19	0.6	23
Paving	Pavers	1	8	130	0.42	19	0.6	249
Paving	Paving Equipment	1	8	132	0.36	19	0.6	217
Paving	Rollers	2	8	80	0.38	19	0.6	277
Paving	Tractors/Loaders/Backhoes	1	8	97	0.37	19	0.6	164
Architectural Coating	Air Compressors	1	6	78	0.48	19	0.6	128
							Sub TOTAL	**1,058**
							Phase 1 TOTAL	**16,846**

Trips and VMT

Phase 1

2023

Phase Name	Daily Worker Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Hauling Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	**Total gallons of gasoline**	**Total gallons of diesel**
Site Preparation	18	16	288	0	0	10.00	6.50	20.00	2880	0	0	**112**	**0**
Grading	20	55	1100	0	0	10.00	6.50	20.00	11000	0	0	**427**	**0**
Building Construction	506	67	33902	209	0	10.00	6.50	20.00	339020	1358.5	0	**13,160**	**224**
											Sub TOTAL	**13,699**	**224**

2024

Phase Name	Daily Worker Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Hauling Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	**Total gallons of gasoline**	**Total gallons of diesel**
Building Construction	506	262	132572	209	0	10.00	6.50	20.00	1325720	1358.5	0	**50,681**	**222**
											Sub TOTAL	**50,681**	**222**

2025

Phase Name	Daily Worker Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Hauling Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	**Total gallons of gasoline**	**Total gallons of diesel**
Building Construction	506	252	127512	209	0	10.00	6.50	20.00	1275120	1358.5	0	**47,935**	**221**
											Sub TOTAL	**47,935**	**221**

2026

Phase Name	Daily Worker Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Hauling Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	**Total gallons of gasoline**	**Total gallons of diesel**
Paving	15	19	285	0	0	10.00	6.50	20.00	2850	0	0	**105**	**0**
Arch Coating	101	19	1919	0	0	10.00	6.50	20.00	19190	0	0	**709**	**0**
											Sub TOTAL	**814**	**0**
											Phase 1 TOTAL	**113,129**	**667**

Phase 2

2027

Phase Name	Daily Worker Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Hauling Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	**Total gallons of gasoline**	**Total gallons of diesel**
Demolition	13	39	507	0	446	10.00	6.50	20.00	5070	0	8920	**184**	**1,426**
Site Preparation	8	6	48	0	0	10.00	6.50	20.00	480	0	0	**17**	**0**
Grading	10	12	120	0	0	10.00	6.50	20.00	1200	0	0	**44**	**0**
Building Construction	164	204	33456	74	0	10.00	6.50	20.00	334560	481	0	**12,171**	**77**
											Sub TOTAL	**12,417**	**1,503**

2028

Phase Name	Daily Worker Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Hauling Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	**Total gallons of gasoline**	**Total gallons of diesel**
Paving	15	19	285	0	0	10.00	6.50	20.00	2850	0	0	**102**	**0**
Arch Coating	33	19	627	0	0	10.00	6.50	20.00	6270	0	0	**224**	**0**
											Sub TOTAL	**326**	**0**
											Phase 2 TOTAL	**12,743**	**1,503**

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Sacramento
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed miles/hr	Fuel	Population vehicles	VMT miles/day	Trips trips/day	Fuel gas 1,000 gallons/day	Diesel gas 1,000 gallons/day	Miles per gallon	Gasoline miles per gallon	Diesel miles per gallon
Sacramen	2023	LDA	Aggregate	Aggregate	Gasoline	495444.1701	18039887.07	2281180.251	638.6074247	0.00	28.25	25.76	6.07
Sacramen	2023	LDT1	Aggregate	Aggregate	Gasoline	51757.60145	1638073.93	226418.361	68.8387086	0.00	23.80		
Sacramen	2023	LDT2	Aggregate	Aggregate	Gasoline	228403.2253	8495404.827	1060056.933	373.3642939	0.00	22.75		
Sacramen	2023	T7 Tractor	Aggregate	Aggregate	Diesel	917.7542763	74396.80266	13334.96964	0.00	12.25004566	6.07		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Sacramento
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed miles/hr	Fuel	Population vehicles	VMT miles/day	Trips trips/day	Fuel gas 1,000 gallons/day	Diesel gas 1,000 gallons/day	Miles per gallon	Gasoline miles per gallon	Diesel miles per gallon
Sacramen	2024	LDA	Aggregate	Aggregate	Gasoline	493200.1993	18074528.65	2269233.534	630.0875563	0.00	28.69	26.16	6.11
Sacramen	2024	LDT1	Aggregate	Aggregate	Gasoline	50226.44621	1595989.731	219342.9065	66.24563327	0.00	24.09		
Sacramen	2024	LDT2	Aggregate	Aggregate	Gasoline	232779.326	8714872.614	1079554.899	376.1530767	0.00	23.17		
Sacramen	2024	T7 Tractor	Aggregate	Aggregate	Diesel	974.1598058	75896.02217	14154.54198	0.00	12.42667686	6.11		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Sacramento
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed miles/hr	Fuel	Population vehicles	VMT miles/day	Trips trips/day	Fuel gas 1,000 gallons/day	Diesel gas 1,000 gallons/day	Miles per gallon	Gasoline miles per gallon	Diesel miles per gallon
Sacramen	2025	LDA	Aggregate	Aggregate	Gasoline	491398.2875	18017006.84	2259539.787	617.4841021	0.00	29.18	26.60	6.15
Sacramen	2025	LDT1	Aggregate	Aggregate	Gasoline	48785.93501	1547597.8	212712.1866	63.33573387	0.00	24.43		
Sacramen	2025	LDT2	Aggregate	Aggregate	Gasoline	237055.1324	8875175.116	1098484.37	375.8620765	0.00	23.61		
Sacramen	2025	T7 Tractor	Aggregate	Aggregate	Diesel	1028.071352	77318.93006	14937.87675	0.00	12.56836859	6.15		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Sacramento
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed miles/hr	Fuel	Population vehicles	VMT miles/day	Trips trips/day	Fuel gas 1,000 gallons/day	Diesel gas 1,000 gallons/day	Miles per gallon	Gasoline miles per gallon	Diesel miles per gallon
Sacramen	2026	LDA	Aggregate	Aggregate	Gasoline	490520.664	17966701.5	2254615.988	604.9983217	0.00	29.70	27.06	6.20
Sacramen	2026	LDT1	Aggregate	Aggregate	Gasoline	47430.07468	1500520.957	206539.2245	60.50798247	0.00	24.80		
Sacramen	2026	LDT2	Aggregate	Aggregate	Gasoline	241263.535	9009804.273	1117072.271	374.4565018	0.00	24.06		
Sacramen	2026	T7 Tractor	Aggregate	Aggregate	Diesel	1078.537414	78676.08575	15671.14863	0.00	12.68992142	6.20		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Sacramento
Calendar Year: 2027
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed miles/hr	Fuel	Population vehicles	VMT miles/day	Trips trips/day	Fuel gas 1,000 gallons/day	Diesel gas 1,000 gallons/day	Miles per gallon	Gasoline miles per gallon	Diesel miles per gallon
Sacramen	2027	LDA	Aggregate	Aggregate	Gasoline	490113.3762	17964906.32	2251991.096	595.3709727	0.00	30.17	27.49	6.26
Sacramen	2027	LDT1	Aggregate	Aggregate	Gasoline	46145.10231	1459168.518	200762.7979	58.04038407	0.00	25.14		
Sacramen	2027	LDT2	Aggregate	Aggregate	Gasoline	245296.243	9150148.358	1134720.736	374.0690019	0.00	24.46		
Sacramen	2027	T7 Tractor	Aggregate	Aggregate	Diesel	1125.059595	79910.70976	16347.11592	0.00	12.77488159	6.26		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Sacramento
Calendar Year: 2028
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed miles/hr	Fuel	Population vehicles	VMT miles/day	Trips trips/day	Fuel gas 1,000 gallons/day	Diesel gas 1,000 gallons/day	Miles per gallon	Gasoline miles per gallon	Diesel miles per gallon
Sacramen	2028	LDA	Aggregate	Aggregate	Gasoline	490168.1273	17967218.11	2251477.259	584.5945249	0.00	30.73	27.99	6.32
Sacramen	2028	LDT1	Aggregate	Aggregate	Gasoline	44959.46674	1420412.946	195437.0041	55.55676255	0.00	25.57		
Sacramen	2028	LDT2	Aggregate	Aggregate	Gasoline	249195.6027	9276498.938	1151664.488	372.2669513	0.00	24.92		
Sacramen	2028	T7 Tractor	Aggregate	Aggregate	Diesel	1167.343921	81014.79543	16961.50717	0.00	12.82691179	6.32		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Appendix C

Noise Measurement Data and
Modeling Calculations

Construction Source Noise Prediction Model

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Residences to the northwest	970	58.9
Residences to the east	1800	53.5

Equipment	Reference Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Dozer	85	0.4
Front End Loader	80	0.4
Excavator	85	0.4

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level	L_{eq} dBA at 50 feet[3]
Dozer	81.0
Front End Loader	76.0
Excavator	81.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
84.7

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Table 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 176 and 177).

$L_{eq}(equip) = E.L.+10*\log (U.F.) - 20*\log (D/50) - 10*G*\log (D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

This sheet used to calculate HVAC Leq from Lmax

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Residences to the west	1100	48.1
Phoenix Sacramento	1800	43.9

Equipment	Reference Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Dozer	78	0.5

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level	L_{eq} dBA at 50 feet[3]
Dozer	75.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
75.0

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Table 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 176 and 177).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Auger Drill Rig	20	85	84	36	79.0	72.0	100	78.0	71.0
Backhoe	40	80	78	372	74.0	70.0	100	72.0	68.0
Bar Bender	20	80	na	0	74.0	67.0	100		
Blasting	na	94	na	0	88.0		100		
Boring Jack Power Unit	50	80	83	1	74.0	71.0	100	77.0	74.0
Chain Saw	20	85	84	46	79.0	72.0	100	78.0	71.0
Clam Shovel (dropping)	20	93	87	4	87.0	80.0	100	81.0	74.0
Compactor (ground)	20	80	83	57	74.0	67.0	100	77.0	70.0
Compressor (air)	40	80	78	18	74.0	70.0	100	72.0	68.0
Concrete Batch Plant	15	83	na	0	77.0	68.7	100		
Concrete Mixer Truck	40	85	79	40	79.0	75.0	100	73.0	69.0
Concrete Pump Truck	20	82	81	30	76.0	69.0	100	75.0	68.0
Concrete Saw	20	90	90	55	84.0	77.0	100	84.0	77.0
Crane	16	85	81	405	79.0	71.0	100	75.0	67.0
Dozer	40	85	82	55	79.0	75.0	100	76.0	72.0
Drill Rig Truck	20	84	79	22	78.0	71.0	100	73.0	66.0
Drum Mixer	50	80	80	1	74.0	71.0	100	74.0	71.0
Dump Truck	40	84	76	31	78.0	74.0	100	70.0	66.0
Excavator	40	85	81	170	79.0	75.0	100	75.0	71.0
Flat Bed Truck	40	84	74	4	78.0	74.0	100	68.0	64.0
Front End Loader	40	80	79	96	74.0	70.0	100	73.0	69.0
Generator	50	82	81	19	76.0	73.0	100	75.0	72.0
Generator (<25KVA, VMS si	50	70	73	74	64.0	61.0	100	67.0	64.0
Gradall	40	85	83	70	79.0	75.0	100	77.0	73.0
Grader	40	85	na	0	79.0	75.0	100		
Grapple (on Backhoe)	40	85	87	1	79.0	75.0	100	81.0	77.0
Horizontal Boring Hydr. Jac	25	80	82	6	74.0	68.0	100	76.0	70.0
Hydra Break Ram	10	90	na	0	84.0	74.0	100		
Impact Pile Driver	20	95	101	11	89.0	82.0	100	95.0	88.0
Jackhammer	20	85	89	133	79.0	72.0	100	83.0	76.0
Man Lift	20	85	75	23	79.0	72.0	100	69.0	62.0
Mounted Impact Hammer (	20	90	90	212	84.0	77.0	100	84.0	77.0
Pavement Scarafier	20	85	90	2	79.0	72.0	100	84.0	77.0
Paver	50	85	77	9	79.0	76.0	100	71.0	68.0
Pickup Truck	40	55	75	1	49.0	45.0	100	69.0	65.0
Pneumatic Tools	50	85	85	90	79.0	76.0	100	79.0	76.0
Pumps	50	77	81	17	71.0	68.0	100	75.0	72.0
Refrigerator Unit	100	82	73	3	76.0	76.0	100	67.0	67.0
Rivit Buster/chipping gun	20	85	79	19	79.0	72.0	100	73.0	66.0
Rock Drill	20	85	81	3	79.0	72.0	100	75.0	68.0
Roller	20	85	80	16	79.0	72.0	100	74.0	67.0
Sand Blasting (Single Nozzl	20	85	96	9	79.0	72.0	100	90.0	83.0
Scraper	40	85	84	12	79.0	75.0	100	78.0	74.0
Shears (on backhoe)	40	85	96	5	79.0	75.0	100	90.0	86.0
Slurry Plant	100	78	78	1	72.0	72.0	100	72.0	72.0
Slurry Trenching Machine	50	82	80	75	76.0	73.0	100	74.0	71.0
Soil Mix Drill Rig	50	80	na	0	74.0	71.0	100		
Tractor	40	84	na	0	78.0	74.0	100		
Vacuum Excavator (Vac-tru	40	85	85	149	79.0	75.0	100	79.0	75.0
Vacuum Street Sweeper	10	80	82	19	74.0	64.0	100	76.0	66.0
Ventilation Fan	100	85	79	13	79.0	79.0	100	73.0	73.0
Vibrating Hopper	50	85	87	1	79.0	76.0	100	81.0	78.0
Vibratory Concrete Mixer	20	80	80	1	74.0	67.0	100	74.0	67.0
Vibratory Pile Driver	20	95	101	44	89.0	82.0	100	95.0	88.0
Warning Horn	5	85	83	12	79.0	66.0	100	77.0	64.0
Welder / Torch	40	73	74	5	67.0	63.0	100	68.0	64.0

Source:
FHWA Roadway Construction Noise Model, January 2006. Table 9.1
U.S. Department of Transportation
CA/T Construction Spec. 721.560

Distance Propagation Calculations for Stationary Sources of Ground Vibration

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

STEP 1: Determine units in which to perform calculation.

— If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.

— If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (VdB)	@	distance (ft)	vibration level (VdB)	@	distance (ft)
Caisson drilling	87	@	25	79.9	@	43

The Lv metric (VdB) is used to assess the likelihood for vibration to result in human annoyance.

STEP 2B: Identify the vibration source and enter the reference peak particle velocity (PPV) and distance.

STEP 3B: Select the distance to the receiver.

Table B. Propagation of peak particle velocity (PPV) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (PPV)	@	distance (ft)	vibration level (PPV)	@	distance (ft)
Caisson drilling	0.089	@	25	0.492	@	8

The PPV metric (in/sec) is used for assessing the likelihood for the potential of structural damage.

Notes:

Computation of propagated vibration levels is based on the equations presented on pg. 185 of FTA 2018. Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123. Washington, D.C. Accessed: December 20, 2020. Page Available:

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Attenuation Calculations for Stationary Noise Sources

KEY:

Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).

STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.

STEP 3: Select the distance to the receiver.

Noise Source/ID	Receptor	Reference Noise Level			Attenuation Characteristics				Exterior Noise Level at Receptor		
		noise level (dBA)	@	distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	noise level (dBA)	@	distance (ft)
Truck releasing air brakes	City's daytime standard (75 Lmax)	86.0	@	50	hard	4	5	0.00	74.9	@	180
Truck releasing air brakes	City's daytime standard (70 Lmax)	86.0	@	50	hard	4	5	0.00	69.9	@	320
HVAC	Daytime Leq (55)	75.0	@	3	hard	4	5	0.00	24.8		970
HVAC	Night time leq (50)	75.0	@	3	hard	4	5	0.00	24.8	@	970

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 176 and 177 of FTA 2018.

Computation of the ground factor is based on the equation presentd in Table 4-26 on pg. 86 of FTA 2018, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Calculation uses the distance value rather than reciever height to calculate varying noise levels at each building story.

Sources:

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: <http://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>Accessed: March 5, 2020.

Traffic Noise Spreadsheet Calculator
Existing Conditions

Project: West Broadway SP

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)[5,6,7]	75 dBA	70 dBA	65 dBA	60 dBA
#REF!																		
1	Elvas Avenue	J Street	Folsom Boulevard	18,988	25	108.7	142.29	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	60.2	4	13	41	131
2	Folsom Boulevard	47th Street	65th Street	18,426	35	108.7	130	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.6	9	27	87	275
3	Folsom Boulevard	Howe Avenue	Jackson Highway	38,544	40	108.7	142.29	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	68.3	26	83	264	834
4	Power Inn Road	US 50	14th Avenue	62,511	45	111	173	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	71.4	61	193	610	1929
5	Hornet Drive	US 50	Folsom Boulevard	19,139	35	110.5	136.5	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.7	9	29	90	286
6	14th Avenue	65th Street	Power Inn Road	12,848	40	118	142.29	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.3	9	28	88	277
7	Power Inn Road	14th Avenue	Fruitridge Road	37,908	45	108.7	142.29	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	69.7	36	115	364	1152

Traffic Noise Spreadsheet Calculator
Existing Plus Project Conditions

Project: West Broadway Specific Plan

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	$(dBA)_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
#REF!																		
1	Elvas Avenue	J Street	Folsom Boulevard	19,140	25	108.7	142.29	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	60.3	13	42	132	418
2	Folsom Boulevard	47th Street	65th Street	18,615	35	108.7	130	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.7	28	88	278	878
3	Folsom Boulevard	Howe Avenue	Jackson Highway	38,640	40	108.7	142.29	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	68.3	84	265	836	2645
4	Power Inn Road	US 50	14th Avenue	64,574	45	111	173	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	71.6	199	630	1992	6300
5	Hornet Drive	US 50	Folsom Boulevard	19,513	35	110.5	136.5	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.8	29	92	292	922
6	14th Avenue	65th Street	Power Inn Road	12,963	40	118	142.29	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.3	28	88	279	883
7	Power Inn Road	14th Avenue	Fruitridge Road	38,421	45	108.7	142.29	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	69.7	117	369	1167	3691

Increase in Noise

#	Segment	From	To	Exist	Plus Project	Change
1	Elvas Avenue	J Street	Folsom Boulevard	60.2	60.3	0.0
2	Folsom Boulevard	47th Street	65th Street	63.6	63.7	0.0
3	Folsom Boulevard	Howe Avenue	Jackson Highway	68.3	68.3	0.0
4	Power Inn Road	US 50	14th Avenue	71.4	71.6	0.1
5	Hornet Drive	US 50	Folsom Boulevard	63.7	63.8	0.1
6	14th Avenue	65th Street	Power Inn Road	63.3	63.3	0.0
7	Power Inn Road	14th Avenue	Fruitridge Road	69.7	69.7	0.1

Raw Traffic Data

	Street	From	to	speed limit	Existing PM Peak	Existing ADT	+ Project PM Peak	+ Project ADT
1	3rd street	V Street	W Street	30	708	7,080	780	7,800
2	3rd street	W Street	X Street	30	718	7,180	780	7,800
3	3rd street	X Street	Broadway	30	410	4,100	770	7,700
4	W Street	3rd street	5th street	35	50	500	60	600
5	W Street	5th street	11th street	35	1843	18,430	1845	18,450
6	W Street	11th street	12th street	35	1378	13,780	1650	16,500
7	X Street	I-5	3rd Street	35	197	1,970	250	2,500
8	X Street	3rd Street	5th street	35	569	5,690	840	8,400
9	X Street	5th street	Riverside Boulevard	35	1390	13,900	1560	15,600
10	X Street	Riverside Boulevard	13th street	35	1521	15,210	1630	16,300
11	5th street	V Street	W Street	30	139	1,390	165	1,650
12	5th street	W Street	X Street	30	2519	25,190	2805	28,050
13	5th street	X Street	Broadway	30	641	6,410	1035	10,350
14	5th street	Broadway	1st Avenue	30	563	5,630	775	7,750
15	5th street	1st Avenue	Mcclatchy Way	25	558	5,580	680	6,800
16	5th street	Mcclatchy Way	Vallejo Way	25	366	3,660	440	4,400
17	5th street	Vallejo Way	4th Avenue	25	51	510	65	650
18	8th street	X Street	Broadway	30	170	1,700	550	5,500
19	9th street	X Street	Broadway	30	506	5,060	655	6,550
20	11th street	V street	W Street	15	499	4,990	540	5,400
21	11th street	W Street	X Street	15	715	7,150	730	7,300
22	11th street	X Street	Broadway	30	808	8,080	900	9,000
23	Riverside Boulevard	Broadway	Vallejo Way	30	1257	12,570	1250	12,500
24	Riverside Boulevard	Vallejo Way	3rd Avenue	30	1128	11,280	1185	11,850
25	Vallejo Way	River Beard Circle	5th Street	15	98	980	150	1,500
26	Vallejo Way	5th Street	Muir Way	25	254	2,540	220	2,200
27	Vallejo Way	Muir Way	Riverside Boulevard	25	168	1,680	195	1,950
28	Vallejo Way	Riverside Boulevard	3rd Avenue	25	148	1,480	225	2,250
29	Muir Way	Broadway	Vallejo Way	30	459	4,590	630	6,300
30	Muir Way	Vallejo Way	3rd Avenue	30	263	2,630	265	2,650
31	Broadway	American River	Front Street	25	135	1,350	145	1,450
32	Broadway	Front Street	I-5	25	373	3,730	1400	14,000
33	Broadway	I-5	3rd Street	30	617	6,170	1790	17,900
34	Broadway	3rd Street	5th Street	30	891	8,910	1640	16,400
35	Broadway	5th Street	8th street	30	1115	11,150	1560	15,600
36	Broadway	8th street	9th Street	30	1408	14,080	2015	20,150
37	Broadway	9th Street	Riverside Boulevard	30	1832	18,320	2070	20,700
38	Broadway	Riverside Boulevard	13th street	30	1314	13,140	1640	16,400
39	Mcclatchy Way	I-5	5th Street	25	105	1,050	120	1,200
40	1st Avenue	3rd street	5th street	25	40	400	250	2,500

Notes

1. Segments and PM peak hour volumes derived from Figures 4A, 4B, 11A, and 11B in the Traffic Impact Study prepared by Fehr and Peers (2019)
2. ADT volumes were derived by applying a k-factor of 10 to the peak hour volumes.

Citation #	Citations	
1	Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.	Caltrans Technical Noise Supplement. 2013 (September). Table (4-2), Pg 4-17.
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.	Caltrans Technical Noise Supplement. 2013 (September). Equation (4-5), Pg 4-17.
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.	FHWA 2004 TNM Version 2.5
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.	FHWA 2004 TNM Version 2.5
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.	Caltrans Technical Noise Supplement. 2013 (September). Equation (2-23), Pg 2-51, 52.
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.	Caltrans Technical Noise Supplement. 2013 (September). Equation (2-24), Pg 2-53.
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.	Caltrans Technical Noise Supplement. 2013 (September). Pg 2-57.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.	FHWA 2004 TNM Version 2.5
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.	FHWA 2004 TNM Version 2.5
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.	FHWA 2004 TNM Version 2.5
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.	FHWA 2004 TNM Version 2.5
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.	FHWA 2004 TNM Version 2.5
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67	
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69	
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69	

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California Department of Transportation (Caltrans). 2009 (November). Technical Noise Supplement. Available: http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf. Accessed August 17, 2017.

California Department of Transportation (Caltrans). 2013 (September). Technical Noise Supplement. Available: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf. Accessed August 17, 2017.

Federal Highway Administration. 2004. Traffic Noise Model Version 2.5. Available: https://www.fhwa.dot.gov/environment/noise/traffic_noise_model/tnm_v25/. Accessed August 17, 2017.

Appendix D

Transportation Modeling

The SACSIM Model, as developed and maintained by SACOG, represents the best available and most accurate tool for the estimation of vehicle miles traveled (VMT) within the Sacramento region. That said, it is a projections model that is dependent on the availability of data and the information/planning considerations made to the model. The following discussion provides some additional context regarding the information provided by the model.

Additional VMT Considerations

Emerging Trends and SACSIM Model Limitations

The VMT analysis concludes that the project would have a less-than-significant impact on VMT based on the recommended screening analysis methodology presented in the State CEQA Guidelines and the Technical Advisory. This includes reliance on VMT screening maps prepared by SACOG based on data from the SACSIM travel forecasting model. While the SACSIM model represents state of the practice or advance practice, travel behavior and the transportation systems are changing quickly in response to emerging trends, new technologies, and different preferences, as noted in the Environmental Setting section. These changes combined with the current effects of the COVID-19 pandemic increase uncertainty about how VMT generation rates may change by the time the Project would be constructed and occupied.

The trajectory of deployment, market acceptance, and government regulation of these new travel options and technologies is difficult to predict, and these elements directly influence the inputs and algorithms for the SACSIM model. As such, SACSIM as a travel forecasting model has limitations in the ability to capture the full range of potential travel effects from emerging travel options and technologies.

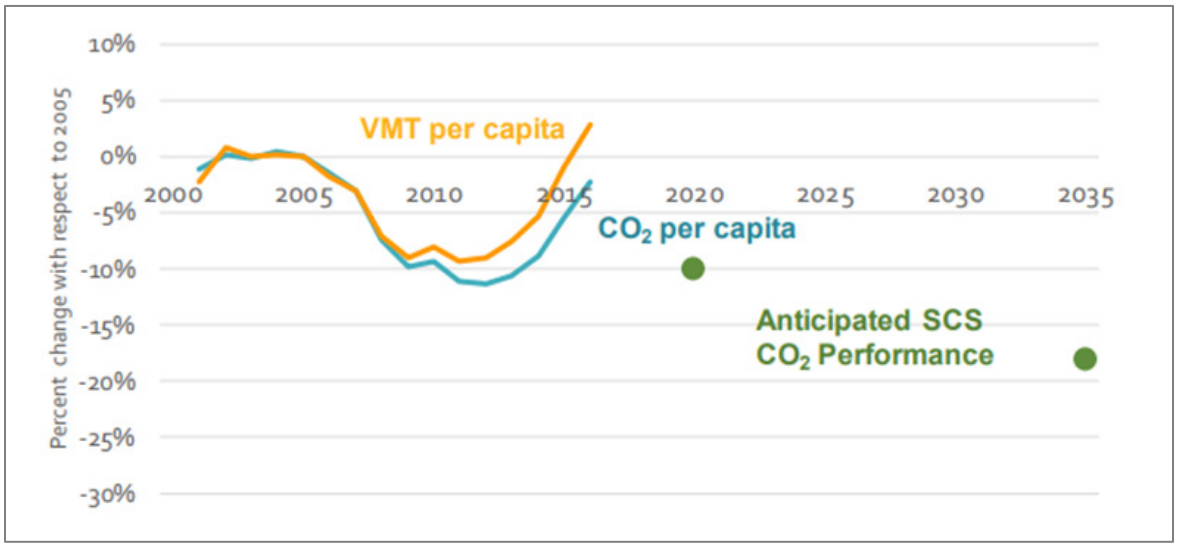
The SACSIM model does include some scenario testing capabilities that can begin to test different hypotheses of these impacts, but until more research is done about the likely behavioral responses to new modes and technologies is completed, travel models cannot fully capture these changes in a reliable way. Initial testing of automated vehicles effects using SACSIM, such as lowering costs to use vehicles and making them more convenient by eliminating parking at trip ends, does generate increases in overall vehicle travel and reductions in transit ridership with all else being equal. The information suggests the model is sensitive to how cost and convenience influence travel behavior but within the limits of the observed data used to develop the model.

Historical VMT Trends

When making a final VMT impact determination, other available evidence related to VMT trends should be considered. This analysis identified the following two relevant studies.

- 2018 Progress Report, California's Sustainable Communities and Climate Protection Act, California Air Resources Board, November 2018 (Progress Report).
- California Air Resources Board Improved Program Measurement Would Help California Work More Strategically to Meet Its Climate Change Goals, Auditor of the State of California, February 2021 (Audit Report).

The Progress Report measures the effect of SB 375 revealing that VMT and GHG per capita increased in California between 2010 and 2016 and are trending upward (Figure 1).



* CO_2 and VMT calculated based on California Department of Tax and Fee Administration gasoline fuel sales data.
Source: CDTFA, US EIA, US EPA, CARB

Figure 1 Statewide CO_2 and Vehicle Miles Traveled (VMT) per Capita Trend with Respect to Anticipated Performance of Current SB 375 SCSs*

The Audit Report is an assessment of CARB's GHG reduction programs, which also found that VMT and its associated GHG emissions were trending upward through 2018. Per the audit, the state is not on track to achieve 2030 GHG reduction goals, and emissions from transportation have not been declining.

The evidence from these two reports does not refute the project's VMT impact finding but does suggest greater action on the part of the state may be needed to achieve the state's GHG reduction goals. The project contributes to the basic objectives of SB 743 for local agencies such as adding development in a land use efficient area where the short-trip lengths to destinations allows for more multi-modal choices and low VMT generation. The monitoring of state performance indicates that the state may need to take further action to discourage vehicle travel (i.e., increasing the cost of driving) while reducing the barriers or constraints that prevent more efficient use of vehicles and greater use of transit, walking, and bicycling. If these types of actions are taken, employees, students, and visitors of the proposed project would have multiple travel options to further reduce their vehicle use because of the proximity to existing complementary uses on the main Sacramento State campus and the project's central location within the greater Sacramento region.

Vehicle Miles Traveled Effects of COVID-19 Pandemic

Initially, government orders that curtailed mobility and suppressed economic activity due to the COVID-19 pandemic decreased VMT. Following this sudden decline in VMT, it appears that VMT in many locations have returned to their pre-lockdown values. However, it is uncertain what long-term effects the COVID-19 pandemic will have on travel behavior. By necessity, sizable portions of the public adapted to a notable increase in teleworking, distance learning, telemedicine, internet shopping, and home delivery. The current physical distancing recommendations have also reduced demand for mass transit and shared mobility options. The combination of these effects could result in increased or decreased VMT per capita levels in the future, depending on how permanent these behavioral changes become. Since the VMT effects of emerging trends and the COVID-19 pandemic are uncertain, and because the COVID-19 pandemic has disrupted the VMT trends documented in the 2018 Progress Report, any definitive conclusions for how these other VMT considerations will affect project VMT-generation is speculative.

Table 1 Three-Year Injury Collision History Near Project Site

Location	Parties[1]	Type	Primary Collision Factor	Date
Hornet Drive north of Folsom Boulevard	**Vehicle**, Vehicle	Sideswipe	Traffic Signals and Signs	May-18
Howe Avenue at US 50	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Mar-16
Howe Avenue at US 50	**Bicycle**, Vehicle	Broadside	Wrong Side of Road	Apr-17
Howe Avenue at US 50	**Vehicle**, Vehicle	Sideswipe	Improper Turning	Aug-17
Howe Avenue at US 50	**Vehicle**, Vehicle, Vehicle, Vehicle	Rear End	Unsafe Speed	Nov-17
Howe Avenue at US 50	**Vehicle**, Vehicle, Vehicle	Sideswipe	Unsafe Speed	Nov-17
Howe Avenue at US 50	**Vehicle**, Vehicle	Rear End	Driving Under the Influence of Alcohol or Drug	Nov-17
Howe Avenue at US 50	**Vehicle**	Broadside	Other	Jul-18
Howe Avenue north of US 50	**Vehicle**	Hit Object	Driving Under the Influence of Alcohol or Drug	Oct-17
Howe Avenue north of US 50	**Vehicle**, Vehicle, Vehicle	Rear End	Unsafe Speed	Mar-17
Howe Avenue south of US 50	**Vehicle**, Vehicle, Vehicle, Vehicle	Rear End	Unsafe Speed	Jul-17
Howe Avenue south of US 50	**Vehicle**, Vehicle	Broadside	Traffic signals and Signs	Jul-17
Howe Avenue at Folsom Boulevard	**Vehicle**, Vehicle	Broadside	Traffic Signals and Signs	Aug-18
Howe Avenue north of Folsom Boulevard	**Vehicle**, Vehicle	Rear End	Driving Under the Influence of Alcohol or Drug	Jan-16
Howe Avenue north of Folsom Boulevard	**Vehicle**, Vehicle	Sideswipe	Driving Under the Influence of Alcohol or Drug	Jun-16
Howe Avenue north of Folsom Boulevard	**Pedestrian**, Vehicle	Auto/Ped	Pedestrian Violation	Sep-16
Howe Avenue north of Folsom Boulevard	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Feb-18
Folsom Boulevard at Hornet Drive	**Vehicle**	Hit Object	Unsafe Speed	Jul-17
Folsom Boulevard west of Hornet Drive	**Vehicle**, Vehicle, Vehicle, Vehicle	Rear End	Unsafe Speed	Nov-18
Folsom Boulevard west of Hornet Drive	**Vehicle**, Vehicle	Broadside	Unsafe Speed	Nov-17
Folsom Boulevard at Howe Avenue	**Vehicle**, Bicycle	Broadside	Traffic Signals and Signs – Hit & Run	Apr-16
Folsom Boulevard at Howe Avenue	**Vehicle**, Vehicle	Unknown	Improper Turning – Hit & Run	May-16
Folsom Boulevard at Howe Avenue	**Vehicle**, Vehicle	Sideswipe	Improper Turning – Hit & Run	Sep-16
Folsom Boulevard at Howe Avenue	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Sep-16
Folsom Boulevard at Howe Avenue	**Vehicle**	Hit Object	Unsafe Speed	Oct-16
Folsom Boulevard at Howe Avenue	**Vehicle**, Vehicle	Sideswipe	Unsafe Lane Change	Dec-17
Folsom Boulevard west of Howe Avenue	**Vehicle**, Vehicle	Broadside	Improper Turning	Sep-17
Folsom Boulevard west of Howe Avenue	**Vehicle**, Vehicle	Sideswipe	Improper Turning	Feb-18
Folsom Boulevard west of Howe Avenue	**Vehicle**, Vehicle	Broadside	Automobile Right of Way	Sep-18
Folsom Boulevard east of Howe Avenue	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Nov-16
Folsom Boulevard east of Howe Avenue	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Dec-18
Folsom Boulevard east of Power Inn Road	**Pedestrian**, Vehicle	Auto/Ped	Pedestrian Violation	Jan-18
Folsom Boulevard east of Power Inn Road	**Vehicle**, Vehicle	Broadside	Driving Under the Influence of Alcohol or Drug	Jan-18
Folsom Boulevard at State University Drive	**Vehicle**, Vehicle	Sideswipe	Unsafe Speed	Feb-16
Folsom Boulevard at State University Drive	**Vehicle**, Vehicle, Vehicle	Rear End	Unsafe Speed	Feb-16

Location	Parties[1]	Type	Primary Collision Factor	Date
Folsom Boulevard at State University Drive	**Vehicle**, Vehicle	Broadside	Traffic Signals and Signs	Oct-17
Folsom Boulevard at State University Drive	**Vehicle**, Vehicle	Broadside	Traffic Signals and Signs	Mar-18
Folsom Boulevard east of State University Drive	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Mar-17
Folsom Boulevard east of State University Drive	**Vehicle**, Vehicle, Vehicle	Rear End	Unsafe Speed	Aug-17
Folsom Boulevard east of State University Drive	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Jan-18
Folsom Boulevard west of State University Drive	**Vehicle**, Vehicle, Vehicle	Rear End	Unsafe Speed	Mar-16
Folsom Boulevard west of State University Drive	**Vehicle**, Vehicle	Broadside	Improper Turning	Feb-17
Power Inn Road at Ramona Avenue	**Vehicle**, Vehicle	Broadside	Automobile Right of Way	Feb-16
Power Inn Road at Ramona Avenue	Vehicle, **Bicycle**	Broadside	Wrong Side	May-16
Power Inn Road at Ramona Avenue	**Vehicle**, Vehicle	Broadside	Automobile Right of Way	Nov-16
Power Inn Road at Ramona Avenue	**Vehicle**, Vehicle	Broadside	Improper Turning	Dec-17
Power Inn Road north of Ramona Avenue	**Vehicle**, Vehicle, Vehicle	Rear End	Unsafe Speed	Jul-18
Power Inn Road south of Ramona Avenue	**Vehicle**	Hit Object	Improper Turning	Nov-16
Power Inn Road south of Ramona Avenue	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Aug-16
Power Inn Road south of Ramona Avenue	**Vehicle**, Vehicle	Rear End	Unsafe Speed	May-17
Power Inn Road at Folsom Boulevard	**Vehicle**, Vehicle	Rear End	Unknown	Oct-16
Power Inn Road at Folsom Boulevard	**Vehicle**, Vehicle, Vehicle	Broadside	Traffic Signals and Signs	Oct-16
Power Inn Road at Folsom Boulevard	**Vehicle**, Vehicle	Broadside	Driving Under the Influence of Alcohol or Drug	Dec-16
Power Inn Road at Folsom Boulevard	**Vehicle**, Vehicle, Vehicle	Broadside	Traffic Signals and Signs	Jul-17
Power Inn Road at Folsom Boulevard	**Vehicle**, Vehicle, Vehicle	Rear End	Unsafe Speed	Jan-17
Power Inn Road at Folsom Boulevard	**Vehicle**, Vehicle, Vehicle	Broadside	Driving Under the Influence of Alcohol or Drug	Apr-18
Power Inn Road at Folsom Boulevard	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Dec-18
Power Inn Road north of Folsom Boulevard	**Vehicle**, Bicycle	Broadside	Improper Turning	Aug-18
Power Inn Road south of Folsom Boulevard	Vehicle, **Bicycle**	Broadside	Wrong Side of Road	May-16
Power Inn Road south of Folsom Boulevard	**Vehicle**, Bicycle	Broadside	Automobile Right of Way – Hit & Run	Sep-16
Power Inn Road south of Folsom Boulevard	**Vehicle**	Hit Object	Unsafe Speed	Oct-16
Power Inn Road south of Folsom Boulevard	Vehicle, **Vehicle**, Vehicle	Rear End	Improper Turning	Nov-16
Power Inn Road at Cucamonga Avenue	**Vehicle**, Vehicle	Rear End	Traffic Signals and Signs	Nov-17
Power Inn Road at Cucamonga Avenue	**Vehicle**, Vehicle	Broadside	Automobile Right of Way	May-18
Power Inn Road at Cucamonga Avenue	**Vehicle**, Vehicle	Broadside	Traffic Signals and Signs	Oct-18
Power Inn Road north of Cucamonga Avenue	**Vehicle**, Vehicle	Broadside	Automobile Right of Way	Dec-16
Power Inn Road north of Cucamonga Avenue	**Vehicle**, Vehicle	Rear End	Driving Under the Influence of Alcohol or Drug	Oct-17
Power Inn Road south of Cucamonga Avenue	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Apr-17
Power Inn Road south of Cucamonga Avenue	**Vehicle**, Vehicle	Sideswipe	Improper Turning	Nov-18
Ramona Avenue north of Cucamonga Avenue	**Vehicle**, Parked Vehicle	Overturned	Unsafe Speed	Sep-18
Ramona Avenue east of Power Inn Road	**Vehicle**, Vehicle	Rear End	Unsafe Speed	Jan-16

Notes: [1]Bold party identified as party at-fault.
Source: Statewide Integrated Traffic Records Database, 2021.

Appendix E

Water Supply Form

☑ Press to clear form

City of Sacramento
SB 610/SB 221 Water Supply Assessment and Certification Form

This form may be used to complete water supply assessments for projects located in an area covered by the City's most recent Urban Water Management Plan.

Note: Please do not use this form if the projected water demand for your project area was not included in the City's latest Urban Water Management Plan. To review the City's Urban Water Management Plan, please visit: http://www.cityofsacramento.org/Utilities/Resources/Reports

Project: The Hub, Sacramento State Research Park Project

Date: 8/26/21

Project Applicant (Name of Company): California State University, Sacramento

Applicant Contact (Name of Individual): Kirsten Burrowes (on behalf of Sac State)

Phone Number: (916) 661-7338

E-mail: Kirsten.Burrowes@ascentenvironmental.com

Address: 455 Capitol Mall, Suite 300, Sacramento, California 95814

Project Applicant to fill in the following:

1. Does the project include:

Type of Development	Yes	No
A proposed residential development of 500 or more dwelling units	☐	☑
A shopping Center employing more than 1,000 persons or having more than 500,000 square feet?	☐	☑
A Commercial Office building employing more than 1,000 persons or having more than 250,000 square feet?	☑	☐
A proposed hotel or motel, or both, having more than 500 rooms	☐	☑
A proposed industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area	☐	☑
A mixed use project that includes one or more of the projects specified above	☑	☐
A project that would demand an amount of water equivalent to, or greater than, the water required by a 500 dwelling unit project	☑	☐

If the answer is no to all of the above, a water supply assessment is not required for the project.

2. Is the projected water demand for the project location included in the City's 2020 Urban Water Management Plan, adopted June 29, 2021?

Yes: ✔ No: ☐

If the answer is no, you cannot use this form. Please refer to the requirements of SB 610 for preparing a water supply assessment.

3. Please fill in the project demands below:

Type of Development	Land Use Category	Demand Factor		Proposed Development			Current Zoning		
		Residential Water Use Factor, afy/dwelling unit	Non-Residential Water Use Factor, afy/employee	Number Dwelling Units	Number Employees	Total Demand	Number Dwelling Units	Number Employees	Total Demand
Residential - Low	Rural Residential (RR)	.61	.09						
	Suburban Neighborhood Low Density (SNLD)								
	Traditional Neighborhood Low Density (TLDR)								
Residential - Medium	Suburban Neighborhood Medium Density (SMDR)	.39	.09						
	Urban Neighborhood Low Density (ULDR)								
Residential - High	Suburban Neighborhood High Density (SHDR)	.12	.04						
	Traditional Neighborhood Medium Density (TMDR)								
	Urban Neighborhood Medium Density (UMDR)								
	Traditional Neighborhood High Density (THDR)								
Mixed Use	Employment Center Mid Rise (ECMR)	.19	.09		1820	163.8			
	Suburban Center (SCnt)								
	Suburban Corridor (Scor)								
	Traditional Center (TCnt)								

Mixed Use - Higher Density	Urban Center High (UCntHigh)	.15	.04						
	Urban Center Low (UcntLow)								
	Urban Corridor High (UCorHigh)								
	Urban Corridor Low (UCorLow)								
Central Business District	Central Business District (CBD)	.15	.02						
	Urban Neighborhood High Density (UHDR)								
Commercial	Regional Commercial (RC)	.15	.09						
	Employment Center Low Rise (ECLR)								
Industrial	Industrial (IND)	NA	.14		203	28.42			
Public	Public/Quasi-Public (PUB)	.37	.17		224	38.08			
Park	Parks and Recreation (PRK)	.37	.17						
Open Space	Open Space (OS)	0	0						
Other									
Other									
Other									
Total Demand (AFY)						230.3			

4. Required Elements of Water Supply Assessment (Water Code § 10910)

A. Water supply entitlements, water rights or water service contracts (Water Code § 10910(d)):

The City's water supply entitlements, water rights and water service contract are identified and discussed in the Urban Water Management Plan, Chapters 3, 6 and 7.

All infrastructure necessary to deliver a water supply to the project is in place, excepting any distribution facilities required to be constructed and financed by the project applicant: Yes: ✔ No: ☐

B. Identification of other sources of water supply if no water has been received under City's existing entitlements, water rights or water service contracts (Water Code § 10910(e)):

Not applicable.

C. Information and analysis pertaining to groundwater supply (Water Code § 10910(f)):

Addressed by Urban Water Management Plan, Chapters 3, 6 and 7.

Verification of Water Supply
(for residential development of more than 500 dwelling units)

Based on the City's most recent Urban Water Management Plan, are there sufficient water supplies for the project during normal, single dry and multiple dry years over a 20 year period?

Yes: ✔ No: ☐

By: Brett Ewart

Title: Senior Engineer

Date: 12/8/2021

This box to be filled in by the City

Distribution:

Applicant
Development Services Department (Org: 4913) – Assigned Planner:_____
Utilities Department (Org: 3334) - Development Review (Tony Bertrand)
Utilities Department (Org: 3332) - Capital Improvements (Brett Ewart)