Appendix A

Notice of Preparation and Comments

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

Date: June 11, 2015

To: Agencies and Interested Parties

From: Midpeninsula Regional Open Space District

Subject: Notice of Preparation of a Draft Environmental Impact Report for the Bear Creek Redwoods Open Space Preserve Plan (includes the Bear Creek Stables Site Plan and Alma College Rehabilitation Plan)

Review Period: June 11 to July 10, 2015

Midpeninsula Regional Open Space District (MROSD) is in the process of preparing a Preserve Plan for Bear Creek Redwoods Open Space Preserve (Preserve). MROSD will prepare an environmental impact report (EIR) for the Preserve Plan to satisfy the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and will serve as the lead agency for CEQA compliance. The purpose of the Preserve Plan is to identify objectives and guide future use and management of low-intensity recreation and the natural and cultural resources at the Preserve.

PURPOSE OF THIS NOTICE OF PREPARATION/INITIAL STUDY

In accordance with the State CEQA Guidelines (Title 14 California Code of Regulations [CCR] Section 15082), MROSD has prepared this notice of preparation (NOP) to inform agencies and interested parties that an EIR will be prepared for the above-referenced project. The purpose of an NOP is to provide sufficient information about the proposed project and its potential environmental impacts to allow agencies and interested parties the opportunity to provide a meaningful response related to the scope and content of the EIR, including mitigation measures that should be considered and alternatives that should be addressed (14 CCR Section 15082[b]).

MROSD PURPOSE

MROSD's purpose is to purchase and permanently protect a regional greenbelt of open space lands, preserve and restore wildlife habitat, watersheds, viewsheds, and fragile ecosystems, and provide opportunities for low-intensity recreation and environmental education. MROSD has protected more than 62,000 acres of land and currently manages 26 Open Space Preserves with more than 225 miles of low-intensity recreational trails, including segments of four regional trails. MROSD lands extend from San Carlos in San Mateo County in the north to the unincorporated Santa Clara County area located south of Los Gatos in the south and represent a wide spectrum of habitat communities, including bayside tidal wetlands, grasslands, oak woodlands, riparian corridors, coyote brush scrubland, and evergreen forests. MROSD's mission statement outlines the critical functions of the agency and prioritizes how the land is managed, balancing the preservation of open space with land restoration and the provision for low-intensity public recreation. Specifically, MROSD'S mission is:

> "To acquire and preserve a regional greenbelt of open space in perpetuity; protect and restore the natural environment; and provide opportunities for ecologically sensitive public enjoyment and education."

This mission statement serves as the policy framework with which all Preserve Plan goals, objectives, and implementation actions must remain consistent.

PROJECT BACKGROUND AND NEED

Bear Creek Redwoods Open Space Preserve was established in 1999 with the purchase of two large properties from MROSD's private land trust partner, Peninsula Open Space Trust. These properties were previously owned by Hong Kong Metro Realty Company and had been the subject of planned residential and golf course development. Shortly after the purchase, MROSD entered into a month-to-month rental agreement with the existing tenant of Bear Creek Stables, and perimeter fencing was installed around the former Alma College site. Big Creek Lumber owned prior timber harvest rights to portions of the Preserve, and selective harvesting was carried out in 1999 and 2000.

Since its acquisition, the Preserve has been the subject of discrete use and management planning processes that have largely focused on critical and immediate stewardship concerns and maintained status-quo public use patterns. A comprehensive plan for Bear Creek Redwoods will provide Preserve-wide goals to help reinforce the Preserve's character, identify long-term management actions to protect and enhance its unique natural and cultural resources, and define the level and extent of allowable uses that are compatible with the land and the goals established for the Preserve.

PREVIOUS PLANNING EFFORTS

The close proximity of the Preserve to major South Bay cities and the proposed upgrades of existing logging and access roads to establish a continuous, wooded trail system provides high recreational value, and the Preserve is expected to receive heavy visitor use once it is open to the public. Planning studies to guide future public access and stewardship actions were initiated shortly after Preserve acquisition. These initial plans culminated with the preparation of a draft Sierra Azul/Bear Creek Redwoods Master Plan and EIR (draft Master Plan) in 2009. As part of the development of the draft Master Plan, a series of stakeholder interviews and public workshops were conducted under the guidance of an Ad Hoc Committee of the Board. As part of the draft Master Plan process, MROSD developed a vision for the Preserve that has served to guide the completion of the Preserve Plan, which states:

Hosting Santa Clara County's best-preserved, second growth redwood forest, Bear Creek Redwoods Open Space Preserve contains a rich historical past that has served to influence and shape the surrounding landscape. The Preserve shall provide the public with a South Peninsula opportunity for tranquil nature study and exploration in a cool, heavily forested canopy environment. The stewardship of this public open space preserve shall be of highest priority, followed by an extended trail system with greater access. Focus will be placed on restoring native habitats; reducing erosion and sedimentation for improved water quality; interpreting the land's historical and cultural resources; providing new staging opportunities to allow for greater public access; and expanding the interior trail connections within the Preserve.

Due to other pressing project priorities, adoption of the larger multi-preserve Master Plan was deferred. Nonetheless, individual planning efforts for the Preserve did continue, including additional analysis for the Alma College site and Bear Creek Stables, and completion of a Road and Trail Inventory. In 2014, MROSD reinitiated and decoupled the larger Master Plan project to focus on Bear Creek Redwoods Open Space Preserve. Data and findings from the prior Master Plan effort served to inform and streamline the preparation of the Preserve Plan.

PRESERVE LOCATION AND DESCRIPTION

The Bear Creek Redwoods Open Space Preserve is located west of Lexington Reservoir and Sierra Azul Preserve, south of El Sereno Open Space Preserve, southeast of Sanborn-Skyline County Park, and just north of Moody Gulch property owned by the County of Santa Clara. Private property abuts the entire Preserve except for the southeast corner, which is bordered by the County's Moody Gulch property that is under Santa Clara County

Park management and currently closed. Highway 17 is adjacent to the northeast corner of the Preserve, from which Bear Creek Road provides access to the Preserve (Exhibits 1 and 2).

The Preserve encompasses more than 1,400 acres of native evergreen forest, with smaller extents of grassland and oak woodland habitats. Three ponds provide year-round aquatic habitat. Much of Bear Creek Redwoods is steep and rugged, with several perennial and seasonal streams draining northeast to Lexington Reservoir.

EXISTING FACILITIES AND ACCESS

Existing Facilities

Trails and Parking Areas

In 2000, a permit system was established for stable riders and the public for hiking and equestrian use of approximately 10 miles of historic logging and access roads on the eastern side of the Preserve. An existing, 10-vehicle permit parking lot was designated to serve permit holders. Because of the lack of additional parking and the absence of an established pedestrian crossing at Bear Creek Road, the western portion of the Preserve, and its additional 8 to 10 miles of historic roads, have remained closed. Purchase of the former Holmes Lumber Company property in 2010 brought the Preserve to its current size of 1,432 acres and closed the gap between the Preserve's eastern and western sides south of Summit Road.

Former Alma College Site

The former Alma College Site was originally developed as a sawmill site in the 1850s and was transitioned into an estate by Captain Stillman H. Knowles in 1887. In 1894 the Flood family expanded the estate, and in 1906, Dr. Harry Tevis purchased the land from the Floods and spent the next 25 years enlarging and rebuilding the estate with a bungalow mansion, a system of private roads and an extensive water system that fed his many highly specialized gardens. The Jesuits purchased the property for Alma College, the first Jesuit school of theology on the West Coast, in 1934. After the Jesuits moved in 1969, the Main House and Dormitories suffered fire damage. While a few buildings survived, most have been damaged or destroyed, and the remaining buildings are currently unoccupied and in disrepair. A surviving chapel was determined to be eligible for listing on the California Register of Historic Resources, and the site as a whole is listed on the Santa Clara County Heritage Resource Inventory due to its multi-layered history.

Bear Creek Stables

Bear Creek Stables is located within the northeastern portion of Bear Creek Redwoods Open Space Preserve, off of Bear Creek Road and approximately 0.25-mile west of Highway 17. The site is accessed via a hardened driveway entrance off Bear Creek Road. The interior area of the Stables includes an unpaved loop road that circulates the main paddocks areas. The property's northwestern corner includes a permit parking space for one vehicle with a trailer. The stables contain a Main Pasture, "Old Folks" Pasture, Upper Arena, Dressage Arena, and paddocks for a maximum of 72 horses. Structures include a Main House, cottage, stables/shop, hay barn, hay barn/shop, and office. Activities and programs at the Stables currently include horseback riding along trails located around the facility and extending throughout the eastern half of the Preserve, educational programs for children (nature walks, caring for small farm animals in the Stables area) and occasional horse riding clinics.

Public Access

Currently, the western half of the Preserve is closed to the public, and the eastern half is open to trail-riding use by boarders at Bear Creek Stables and to the general public by permit only for hiking and equestrian use. Permits are issued for single-day use only, and the Preserve is open a half hour before sunrise until a half hour after sunset. The Preserve is publicly accessed via Bear Creek Road off Highway 17; several gates block public road access into the Preserve from other areas.

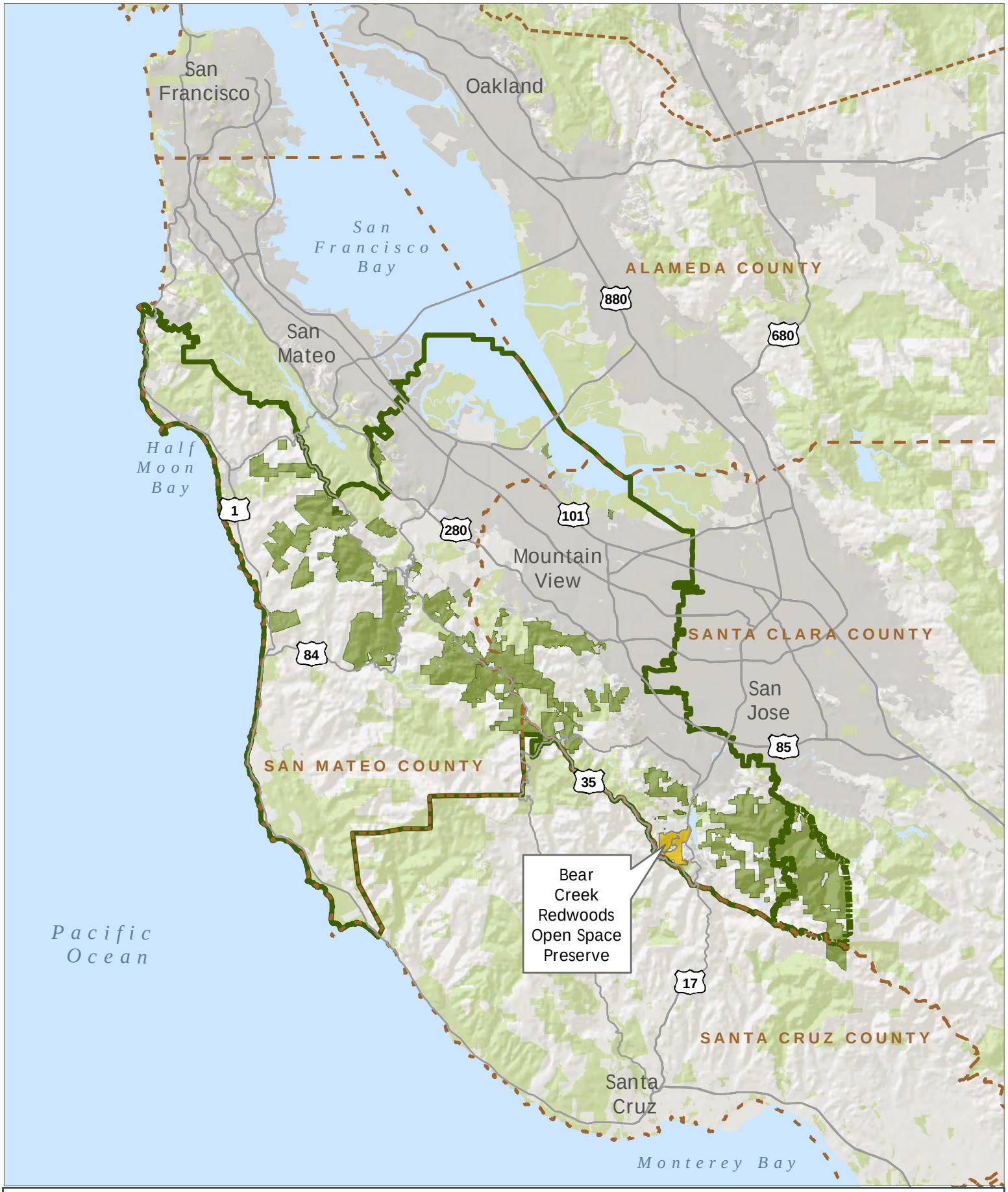


Exhibit 1 Regional Location

MROSD Preserves

Other Protected Open Space or Park Lands

Urban Area

MROSD Boundary

MROSD Sphere of Influence

County Boundary

Midpeninsula Regional Open Space District *(MROSD)*

June, 2015

0 5 10 Miles

Created By: mchilds

Path: G:\Projects\Bear_Creek_Redwoods\PreservePlan\BCR_Exhibit1_RegionalLocation.mxd

Exhibit 2 Preserve Location

- MROSD Preserves
- Other Protected Open Space or Park Lands
- Watershed Land
- Urban Area
- MROSD Conservation or Agricultural Easement
- Easement over MROSD
- Existing Roads
- Highways

Midpeninsula Regional Open Space District *(MROSD)*

June, 2015

0 0.25 0.5 Miles

While the District strives to use the best available digital data, this data does not represent a legal survey and is merely a graphic illustration of geographic features.

PROJECT GOALS AND OBJECTIVES

Goals and objectives for the planning process include the following:

- Create a long-term vision to guide decisions and management;
- Catalog and prioritize future site improvement needs;
- Involve the public and raise awareness of this valuable resource; and
- Uncover issues and adopt policies to address them.

PROJECT DESCRIPTION

The proposed Preserve Plan would: expand access to the Preserve, upgrade existing logging and access roads, and create additional trails for public use; enhance native habitats and protect sensitive biotic resources; interpret and protect cultural resources; and expand, restore, maintain, and operate Preserve facilities over the long term. Expansion of Preserve public access facilities and implementation of resource protection and enhancement projects will be phased over the course of 15 to 20 years. The Preserve Plan will include four elements: 1) Public Use and Facilities, 2) Natural Resources, 3) Cultural Resources, and 4) Maintenance and Operations.

PUBLIC USE AND FACILITIES ELEMENT

The Public Use and Facilities element of the Preserve Plan seeks to promote, enhance, and protect wilderness values by creating new trail connections to key Preserve destinations and adjacent open space areas, providing low-impact, site-sensitive interpretation and education activities, and actively involving the public in the use and management of the Preserve. Key actions of the public use and facilities element include opening up to 20 miles of trails to expanded hiking and equestrian use, potentially creating a multi-use through-trail (that includes mountain bicycle access) connecting the Lexington Basin to the Skyline area, constructing three new parking areas, creating a safe pedestrian crossing of Bear Creek Road, formalizing key trailheads, expanding public equestrian programs at Bear Creek Stables, and interpreting the former Alma College historic site and other cultural resources.

NATURAL RESOURCES ELEMENT

The Natural Resources element of the Preserve Plan will protect natural areas, wildlife corridors, and habitat for special status species, repair and monitor ecologically disturbed areas, and protect waterways to maintain water quality and healthy aquatic habitat. To achieve these goals, this element will focus on invasive plant management, restoration of highly disturbed or eroded areas, correction of high-priority sedimentation sources, protection of resident special-status bat populations, creation of habitat for common migratory bats, and protection of the Preserve's three year-round ponds and other aquatic habitat. The project will also include monitoring, mapping, providing cleaning stations for, and posting information on Sudden Oak Death to reduce its spread.

CULTURAL RESOURCES ELEMENT

The Preserve Plan's Cultural Resources element would protect and interpret significant archaeological and historic resources at Bear Creek Redwoods over the long term. Key actions of this element include stabilization and/or rehabilitation of the former Alma College site and interpretation of the site's multi-layered history, which

has been extensively documented. This history would be revived and interpreted through restoration of certain landscape elements, including pathways/circulation patterns, remnant shrines, fountains, and other minor site features; native vegetation management to regain the site's former open and ordered character; and installation of signage and other interpretive materials. In addition, the chapel and library buildings are important to local history and retain sufficient structural and aesthetic soundness to be stabilized and/or rehabilitated with substantial partnership support. Design and planning for the former Alma College site is underway with assistance from an historic landscape architect, architectural historian, and structural engineer. This process will produce a concept for cultural landscape rehabilitation and interpretation, and will identify partnership opportunities for the potential rehabilitation and re-use of the historic structure(s). MROSD is currently exploring funding sources for stabilization/rehabilitation, re-use, and long-term maintenance of the former Alma College site structures, including potential vendor-operated, daytime special events.

Actions at the former Alma College site would conform to National Park Service Guidelines for Rehabilitating Cultural Landscapes and would create a new use for the site that: 1) retains its distinctive features and spatial relationships, 2) preserves the historic character of the property, and 3) retains historic structures that hold integrity and significance to the cultural landscape. Site rehabilitation may include selective demolition of existing structures if they are found to present a hazard to the public or cannot be repaired to current standards because of local geological conditions or cost constraints. Cultural resource actions will also include mapping, protecting, and monitoring stone mortars and other prehistoric sites and elements.

MAINTENANCE AND OPERATIONS ELEMENT

Maintenance and Operations Element actions of the Preserve Plan would include maintenance of roads, trails, and facilities to protect the natural environment and provide for a quality visitor experience, address potential environmental and safety hazards, and ensure that all Preserve leases, easements, and other legal agreements are consistent with MROSD's mission. Such actions will likely include phased implementation of priority road and trail improvements to minimize erosion and ensure adequate patrol access in the long term (including repair or replacement of stream crossings), seasonal closure of poorly-drained trails, and sufficient patrol staff to ensure site security and visitor safety. This element will also identify phased improvements to Bear Creek Stables infrastructure to provide for increased public access, environmental protection, and equine health and safety.

Bear Creek Stables
A Preliminary Stables Study described three potential scenarios for improving the Stables facilities and increasing public access. The alternatives include the reduction of the maximum number of boarded horses in paddocks from 72 to between 60 and 64 (with the option of introducing a livery for an additional 8 to 12 horses), improved access roads, a new parking lot for visitors, a dedicated horse trailer parking area, a new house for a groundskeeper at the Stables entry, office, a composting station, larger hay barn (3-month hay supply capacity), shop and storage building, and a visitor center facility. Alternatives for the visitor facility to date have included an outdoor classroom, restoring or replacing an old stables building, a new multi-use covered arena, but could also potentially include a re-configured plan that would reduce the area of disturbance by consolidating structures into a larger multi-use structure that could include storage, office space, and a visitor center.. The studies also recommend reducing the size of the Main Pasture and formalizing access trails to avoid additional erosion.

PROJECT CONSTRUCTION

The Preserve Plan would be implemented as funding becomes available for specific features and facilities and would most likely be phased over 15-20 years, with the elements of the first phase completed within the first 2 years. During construction of individual project features and facilities, equipment and materials would be

temporarily stored on-site during construction of the proposed project. Equipment and materials would be limited to that needed to perform the work. Project construction would occur during the daytime on weekdays.

The Preserve Plan will include environmental protection features, including Best Management Practices (BMPs) and design elements that would protect valuable environmental resources from damage during construction.

MAINTENANCE AND OPERATION

The overall long-term management goal for the Preserve is to protect and enhance the habitats on-site and provide for low-intensity recreation. Long-term management of the Preserve would include conducting ongoing patrols and monitoring of streams, springs, native vegetation, habitats, and use to determine stability and trends. Invasive species would also be monitored and removed as needed. Long-term management of the property would be primarily conducted by various MROSD departments.

Equipment and materials would also be stored on-site periodically for maintenance and management purposes. Equipment would be limited to that needed to perform the work. BMPs similar to those described above for construction would be included in the Preserve Plan for any equipment or materials storage areas.

MROSD would conduct monitoring and maintenance as part of the routine management of the Preserve.

POTENTIAL APPROVALS AND PERMITS REQUIRED

The project would require approval from MROSD as the lead agency for purposes of CEQA compliance and project implementation. Permits and approvals may be required from the following federal, state, and local agencies for construction of the proposed project:

- U.S. Army Corps of Engineers—Clean Water Act Section 404 permit,
- California Department of Fish and Wildlife—California Fish and Game Code Section 1600,
- Bay Area Air Quality Management District—demolition permit
- County of Santa Clara—Landmark Alteration permit (requires review and approval by the Historic Heritage Commission), conditional use permit, demolition permit, grading permit, and building permits.

Other permits and approvals may be identified during preparation of the Draft EIR.

POTENTIAL ENVIRONMENTAL IMPACTS

The EIR will describe the direct and indirect significant environmental impacts of the proposed Preserve Plan. The EIR will also evaluate the cumulative impacts of the project when considered in conjunction with other related past, present, and reasonably foreseeable future projects. The Draft EIR will focus on the following environmental issues:

- **Aesthetics**. The proposed Preserve Plan would result in physical changes to the existing site, including demolition of structures (including historic-era buildings), development of trails, installation of new parking facilities, and construction of new buildings. The Draft EIR will evaluate the potential for the proposed project to result in visual impacts, including effects to scenic views and the site's visual character, as well as light-and-glare-related impacts.
- **Air Quality**. Implementation of the proposed Preserve Plan would result in construction activities that would emit air pollutants. Increased visitor use would also increase vehicle trips and auto-related air emissions. Potential air-quality-related impacts will be addressed in this section of the Draft EIR.
- **Biological Resources.** The Preserve encompasses both common and sensitive habitats, and plant and wildlife species. Implementation of the proposed project will involve ground-disturbance during

construction, as well as placement of permanent new facilities and structures within currently undeveloped areas of the Preserve. Potential impacts to these sensitive habitats and special-status species will be evaluated in the Draft EIR.

- **Cultural Resources.** The project site has a rich history, and several historic-era buildings exist on the site, including structures currently listed on the County of Santa Clara's local register. The proposed project includes demolition of some structures. The Draft EIR will evaluate potential impacts to historic resources, as well as impacts to archaeological and paleontological resources.
- **Geology, Soils, and Seismicity.** The San Andreas Fault traverses the project site. Existing structures on the project site, especially those associated with the former Alma College site, are located very close to the San Andreas Fault and an associated fault trace. The Draft EIR will examine potential impacts related to allowing public access to the project site, especially in terms of seismic risk associated with existing structures. The Draft EIR will also examine potential hazards related to soil and slope stability, especially with respect to project site seismicity.
- **Greenhouse Gas Emissions.** The proposed project would increase visitation at the Preserve, which would generate additional vehicle trips. Also, new and expanded public use facilities may require additional energy demand. The Draft EIR will evaluate whether the increased vehicle trips and potential increased energy demand would generate a substantial amount of Greenhouse Gas.
- **Hazards and Hazardous Materials.** Previous studies conducted at the project site indicate the potential for hazardous materials to be present on the project site. The Draft EIR will examine whether hazardous materials are present on the site and whether implementation of the proposed project could expose construction workers, visitors, or nearby land uses to existing onsite hazardous materials.
- **Hydrology and Water Quality**. Implementation of the proposed Preserve Plan would result in ground-disturbing activities. Stormwater runoff could carry sediment from exposed soils into nearby waterways, thus affecting water quality. The proposed Preserve Plan will include Best Management Practices (BMPs) to reduce the potential for water quality impacts. However, the Draft EIR will examine the potential for these impacts and will identify mitigation measures, as necessary, to further reduce these impacts. Water-quality impacts related to potential septic tank improvements will also be addressed. Also, potential impacts related to flooding will be discussed.
- **Land Use.** It is anticipated that the project could require land use entitlements from Santa Clara County. The Draft EIR will evaluate the project's consistency with the County's General Plan land use designation and zoning.
- **Noise.** Construction activities associated with the proposed Preserve Plan would generate noise. Also, operation of the Preserve Plan would increase visitorship and would expand the existing uses currently allowed on the Property, including the potential for special events at the former Alma College site and spectator events at the Stables site. The Draft EIR will evaluate potential noise impacts resulting from construction and operation of the proposed Preserve Plan.
- **Recreation.** The proposed Preserve Plan would increase the number of visitors accessing trails and would provide increased connectivity to other regional trails (many operated by other agencies, such as Santa Clara County Parks). The EIR will examine potential effects associated with increased use of other parks and open space lands.
- **Traffic and Transportation.** Implementation of the proposed Preserve Plan would generate additional traffic during both the construction and the operation phases. The Draft EIR will evaluate potential impacts related to increased traffic, as well as potential impacts associated with project design features, including line-of-site and access configuration.
- **Utilities.** The proposed project would increase visitation at the site and would include expanded public use facilities, including potential special events. This will create additional demand for potable water and other public utilities. The Draft EIR will include an evaluation of the supply and demand for potable water and other utilities, as well as any potential infrastructure upgrades.

The Preserve Plan will include environmental protection features, including Best Management Practices (BMPs) and design elements that would protect valuable environmental resources from damage during construction. Practicable mitigation measures will be recommended in the Draft EIR to reduce any identified potentially significant and significant impacts. It is anticipated that the project would not result in potentially significant impacts related to Agriculture and Forestry Resources, Population and Housing, and Public Services; therefore, these issues are not anticipated to require detailed evaluation in the Draft EIR.

ALTERNATIVES TO BE EVALUATED IN THE EIR

In accordance with the State CEQA Guidelines (14 CCR Section 15126.6), the EIR will describe a range of reasonable alternatives to the proposed project that are capable of meeting most of the projects' objectives, and would avoid or substantially lessen any of the significant effects of the project. The EIR will also identify any alternatives that were considered but rejected by the lead agency as infeasible and briefly explain the reasons why. The EIR will provide an analysis of the No Project Alternative and will also identify the environmentally superior alternative.

DOCUMENTS AVAILABLE FOR PUBLIC REVIEW

A hard-copy of the NOP is available for public review at:

Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022

The NOP is also available for public review online at: http://www.openspace.org/news/public_notices.asp

Preliminary Preserve Plan materials illustrating draft alternatives for Bear Creek Stables, Alma College Site Rehabilitation, and a proposed public access and phasing map are also available at: http://www.openspace.org/our-work/projects/bcr-plan

PROVIDING COMMENTS

Agencies and interested parties may provide MROSD with written comments on topics to be addressed in the EIR for the project. Because of time limits mandated by State law, comments should be provided no later than 5:00 PM on **July 10, 2015**. Please send all comments to:

Midpeninsula Regional Open Space District
Attention: Lisa Infante Bankosh, Open Space Planner III
Mailing Address: 330 Distel Circle, Los Altos, CA 94022
Email: lbankosh@openspace.org

Comments provided by email should include "Bear Creek Redwoods NOP Scoping Comment" in the subject line, and the name and physical address of the commenter in the body of the email.

All comments on environmental issues received during the public comment period will be considered and addressed in the Draft EIR, which is anticipated to be available for public review in October 2015.

PUBLIC SCOPING MEETING

A public scoping meeting will be held by MROSD to inform interested parties about the proposed Preserve Plan, and to provide agencies and the public with an opportunity to provide comments on the scope and content of the EIR. The meeting time and location are as follows:

June 24, 2015
7:00 p.m.
Grant Park Community Center
1575 Holt Avenue
Los Altos, CA 94022

The meeting space is accessible to persons with disabilities. Individuals needing special assistive devices will be accommodated to MROSD's best ability. For more information, please contact Lisa Bankosh (at the contact information above) at least 48 hours before the meeting.

County of Santa Clara

Department of Planning and Development
Planning Office

County Government Center, East Wing, 7th Floor
70 West Hedding Street
San Jose, California 95110-1705
(408) 299-5770 FAX (408) 288-9198
www.sccplanning.org

July 9, 2015

Lisa Infante Bankosh, Open Space Planner III
Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022

Subject: Bear Creek Redwood NOP Scoping Comment

Dear Ms. Bankosh:

Please find enclosed comments from the County regarding the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Bear Creek Redwoods Open Space Preserve Plan. These include comments from the representatives of Planning, Dept. of Environmental Health, and Parks & Recreation Dept.

As discussed in Planning's letter, a Use Permit is required for the improvements and expansion of the Bear Creek stables site.

Other concerns of the NOP include water supply and improvements, special events, noise, hazardous materials, manure management, regional trails, and access to Parks property.

If you have any questions regarding coordination of comments on the NOP from the County, please contact Colleen Tsuchimoto in Planning at (408) 299-5797; Martha Wien in Environmental Health at (408) 918-3409, and Will Fourt in Parks and Recreation at (408) 355-2228.

Sincerely,

Rob Eastwood
Interim Planning Manager

cc:
Colleen Tsuchimoto - Planning
Martha Wien – Environmental Health
Kimberly Brosseau, Will Fourt – Parks & Recreation
Mike Wasserman, Roland Velasco - Board of Supervisors District 1
Sylvia Gallegos – Deputy County Executive, County Executive Office

County of Santa Clara

Department of Planning and Development
Planning Office

County Government Center, East Wing, 7th Floor
70 West Hedding Street
San Jose, California 95110-1705
(408) 299-5770 FAX (408) 288-9198
www.sccplanning.org

July 9, 2015

Lisa Infante Bankosh, Open Space Planner III
Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022

Subject: **Bear Creek Redwoods NOP Scoping Comment**

Dear Ms. Bankosh,

This letter is written in response to the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Bear Creek Redwoods Open Space Preserve Plan.

A Pre-Application Meeting and Use Permit is required to be filed at the County Planning Office for the project improvements of Bear Creek Stables. See enclosed Use Permit checklist for submittal information. The findings of the EIR prepared for the Bear Creek Redwoods Open Space Preserve Plan may be considered for the Use Permit with supplemental CEQA analysis required based on the details of the project.

Please submit one copy of the DEIR to my attention for review. Thank you for the opportunity to comment on the NOP. If you have any questions of this comment letter, you may contact me at (408) 299-5797, or via email at Colleen.Tsuchimoto@pln.sccgov.org.

Sincerely,

Colleen A. Tsuchimoto
Planner III

County of Santa Clara

Department of Environmental Health

1555 Berger Drive, Suite 300
San Jose, California 95112-2716
(408) 918-3400
www.EHinfo.org

July 6, 2015

Midpeninsula Regional Open Space District
Attention: Lisa Infante Bankosh, Open Space Planner III
330 Distel Circle
Los Altos, CA 94022-1404

RE: Notice of Preparation of a Draft Environmental Impact Report for the Bear Creek Redwoods Open Space Preserve Plan (includes the Bear Creek Stables Site Plan and Alma College Rehabilitation Plan)

The Department of Environmental Health, Consumer Protection Division has reviewed the above-referenced report dated June 11, 2015 and has the following comments:

1. Water – An approved potable water supply must be provided. Proof of a potable water supply will be required. Locate all water supplies, wells, springs, creeks and ponds on the future site map to ensure proper setbacks are maintained.

2. Sewage - Locations of all existing OWTS, i.e. septic tanks, cesspits, vault toilets, and leach fields for all existing buildings will need to be provided. Any buildings that are to be demolished need to have the septic tanks or cesspits abandoned with a permit from the appropriate agency. Every residence, place or business, or other building, or place where person congregate, reside, or are employed, and which cannot be connected to a sanitary sewer, must be provided with a water flush toilet connected to an approved OWTS. To determine feasibility and size of an OWTS, a site assessment, soil profiles, and percolation testing, at a minimum required. Addition testing may be required. Increase usage on existing OWTS at the Bear Creek Stables or Alma College site may require re-evaluation of the OWTS system. OWTS permits will be required for each OWTS installed. Review and permit fees apply. See the Santa Clara County Onsite Wastewater Technical Manual for more information.
https://www.sccgov.org/sites/cpd/programs/LU/Pages/home.aspx

3. Food Facilities/Special Events –A food facility permit will be required if there is any food and beverages sold or given away. All plan check review approval and permitting must be obtain from DEH for all permanent food facilities. Temporary/Special Events where food is sold or given away also require permits from DEH.

4. Hazardous Materials – Approval must be obtained from DEH Hazardous Materials Compliance Division if hazardous materials, hazardous wastes, propane tanks, underground storage tanks, or generators are to be utilized/generated/present on-site.

5. Noise – The County Noise Ordinance must be met if noise is generated on-site during construction, during normal usage, or for special events.

5. Other Agencies – Submittal to the US EPA an Inventory of all Class V Injection wells (Large-scale septic systems utilized for non-residential use for more than 20 persons) may be required. See website. http://water.epa.gov/type/groundwater/uic/class5/index.cfm

6. Manure – Due to the horse boarding stables, horse arena and horse usage a Manure Management Plan would be advised. Manure needs to be managed as it may impact nearby potable and non-potable water sources and be a potential vector issue.

Feel free to contact me at 408-918-3409 or via email at Martha.wien@deh.sccgov.org if there are any questions.

Sincerely,

Martha Wien, REHS
Supervising Environmental Health Specialist
Consumer Protection Division
Department of Environmental Health
Martha.Wien@deh.sccgov.org

County of Santa Clara

Parks and Recreation Department

298 Garden Hill Drive
Los Gatos, California 95032-7669
(408) 355-2200 FAX 355-2290
Reservations (408) 355-2201
www.parkhere.org

June 18, 2015

Lisa Infante Bankosh, Open Space Planner III
Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos CA 94022

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT TITLE: BEAR CREEK REDWOODS OPEN SPACE PRESERVE PLAN

Dear Lisa,

The County of Santa Clara Parks and Recreation Department (County Parks) has reviewed the NOP for the Bear Creek Redwoods Open Space Preserve Plan EIR and offers the following comments to be considered.

RECREATION

The EIR should address opportunities for regional trail connectivity, as consistent with the County of Santa Clara's Countywide Trails Master Plan (CWTMP), adopted by the County's Board of Supervisors in 1995. The CWTMP is part of the County's General Plan and includes proposed regional trail alignments, policies, and standards. The CWTMP identifies two regional trail connections adjacent to the Bear Creek Open Space Preserve:

- Bay Area Ridge Trail: Santa Cruz Mountains (R5-A); and Juan Bautista de Anza National Historic Trail (R1-A). These two trails share an alignment that is proposed to cross Highway 17 in the vicinity of Trout Creek, though a final crossing location will be determined based on collaboration between multiple agencies.
- Skyline-Summit Trail (C33). This is on-street bike route on Highway 35.

The CWTMP includes goals for regional collaboration between agencies where there are opportunities for new regional trail connections. A trail connection through the Bear Creek Redwoods Open Space Preserve would link these two regional trails and provide a significant regional trail connection. If such a regional trail connection is included in the Bear Creek Open Space Preserve Plan, connectivity to these adjacent proposed regional trail systems should be addressed.

The EIR should address any associated impacts resulting from the new preserve to adjacent parklands, including the Lexington Reservoir County Park. Potential impacts could include increases in use resulting from an interconnected trail system, as well as increased parking demand.

OTHER

The Moody Gulch property is immediately adjacent to the Bear Creek Redwoods Open Space Preserve. This property is owned by Santa Clara County Parks, and currently serves as resource bank and is not open for public park access. The County and Midpeninsula Regional Open Space District have been working with several water companies in order to convey the Moody Gulch property to the Midpeninsula Regional Open Space District. These parties were involved in the initial acquisition of the Moody Gulch property by the County. A final agreement will need to be executed before the property transfer can take place.

Sincerely,

Will Fourt
Park Planner III

CC: Kimberly Brosseau, Acting Senior Planner
Aruna Bodduna, County Roads & Airports Department

Midpeninsula Regional Open Space District

lbankosh@openspace.org, glaustsen@openspace.org, sabbors@openspae.org

Proposed Bear Creek Stables Site Plan

July 8, 2015

Dear Midpeninsula Regional Open Space District Board Members, Staff, and Volunteers,

Thank you for the opportunity to provide comments and feedback on the Bear Creek Stables Site Plan. Extensive stables at Bear Creek were developed during World War I, and have remained for more than 75 years through a succession of owners and lessees (Dr. Harry Tevis, Reginald Theobold, Lester and Helen Porter, Bob Trocha, and Glenda Smith). Bear Creek Stables is home to 72 horses, with a long-standing waiting list. The horses are owned individually by dozens of local families. It is not a dude ranch, nor a place for exclusive trainers or breeders. Bear Creek Stables is an **inclusive** place for families to care for their horses, enjoy the beautiful trails, and learn about the rich history and natural environment that surrounds the area. On any day of the week you'll find teenagers cleaning pens and grooming animals, folks preparing to ride or walk the trails, volunteers soothing horses rescued from kill lots or unsafe conditions, and people visiting over lunch. It is a gentle and peaceful place for people and for the animals they love.

We urge you to protect Bear Creek Stables. It has an important place in our history, while benefiting a large community of volunteers, families, and visitors within MROSD's service area. The Bear Creek Stables facility is a precious resource we can "gift" to future generations through wise stewardship and good management. We invite you to consider the following comments related to the proposed site plan, each of which support MROSD's stated long term goals for the Stables.

Goal: Emphasize the protection of the site's natural resources

1. Minimize Disturbance – Keep Arena in the current location
   - Moving the arena will cause much disturbance to the site during construction, which will require grading and use of heavy equipment.
   - Locating the arena closer to the hillside will increase water drainage into the arena from the hill, possibly triggering costly drainage infrastructure expense in addition to the cost of de-constructing and re-constructing the arena.
   - Moving the arena will increase the proximity of that resource to a hillside fire. This is dangerous, as the arena has been designated by CalFire as a "Shelter in Place" site for 72 horses, an important safety feature for the area.
   - Maintain existing Arena site as "best practices" for Emergency Plan to Shelter in Place for 72 horses (CalFire recommendation).

2. Minimize Disturbance – Pave road into Proposed Education Center only.
   - Limiting paving will decrease construction and long-term maintenance impacts on the stable environment & Preserve from heavy equipment.

3. Improve water drainage and natural shade
    - Propose adding granite rock/fines to increase drainage in Arena
    - Plant trees around Arena to increase shade & help absorb rain water
    - Base Rock/gravel road around arena will enhance drainage unlike costly pavement

4. Add ADA composting toilet to Proposed Education Center.
    - Expands capacity for new visitors while meeting ADA requirements
    - Saves water
    - Decreases disturbance & expense related to digging new a leach field and septic upgrade.
    - Environmentally friendly (See Green Building Alliance, www.go-gba.org)

5. Upgrade Filtration Strips to include annual & perennial grasses to feed the birds on the Preserve.

6. Upgrade Proposed New Hay Barn to include gutters, facilitating Rain Water Harvesting Plan.
    - Rain water should be harvested from the new roof to aid in water storage, to aid in the drainage of existing small arena (prevents rain water from roof to arena)
    - Rain water harvesting is low tech & water can be used to wash horses, water the proposed new tree plantings and filtration strips, facilitate composting, or to be stored for fire prevention.
    - 6,000 Gallon Water Tank could be added behind New Proposed Hay Barn to hold Rain Water Catchment System.

7. Install new Composting Station
    - Install best-practice configuration: Recommend a 3-stall bunker with roof and concrete slab to decrease infiltration into soil
    - Add Rain Water Catchment Tank to harvest water from the bunker roof and aid in adding water to manure to help facilitate composting.
    - Finished compost can be used on site to mulch the tree plantings, add organic matter to filtration strips, add organic matter to pasture restoration efforts & sold to community

Goal: Maximize public benefit by broadening public access and use of the facility

8. Improve ingress and egress to and through the site
    - Pave Road to Proposed Education Center, providing good access to school groups, scouts, MROSD members & volunteers, low-impact environmental clubs (e.g. bird watching, photography), and other new users of the site.
    - Maintain road around the arena as a base rock/gravel road. This is safer footing for horses than pavement; costs less to build and maintain; allows drainage; allows easy access by vehicle to various barns, pastures, trails, and the arena; and naturally reduces speed of drivers through the area thereby enhancing overall pedestrian safety.

9. Maintain existing horse capacity at 72 horses for Bear Creek Stables.

- Reducing capacity will not broaden public uses, it would decrease it since fewer families would regularly use the site.
- Maintaining Bear Creek Stables is consistent with the historic use of the site, dating from World War I.

10. Expand capacity via the Pony Co-op in lieu of a proposed Trail String. The Pony Co-op will enhance ongoing regular use and support of the site from the surrounding community, not casual or one-time use.

11. Add ADA composting toilet per #4 above to expand capacity for visitors.

12. Offer finished compost to the community as soil amendment/mulch for private gardens

Goal: Develop a viable plan that is financially feasible for both a long-term tenant and the District *(cost savings related to comments listed above)*

13. Maintaining the existing Arena Site rather than constructing a new arena will decrease project costs to MROSD, avoiding expensive drainage, grading and new construction expense.

14. Limiting paving and use of gravel roads instead decreases project costs as well as long-term maintenance expense.

15. ADA Composting Toilet saves the cost of a new leach field and septic upgrade.

16. Apply for Grant to build new Composting Station, available via State Water Resources Control Board, Livestock & Land Program.

Thank you for your consideration of these comments in support of Bear Creek Stables and the proposed site plan. We look forward to your continued work and ongoing public collaboration related to this important resource within the Midpeninsula Regional Open Space District.

Sincerely,

Steve and Heather Shupe
Melany Moore-Dudas and Mick Dudas
Summit Riders Horsemen's Association (97 local members)
Los Gatos, CA

Appendix B

Traffic Analysis

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: September 2, 2016

To: Lisa Bankosh, Midpeninsula Regional Open Space District

From: Gary Black

Subject: Bear Creek Redwoods Traffic Study

Hexagon Transportation Consultants, Inc. has completed a traffic study of the Bear Creek Redwoods Open Space Preserve, which is located along Bear Creek Road in the Santa Cruz Mountains (see Figure1). The study includes an analysis of potential driveway and crosswalk locations. Driveway(s) and a crosswalk are to be installed on Bear Creek Road to serve a potential parking lot and allow public access into the preserve. The Preserve currently does not allow public access, so the addition of parking and access will increase visitation to the Preserve. As Bear Creek Road is hilly and winding with limited sight distance in many locations, potential driveway locations must be carefully studied. Figure 2 shows the existing gates into the Preserve and the two potential driveway locations studied in this memo.

This study also identifies any potential traffic operation impacts related to the addition of parking and access to the Preserve.

The study evaluates the traffic impacts of the project on the operation of two unsignalized intersections and two roadway segments in the vicinity of the project site during the weekday AM and PM peak periods of traffic as well as the Saturday peak hour. Santa Clara County does not have any standards to define impacts or mitigation for unsignalized intersections or roadway segments. Therefore, the operations analysis does not draw any conclusions relative to impacts under the California Environmental Quality Act (CEQA). The study intersections and roadway segments are identified below.

Study Intersections

1. SR 17 Southbound Ramps and Bear Creek Road (All-way stop)
2. SR 17 Northbound Ramps and Bear Creek Road (Two-way stop)

Study Road Segments

1. Bear Creek Road west of Camel Hill Vineyard Driveway
2. Bear Creek Road west of Alma College Road

Traffic conditions at the study intersections were analyzed for the weekday AM and PM peak hours as well as for the Saturday peak hour. The AM peak hour of adjacent street traffic is generally between 7:00 and 9:00 AM, and the PM peak hour of adjacent street traffic is typically between 4:00 and 6:00 PM. It is during these periods on an average weekday that the most congested traffic conditions occur. The Saturday peak hour was analyzed since it is generally the day that the Preserve would generate the greatest amount of traffic.

Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Existing traffic volumes were obtained from 2015 manual turning-movement counts. The new intersection count data and roadway tube counts are included in Appendix A.

Scenario 2: *Existing Plus Project Conditions.* Existing plus project peak hour traffic volumes were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing plus project conditions were evaluated relative to existing conditions in order to determine the effects the project would have on existing traffic conditions.

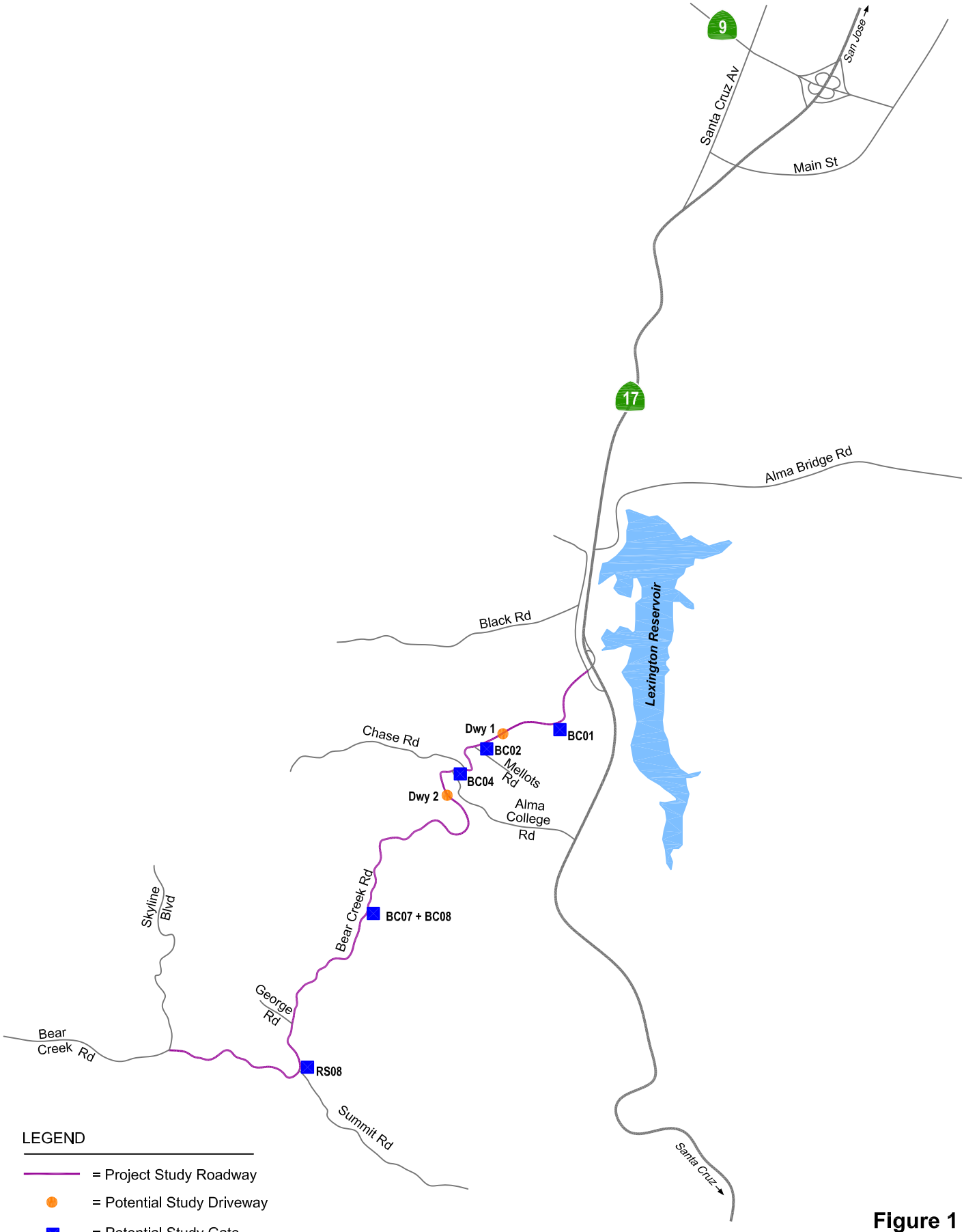


Figure 1
Project Study Area

NORTH
Not to Scale

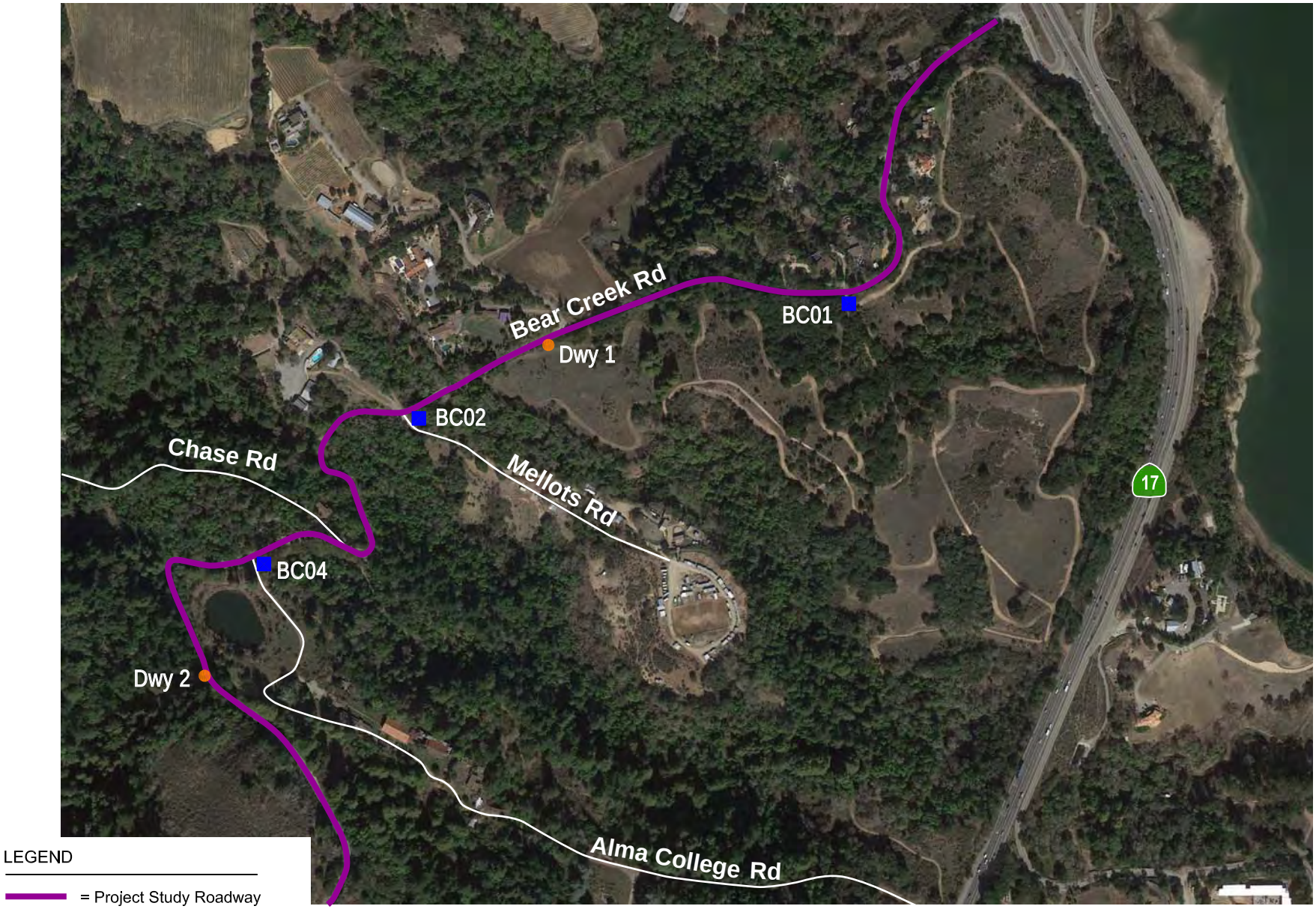


Figure 2
Potential Driveway Locations (Zoomed)

Scenario 3: *Future Plus Project Conditions.* Future plus project traffic volumes were estimated by applying a general growth factor (for 15 years) to the existing peak-hour volumes and adding the project trips.

Both of the study intersections are unsignalized. Neither Santa Clara County nor Caltrans have standards to evaluate the intersection level of service for unsignalized intersections. Therefore, this analysis includes an operational analysis of vehicle queuing and delay based on principles and methodologies from the 2010 *Highway Capacity Manual*.

Existing Bear Creek Road Traffic

Bear Creek Road is a two-lane county road through the Santa Cruz Mountains. It carries a relatively modest amount of commute traffic during the weekdays to and from mountain residences, and it carries recreational traffic on weekends. Bear Creek Road is winding and steep in places. Passing is not allowed in the project vicinity. There were no speed limit signs observed in the project vicinity, so the sight distance analysis is based on observed speeds.

Hexagon conducted traffic and speed counts on Bear Creek Road near the two best locations for potential driveways for 24 hours on February 26, 2015, a typical weekday and on June 20, 2015, a Saturday. The total volume on the weekday was about 3,590 vehicles west of Camel Hill Vineyards driveway (Driveway 1 on Figure 2) and about 3,410 west of Alma College Road (Driveway 2 on Figure 2). The highest volume occurred during the typical AM commute hour (7 AM to 8 AM) when there were 326 vehicles counted in the peak direction (eastbound) west of Camel Hill Vineyards. The PM peak hour at the same location (5 PM to 6PM) saw 240 vehicles in the peak direction (westbound).

The total volume on June 20, 2015 (Saturday) was about 3,190 vehicles west of Camel Hill Vineyards driveway (Driveway 1 on Figure 2) and about 3,070 west of Alma College Road (Driveway 2 on Figure 2). The total volumes on Saturday are about 10% lower compared to the traffic on a typical weekday. The highest volume on Saturday occurred during the late afternoon between 5:00 PM and 6:00 PM when there were 147 vehicles counted towards the Santa Cruz direction (westbound) west of Camel Hill Vineyards.

According to the *2010 Highway Capacity Manual* (HCM), the capacity of a two-lane highway is a maximum of 3,200 vehicles per hour. That figure must be adjusted for terrain. The HCM suggests that the capacity should be reduced by one-third in mountainous areas. Thus, the capacity of Bear Creek Rd is about 2,100 vehicles per hour, or 1,050 vehicles per hour per lane. As the existing AM peak hour volume for the peak direction is 326 and the existing Saturday peak hour volume for the peak direction is 147, it can be concluded that Bear Creek Rd is currently operating well below its maximum capacity.

Hexagon also measured speed along with traffic volume. The 85th percentile speeds and suggested design speeds are summarized in the following table. Hexagon has been made aware of comments from people familiar with Bear Creek Road that speeds are higher during commute hours, especially in the morning when people are trying to get to work. The speed data (included in the Appendix) support this observation. Speeds were higher in the morning commute period for traffic going toward Highway 17, which is downhill near Alma College Road (Gate 4). On a 24-hour basis the 85th percentile speed at this location was 36 miles per hour (mph). However, between 6-7 AM the 85th percentile speed was 39 mph, and between 7-8 AM the 85th percentile speed was 38 mph. Nevertheless, for all of these cases the proper design speed is 40 mph based on the standards specified in the Manual on Uniform Traffic Control Devices (MUTCD), which is what was used for the sight distance calculations.

Table 1
Measured Speeds and Suggested Design Speeds at Potential Driveway Locations

	Location	Toward Santa Cruz		Toward SR17	
		85th percentile speed	Design speed	85th percentile speed	Design speed
Weekday	1	38 mph	40 mph	29 mph	30 mph
	2	28 mph	30 mph	36 mph	40 mph

Existing Intersection Level of Service

The study also analyzed the traffic impacts of the project on the two unsignalized intersections at the Bear Creek Road/SR 17 interchange during the weekday AM and PM peak periods of traffic and during the Saturday peak hour. Existing weekday AM (7:00-9:00 AM) and PM (4:00-6:00 PM) peak hour traffic volumes and Saturday peak hour traffic volumes (1:00-2:00PM) were obtained from new manual turning-movement counts (see Figure 3).

The results of the intersection level of service analysis show that the intersection of the SR 17 southbound ramps and Bear Creek Road is operating at acceptable levels of service. The intersection of the SR 17 northbound ramps and Bear Creek Road is operating at level of service B during the weekday PM peak hour and the Saturday peak hour. However, during the weekday AM peak hour, the calculation shows that traffic is experiencing long delays. Field observations show that the poor level of service is caused by the ramp meter at the SR 17 northbound on-ramp. Traffic backs up from the on-ramp, onto Bear Creek Road, through the adjacent off-ramp intersection, and up the hill. Traffic also backs up on Old Santa Cruz Highway. Although a stop sign does not exist for traffic on Bear Creek Road, drivers are stopping at Old Santa Cruz Highway and letting other vehicles on to the ramp in an alternating fashion, as if a stop sign were present.

Table 2
Existing Intersection Level of Service

Study Number	Intersection	Peak Hour	Count Date	Avg. Delay (sec.)	LOS
1	SR 17 Southbound Ramps & Bear Creek Road	AM	06/23/15	9.7	A
	(All-way Stop)	PM	06/23/15	10.5	B
		Saturday	06/20/15	9.0	A
2	SR 17 Northbound Ramps & Bear Creek Road	AM	06/23/15	**53.3**	**F**
	(Unsignalized)	PM	06/23/15	11.6	B
		Saturday	06/20/15	13.7	B

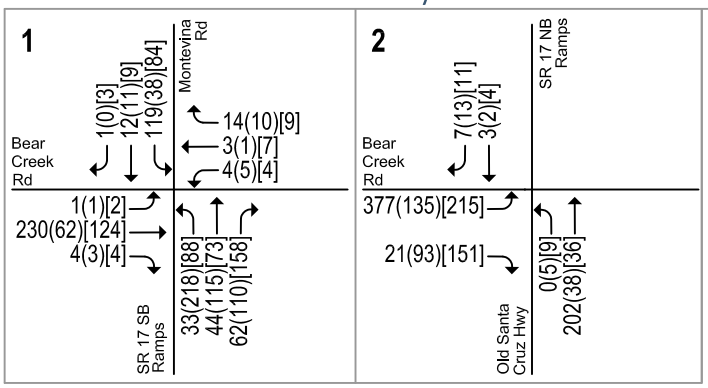


Figure 3
Existing Traffic Volumes

Trip Generation

The method for calculating the number of trips generated by the proposed project involved using daily visitation counts from similar Preserves: the Fremont Older Preserve, and the Windy Hill Preserve.

A conservative trip generation estimate would come from the Fremont Older Preserve. This Preserve, located close to the Town of Cupertino, gets both regular neighbor use as well as weekend/day trip destination use. Fremont Older is open to hiking, biking, and equestrian use throughout the Preserve, as well as dogs. Trail counts were conducted in 2007 and 2010 for two consecutive weeks in Fremont Older Preserve. The counts show an average daily visitation of 522. Since the Bear Creek Redwoods Open Space Preserve will have no dog access and only limited biking, it will likely get less use.

Another less conservative (but maybe more accurate) comparator is the Windy Hill Preserve, which is close to Woodside and Portola valley, has only one through trail open to bikes, and is open to hiking and equestrian use. It is also open to dogs and gets a lot of regular dog walkers. The study shows that Windy Hill has an average of 341 visitors per day.

The Bear Creek Redwoods Open Space Preserve would not permit dogs and would include only one trail open to bicycles. Comparing the size and uses of the Bear Creek Redwoods Preserve with the two Preserves discussed above, a conservative estimate would be an average of 500 daily visitors on weekends. This calculates to 1,000 daily person trips, one trip in and one trip out for each visitor. Trips generated on weekdays were assumed to be 40 percent of the weekend trip generation. This percentage is based on a comparison and average between weekday and weekend trip generation for various park land uses in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The park land use categories include City Park, County Park, Regional Park, Beach Park, and National Monument. After applying a reasonable assumption of 1.5 people per car, the Preserve is expected to generate an average of 267 and 667 daily vehicle trips on weekdays and weekends, respectively. The peak hour trips generally would be 15% of the average daily traffic, which would result in 40 trips during each of the weekday AM and PM peak hours and 100 trips during the Saturday peak hour. It is further assumed that there will be roughly a 60%/40% in/out split in the morning and the reverse in the afternoon on weekdays. On weekends, the in/out split is expected to be nearly equal with 48% in and 52% out.

Special Events

The Preserve is being proposed as a potential special-event venue making use of the existing Alma College buildings. Weddings or other special events would accommodate up to 250 guests. Also, at the Bear Creek Stables site, which is within the Preserve, it is anticipated that there would be one or two large events per year on weekends with up to 250 people. To provide the most conservative analysis, a worst-case scenario was studied with large events hosted (total up to 500 guests) at both sites on the same weekend. It is extremely unlikely that simultaneous events would occur, but the results are presented for informational purposes. It is assumed that the large events would have an average vehicle occupancy of two persons per car. Thus, the large events would generate up to 500 daily trips. Adding in the regular park users brings the total to 1,167 added daily vehicle trips.

It is assumed that the guests for a wedding or other special event hosted at the Alma College site would arrive within one hour. The regular Preserve visitors (hikers) and the Bear Creek Stable users would arrive or leave spread throughout the day with 10% during any particular hour. It is expected that there would be 342 peak hour trips during weekend peak hour with 294 inbound trips and 48 outbound trips (see Table 3).

Table 3
Anticipated Project Trip Generation

Trip Generation Estimates for Bear Creek Redwoods Open Space Preserve

	Weekdays							Saturdays			
	Daily	AM Peak Hour			PM Peak Hour /b/			Daily	Peak Hour /e/		
Land Use	Trips	In /c/	Out /c/	Total	In /c/	Out /c/	Total	Trips	In /f/	Out /f/	Total
Bear Creek Redwoods Preserve /a/	267	23	17	40	18	22	40	667	48	52	100
Weekend with Special Events /d/											
Bear Creek Redwoods Preserve								1,167	294	48	342

Notes:
/a/ Rate based on trips generated by three similar Preserves; Rate of one and half persons per vehicle was assumed to convert visitors to vehicle trips. Weekday trips were assumed to be 40% of weekend trips.
/b/ AM and PM peak hour trips were assumed to each to be 15% of the daily volumes.
/c/ Percentage based on ITE Trip Generation Rate for Regional Park (Land Use Type: 417)
/d/ Weekend trips with special events were assumed including average daily regular visitors to the Preserve, trips generated by the special events with 250 guests at the Bear Creek Stables site and wedding events with 250 guests at the Alma College buildings. Rate of two persons per vehicle was assumed for the special events guests.
/e/ Weekend peak hour trips were assumed to include 10% of the average daily regular visitors, 10% of the Bear Creek Stable users, and 100% of the wedding guests.
/f/ Percentage based on ITE Trip Generation Rate for Regional Park for Saturday Peak hour were used for regular visitors and Bear Creek Stable users. It is assumed that the 250 guests for wedding will arrive within the peak hour.

Roadway Traffic Analysis

The peak hour for the Preserve trip generation on weekdays would be in the late afternoon, after work. At the hour of 5-6 PM the weekday volume on Bear Creek Road is 197 vehicles westbound and 67 vehicles eastbound. Based on the above trip generation estimates, the Preserve is expected to add 18 westbound vehicles and 22 eastbound vehicles during the early afternoon time period. Considering that the total capacity of a lane is 1,050 as described previously, Bear Creek Road would still be operating well below its capacity after the completion of the project.

The weekend peak hour for the Preserve would be in the late afternoon. At the hour of 5:00 - 6:00 PM the volume on Bear Creek Road is 114 vehicles eastbound and 147 vehicles westbound. Under the worst-case scenario with two special events at the same time, the traffic generated by the Preserve would add 294 westbound vehicles and 48 eastbound vehicles during the peak hour. The total traffic on Bear Creek Road could reach 162 vehicles eastbound and 441 vehicles westbound. The peak direction volume would be less than 50% of the total capacity of the road. Therefore, Bear Creek Road would still be operating well below its capacity even under the worst-case scenario with the project

Existing Plus Project Intersection Level of Service Analysis

The trip distribution pattern for the project was developed based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The peak hour vehicle trips generated by the

project were assigned to the roadway network in accordance with the trip distribution pattern. Figure 4 shows the project trip assignment at the study intersections. The project trips were added to existing traffic volumes to obtain existing plus project traffic volumes (see Figure 5).

The results of the intersection level of service analysis under existing plus project conditions show that the intersection of the SR 17 southbound ramps and Bear Creek Road would operate at an acceptable level of service during the weekday AM and PM peak hours and the Saturday peak hour (see Table 4).

During the weekday PM peak hour and Saturday peak hour, the intersection of the SR 17 northbound ramps/Bear Creek Road would operate at level of service B under existing plus project conditions. During the weekday AM peak hour the intersection operates at LOS F. The project could increase the delay for traffic at the on ramp. The delay increase would be minor and probably not noticeable to motorists. Since the delay is caused by the ramp meter at the northbound SR17 on-ramp, there are no feasible improvements that could be done. The meter already allows two vehicles per green. Any increase in metering rate would flood SR17 with vehicles, which would defeat the purpose of the ramp meter. There is ample queuing space on Old Santa Cruz Highway and Bear Creek Road for vehicles waiting to get on the freeway so the queuing does not disrupt intersection operations or create unsafe conditions.

Table 4
Existing Plus Project Intersection Level of Service

Study Number	Intersection	Peak Hour	Existing		Existing + Project	
			Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1	SR 17 Southbound Ramps & Bear Creek Road	AM	9.7	A	10.0	B
	(All-way Stop)	PM	10.5	B	11.0	B
		Saturday	9.0	A	14.5	B
2	SR 17 Northbound Ramps & Bear Creek Road	AM	**53.3**	**F**	**61.8**	**F**
	(Unsignalized)	PM	11.6	B	11.8	B
		Saturday	13.7	B	14.9	B

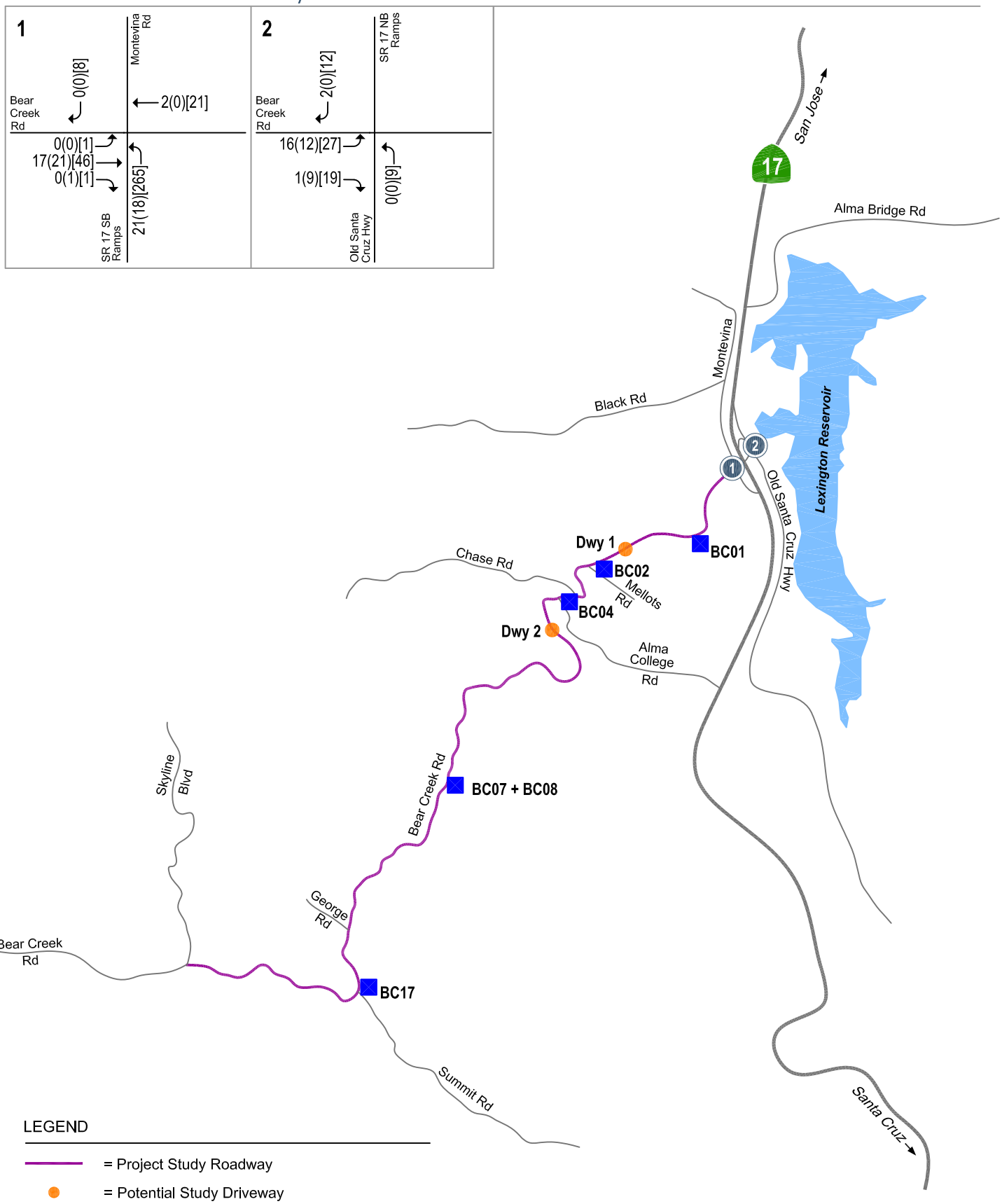


Figure 4
Project Trip Assignment

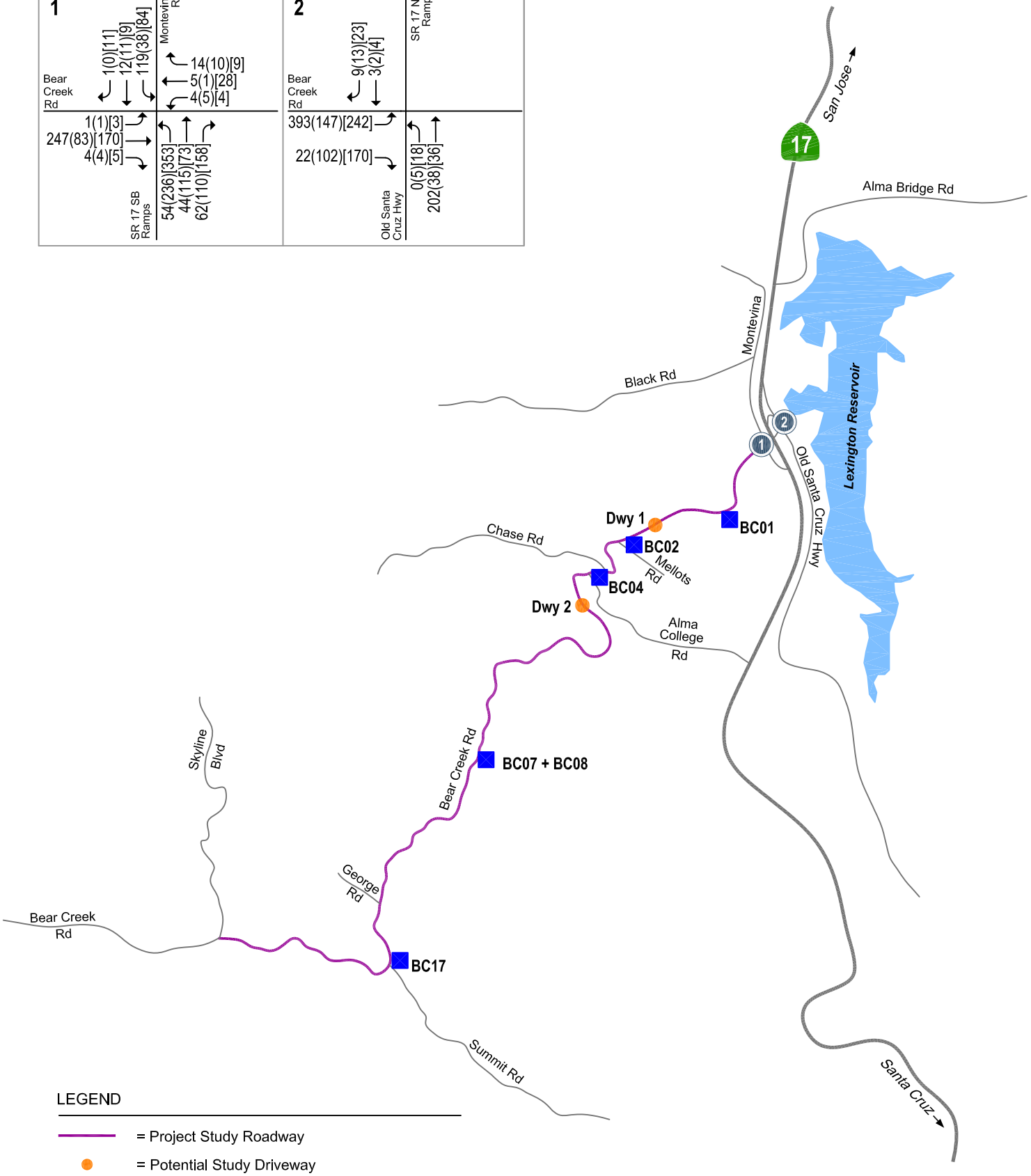


Figure 5
Existing Plus Project Traffic Volumes

NORTH
Not to Scale

Future Plus Project Intersection Level of Service Analysis

It is expected that buildout of the project will take 15 years. Future plus project traffic volumes were estimated by applying a general growth factor of 1% per year for 15 years to the existing peak-hour volumes and adding the project trips (see Figure 6). The results show that both study intersections would operate at acceptable levels of service during the weekday PM peak hour and the weekend peak hour. During weekday PM peak hour and Saturday peak hour, the intersection of the SR 17 northbound ramps/Bear Creek Road would operate at level of service B under future plus project conditions. During the weekday AM peak hour, the intersection already operates at LOS F, and queues would increase with the assumed future growth, without the project. The project could increase the delay for the on-ramp. The delay increase due to the project would be minor and probably not noticeable to motorists.

Since the delay is caused by the ramp meter at the northbound SR17 on-ramp, there are no feasible improvements that could be done. The meter already allows two vehicles per green. Any increase in metering rate would flood SR17 with vehicles, which would defeat the purpose of the ramp meter. There is ample queuing space on Old Santa Cruz Highway and Bear Creek Road for vehicles waiting to get on the freeway so the queuing does not disrupt intersection operations or create unsafe conditions.

Table 4
Future Plus Project Intersection Level of Service

Study Number	Intersection	Peak Hour	Future Plus Project Avg. Delay (sec.)	Future Plus Project LOS
1	SR 17 Southbound Ramps & Bear Creek Road	AM	10.8	B
	(All-way Stop)	PM	12.4	B
		Saturday	16.2	B
2	SR 17 Northbound Ramps & Bear Creek Road	AM	**166.6**	**F**
	(Unsignalized)	PM	12.5	B
		Saturday	16.7	C

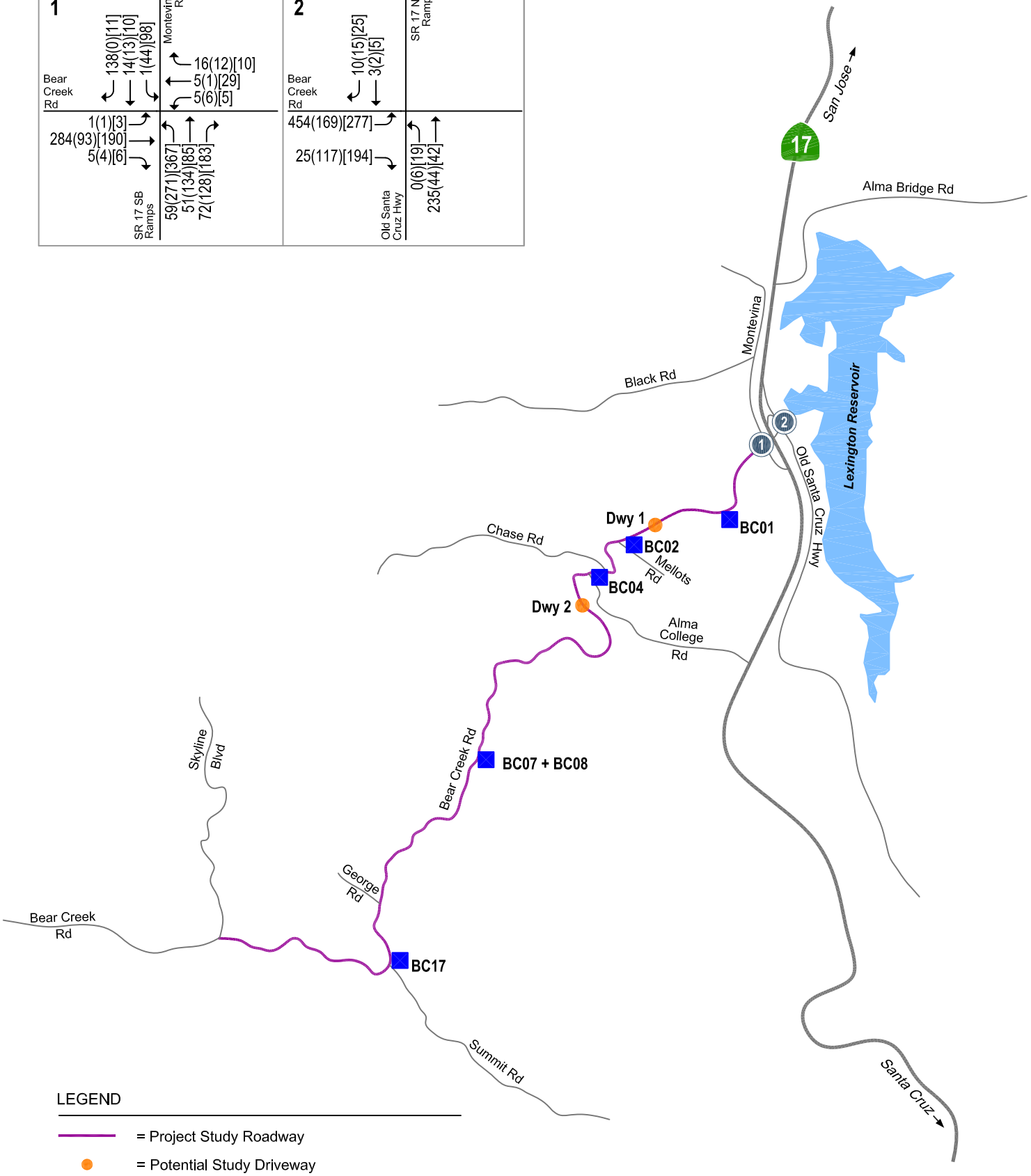


Figure 6
Future Plus Project Traffic Volumes

Driveway Sight Distance Analysis

The most important factor in adequate and safe driveway operations is the sight distance. In California, the *Caltrans Highway Design Manual* is the primary reference used to determine sight distance requirements. Since Bear Creek Road has many grades and curves, sight distance is limited in several locations.

Two potential driveway locations were identified that would provide adequate sight distance for a new driveway. The first is located in between gates BC01 and BC02 just west of the Camel Hill Vineyard entrance. The second location, about 800 feet west of gate BC04, was also considered for a driveway and crosswalk because the Open Space District owns land on both sides of the road.

At the first driveway location near Camel Hill Vineyard, sight distance could be over 450 feet for all potential turning movements (e.g. left turn in, left turn out, right turn out) if existing vegetation were removed. The tree located by the first utility pole west of the Camel Hill Vineyard entrance would need to be removed. The next tree to the west might also require removal depending on the view after other vegetation is removed (See Figures 7 and 8).

At the existing gate BC04, sight distance to the west is inadequate, so a new driveway location is necessary. A potential driveway location was found west of Alma College Rd that could achieve sight distance of about 400 feet to the east (or north) and a sight distance of more than 400 feet to the west (or south) with the removal of trees and vegetation (See Figures 9 and 10).

The actual and required stopping sight distances for the potential driveways are shown in Table 5. The required sight distances are based on the Caltrans *Highway Design Manual*, table 201.1. Section 201.3 specifies a 20% increase in stopping sight distance on a sustained downgrade of over 3%. According to this table, driveways at the potential locations would provide adequate sight distance.

The Open Space District owns land on both sides of the road near gate BC04 but only owns land on one side of the road near Camel Hill Vineyard. Therefore, a crosswalk would only be appropriate at the potential driveway location studied near gate BC04. At this location, sight distance is adequate with the trees removed as specified above, and there are flat landing areas on both sides of the road that could be used for the crossing.

Table 5
Sight Distance Analysis

Location	WB design speed	WB road grade	WB required sight distance	WB actual sight distance	EB Design speed	EB road grade	EB required sight distance	EB actual sight distance
west of Camel Hill Vineyard	40 mph	insignificant	300 ft	> 450 ft	30 mph	insignificant	200 ft	> 450 ft
west of Alma College Rd	30 mph	insignificant	200 ft	400 ft	40 mph	4%	360 ft	> 400 ft

Because some people coming to the site would be unfamiliar with its location, adequate signage should be provided in advance of the driveway. Signage should be based on the 2014 California Manual of Uniform Traffic Control Devices (CAMUTCD). Though no signage is specifically required by the CAMUTCD at this location, Hexagon recommends a G72 (CA) style sign at least 200 feet from the driveway in each direction, with “Bear Creek Redwoods Open Space Preserve” or similar text. The sign placements must not obscure sight lines from the driveway.

The Open Space District should consider additional signage to improve the visibility of any crosswalk installed on Bear Creek Road. The signage could include “crosswalk ahead” signs and could also include pedestrian activated rectangular rapid flashing beacons (RRFB). Beacons would probably need to be hard-wired to a power source because solar power could be limited by the tree cover.

Sample G72 (CA) guide sign
(actual sign text will be different)

Other Existing Gates

Some other gates were observed on Bear Creek Road. Gates BC07 and BC08 next to the Presentation Center do not provide adequate sight distance for a driveway. Gate BC17 at the intersection of Bear Creek Road and Summit Road provides adequate sight distance and could be used as-is (see Figure 11).

The Open Space District plans to develop a multi-use trail on the west side of Bear Creek Road with a trail head at the intersection with Summit Road. Parking for the trail head would be on the east side of Bear Creek Road so there would need to be a way for trail users to cross the road. Hexagon considered the possibility of a pedestrian crosswalk across Bear Creek Road at the intersection with Summit Road. However, this location has poor sight distance so a crosswalk would be problematic. In order to create a safe crossing, it would be necessary to add stop signs on Bear Creek Road. The addition of stop signs would take some engineering design because of the poor sight distance. It would also take Caltrans approval because the intersection is under Caltrans jurisdiction (State Highway 35).

Conclusions

The proposed Bear Creek Redwoods Open Space Preserve will not create traffic impacts to Bear Creek Road. Bear Creek Road is operating well below its capacity and would continue to do so with the modest project traffic added during regular weekday/weekends as well as under the worst-case scenario. The two proposed driveway locations can provide adequate sight distance as long as the proposed tree and vegetation removals are carried out. A crosswalk would be feasible near gate BC04 adjacent to the potential driveway location.

The intersection of the SR17 southbound ramps and Bear Creek road will operate well during weekdays with the modest project traffic added and during weekends with the heaviest traffic if there were to be two large events at the Preserve on the same day. The intersection level of service calculation shows that northbound traffic at the intersection of the SR17 Northbound ramps and Bear Creek Road faces long delays due to the ramp meter at the freeway on-ramp. The project would add some traffic to the on-ramp, but probably wouldn't result in a noticeable change in delay. There are no feasible improvements to reduce the delay and queuing. There is ample room for the queuing, and it doesn't cause other operational problems or safety issues.

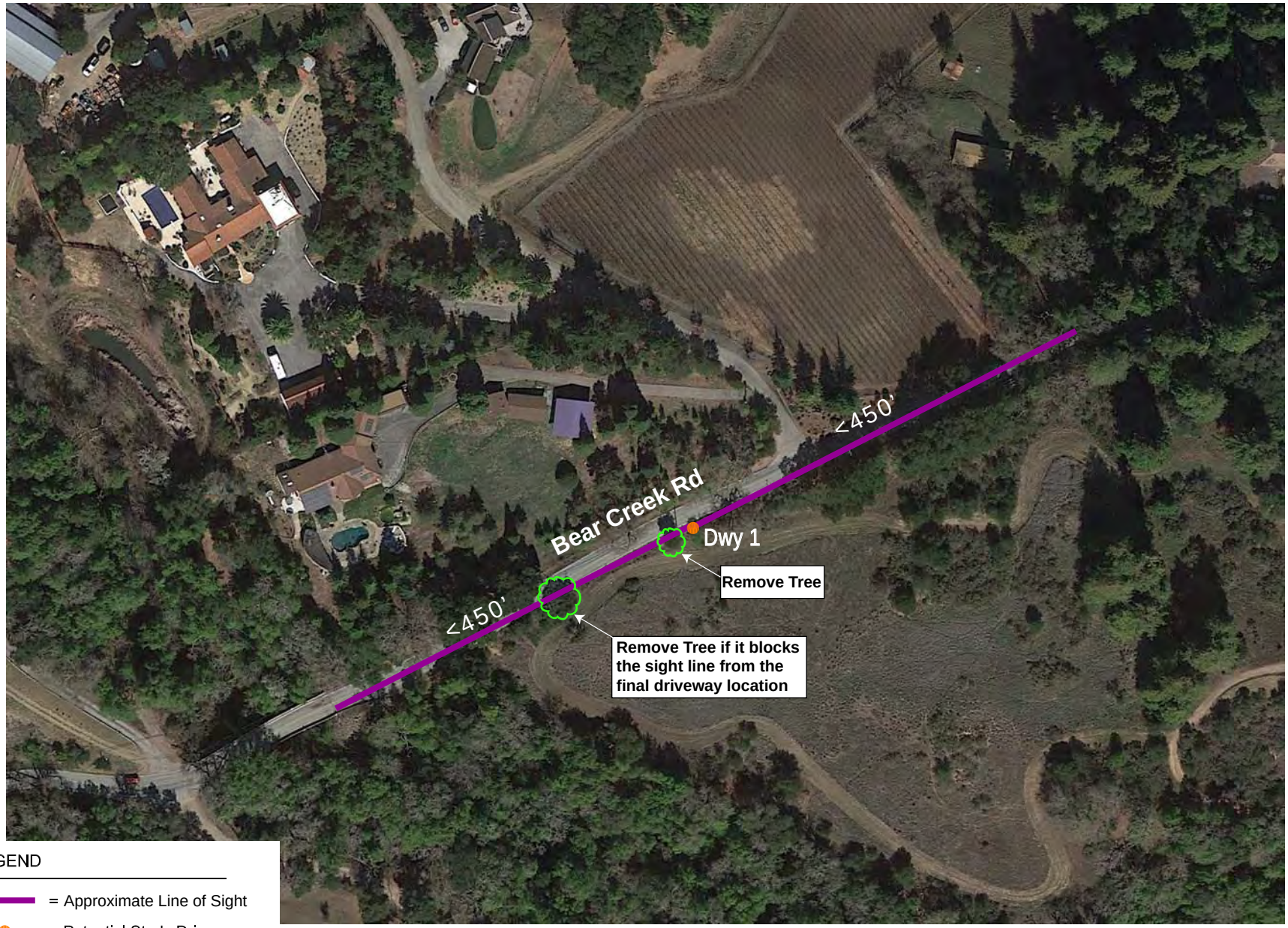


Figure 7
Driveway 1 Sight Distance

Looking West

Looking East

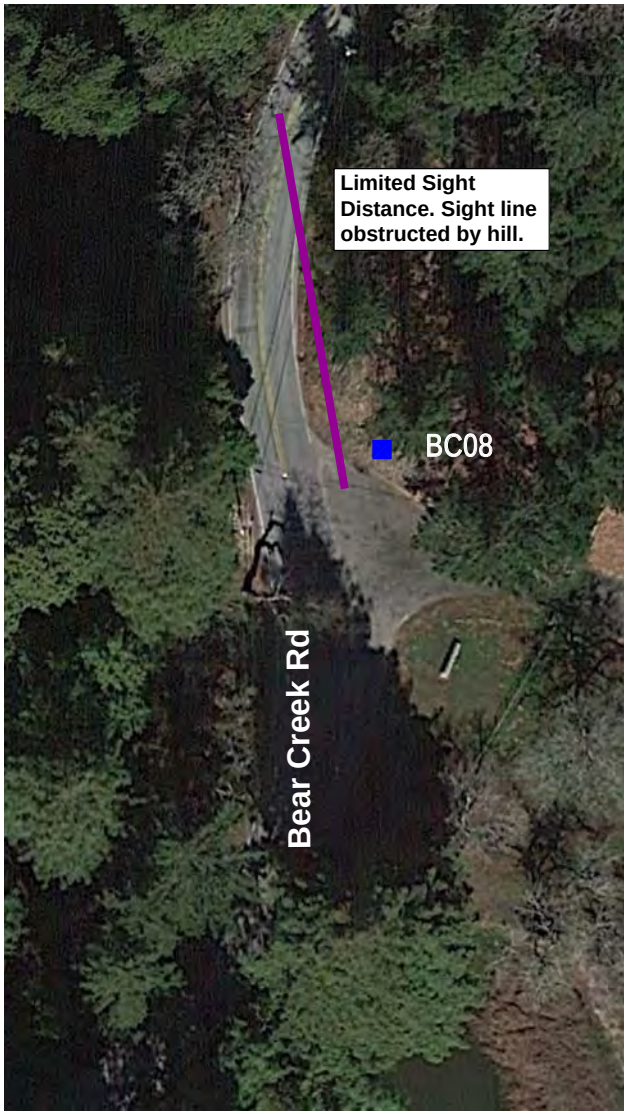
Figure 8
Views from Driveway 1 Location (approximate)

Figure 9
Driveway 2 Sight Distance

Looking South

Looking North

Figure 10
Views from Driveway 2 Location (approximate)



LEGEND

= Approximate Line of Sight

= Potential Study Driveway

= Potential Study Gate

Figure 11
Sight Distance for BC17 and BC08

Appendix C

Environmental Protection Measures

Appendix C Bear Creek Redwoods Open Space Preserve Plan — Environmental Protection Measures

Aesthetics

AES-1: Trail alignments and their associated facilities will be sited and designed to be in harmony with surrounding natural and cultural settings and to retain natural appearances and values.

AES-2: Trail alignments across the face of open hillsides and near the top of ridgelines will be sited to avoid creating new, permanent, noticeably visible lines on the existing landscape when viewed from points looking up at or perpendicular to the trail. Conditions to be considered when siting trails include, but are not limited to, avoiding excessive cuts in slopes that could not be effectively revegetated, and presence of native soil to support revegetation.

AES-3: Screening berms, perimeter planting, and parking area trees that provide a canopy will be used at staging areas to visually buffer views into the staging area from sensitive viewpoints.

AES-4: New lighting proposed at Bear Creek Stables will have light shields and other devices to ensure that no new light or glare will impact sensitive receptors.

Air Quality

AQ-1: MROSD will require its contractors to comply with the following measures from BAAQMD's Best Management Practices to reduce impacts from fugitive dust and other construction-related emissions:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered a minimum of two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site will be covered.
- All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads will be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage will be provided for construction workers at all access points.
- All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The Air District's phone number will also be visible to ensure compliance with applicable regulations.

Biological Resources

BIO-1: Biological resource assessments will be conducted prior to implementation of Preserve Plan elements. Assessments will be conducted by a qualified biologist and will include surveys for sensitive habitats and special-status species in the appropriate seasons. These assessments will include recommendations to align potential trails and facilities to avoid impacts to sensitive habitats, special-status species, and heritage and significant trees. If any trail alignment may affect such resources, MROSD will consult with the appropriate agencies (e.g., CDFW, USFWS, NMFS) to ensure that impacts will be avoided or mitigation is adequate.

BIO-2: MROSD will protect sensitive habitat areas and other areas where special-status species may be adversely affected when planning trails, pipelines, and other facilities. To the maximum extent feasible, trail alignments and other improvements will avoid impacts to sensitive habitats, including habitats for special-status plants and animals. All improvements will be evaluated on a case-by-case basis by a qualified biologist to identify impact avoidance measures or mitigation measures for biotic impacts. Consideration will be given to:

- Relocating trails or other improvements
- Periodic closures
- Revegetation prescriptions
- Buffer plantings
- Discrete barrier fencing that accommodates wildlife passage

Appendix C Bear Creek Redwoods Open Space Preserve Plan — Environmental Protection Measures

- Other appropriate measures

Removal of native vegetation will be avoided to the extent possible. The appropriate resource agencies will be contacted regarding any trail alignments, pipeline alignments, or other improvements that may impact sensitive habitats, special-status species, or their habitat. Plant replacement will be native to the area and suitable for the site conditions.

BIO-3: Existing access routes will be used wherever suitable to minimize impacts of new construction in special-status species habitats. Realignments will be implemented where necessary to avoid adverse impacts on resources.

BIO-4: Trail design will include barriers to control trail use and prevent environmental damage as needed. Barriers may include fences, vegetation, stiles, and/or fallen trees or branches.

BIO-5: When adjacent to a waterway or riparian zone, trails will generally be set back from the top of bank or from the outside edge of the riparian zone, whichever is greater, except where topographic, resource management, or other constraints or management objectives make such a setback not feasible or undesirable. Riparian setbacks may be adjusted on a case-by-case basis based upon advice of a qualified biologist and with the concurrence of reviewing agencies, where applicable.

BIO-7: Revegetation and/or enhancement will be undertaken where any sensitive habitat or special-status species habitat will be disturbed or destroyed by facility construction. Revegetation work will be implemented prior to or concurrently with the development. The design of an appropriate revegetation program will fully compensate for the lost habitat, with no net loss of habitat functions and values. Mitigation will be based on in-kind replacement of impacted habitat with habitat of equal or better biotic value. The revegetation program will be designed by a qualified biologist or ecologist and submitted to the appropriate regulatory or trustee agency for approval. Native plant materials suited to the site will be utilized in all mitigation work.

BIO-8: Existing native vegetation will only be removed as necessary to accommodate the trail clearing width. The minimum horizontal clearing width from physical obstructions varies based on the type of trail but should be no less than 2 feet from the outer limits of the trail tread and will be determined on a case by case basis to protect special natural features. Maximum vertical distance from overhanging branches will be 12 feet on trails open to equestrian or bicycle use. Maximum vertical distance from overhanging branches will be 8 feet on hiking trails. Clearing will be determined on a case-by-case basis to protect special natural features.

BIO-9: Good pruning practices should be followed when vegetation growth must be cleared. Ground cover plants and low shrubs should not be cleared beyond the original construction standard. The construction standard will be defined as the trail tread width plus 1-2 feet from each side of the edge of the trail tread. Noxious plants will be controlled along trails and the edges of staging areas in a timely manner and in accordance with MROSD's Integrated Pest Management Program (IPMP) protocol.

BIO-10: The potential for the introduction and spread of invasive species during construction or use of the Preserve will be minimized by MROSD. In addition to compliance with the IPMP, the following measures will be implemented as needed:

- Require that contractors ensure equipment used during construction is free of mud or seed-bearing material before entering the Preserve.
- Fill material, mulch, seeds, and straw material used during construction should be weed-free, and certified weed-free materials will be used whenever possible.
- Conduct periodic monitoring of trails to ensure early detection and eradication of any invasive weed species brought in by trail users. Any populations detected during annual monitoring should be treated and eradicated as soon as possible after detection, preferably before seeds set.

BIO-11: In special-status species habitat areas, trail use levels will be limited as appropriate to ensure protection of resources. Techniques for limiting use may include, but are not limited to:

- Physical access controls
- Seasonal or intermittent closures

BIO-12: Trails or other facilities may need to be closed during seasonal periods critical to special-status species, where overuse threatens resource values, or for other reasons to protect biological resources. Where a trail or surrounding habitat warrants special notice limiting trail use, the trail will be clearly designated and should be equipped with use signs and appropriate barriers to discourage unauthorized use. Missing or

Appendix C Bear Creek Redwoods Open Space Preserve Plan — Environmental Protection Measures

damaged signs, gates, fences, and barriers will be will be repaired or replaced as soon as possible. Closure notices will include the reason(s) for the closure, an estimate of how long the facility will be closed, and a telephone number to call for further information.

BIO-13: Periodic monitoring of known sensitive habitats adjacent to trails or other facilities will be conducted to determine if unacceptable soil compaction or other adverse impacts are occurring. If monitoring reveals that undesirable soil compaction or impact to a sensitive habitat is occurring, barriers or other appropriate measures (such as trail rerouting) will be employed as needed to discourage off-trail use. Brush or other aesthetically acceptable barriers can be used to cover illegal trails, abandoned trails, or shortcuts to discourage use until natural vegetation returns.

BIO-14: Should sensitive habitat be impacted such that it necessitates permanently closing a trail or staging area, discing and replanting or other appropriate techniques will be used to restore the area to a natural condition and sufficiently block the trail with barriers to effectively prohibit use. Management will include monitoring the site to ensure that it returns to a natural condition without the intrusion of invasive exotic plants. Management will also include design elements, maintenance, and monitoring to ensure that erosion is minimized. Construction and maintenance of trails will require the trimming and/or removal of vegetation along the trail route and staging areas.

BIO-15: Periodic monitoring for special-status amphibians and reptiles should be conducted to determine if habitat enhancements have been successful in attracting the species to the Preserve. If species are found within the Preserve, ongoing monitoring should be conducted and any facilities, recreational uses, or maintenance activities that are adversely affecting the species should be evaluated and be removed, relocated, or otherwise modified in coordination with CDFW and/or USFWS (as applicable to the species identified) to avoid further impacts to the species.

Cultural Resources

CUL-1: The Preserve Plan's Implementation Table includes actions to reduce impacts to cultural resources. Actions 1.1a through 1.1c and actions 1.2a through 1.2d are designed to reduce impacts to known and unknown cultural resources. Several of the known cultural resources on the site have not been evaluated. The following measure provides additional direction for implementing the previously identified Actions.

Once the precise locations of trails and other proposed facilities have been finalized and before commencement of earth-disturbing activities for construction of these facilities, MROSD shall identify and evaluate all historic-era and prehistoric archaeological resources and historic-era structures identified below in Tables CUL-1 and CUL-2 that could potentially be impacted by the project. Resources will be evaluated and recorded on standard DPR Primary Record forms (Form DPR 523) in accordance with NRHP/CRHR criteria. MROSD will include an evaluation on the DPR if such information is available or prepare a separate evaluation report which contains a determination of eligibility/ineligibility to the NRHP and/or CRHR. The evaluation report shall be completed by a qualified archaeologist who meets the Secretary of the Interior's professional qualifications for Archaeology and submitted to MROSD.

If resources eligible for inclusion in the NRHP or CRHR are identified, MROSD shall hire a qualified archaeologist to prepare a tiered plan to prioritize avoidance of resources. This includes consideration of both construction-related effects and effects from increased visitor use in an area. Avoidance measures may include, but are not limited to, the following: site testing to confirm the boundary of a significant resource, relocating the proposed facility farther from the resource(s) if necessary (including appropriate buffers to discourage visitor-related effects), implementing specific construction techniques (such as temporary fencing or flagging and construction worker training) to ensure avoidance, and construction monitoring in sensitive areas to prevent disturbance of currently unknown subsurface resources.

If re-designing or relocating proposed facilities to avoid impacts is infeasible, appropriate impact minimization measures will be outlined in the archaeological resource evaluation report or data recovery report. Any data recovery (if needed) will be completed by a qualified archaeologist who meets the Secretary of the Interior's professional qualifications. Mitigation, or data recovery, typically involves additional archival research, field excavation, photo documentation, mapping, and/or monitoring. Any avoidance and data recovery measures shall be developed in consultation with the archeologist or historian (depending on the type of resource) and finalized in consultation with MROSD to confirm the effectiveness of the measures. Tables CUL-1 and CUL-2 below identify specific mitigation treatments for each of the unevaluated archaeological resources and historic-era structures on the site. These treatments would be implemented if the archaeological resource evaluation report and/or historic resources evaluation report indicated that the proposed project could potentially adversely affect the resource and the resource is determined to be eligible for listing in the NRHP or the CRHR.

Table CUL-1 Treatment for Unevaluated Historical Resources

Primary No./ Trinomial	Name/Description	Preserve Plan Action	Treatment (if eligible for listing on NRHP or CRHR and eligibility is found to be potentially affected)
P-43-001131	Pharmacy Complex. A roof-like wooden structure associated with a concrete and stone pier structure.	Clean up as necessary for public safety.	If the historic evaluation report determines that this structure is individually eligible for listing on the NRHP or CRHR, or is a contributing element to the Alma College Cultural Land scape, the report will establish specific treatment measures to ensure clean-up does not adversely affect the resource's eligibility. This may include requiring restrictions on clean-up activities or avoidance of the structure by identifying alternate public safety measures (such as exclusion fencing).
P-43-001222	Iona School/ BCR THP #5. School grounds, leveled pads, a fenced yard with wooden retaining wall, and one concrete building.	Clean up as necessary for public safety.	If the historic evaluation report determines that one or more of these features is individually eligible for listing on the NRHP or CRHR, or is a contributing element to the Alma College Cultural Land scape, the report will establish specific measures to ensure clean-up does not adversely affect the resources' eligibility. This may include requiring restrictions on clean-up activities or avoidance of the feature(s) by identifying alternate public safety measures (such as exclusion fencing). If the report determines that the structure is a significant contributing element of the Alma College cultural landscape, the resource will be included in the Preservation Maintenance or Monitoring Plan.
P-43-001226	Grape Processing Shed/BCR THP #10. A wooden shed with corrugated metal roof.	Clean up as necessary for public safety.	If the historic evaluation report determines that this resource is individually eligible for listing on the NRHP or CRHR, or is a contributing element to the Alma College Cultural Land scape, the report will establish specific measures to ensure clean-up does not adversely affect the resources' eligibility. This may include requiring restrictions on clean-up activities or avoidance of the feature(s) by identifying alternate public safety measures (such as exclusion fencing).
P-44-000403	Highway 35. Highway 35, post mile 0.02 to 17.12.	Preserve and Protect	If the historic evaluation report determines that this resource is individually eligible for listing on the NRHP or CRHR, or is a contributing element to the Alma College Cultural Land scape, the report will establish specific measures to ensure preservation and protection treatments do not adversely affect the resources' eligibility.
n/a (undocumented)	Pump House. Pump House North end of the lower lake.	Clean up as necessary for public safety.	If the historic evaluation report determines that one or more of these features is individually eligible for listing on the NRHP or CRHR, or is a contributing element to the Alma College Cultural Land scape, the report will establish specific measures to ensure clean-up does not adversely affect the resources' eligibility. This may include requiring restrictions on clean-up activities of avoidance of the feature(s) by identifying alternate public safety measures (such as exclusion fencing). If the report determines that the structure is a significant contributing element of the Alma College cultural landscape, the resource will be included in the Preservation Maintenance or Monitoring Plan.
n/a (undocumented)	Small Dam. Historic waster system dams associated with Flood/Tevis Estate	Clean up as necessary for public safety.	If the historic evaluation report determines that one or more of these features is individually eligible for listing on the NRHP or CRHR, or is a contributing element to the Alma College Cultural Land scape, the report will establish specific measures to ensure clean-up does not adversely affect the resources' eligibility. This may include requiring restriction on clean-up activities or avoidance of the feature(s) by identifying alternate public safety measures (such as exclusion fencing). If the report determines that the structure is a significant contributing

Appendix C Bear Creek Redwoods Open Space Preserve Plan — Environmental Protection Measures

			element of the Alma College cultural landscape, the resource will be included in the Preservation Maintenance or Monitoring Plan.
n/a (undocumented)	Big Dam. Historic waster system dams associated with Flood/Tevis Estate	Preserve and Protect; implement protective or safety improvements if necessary.	If the historic evaluation report determines that one or more of these features is individually eligible for listing on the NRHP or CRHR, or is a contributing element to the Alma College Cultural Land scape, the report will establish specific measures to ensure clean-up does not adversely affect the resources' eligibility. This may include requiring restrictions on clean-up activities or avoidance of the feature(s) by identifying alternate public safety measures (such as exclusion fencing). If the report determines that the structure is a significant contributing element of the Alma College cultural landscape, the resource will be included in the Preservation Maintenance or Monitoring Plan.
n/a (undocumented)	Smallest Dam. Historic waster system dams associated with Flood/Tevis Estate	Clean up as necessary for public safety.	If the historic evaluation report determines that one or more of these features is individually eligible for listing on the NRHP or CRHR, or is a contributing element to the Alma College Cultural Land scape, the report will establish specific measures to ensure clean-up does not adversely affect the resources' eligibility. This may include requiring restrictions on clean-up activities or avoidance of the feature(s) by identifying alternate public safety measures (such as exclusion fencing). If the report determines that the structure is a significant contributing element of the Alma College cultural landscape, the resource will be included in the Preservation Maintenance or Monitoring Plan.
n/a (undocumented)	Cistern. Concrete Reservoir/Cistern associated with Flood/Tevis Estate.	Preserve and Protect; implement protective or safety improvements if necessary.	If the historic evaluation report determines that one or more of these features is individually eligible for listing on the NRHP or CRHR, or is a contributing element to the Alma College Cultural Land scape, the report will establish specific measures to ensure clean-up does not adversely affect the resources' eligibility. This may include requiring no clean-up activities and avoidance of the feature(s) with alternate public safety measures that avoid effects to the feature(s) (such as exclusion fencing). If the report determines that the structure is a significant contributing element of the Alma College cultural landscape, the resource will be included in the Preservation Maintenance or Monitoring Plan.
n/a	Tea House. Tea house chimney	Clean up as necessary for public safety.	If the historic evaluation report determines that one or more of these features is individually eligible for listing on the NRHP or CRHR, or is a contributing element to the Alma College Cultural Land scape, the report will establish specific measures to ensure clean-up does not adversely affect the resources' eligibility. This may include requiring no clean-up activities and avoidance of the feature(s) with alternate public safety measures that avoid effects to the feature(s) (such as exclusion fencing). If the report determines that the structure is a significant contributing element of the Alma College cultural landscape, the resource will be included in the Preservation Maintenance or Monitoring Plan.

Table CUL-2 Treatment for Unevaluated Archaeological Resources

Primary No./ Trinomial	Name/Description	Preserve Plan Action	Treatment (if resource is found to be adversely affected and eligible)
P-43-000088/ CA-SCL-71/H	Five sandstone bedrock outcrops and boulders containing 58 cupules and 19th century debris with a former pond,	Preserve and protect bedrock outcrops and boulders. Clean up historic-era debris as necessary for public safety.	If the archaeological evaluation report determines that one or more of these features are eligible for listing on the NRHP or CRHR, the report will establish specific measures to ensure preservation and protection treatments do not adversely affect the resources' eligibility. This may include requiring avoidance of features, restrictions placed on clean-up activities, or data recovery.
P-43-000375/ CA-SCL-369/H	BCR THP#1 and #12. Historic period brick fireplace and rock foundation with refuse deposit and prehistoric bedrock milling outcrop.	Preserve and protect prehistoric features. Clean up historic-era features as necessary for public safety.	If the archaeological evaluation report determines that one or more of these features are eligible for listing on the NRHP or CRHR, the report will establish specific measures to ensure preservation and protection treatments do not adversely affect the resources' eligibility. This may include requiring avoidance of features, restrictions placed on clean-up activities, or data recovery.
P-43-001132	Paired Stone Walls. Two stacked stone walls that may be associated with a former late 1800s logging camp.	Preserve and Protect; implement protective or safety improvements if necessary	If the archaeological evaluation report determines that this feature is eligible for listing on the NRHP or CRHR, the report will identify specific measures to ensure that preservation, as well as any safety improvements do not adversely affect the resources' eligibility. This may include requiring avoidance of feature(s) or data recovery. The report may identify alternate public safety improvements that do not affect the structure (such as exclusion fencing).
P-43-001223	Rock Cribbing/BCR THP #7. The remains of a dry-laid rock abutment constructed north-south over a tributary of Webb Creek.	Preserve and Protect	If the archaeological evaluation report determines that one or more of these features are eligible for listing on the NRHP or CRHR, the report will establish specific measures to ensure preservation and protection treatments do not adversely affect the resources' eligibility.
P-43-001225	Water Tank and Flume of Webb Creek/BCR THP #9. A wooden water tank and the remains of a pipe/flume water conveyance system.	Clean up as necessary for public safety.	If the archaeological evaluation report determines that this feature is eligible for listing on the NRHP or CRHR, the report will identify specific measures to ensure that preservation, as well as any safety improvements do not adversely affect the resources' eligibility. This may include requiring avoidance of the feature(s) or data recovery. The report may identify alternate public safety improvements that do not affect the feature(s) (such as exclusion fencing).
P-43-001227	BCR THP #14. Mining and residential features including a mine adit, dry-laid rock retaining wall, earthen ditch, palm trees, and a scatter of blue stucco.	Clean up as necessary for public safety.	If the archaeological evaluation report determines that one or more of these features are eligible for listing on the NRHP or CRHR, the report will identify specific measures to ensure that preservation, as well as any safety improvements do not adversely affect the resources' eligibility. This may include requiring avoidance of the feature(s) or data recovery. The report may identify alternate public safety improvements that do not affect the feature(s) (such exclusion as fencing).
P-43-000376/ CA-SCL-370	Bedrock Mortars/ BCR THP #13. Two milling features exhibiting nine cups on a sandstone boulders and possible rock shelter.	Preserve and Protect	If the archaeological evaluation report determines that one or more of these features are eligible for listing on the NRHP or CRHR, the report will establish specific measures to ensure preservation and protection treatments do not adversely affect the resources' eligibility.
P-43-000643/ CA-SCL-760	Bedrock Mortars/ Resource Area 1. Two sandstone boulders each containing one bedrock mortar, used	Per the Alma College Rehabilitation Plan, re-use	No treatment required, MROSD will prepare a memo to file documenting the specific location where the mortars are moved.

Appendix C Bear Creek Redwoods Open Space Preserve Plan — Environmental Protection Measures

	in an historic period landscape design element. Mortars were likely moved from another location as no prehistoric deposit identified in shovel tests by Clark 1994..	boulders as part of visitor entrance design	
P-43-001521	Bedrock Mortar. Possible bedrock mortar on a sandstone outcrop.	Preserve and Protect	If the archaeological evaluation report determines that this feature is eligible for listing on the NRHP or CRHR, the report will establish specific measures to ensure preservation and protection treatments do not adversely affect the resources' eligibility.
P-43-001522	Bedrock Mortar. Four bedrock mortars embedded in a sandstone outcrop.	Preserve and Protect	If the archaeological evaluation report determines that this feature is eligible for listing on the NRHP or CRHR, the report will establish specific measures to ensure preservation and protection treatments do not adversely affect the resources' eligibility.
P-43-002020/ CA-SCL-875	Hollow Log Mortar. Two bedrock mortars on one slab of exposed sandstone.	Preserve and Protect	If the archaeological evaluation report determines that this feature is eligible for listing on the NRHP or CRHR, the report will establish specific measures to ensure preservation and protection treatments do not adversely affect the resources' eligibility.
n/a	Laundry Site. Remnant Development site - pad and possible laundry associated with Flood/Tevis Estate. Old creek crossing and old road.	Clean up as necessary for public safety.	If the archaeological evaluation report determines that one or more of these features are eligible for listing on the NRHP or CRHR, the report will identify specific measures to ensure that preservation, as well as any safety improvements do not adversely affect the resources' eligibility. This may include requiring avoidance of the feature(s) or data recovery. The report may identify alternate public safety improvements that do not affect the feature(s) (such as exclusion fencing). If the report determines that the structure is a significant contributing element of the Alma College cultural landscape, the resource will be included in the Preservation Maintenance or Monitoring Plan.
n/a	Village. 20th century village remnants, associated with Flood/Tevis Estate, Alma College	Clean up as necessary for public safety.	If the archaeological evaluation report determines that one or more of these features are eligible for listing on the NRHP or CRHR, the report will identify specific measures to ensure that preservation, as well as any safety improvements do not adversely affect the resources' eligibility. This may include requiring avoidance of the feature(s) or data recovery and the report may identify alternate public safety improvements that do not affect the feature(s) (such as exclusion fencing). If the report determines that the structure is a significant contributing element of the Alma College cultural landscape, the resource will be included in the Preservation Maintenance or Monitoring Plan.
n/a	Dump. 20th century dump, associated with Flood/Tevis Estate, Alma College	Clean up as necessary for public safety.	If the archaeological evaluation report determines that one or more of these features are eligible for listing on the NRHP or CRHR, the report will identify specific measures to ensure that preservation, as well as any safety improvements do not adversely affect the resources' eligibility. This may include requiring avoidance of the feature(s) or data recovery. The report may identify alternate public safety improvements that do not affect the feature(s) (such as exclusion fencing). If the report determines that the structure is a significant contributing element of the Alma College cultural landscape, the resource will be included in the Preservation Maintenance or Monitoring Plan.

Appendix C	Bear Creek Redwoods Open Space Preserve Plan — Environmental Protection Measures		
n/a	House Site/ Unknown/18. Reported location of a house site, possibly demolished. Flat with vinca in the vicinity	Clean up as necessary for public safety.	If the archaeological evaluation report determines that this feature is eligible for listing on the NRHP or CRHR, the report will identify specific measures to ensure that preservation, as well as any safety improvements do not adversely affect the resources' eligibility. This may include requiring avoidance of the feature(s) or data recovery. The report may identify alternate public safety improvements that do not affect the feature(s) (such as exclusion fencing).
n/a	Tea House. Tea house chimney	Clean up as necessary for public safety.	If the archaeological evaluation report determines that this feature is eligible for listing on the NRHP or CRHR, the report will identify specific measures to ensure that preservation, as well as any safety improvements do not adversely affect the resources' eligibility. This may include requiring avoidance of the feature(s) or data recovery. The report may identify alternate public safety improvements that do not affect the feature(s) (such as exclusion fencing).
n/a	Resource Location #2. Midden, SCR and Chert core along Bear Creek.	Preserve and Protect	If the archaeological evaluation report determines that this feature is eligible for listing on the NRHP or CRHR, the report will establish specific measures to ensure preservation and protection treatments do not adversely affect the resources' eligibility.

CUL-2: Before commencement of earth-disturbing activities in areas likely to contain unknown prehistoric-era archaeological resources, MROSD will coordinate with the Ohlone tribe representatives in order to hire a tribal site monitor from the Ohlone tribe. The tribal monitor must be on site for all earth-disturbing construction and pre-construction activities. In the event that no such Native American monitor is available, persons who represent tribal governments and/or organizations in the locale in which resources could be affected shall be consulted by MROSD. If Native American archaeological, ethnographic, or spiritual resources are discovered, all identification and treatment of the resources shall be conducted by a qualified archaeologist and Native American representatives who are approved by the local Native American community as scholars of the cultural traditions.

In the event that any cultural resources are exposed during construction, work at the location of the find will halt immediately within 10 meters (30 feet) of the find. A reasonable effort will be made by the District and archaeologist to avoid or minimize harm to the discovery until significance is determined and an appropriate treatment can be identified and implemented. Methods to protect finds include fencing, covering the resources with protective material and culturally sterile soil or plywood. If vandalism is a threat, 24-hour security shall be provided. During this evaluation period, construction operations outside of the find location can continue preferably with an archaeologist monitoring any subsurface excavations.

If the resource cannot be avoided, the archaeologist will develop an appropriate Action Plan for treatment within 48 hours to minimize or mitigate the adverse effects. The District will not proceed with construction activities that could affect the discovery until the Action Plan has been reviewed and approved. The treatment effort required to mitigate the inadvertent exposure of significant cultural resources will be guided by a research design appropriate to the discovery and potential research data inherent in the resource in association with suitable archaeological field techniques and analytical strategies. The recovery effort will be detailed in a professional report in accordance with current archaeological standards. Any non-grave associated artifacts will be curated with an appropriate repository.

Geology, Soils, and Seismicity

GEO-1: Where soft or seasonally-wet soils underlie an existing or proposed trail, the weak subgrade will be re-compacted or removed. Standard protocol will be to apply aggregate surfacing and draining the road to an inboard ditch. If necessary, base rock will be separated from native soils with geotextile fabric to prevent compaction of the rock into the soft substrate. Inboard ditches or insloped roads segments (which prevent flow from bank seeps from discharging onto the running surface of the road and result in a slightly elevated and somewhat drier trail tread) will be installed in chronically wet areas. Roads and trails will be drained to ditch relief culverts or rocked dips.

GEO-2: Where existing roads are to remain open, but are not presently passible due to past fill failures, residual perched and unstable fill material will be excavated and road or stream runoff delivered to the failure site will be corrected. The road will be widened by either cutting into the bank or reconstructing the outside edge of the fill prism. Where slopes are steep, retaining walls will be used to support the fill. The method of treatment for fill failures will be dependent on the stability of the residual fill material, the cause of the failure (e.g., diverted runoff), and the remaining road width.

Appendix C Bear Creek Redwoods Open Space Preserve Plan — Environmental Protection Measures

GEO-3: During the winter (November through March), MROSD will limit patrol and maintenance vehicle access on seasonal roads and trails; ATVs will be substituted wherever feasible.

GEO-4: Erosion control measures will be implemented on sites with loose or unstable soils, steep slopes (greater than 30 percent), where a large percentage of the groundcover will be removed, or near aquatic features that could be adversely affected by an influx of sediment. Temporary soils stabilization measures may include: scheduling limitations during the rainy season; preservation of existing vegetation; application of hydraulic mulch to disturbed areas outside of the stream channel; use of geotextiles, plastic coves, and erosion control mats; instillation of silt fences; and use of fiber rolls along the slope contour above the high water level to intercept runoff. Prior to the start of the winter storm season, these sites will be inspected to confirm that erosion control techniques are still effective.

GEO-5: Trails or other facilities will be closed for construction or repair, or when another hazardous condition exists (e.g., landslide during flooding or extremely wet weather) that renders trail use especially hazardous, or where adjacent land uses may present unsafe conditions that could affect open space users. Where use limitations or closures are in place, the area will be clearly designated and will be equipped with use signs and appropriate barriers to discourage unauthorized use. Missing or damaged signs, gates, fences, and barriers will be will be repaired or replaced as soon as possible. Closure notices will include the reason(s) for the closure, an estimate of how long the facility will be closed, and a telephone number to call for further information.

GEO-6: A design-level geotechnical investigation will be completed by MROSD before constructing any new structures on the Preserve to identify engineering methods to reduce the potential for structural failure due to geological hazards. Typical measures include: excavation and removal of the expansive soil materials and replacement with non-expansive fill; placement of a layer of non-expansive fill, which may vary in thickness from 12- to 24- inches, above the expansive soil in areas where concrete flatwork or foundations will be constructed; moisture conditioning or lime treating expansive soil; constructing foundations below the zone of seasonal moisture change or capable of withstanding or not being adversely effected by seasonal shrink-swell; and specific control of surface runoff and installation of subsurface drainage elements. The evaluation will also include excavation of fault trenches to show that potential building sites are free from active or potentially active faulting. All buildings will be designed in a manner that reflects the geologic hazards on the site, and will be consistent with applicable building codes.

Hazards and Hazardous Materials

HAZ-1: MROSD will conduct demolition in accordance with applicable regulations. Specific actions will include the following:

Asbestos. Before demolition, all structures would be tested for the presence of asbestos-containing materials. Any asbestos would be removed and disposed of by an accredited contractor in compliance with federal, state, and local regulations (including the Toxic Substances Control Act and the National Emission Standard for Hazardous Air Pollutants). Compliance with these regulations would result in the safe disposal of asbestos-containing materials.

Title 8 of the California Code of Regulations (CCR), Section 1529 "Asbestos" is enforced by Cal OSHA and sets very strict exposure limits for employees engaged in abatement and remediation activities and requires employers to perform an initial exposure assessment as well as daily monitoring of employee exposure. Section 1529 also includes a list of specific compliance measures including (but not limited to) vacuum cleaners with HEPA filters, wet methods, ventilation systems with HEPA filters, isolation/containment of asbestos dust-generating areas, as well as prohibitions against use of compressed air to remove asbestos without a ventilation system, dry sweeping/shoveling of asbestos, and use of high-speed abrasive disc saws without proper point of cut ventilators.

Demolition of any structures containing asbestos would also be subject to BAAQMD Regulation 11, Rule 2, which prohibits visible emissions of asbestos. BAAQMD's Rule 2 requires wet methods or use of HEPA filter-fitted ventilation systems, use of leak-tight chutes for getting materials to the ground, use of plastic barriers and HEPA filter-fitted ventilation systems to contain areas being stripped. Rule 2 also requires an asbestos survey, including materials sampling and lab testing, to be performed by a qualified consultant before abatement activities to determine the category of asbestos. Specific disposal methods are also required under Rule 2.

MROSD will provide written documentation to the County that asbestos testing and abatement, as appropriate, has occurred in compliance with applicable federal, state, and local laws.

- **Lead-based paint or other coatings.** A survey for indicators of lead-based coatings would be conducted before demolition to further characterize the presence of lead on the project site. For the purposes of compliance with Cal/OSHA regulations, all coated surfaces would be assumed to potentially contain lead. There is also a potential for soil contamination because of deposition of deteriorated (i.e., flaked, peeled, chipped) lead-based paint adjacent to structures where lead-based exterior paints were used. Loose or peeling paint may be classified as a hazardous waste if concentrations exceed total threshold limits. Cal/OSHA regulations require air monitoring, special work practices, and respiratory protection during demolition where even small amounts of lead have been detected. MROSD will provide written documentation to the County that lead-based paint testing and abatement, as appropriate, has been completed in accordance with applicable state and

Appendix C Bear Creek Redwoods Open Space Preserve Plan — Environmental Protection Measures

local laws and regulations. Abatement will include the removal of lead contaminated soil (considered soil with lead concentrations greater than 400 parts per million in areas where children are likely to be present).

- **Heavy metals and PCBs.** Spent florescent light bulbs and ballasts, thermostats, and other electrical equipment may contain heavy metals, such as mercury, or PCBs. If concentrations of these materials exceed regulatory standards, they would be handled as hazardous waste in accordance with hazardous waste regulations.

HAZ-2: MROSD will create defensible space and use low-ignition vegetation. Specific actions will include:

- Vegetation within 100 feet of structures at Bear Creek Stables and the former Alma College site will be maintained annually for defensible space.
- Low ignition fuels, such as grasses, will be planted adjacent to trail heads and staging areas, and will be mowed annually as soon as 30 percent of the light ground fuel is cured.
- MROSD will coordinate with Santa Clara County to implement vegetation management along Bear Creek Road.

HAZ-3: In order to reduce fire ignition risk, MROSD will require the following measures for all maintenance and construction activities within the Preserve:

- All equipment to be used during construction and maintenance activities must have an approved spark arrestor.
- Grass and fuels around construction sites where construction vehicles are allowed to be parked will be cut or reduced.
- Mechanical construction equipment that can cause an ignition will not be used when the National Weather Service issues a Red Flag Warning for the San Francisco Bay Area.
- Hired contractors will be required to:
  - Provide water to suppress potential fires caused by the work performed.
  - Remind workers that smoking is prohibited within the Preserve.
  - Maintain working ABC fire extinguishers on all vehicles in the work area.

To further limit potential ignition sources, MROSD will prohibit smoking and use of fireworks in the Preserve. Signage will be provided that describes prohibited uses and warns against fire hazards. Prohibitions will be enforced through periodic patrols by MROSD staff.

HAZ-4: A wildland fire hazard assessment will be prepared for the Preserve to identify wildland fuel loads, inventory critical resources at risk, assess relative fire hazards, and develop recommendations for wildland fuels management. The preparation of a wildland fire management plan will provide a science-based analysis aimed at identifying fuel and fire management actions that support and augment current operations and projects. These actions will be prioritized to best allocate limited resources.

HAZ-5: MROSD will coordinate with appropriate agencies, such as Santa Clara County and the California Department of Forestry to formalize mutual aid agreements.

HAZ-6: Where compatible with other trail characteristics, planners will locate trail alignments and access points to allow trails to also serve as emergency access routes for patrol or emergency medical transport. In addition, the following design features will be incorporated: graveled trailheads with 10-foot radiuses; entrance and road shoulders designed to discourage parking during closure and to facilitate emergency access; and gates that are at least 12 feet wide and constructed of heavy materials with a protected locking system for MROSD and fire access.

HYDRO-1: MROSD will maintain the trails to reduce concentrate runoff and focal points where substantial erosion could occur. The use of water bars, trail cover, and trail edge protection will be used in areas of steep slopes and heavy traffic to maintain trail integrity.

- Trails and roads will also be maintained according to MROSD standard practices to prevent erosion and sedimentation. These practices include:
- Routine (annual) cleaning of existing drainage facilities such as culverts, water bars, and drain dips to remove any accumulated material.
- Installation of minor drainage improvements such as water bars to channel surface flow from trails to natural drainage systems.
- Installation and maintenance of small dissipating structures in locations where outflows or channelization could cause erosion.

Appendix C Bear Creek Redwoods Open Space Preserve Plan — Environmental Protection Measures

- Installation of fence and gate barriers to prevent off-trail access and shortcuts.
- Volunteer trail reporting to identify potential trail erosion.
- Seeding and revegation of eroding slopes.
- Seasonal and temporary trail closure to allow revegetation and maintenance.
- Use of good pruning practices for vegetation alongside the trails, and not clearing beyond 3 feet from the edge of the trail.

Hydrology and Water Quality

HYDRO-2: Where trails are actively eroding, MROSD will implement the following measures as soon as feasible:

- repair and stabilize head cuts of actively eroding gullies and install rock to prevent further erosion;
- slope existing roads to the outside edge to allow sheet runoff;
- install rolling waterbars to more effectively drain road surfaces;
- install rip-rap or other impact reducing mechanisms at the outfall of each waterbar and/or culvert; and
- install filter berms to collect sediments and reduce cutting energy.

HYDRO-3: Storm water quality best management practices (BMPs) will be implemented to reduce potential water quality impacts. BMPs include:

- Flow of runoff from drainage structures will be directed to vegetated areas, away from creeks and drainages as is practical.
- Conduct any trail maintenance work during low flow periods
- Use erosion and sediment control measures to minimize water quality impacts and ensure no sediment at heavily traveled trails flows into creeks. These measures include:
  - Silt Fences
  - Straw Bale Barriers
  - Brush or Rock Filters
  - Storm Drain Inlet Protection
  - Sediment Traps
  - Sediment Basins
  - Erosion Control Blankets and Mats
  - The District will prevent erosion on steep slopes by using erosion control material according to manufacturer's specifications.
- If soil is to be stockpiled for any reason at creeksides, no run-off will be allowed to flow back to the creek.

HYDRO-4: Where existing or proposed roads and trails are located within 50 to 75 feet of a watercourse, they will be rocked to minimize the amount of erosion and consequent sediment delivered to the surface water.

Appendix C Bear Creek Redwoods Open Space Preserve Plan — Environmental Protection Measures
HYDRO-5: New equestrian trails will not be constructed parallel to creeks in the Preserve. Where equestrian trails must cross streams or major drainages in water supply watersheds, the trail will be sited perpendicular to the stream (to the extent allowed by topography and vegetation) through the 300-foot buffer zone (150 feet on each side).
HYDRO-6: Rusted and undersized culverts will be replaced with culverts capable of accommodating flood events consistent with County and MROSD standards. "Critical dips" (i.e., dips located at the crossing that will allow runoff to be directed over the road surface and back to the stream channel) will be installed at each crossing to prevent stream flow from being diverted down the road in the event the culvert plugs and the stream overtops the road. As necessary based on site conditions, the fill embankment below the culvert may be armored with rock revetment.
HYDRO-7: Where roads or trails will be decommissioned as part of the Preserve Plan, culverts and fill will be removed by MROSD.
HYDRO-8: Where high levels of recreational use is anticipated, existing earth fords will be replaced with rock fords, culverts, or bridges. Work will be completed by MROSD prior to opening the area to expanded use.

Appendix D

Air Quality and Greenhouse Gas Modeling Data

Bear Creek Proposed Project Assumptions for CalEEMod Modeling

(NOTE: Phasing indicated here used for modeling purposes only and do not represent adopted phasing.)

Construction Assumptions

Land Use Type	CalEEMod Land Use Match	Value	Unit	Notes/Source
Phase 1 (Blue)				
Trails	City Park	10.56	Acres	Email from Alma Du Solier to Mike Parker on 9/25/2015
Demolition of Alma College buildings		8,770	Sqft	Alma College Rehabilitation Report recommends demolition of the dormitory, garage, classroom and 1950 library buildings. Dormitory buildings were demolished in the 70's. Sqft from email from Lisa Bankosh to Mike Parker 9/25/2015
Grading at Alma College		18	Acres	Bear Creek Preserve Plan
Paving at Alma College		110	Spaces	From project description
Paving at Alma College Crossing		3,600	sqft	Estimated from Figure 3-9 from BCR Preserve plan using scale on figure.
Trenching		1,200	ft	Approximate distance from water tanks to Alma College facilities
Building Construction - Rebuilding/renovation of Chape	Library	3,330	sqft	Email from Lisa Bankosh to Mike Parker 9/25/2015
Demolition of Bear Creek Stable buildings		18,854	Sqft	Email from Alma Du Solier to Stephanie Rasmussen on 9/10/2015
Grading at Bear Creek Stables - All areas		217,037	Sqft	Table 3-5 "Stables Improvement Summary"
Roadway Upgrades - Bear Creek Stables	Other Asphalt Surfaces	105,000	Sqft	Table 3-5 "Stables Improvement Summary"
Paved Parking - Bear Creek Stables	Parking Lot	25,160	Sqft	Project will have mass gravel compaction instead of paving, but assuming paving would reflect worst-case emissions. Assumes trailer storage is 2/3 of full trailer parking size.
Total Parking Area in Phase 1 (1 car space = 220 sqft)		50,760	Sqft	Calculated
Phase 2 (Red)				
Trails	City Park	6.5	Acres	Email from Alma Du Solier to Mike Parker on 9/25/2015
BC Stables: Storage and Animal Boarding Construction	Unrefrigerated Warehouse (no-rail)	24,218	Sqft	Table 3-5 "Stables Improvement Summary" for Alternative B
BC Stables: Visitors Center/Offices	General Office	4,278	Sqft	Table 3-5 "Stables Improvement Summary" for Alternative B
Building construction of 2 Arenas	Arena	31,200	sqft	Table 3-5 "Stables Improvement Summary" for Alternative B
Phase 3 (Green)				
Trails	City Park	3.41	Acres	Email from Alma Du Solier to Mike Parker on 9/25/2015
Grading at Lower Parking Area		2.5	Acres	Bear Creek Preserve Plan
Paved Parking - Lower Parking Area	Parking Lot	135	Spaces	From project description. Assume that horse trailer spaces are five times the area of normal vehicle spaces. Assumes 51 spaces, 8 horse trailers, + 1 additional acre for horse trailers (44 spaces assuming 0.2 acres per space).
Note: Vehicle bridges, pedestrian bridges, retaining walls, and 1-acre lot were modeled in separate CalEEMod and Road Construction Emissions Model runs and added in under the construction summary.				

Trail Construction: Assume all trails are Earth or Vegetated Trail as defined in USDA 2014			
	per 3600 sqft per day	per sqft	Source
Cubic Yards of excavated soil	22	0.006111111	USDA2014
Equipment Hours - Dozer 80 HP	3	0.000833333	USDA2014
Equipment Hours - Pick up truck	3	0.000833333	USDA2014
Workers per day	18	0.005	USDA2014

Tree removal (Approximated from Figures)	Phase 1	Phase 2	Phase 3
Trees to be removed	10	0	10
Trees to be planted	0	0	0
Net new trees	-10	0	-10

Bear Creek Proposed Project Assumptions for CalEEMod Modeling

Cut and Fill	Cut (CY)	Fill (CY)
Phase 1	1,652	5,300
Phase 2	1,107	-
Phase 3	700	0
Subtotal	3,459	5,300

Note: Assumes Lower Parking Area and Alma College has balanced cut and fill, trails only involve cut, and BC Stables needs 5,300CY of fill

Source: Email from Bear Creek Redwoods to Ascent via Stephanie Rasmussen 8/31/2015, 7/29/2015

Approximated Construction Schedule

	Construction Phase	Start Date	End Date	Number of working days	Notes
	Phase 1				
1	Trails (Dozing)	1/1/2016	6/28/2016	128	used USDA assumptions (3600 sqft per day)
2	Demolition at Alma College and Tree Removal	1/1/2017	1/27/2017	20	assumption
3	Grading at Alma College	1/28/2017	3/20/2017	36	calculated from Table 3.7 of CalEEMod Appendix D
4	Paving at Alma College	3/21/2017	5/24/2017	46	scaled from roadway default
5	Arch Coating at Alma College Parking Lot	5/25/2017	6/1/2017	5	assumption
6	Trenching at Alma College	6/2/2017	6/20/2017	12	assume 100 ft per day
7	Building Construction - Rebuilding/renovation of Alma College	6/21/2017	3/28/2018	200	only chapel will be occupied
8	Arch Coating for Chapel	3/29/2018	4/12/2018	10	default for similar land use
9	Demolition at Bear Creek Stables	1/1/2019	1/29/2019	20	default for similar land use
10	Site Clearing at Bear Creek Stables (Tree Removal)	1/30/2019	2/6/2019	5	assume half of default
11	Grading at Bear Creek Stables	2/7/2019	3/21/2019	30	default for similar land use
12	Roadway Upgrades - Bear Creek Stables	3/22/2019	1/24/2020	220	default for similar land use
13	Paved Parking - Bear Creek Stables	1/25/2020	4/7/2020	53	scaled from roadway default
14	Arch Coating at Paved areas - Bear Creek Stables	4/8/2020	4/29/2020	15	assumption
	Phase 2				
1	Trails (Dozing)	1/1/2021	4/21/2021	78	use USDA assumptions (3600 sqft per day)
2	Visitor/Office construction at Bear Creek Stables	1/1/2022	5/20/2022	100	default for similar land use
3	Arch Coating for Visitor/Office	5/21/2022	5/27/2022	5	default for similar land use
4	Stables and Livery construction	5/28/2022	10/14/2022	100	default for similar land use
5	Arch Coating for Stables	10/15/2022	11/4/2022	15	default for similar land use
6	Construction of Bear Creek Stables Arena	1/1/2023	5/31/2024	370	default for similar land use
7	Arch Coating for Arena	6/1/2024	6/28/2024	20	default for similar land use
	Phase 3				
1	Trails (Dozing)	1/1/2026	2/27/2026	41	use USDA assumptions (3600 sqft per day)
2	Removal of trees	1/1/2027	1/8/2027	5	assumption
3	Grading at Lower Parking Area	1/9/2027	1/19/2027	7	calculated from Table 3.7 of CalEEMod Appendix D
4	Paved Parking - Lower Parking Area	1/20/2027	2/15/2027	18	default for similar land use
5	Arch Coating at Lower Parking Area	2/16/2027	2/18/2027	2	assumption

NOTE: Exact dates will not match with CalEEMod outputs due to difference holiday assumptions. Dates presented here represent approximate duration.

Operation Assumptions

Water Use from Hydrology Report	Value	Unit	
Bear Creek Stables		7200 gpd (max)	
Bear Creek Visitor Center		80 gpd	
Alma College		130 gpd	
Hikers and fire suppression		150 gpd	
Annual Water Use for CalEEMod input	**Value**	**Unit**	**Construction Phase**
Bear Creek Stables/Arena		2628000 gal/year	2
Bear Creek Visitor Center		29200 gal/year	2
Alma College		47450 gal/year	1
Hikers and fire suppression		54750 gal/year	
Phase 1		*28301* gal/year	1
Phase 2		*17319* gal/year	2
Phase 3		*9130* gal/year	3

Operational Mobile Source Activity and Emissions Assumptions and Calculations

Calculation of Project VMT per year

Assumptions

		Source/Notes
Miles per Trip for visitors	12.4	CalEEMod default for Home-Work trips in Santa Clara County. Confirmed by Populous. Most visitors live within 10 miles.
Miles per Trip for event visitors	25	Assumption
Trips per visitor vehicle	2	Assumption
Trips per worker vehicle	3	Assumption
Vistors per vehicle	1.5	Hexagon Traffic Study
Vistors per vehicle (special events)	2	Hexagon Traffic Study
Max visitors per site during special events	250	Hexagon Traffic Study
Workers per vehicle	1	Assumption
Number of large events per year	2	Hexagon Traffic Study
Weekdays per year	260	
Weekend days per year	104	
Days per year	365	
lbs ROG/mi in 2030 for passenger vehicle mix	0.0002514	EMFAC 2014
lbs NOX/mi in 2030 for passenger vehicle mix	0.0001512	EMFAC 2014
lbs PM10/mi in 2030 for passenger vehicle mix	0.0001043	EMFAC 2014
lbs PM2.5/mi in 2030 for passenger vehicle mix	4.311E-05	EMFAC 2014
g CO2/mi in 2030 for passenger vehicle mix	259.5066	EMFAC 2014
g CH4/mi in 2030 for passenger vehicle mix	0.0042506	EMFAC 2014

EMFAC2014 Inputs
County: Santa Clara
Year: 2030
Visitors and Workers: Passenger Mix (LDA, LDT, MDV)

Calculation for ADDITIONAL vehicle trips over existing

	Visitors per day	vehicle trips per day	VMT per day (Max day)	VMT per year	Vehicle Type
Weekday					
Bear Creek Preserve Visitors	200	267	3,307	859,733	Passenger Mix
Weekend					
Bear Creek Preserve Visitors	500	667	8,267	859,733	Passenger Mix
Bear Creek Stable Events	250	250	6,250	12,500	Passenger Mix
Alma College Events	250	250	6,250	12,500	Passenger Mix
			TOTAL	1,744,467	

Note: Assume new workers included in visitor trips. Assume special event occur every weekend as a worst-case scenario.
Source: Bear Creek Redwoods Traffic Study by Hexagon (July 15, 2015)

Emissions Results by Source and Phase

	Exhaust						
Source	**ROG lbs/year**	**NOX lbs/year**	**PM10 lbs/year**	**PM2.5 lbs/year**	**CO2 MT/year**	**CH4 MT/year**	**MTCO2e/ year**
Weekday							
Bear Creek Preserve Visitors	216.10	130.03	89.66	37.06	223	0.00	223.23
Weekend							
Bear Creek Preserve Visitors	216.10	130.03	89.66	37.06	223	0.00	223.23
Bear Creek Stable Events	3.14	1.89	1.30	0.54	3	0.00	3.25
Alma College Events	3.14	1.89	1.30	0.54	3	0.00	3.25
Total Annual Emissions	438.49	263.84	181.94	75.20	452.70	0.01	452.95
Average Daily Emissions (lb/day) (annual emissions divided by 365 day per year)	1.2	0.7	0.5	0.2			

	Exhaust						
Phase*	**ROG lbs/year**	**NOX lbs/year**	**PM10 lbs/year**	**PM2.5 lbs/year**	**CO2 MT/year**	**CH4 MT/year**	**MTCO2e/ year**
Phase 1: 10.56 acres of trail, Alma College. (Preserve visitors scaled by trail acreage. Assumes event visitors for Alma College only)	114.85	69.10	47.65	19.70	233.90	0.00	234.03
Phase 2: 6.5 acres of trail, 2 Arenas, visitor/office at Bear Creek Stables (Preserve visitors scaled by trail acreage. Assumes Event Visitors for Bear Creek Stables Only)	71.50	43.02	29.67	12.26	144.39	0.00	144.47
Phase 3: 3.41 acres of trail	36.04	21.68	14.95	6.18	74.41	0.00	74.45

* Emissions from each phase. Does not account for cumulative emissions.

Architectural Coating Assumptions and Calculations

(NOTE: Phasing indicated here used for modeling purposes only and do not represent adopted phasing.)

Phase 1

Building Construction Assumptions

Land Uses	Amount	Units	Notes
Alma College Crossing	3,600	sqft	Assume painting comparable to parking lots. Sqft estimated from Figure 3-9 from BCR Preserve plan using scale on figure.
Alma College Parking	110	Spaces	From project description.
Alma College Renovation	3,330	sqft	Assume half of interior squarefootage will be painted or have some arch coating.
Bear Creek Stables - Parking	25,160	sqft	Project will have mass gravel compaction instead of paving, but assuming paving would reflect worst-case emissions.

Architectural Coating Calculated Squarefootage

	Residential (sqft)		**Non-Residential (sqft)**	
	Interior	Exterior	Interior	Exterior
Alma College Crossing	0	0	0	209
Alma College Parking	0	0	0	638
Alma College Renovation	0	0	2,498	0
Bear Creek Stables - Parking	0	0	0	730
Total	0	0	2,498	1,576

Phase 2

Building Construction Assumptions

Land Uses	Amount	Units	Notes
Office/Visitor Space	4,278	sqft	From Table 3-5 Stables Design Alternatives Improvements Comparison and
Stables	24,218	sqft	Figure for Alternative B. Assume that Stables require 3/4 of normal arch
Arenas	31,200	sqft	From Table 3-5 Stables Design Alternatives Improvements Comparison. Assume half of arena is painted due to nature of outdoor arena.

Architectural Coating Calculated Squarefootage

	Residential (sqft)		**Non-Residential (sqft)**	
	Interior	Exterior	Interior	Exterior
Office/Visitor Space	0	0	6,416	2,139
Stables	0	0	27,245	9,082
Arenas	0	0	23,400	7,800
Total	0	0	57,062	19,021

Phase 3

Building Construction Assumptions

Land Uses	Amount	Units	Notes
Lower Parking Area	135	Spaces	From project description. Assume that horse trailer spaces are five times the area of normal vehicle spaces.

Architectural Coating Calculated Squarefootage

	Residential (sqft)		**Non-Residential (sqft)**	
	Interior	Exterior	Interior	Exterior
Lower Parking Area	0	0	0	1,561
Total	0	0	-	1,561

SA = Staging Area

sqft per parking space 200

Calculation Method	See Section 4.7 in Appendix A and Section 7 in Appendix E of the CalEEMod User's Guide

Operational Emissions Modeling Results Summary											
				Average Daily Emissions				Annual Emissions			
						Exhaust					
Alternative B				lbs/day	lbs/day	lbs/day	lbs/day	MT/Year	MT/Year	MT/Year	MT/Year
Phase	**Operational Start Year (Approximate)**	**Source**	**Model**	**ROG**	**NOX**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**CO2e**
		TOTAL (w/o mobile)		0.6215	0.0247	0.0019	0.0019	25.8184	0.0596	0.0003	27.9325
		Electricity	CalEEMod	0.0000	0.0000	0.0000	0.0000	12.7359	0.0009	0.0002	12.8155
		Natural Gas**	CalEEMod	0.0027	0.0245	0.0019	0.0019	4.8708	0.0001	0.0001	4.9007
		Area Source*	Calculated/CalEEMod	0.6188	0.0002	0.0001	0.0001	0.0032	0.0000	0.0000	0.0036
1	**2021**	Mobile Source (calculated at total build-out level only)									
		Waste	CalEEMod	0.0000	0.0000	0.0000	0.0000	0.8079	0.0478	0.0000	2.4331
		Water	CalEEMod	0.0000	0.0000	0.0000	0.0000	0.0606	0.0108	0.0000	0.4397
		Lost Carbon Sequestration	CalEEMod	0.0000	0.0000	0.0000	0.0000	7.3400	0.0000	0.0000	7.3400
		TOTAL (w/o mobile)		0.4959	0.0436	0.0033	0.0033	89.3772	0.6091	0.0033	111.0607
		Electricity	CalEEMod	0.0000	0.0000	0.0000	0.0000	78.2664	0.0052	0.0010	78.7535
		Natural Gas**	CalEEMod	0.0048	0.0435	0.0033	0.0033	8.6483	0.0002	0.0002	8.7018
		Area Source*	Calculated/CalEEMod	0.4911	0.0001	0.0000	0.0000	0.0021	0.0000	0.0000	0.0024
2	**2025**	Mobile Source (calculated at total build-out level only)									
		Waste	CalEEMod	0.0000	0.0000	0.0000	0.0000				0.0000
		Water	CalEEMod	0.0000	0.0000	0.0000	0.0000	2.4604	0.6037	0.0021	23.6031
		Lost Carbon Sequestration	CalEEMod	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		TOTAL (w/o mobile)		0.1434	0.0001	0.0000	0.0000	12.8648	0.0039	0.0001	13.0166
		Electricity	CalEEMod	0.0000	0.0000	0.0000	0.0000	5.4584	0.0004	0.0001	5.4915
		Natural Gas**	CalEEMod	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Area Source*	Calculated/CalEEMod	0.1434	0.0001	0.0000	0.0000	0.0021	0.0000	0.0000	0.0024
3	**2030**	Mobile Source (calculated at total build-out level only)									
		Waste	CalEEMod	0.0000	0.0000	0.0000	0.0000	0.0589	0.0035	0.0000	0.1772
		Water	CalEEMod	0.0000	0.0000	0.0000	0.0000	0.0055	0.0000	0.0000	0.0055
		Lost Carbon Sequestration	CalEEMod	0.0000	0.0000	0.0000	0.0000	7.3400	0.0000	0.0000	7.3400

(NOTE: Phasing indicated here used for modeling purposes only and do not represent adopted phasing.)

Operational Emissions at Build-Out

	See Separate Mobile Calculations	1.2013	0.7229	0.4985	0.2060	452.7006	0.0074	0.0000	452.9527
Mobile Source									
Electricity	CalEEMod	0.0000	0.0000	0.0000	0.0000	96.4607	0.0064	0.0013	97.0604
Water	CalEEMod	0.0000	0.0000	0.0000	0.0000	2.5265	0.6145	0.0021	24.0482
Lost Carbon Sequestration	CalEEMod	0.0000	0.0000	0.0000	0.0000	14.6800	0.0000	0.0000	14.6800
Natural Gas**	CalEEMod	0.0075	0.0680	0.0052	0.0052	13.5191	0.0003	0.0003	13.6024
Waste	CalEEMod	0.0000	0.0000	0.0000	0.0000	0.8668	0.0513	0.0000	2.6103
Area Source*	Calculated	1.2533	0.0003	0.0001	0.0001	0.0074	0.0000	0.0000	0.0084
Average Daily Emissions for Criteria Pollutants/ Annual Emissions for GHGs		2.5	0.8	0.5	0.2	580.7610	0.6799	0.0036	604.9625
	BAAQMD Threshold	54	54	82	54				1100
	Exceed Threshold?	No	No	No	No				No

Bear Creek Proposed Project Operational Emissions Summary: Area Source Emissions Adjustments

Area Source Emissions Adjustments

1	**Consumer Products (CalEEMod-incorrect) *** **	13.25	0.00	0.00	0.00	0.0	0.000	0.000	
1	**Consumer Products (Calculated)**	0.07							
1	**Total Area Source (CalEEMod)**	13.80	0.00	0.00	0.00	0.0	0.000	0.000	
1	**Corrected Area Source**	0.62	0.00	0.00	0.00	0.00	0.00	0.00	
2	**Consumer Products (CalEEMod-incorrect) *** **	7.34	0.00	0.00	0.00	0.0	0.000	0.000	
2	**Consumer Products (Calculated)**	0.09							
2	**Total Area Source (CalEEMod)**	7.74	0.00	0.00	0.00	0.0	0.000	0.000	
2	**Corrected Area Source**	0.49	0.00	0.00	0.00	0.00	0.00	0.00	
3	**Consumer Products (CalEEMod-incorrect) *** **	3.96	0.00	0.00	0.00	0.0	0.000	0.000	
3	**Consumer Products (Calculated)**	0.00							
3	**Total Area Source (CalEEMod)**	4.10	0.00	0.00	0.00	0.0	0.000	0.000	
3	**Corrected Area Source**	0.14	0.00	0.00	0.00	0.00	0.00	0.00	

* Consumer products and operational arch coating emissions would only apply to the visitor centers at both Bear Creek Stables and Alma College.

** No natural gas use at arenas or trails

*** CalEEMod incorrectly applies consumer product emissions factor to areas without inhabitants, such as parking lots. A separate calculation is made.

Bear Creek Proposed Project Construction Emissions Summary

Construction Emissions Modeling Results Summary															
				Average Daily Emissions by Year								Annual Emissions			
						Total		Exhaust		Fugitive Dust					
Alternative B				lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	MT/Year	MT/Year	MT/Year	MT/Year	
Phase(1)	**Year**	**Construction Days per Year**	**Model**	**ROG**	**NOX**	**PM10**	**PM2.5**	**PM10**	**PM2.5**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**CO2e**	**Activity Summary**
1	1	208	CalEEMod + RCEM	0.755	6.185	2.229	1.201	0.302	0.269	3.588	1.236	141.782	0.012	0.000	142.193	Trail Construction, 1 vehicle bridge, and 1 retaining wall, not overlapping
1	2	260	CalEEMod	2.967	26.445	2.072	1.559	1.532	1.430	0.539	0.129	366.497	0.080	0.000	369.210	Alma College preparations + 1st half of renovations.
1	3	261	CalEEMod	0.731	5.620	0.507	0.370	0.348	0.327	0.159	0.043	93.596	0.018	0.000	94.208	2nd half of Alma College renovations, architectural coating
2	4	261	CalEEMod	1.699	17.277	1.231	0.933	0.891	0.821	0.340	0.112	289.553	0.086	0.000	292.473	Demolition, site clearing/tree removal, grading, road upgrades at Bear Creek Stables.
2	5	82	CalEEMod	1.371	11.649	0.824	0.629	0.627	0.578	0.198	0.053	73.716	0.022	0.000	74.454	Road upgrades, paving of parking, and architectural coating at Bear Creek Stables
2	6	198	CalEEMod + RCEM	0.997	8.373	1.923	1.100	0.446	0.390	4.967	1.350	184.007	0.011	0.000	184.398	Trail construction, 1 vehicle bridge, 1 retaining wall, and 2 pedestrian bridges, not overlapping
2	7	210	CalEEMod	2.974	15.637	1.409	0.909	0.790	0.743	0.619	0.167	299.119	0.057	0.000	301.071	Construction and architectural coating of visitor center, offices, stables, and livery at Bear Creek Stables.
2	8	260	CalEEMod	1.778	14.948	1.335	0.836	0.711	0.668	0.624	0.168	382.277	0.074	0.000	384.779	Construction of arena at Bear Creek Stables
2	9	130	CalEEMod	2.702	12.045	1.106	0.660	0.538	0.506	0.569	0.153	165.893	0.031	0.000	166.953	Construction and architectural coating of arena at Bear Creek Stables
3	10	93	CalEEMod + RCEM	2.027	16.066	1.989	1.310	0.893	0.755	12.243	2.598	178.543	0.002	0.000	178.598	2 vehicle bridge, 1 acre lot, 2 pedestrian bridges, not overlapping
3	11	41	CalEEMod	0.131	0.493	2.756	1.371	0.013	0.012	2.741	1.356	9.294	0.000	0.000	9.301	Trail construction
3	12	32	CalEEMod	1.156	7.756	1.544	0.894	0.353	0.326	1.194	0.566	25.559	0.008	0.000	25.817	Tree removal/site clearing, grading, paving, and architectural coating of Lower Parking Area
3	13	0	CalEEMod	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No Activity
3	14	0	CalEEMod	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No Activity
3	15	0	CalEEMod	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No Activity
	Total Days	2036	Construction Project Average Daily Emissions (2)	1.739	13.384	1.492	0.965	0.707	0.653	1.803	0.499	2209.834	0.401	0.000	2223.455	
			Maximum Daily Average Emissions (3)	2.974	26.445	2.756	1.559	1.532	1.430	12.243	2.598					
			BAAQMD Construction Threshold	54	54			82	54						1100	
			Exceed Threshold?	No	No			No	No						No	

(1) Phasing adjusted based on description in project description. Although this does not match phasing used in CalEEMod modeling, the construction years do match CalEEMod modeling.

(2) Daily Average emissions calculated by dividing the total emissions by the total number of construction days over the entire construction period.

(3) Maximum of average daily emissions calculated for each construction year.

CalEEMod = California Emissions Estimator Model v.2013.2.2

Annual GHG Emissions with Amortized Construction Emissions	
	MT/Year
Phase	**CO2e**
1	606
2	1,404
3	214
Total	2,223
Assumed Life Span (years)	30
Amortized Construction Emissions	74
Net Loss in Carbon Sequestration Potential	15
Total Operational Emissions without lost sequestration (per year)	590
Combined Annual Emissions	664

Bridge, Retaining Wall, and 1 Acre Parking Lot Maximum Daily Emissions Estimates

				tons per year	tons per year	tons per year	tons per year	tons per year	tons per year	tons per year	tons per year	MT/Year	MT/Year	MT/Year
Model	Phase 1	Number of structures	Days of Construction	**ROG**	**NOX**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**CO2**	**CH4**	**N2O**
RCEM	Vehicle bridge in 2016	1	40	0.03	0.24	0.19	0.01	0.03	0.04	0.01	0.02	57.56		
CalEEMod*	Retaining Wall	1	40	0.03	0.32	0.01	0.02	0.03	0.00	0.02	0.02	50.34	0.01	0.00
	Phase 2													
RCEM	Vehicle bridge	1	40	0.03	0.24	0.19	0.01	0.03	0.04	0.01	0.02	57.56	0.00	0.00
CalEEMod	Retaining Wall	1	40	0.03	0.32	0.01	0.02	0.03	0.00	0.02	0.02	50.34	0.01	0.00
RCEM**	Pedestrian Bridge	2	40	0.03	0.24	0.19	0.01	0.03	0.04	0.01	0.02	57.56	0.00	0.00
	Phase 3													
RCEM	Vehicle bridge	2	40	0.06	0.48	0.37	0.03	0.06	0.08	0.02	0.04	115.12	0.00	0.00
CalEEMod	1 Acre Lot	1	13	0.01	0.03	0.01	0.00	0.01	0.00	0.00	0.01	5.87	0.00	0.00
RCEM**	Pedestrian Bridge	2	40	0.03	0.24	0.19	0.01	0.03	0.04	0.01	0.02	57.56	0.00	0.00

* Criteria pollutant values not used, because the vehicle bridge and wall are assumed not to overlap, but are assumed to be built in the same year. GHGs emissions from retaining walls are used because both are built in the same year.
** Assumes pedestrian bridge requires half the equipment usage as 1/2 of vehicle bridge

Note that construction of vehicle bridges, pedestrian bridges, retaining walls, and a 1-acre lot were modeled seperately from the rest of the Bear Creek Project and had to be added in seperately. The summary on the previous page includes all aspects of the Bear Creek project construction, including the seperately modeled items shown on this page. See associated CalEEMod and Road Construction Emissions outputs.

Bear Creek - Phase 1

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Library	3.33	1000sqft	18.00	3,330.00	0
Other Asphalt Surfaces	105.00	1000sqft	2.41	105,000.00	0
Parking Lot	50.76	1000sqft	1.17	50,760.00	0
City Park	10.56	Acre	10.56	459,993.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	375.68	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Post-2020 system average PG&E emissions based on 2013 EPS Report and 23.8% renewable portfolio reported in CPUC http://www.cpuc.ca.gov/PUC/energy/Renewables/. Post-2020 assumes 33% renewables.

Land Use - Trails represented by City Park. Alma College renovations assumed to be similar to Library land use.

Construction Phase - Trail based on 3,600 sqft/day progress per USDA2014. Grading duration based Table 3.7 of CalEEMod Appendix D. All other non-default durations based on best estimates (see attached assumptions.)

Off-road Equipment -

Off-road Equipment - Based on equipment identified in USDA 2014 for earthen trails.

Off-road Equipment -

Off-road Equipment - Adjusted based on Table 3.7 in CalEEmod Appendix D and 36 day grading schedule.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - For construction of water utilities.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment reduced to 1 each to account for tree removal only.

Off-road Equipment - Based on Table 3.7 of CalEEMod Appendix D.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - USDA 2014 assumes trail construction will require 18 workers and 3 pick up trucks per day. Maximum of 30 workers per day and 12 vendor trips per day. Total hauling trips per day do not exceed 15 trips (during grading at Alma College).

Demolition - Total demo/removal squarefootage for Alternative B according to Demolition List from Populous.

Grading - USDA2014 estimates that 22 CY of soil is excavated from new trails per day. 5,300 CY for Alma College based on reponse to data request. Assume removed trees require two truckloads.

Architectural Coating - Arch coating calculated separately to discount non-coated areas.

Vehicle Trips - All mobile calculated off-model

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Area Coating - square footage calculated off-model

Energy Use -

Water And Wastewater - Hydrology report assumed up to 7,200 gpd for water use at Bear Creek Stables, 80 gpd for wine-tasting and receptions, 150 gpd for hikers, equestrians, and fire reserves. Assume 100% septic tank.

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	284,923.00	730.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	284,923.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	284,923.00	847.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	854,770.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	854,770.00	2,498.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	854,770.00	0.00
tblAreaCoating	Area_Nonresidential_Interior	854770	2498
tblConstructionPhase	NumDays	35.00	15.00
tblConstructionPhase	NumDays	35.00	5.00
tblConstructionPhase	NumDays	35.00	10.00
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	45.00	128.00
tblConstructionPhase	NumDays	45.00	30.00
tblConstructionPhase	NumDays	45.00	36.00
tblConstructionPhase	NumDays	35.00	220.00
tblConstructionPhase	NumDays	35.00	53.00
tblConstructionPhase	NumDays	35.00	46.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	PhaseEndDate	7/26/2016	1/27/2017
tblConstructionPhase	PhaseEndDate	5/3/2018	1/28/2019
tblConstructionPhase	PhaseStartDate	6/29/2016	1/1/2017
tblConstructionPhase	PhaseStartDate	4/6/2018	1/1/2019
tblGrading	AcresOfGrading	0.00	10.56
tblGrading	AcresOfGrading	45.00	5.00
tblGrading	AcresOfGrading	54.00	18.00

tblGrading	MaterialExported	0.00	1,652.00
tblGrading	MaterialExported	0.00	32.00
tblGrading	MaterialImported	0.00	5,300.00
tblLandUse	LotAcreage	0.08	18.00
tblOffRoadEquipment	HorsePower	255.00	80.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	375.68
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2021
tblSequestration	NumberOfNewTrees	0.00	-10.00
tblTripsAndVMT	HaulingTripNumber	663.00	530.00

tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	101.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	36.00
tblTripsAndVMT	WorkerTripNumber	260.00	60.00
tblVehicleTrips	ST_TR	1.59	0.00
tblVehicleTrips	ST_TR	46.55	0.00
tblVehicleTrips	SU_TR	1.59	0.00
tblVehicleTrips	SU_TR	25.49	0.00
tblVehicleTrips	WD_TR	1.59	0.00
tblVehicleTrips	WD_TR	56.24	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	104,192.06	47,450.00
tblWater	OutdoorWaterUseRate	12,582,043.05	28,301.00
tblWater	OutdoorWaterUseRate	162,967.08	0.00
tblWater	SepticTankPercent	10.33	100.00
tblWater	SepticTankPercent	10.33	100.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0154	0.0813	0.1933	4.1000e-004	0.1754	1.1400e-003	0.1766	0.0868	1.0500e-003	0.0879	0.0000	33.8799	33.8799	1.1100e-003	0.0000	33.9031
2017	0.3857	3.4379	2.5947	4.1500e-003	0.0701	0.1991	0.2693	0.0168	0.1859	0.2027	0.0000	366.4970	366.4970	0.0798	0.0000	368.1730
2018	0.0954	0.7334	0.6508	1.1000e-003	0.0208	0.0454	0.0662	5.5700e-003	0.0427	0.0483	0.0000	93.5959	93.5959	0.0180	0.0000	93.9740
2019	0.2217	2.2547	2.0580	3.2700e-003	0.0444	0.1163	0.1607	0.0146	0.1072	0.1218	0.0000	289.5525	289.5525	0.0859	0.0000	291.3555
2020	0.0562	0.4776	0.5250	8.6000e-004	8.1300e-003	0.0257	0.0338	2.1600e-003	0.0237	0.0258	0.0000	73.7160	73.7160	0.0217	0.0000	74.1710
Total	**0.7744**	**6.9849**	**6.0217**	**9.7900e-003**	**0.3188**	**0.3876**	**0.7064**	**0.1259**	**0.3605**	**0.4864**	**0.0000**	**857.2413**	**857.2413**	**0.2065**	**0.0000**	**861.5766**

2.1 Overall Construction

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					
2016	0.0154	0.0813	0.1933	4.1000e-004	0.1754	1.1400e-003	0.1766	0.0868	1.0500e-003	0.0879	0.0000	33.8799	33.8799	1.1100e-003	0.0000	33.9031
2017	0.3857	3.4379	2.5947	4.1500e-003	0.0701	0.1991	0.2693	0.0168	0.1859	0.2027	0.0000	366.4967	366.4967	0.0798	0.0000	368.1726
2018	0.0954	0.7334	0.6508	1.1000e-003	0.0208	0.0454	0.0662	5.5700e-003	0.0427	0.0483	0.0000	93.5958	93.5958	0.0180	0.0000	93.9739
2019	0.2217	2.2547	2.0580	3.2700e-003	0.0444	0.1163	0.1607	0.0146	0.1072	0.1218	0.0000	289.5522	289.5522	0.0859	0.0000	291.3552
2020	0.0562	0.4776	0.5250	8.6000e-004	8.1300e-003	0.0257	0.0338	2.1600e-003	0.0237	0.0258	0.0000	73.7159	73.7159	0.0217	0.0000	74.1709
Total	**0.7744**	**6.9849**	**6.0217**	**9.7900e-003**	**0.3188**	**0.3876**	**0.7064**	**0.1259**	**0.3605**	**0.4864**	**0.0000**	**857.2405**	**857.2405**	**0.2065**	**0.0000**	**861.5757**

	ROG	NOx	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**

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	2.5176	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2000e-003
Energy	4.9000e-004	4.4700e-003	3.7600e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	17.6067	17.6067	9.4000e-004	2.6000e-004	17.7067
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	0.8079	0.0000	0.8079	0.0478	0.0000	1.8106
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0606	0.0606	0.0108	4.0000e-005	0.2986
Total	**2.5181**	**4.4800e-003**	**5.3200e-003**	**3.0000e-005**	**0.0000**	**3.5000e-004**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**3.5000e-004**	**0.8079**	**17.6704**	**18.4783**	**0.0595**	**3.0000e-004**	**19.8191**

2.2 Overall Operational

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	2.5176	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2000e-003
Energy	4.9000e-004	4.4700e-003	3.7600e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	17.6067	17.6067	9.4000e-004	2.6000e-004	17.7067
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	0.8079	0.0000	0.8079	0.0478	0.0000	1.8106
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0606	0.0606	0.0108	4.0000e-005	0.2986
Total	**2.5181**	**4.4800e-003**	**5.3200e-003**	**3.0000e-005**	**0.0000**	**3.5000e-004**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**3.5000e-004**	**0.8079**	**17.6704**	**18.4783**	**0.0595**	**3.0000e-004**	**19.8191**

	ROG	NOx	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**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	-7.3400
Total	**-7.3400**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	01: Trail Construction	Grading	1/1/2016	6/28/2016	5	128	
2	02: Demolition at Alma College with Tree Removal	Demolition	1/1/2017	1/27/2017	5	20	
3	03: Grading at Alma College	Grading	1/28/2017	3/20/2017	5	36	
4	04: Paving at Alma College	Paving	3/21/2017	5/23/2017	5	46	
5	05: Arch Coating at Alma College Lot	Architectural Coating	5/24/2017	5/30/2017	5	5	
6	06: Trenching at Alma College	Trenching	5/31/2017	6/15/2017	5	12	
7	07: Building Construction - Renovating at Alma College	Building Construction	6/16/2017	3/22/2018	5	200	
8	08: Arch Coating at Chapel at Alma College	Architectural Coating	3/23/2018	4/5/2018	5	10	
9	09: Demolition at Bear Creek Stables	Demolition	1/1/2019	1/28/2019	5	20	
10	10: Site Clearing at Bear Creek Stables (Tree Removal)	Site Preparation	1/29/2019	2/4/2019	5	5	
11	11: Grading at Bear Creek Stables	Grading	2/5/2019	3/18/2019	5	30	
12	12: Roadway Upgrades at Bear Creek Stables	Paving	3/19/2019	1/20/2020	5	220	
13	13: Paved Parking at Bear Creek Stables	Paving	1/21/2020	4/2/2020	5	53	
14	14: Arch Coating at Paved Areas at Bear Creek Stables	Architectural Coating	4/3/2020	4/23/2020	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 847 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
01: Trail Construction	Excavators	0	8.00	162	0.38
01: Trail Construction	Graders	0	8.00	174	0.41

01: Trail Construction	Rubber Tired Dozers	1	3.00	80	0.40
01: Trail Construction	Scrapers	0	8.00	361	0.48
01: Trail Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
02: Demolition at Alma College with Tree Removal	Concrete/Industrial Saws	1	8.00	81	0.73
02: Demolition at Alma College with Tree Removal	Excavators	3	8.00	162	0.38
02: Demolition at Alma College with Tree Removal	Rubber Tired Dozers	2	8.00	255	0.40
03: Grading at Alma College	Crawler Tractors	1	8.00	208	0.43
03: Grading at Alma College	Excavators	0	8.00	162	0.38
03: Grading at Alma College	Graders	1	8.00	174	0.41
03: Grading at Alma College	Rubber Tired Dozers	0	8.00	255	0.40
03: Grading at Alma College	Scrapers	1	4.00	361	0.48
03: Grading at Alma College	Tractors/Loaders/Backhoes	0	8.00	97	0.37
04: Paving at Alma College	Pavers	2	8.00	125	0.42
04: Paving at Alma College	Paving Equipment	2	8.00	130	0.36
04: Paving at Alma College	Rollers	2	8.00	80	0.38
05: Arch Coating at Alma College Lot	Air Compressors	1	6.00	78	0.48
06: Trenching at Alma College	Trenchers	1	5.00	80	0.50
07: Building Construction - Renovating at Alma College	Cranes	1	7.00	226	0.29
07: Building Construction - Renovating at Alma College	Forklifts	3	8.00	89	0.20
07: Building Construction - Renovating at Alma College	Generator Sets	1	8.00	84	0.74
07: Building Construction - Renovating at Alma College	Tractors/Loaders/Backhoes	3	7.00	97	0.37
07: Building Construction - Renovating at Alma College	Welders	1	8.00	46	0.45
08: Arch Coating at Chapel at Alma College	Air Compressors	1	6.00	78	0.48
09: Demolition at Bear Creek Stables	Concrete/Industrial Saws	1	8.00	81	0.73
09: Demolition at Bear Creek Stables	Excavators	3	8.00	162	0.38
09: Demolition at Bear Creek Stables	Rubber Tired Dozers	2	8.00	255	0.40

10: Site Clearing at Bear Creek Stables (Tree Removal)	Rubber Tired Dozers	1	8.00	255	0.40
10: Site Clearing at Bear Creek Stables (Tree Removal)	Tractors/Loaders/Backhoes	1	8.00	97	0.37
11: Grading at Bear Creek Stables	Crawler Tractors	1	8.00	208	0.43
11: Grading at Bear Creek Stables	Excavators	0	8.00	162	0.38
11: Grading at Bear Creek Stables	Graders	1	8.00	174	0.41
11: Grading at Bear Creek Stables	Rubber Tired Dozers	0	8.00	255	0.40
11: Grading at Bear Creek Stables	Scrapers	1	4.00	361	0.48
11: Grading at Bear Creek Stables	Tractors/Loaders/Backhoes	0	8.00	97	0.37
12: Roadway Upgrades at Bear Creek Stables	Pavers	2	8.00	125	0.42
12: Roadway Upgrades at Bear Creek Stables	Paving Equipment	2	8.00	130	0.36
12: Roadway Upgrades at Bear Creek Stables	Rollers	2	8.00	80	0.38
13: Paved Parking at Bear Creek Stables	Pavers	2	8.00	125	0.42
13: Paved Parking at Bear Creek Stables	Paving Equipment	2	8.00	130	0.36
13: Paved Parking at Bear Creek Stables	Rollers	2	8.00	80	0.38
14: Arch Coating at Paved Areas at Bear Creek Stables	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
01: Trail Construction	1	36.00	6.00	207.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
02: Demolition at Alma College with Tree Re	6	15.00	0.00	40.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
03: Grading at Alma College	3	8.00	0.00	530.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
04: Paving at Alma College	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
05: Arch Coating at Alma College Lot	1	52.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
06: Trenching at Alma College	1	3.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
07: Building Construction - Renova	9	60.00	12.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
08: Arch Coating at Chapel at Alma Colleg	1	52.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
09: Demolition at Bear Creek Stables	6	15.00	0.00	86.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
10: Site Clearing at Bear Creek Stables (T	2	5.00	0.00	4.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
11: Grading at Bear Creek Stables	3	8.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
12: Roadway Upgrades at Bear Cre	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
13: Paved Parking at Bear Creek Stables	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
14: Arch Coating at Paved Areas at Bear	1	52.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 01: Trail Construction - 2016

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					0.1502	0.0000	0.1502	0.0801	0.0000	0.0801	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**0.1502**	**0.0000**	**0.1502**	**0.0801**	**0.0000**	**0.0801**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.2600e-003	0.0309	0.0242	8.0000e-005	1.7500e-003	4.0000e-004	2.1500e-003	4.8000e-004	3.7000e-004	8.5000e-004	0.0000	7.0922	7.0922	5.0000e-005	0.0000	7.0933
Vendor	4.5600e-003	0.0383	0.0519	9.0000e-005	2.4800e-003	5.7000e-004	3.0500e-003	7.1000e-004	5.3000e-004	1.2400e-003	0.0000	8.3042	8.3042	7.0000e-005	0.0000	8.3056
Worker	8.5800e-003	0.0121	0.1171	2.4000e-004	0.0210	1.7000e-004	0.0211	5.5800e-003	1.5000e-004	5.7300e-003	0.0000	18.4835	18.4835	9.9000e-004	0.0000	18.5042
Total	**0.0154**	**0.0813**	**0.1933**	**4.1000e-004**	**0.0252**	**1.1400e-003**	**0.0263**	**6.7700e-003**	**1.0500e-003**	**7.8200e-003**	**0.0000**	**33.8799**	**33.8799**	**1.1100e-003**	**0.0000**	**33.9031**

3.2 01: Trail Construction - 2016

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					0.1502	0.0000	0.1502	0.0801	0.0000	0.0801	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**0.1502**	**0.0000**	**0.1502**	**0.0801**	**0.0000**	**0.0801**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.2600e-003	0.0309	0.0242	8.0000e-005	1.7500e-003	4.0000e-004	2.1500e-003	4.8000e-004	3.7000e-004	8.5000e-004	0.0000	7.0922	7.0922	5.0000e-005	0.0000	7.0933
Vendor	4.5600e-003	0.0383	0.0519	9.0000e-005	2.4800e-003	5.7000e-004	3.0500e-003	7.1000e-004	5.3000e-004	1.2400e-003	0.0000	8.3042	8.3042	7.0000e-005	0.0000	8.3056
Worker	8.5800e-003	0.0121	0.1171	2.4000e-004	0.0210	1.7000e-004	0.0211	5.5800e-003	1.5000e-004	5.7300e-003	0.0000	18.4835	18.4835	9.9000e-004	0.0000	18.5042
Total	**0.0154**	**0.0813**	**0.1933**	**4.1000e-004**	**0.0252**	**1.1400e-003**	**0.0263**	**6.7700e-003**	**1.0500e-003**	**7.8200e-003**	**0.0000**	**33.8799**	**33.8799**	**1.1100e-003**	**0.0000**	**33.9031**

3.3 02: Demolition at Alma College with Tree Removal - 2017

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					4.3200e-003	0.0000	4.3200e-003	6.5000e-004	0.0000	6.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8292
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**	**4.3200e-003**	**0.0213**	**0.0256**	**6.5000e-004**	**0.0198**	**0.0205**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8292**

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	3.9000e-004	5.3500e-003	4.3500e-003	1.0000e-005	3.4000e-004	7.0000e-005	4.1000e-004	9.0000e-005	6.0000e-005	1.6000e-004	0.0000	1.3469	1.3469	1.0000e-005	0.0000	1.3471
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-004	7.0000e-004	6.8200e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1574	1.1574	6.0000e-005	0.0000	1.1586
Total	**8.9000e-004**	**6.0500e-003**	**0.0112**	**3.0000e-005**	**1.7100e-003**	**8.0000e-005**	**1.7900e-003**	**4.5000e-004**	**7.0000e-005**	**5.3000e-004**	**0.0000**	**2.5042**	**2.5042**	**7.0000e-005**	**0.0000**	**2.5057**

3.3 02: Demolition at Alma College with Tree Removal - 2017

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					4.3200e-003	0.0000	4.3200e-003	6.5000e-004	0.0000	6.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8291
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**	**4.3200e-003**	**0.0213**	**0.0256**	**6.5000e-004**	**0.0198**	**0.0205**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8291**

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	3.9000e-004	5.3500e-003	4.3500e-003	1.0000e-005	3.4000e-004	7.0000e-005	4.1000e-004	9.0000e-005	6.0000e-005	1.6000e-004	0.0000	1.3469	1.3469	1.0000e-005	0.0000	1.3471
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-004	7.0000e-004	6.8200e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1574	1.1574	6.0000e-005	0.0000	1.1586
Total	**8.9000e-004**	**6.0500e-003**	**0.0112**	**3.0000e-005**	**1.7100e-003**	**8.0000e-005**	**1.7900e-003**	**4.5000e-004**	**7.0000e-005**	**5.3000e-004**	**0.0000**	**2.5042**	**2.5042**	**7.0000e-005**	**0.0000**	**2.5057**

3.4 03: Grading at Alma College - 2017

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					9.8400e-003	0.0000	9.8400e-003	1.0800e-003	0.0000	1.0800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0410	0.4840	0.2283	3.8000e-004		0.0219	0.0219		0.0201	0.0201	0.0000	35.7243	35.7243	0.0110	0.0000	35.9542
Total	**0.0410**	**0.4840**	**0.2283**	**3.8000e-004**	**9.8400e-003**	**0.0219**	**0.0317**	**1.0800e-003**	**0.0201**	**0.0212**	**0.0000**	**35.7243**	**35.7243**	**0.0110**	**0.0000**	**35.9542**

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	5.1600e-003	0.0709	0.0577	2.0000e-004	4.4800e-003	9.1000e-004	5.3900e-003	1.2300e-003	8.4000e-004	2.0600e-003	0.0000	17.8461	17.8461	1.3000e-004	0.0000	17.8488
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	4.8000e-004	6.8000e-004	6.5400e-003	2.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1111	1.1111	6.0000e-005	0.0000	1.1122
Total	**5.6400e-003**	**0.0716**	**0.0642**	**2.2000e-004**	**5.7900e-003**	**9.2000e-004**	**6.7100e-003**	**1.5800e-003**	**8.5000e-004**	**2.4200e-003**	**0.0000**	**18.9571**	**18.9571**	**1.9000e-004**	**0.0000**	**18.9610**

3.4 03: Grading at Alma College - 2017

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					9.8400e-003	0.0000	9.8400e-003	1.0800e-003	0.0000	1.0800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0410	0.4840	0.2283	3.8000e-004		0.0219	0.0219		0.0201	0.0201	0.0000	35.7243	35.7243	0.0110	0.0000	35.9541
Total	**0.0410**	**0.4840**	**0.2283**	**3.8000e-004**	**9.8400e-003**	**0.0219**	**0.0317**	**1.0800e-003**	**0.0201**	**0.0212**	**0.0000**	**35.7243**	**35.7243**	**0.0110**	**0.0000**	**35.9541**

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	5.1600e-003	0.0709	0.0577	2.0000e-004	4.4800e-003	9.1000e-004	5.3900e-003	1.2300e-003	8.4000e-004	2.0600e-003	0.0000	17.8461	17.8461	1.3000e-004	0.0000	17.8488
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	4.8000e-004	6.8000e-004	6.5400e-003	2.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1111	1.1111	6.0000e-005	0.0000	1.1122
Total	**5.6400e-003**	**0.0716**	**0.0642**	**2.2000e-004**	**5.7900e-003**	**9.2000e-004**	**6.7100e-003**	**1.5800e-003**	**8.5000e-004**	**2.4200e-003**	**0.0000**	**18.9571**	**18.9571**	**1.9000e-004**	**0.0000**	**18.9610**

3.5 04: Paving at Alma College - 2017

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	0.0439	0.4668	0.3387	5.1000e-004		0.0262	0.0262		0.0241	0.0241	0.0000	47.5949	47.5949	0.0146	0.0000	47.9011
Paving	4.6900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0486**	**0.4668**	**0.3387**	**5.1000e-004**		**0.0262**	**0.0262**		**0.0241**	**0.0241**	**0.0000**	**47.5949**	**47.5949**	**0.0146**	**0.0000**	**47.9011**

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	1.1500e-003	1.6200e-003	0.0157	4.0000e-005	3.1400e-003	2.0000e-005	3.1700e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	2.6619	2.6619	1.4000e-004	0.0000	2.6647
Total	**1.1500e-003**	**1.6200e-003**	**0.0157**	**4.0000e-005**	**3.1400e-003**	**2.0000e-005**	**3.1700e-003**	**8.4000e-004**	**2.0000e-005**	**8.6000e-004**	**0.0000**	**2.6619**	**2.6619**	**1.4000e-004**	**0.0000**	**2.6647**

3.5 04: Paving at Alma College - 2017

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	0.0439	0.4668	0.3387	5.1000e-004		0.0262	0.0262		0.0241	0.0241	0.0000	47.5948	47.5948	0.0146	0.0000	47.9011
Paving	4.6900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0486**	**0.4668**	**0.3387**	**5.1000e-004**		**0.0262**	**0.0262**		**0.0241**	**0.0241**	**0.0000**	**47.5948**	**47.5948**	**0.0146**	**0.0000**	**47.9011**

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	1.1500e-003	1.6200e-003	0.0157	4.0000e-005	3.1400e-003	2.0000e-005	3.1700e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	2.6619	2.6619	1.4000e-004	0.0000	2.6647
Total	**1.1500e-003**	**1.6200e-003**	**0.0157**	**4.0000e-005**	**3.1400e-003**	**2.0000e-005**	**3.1700e-003**	**8.4000e-004**	**2.0000e-005**	**8.6000e-004**	**0.0000**	**2.6619**	**2.6619**	**1.4000e-004**	**0.0000**	**2.6647**

3.6 05: Arch Coating at Alma College Lot - 2017

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	2.9400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3000e-004	5.4600e-003	4.6700e-003	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	0.6383	0.6383	7.0000e-005	0.0000	0.6397
Total	**3.7700e-003**	**5.4600e-003**	**4.6700e-003**	**1.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**	**0.0000**	**0.6383**	**0.6383**	**7.0000e-005**	**0.0000**	**0.6397**

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	4.3000e-004	6.1000e-004	5.9100e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0030	1.0030	5.0000e-005	0.0000	1.0041
Total	**4.3000e-004**	**6.1000e-004**	**5.9100e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0030**	**1.0030**	**5.0000e-005**	**0.0000**	**1.0041**

3.6 05: Arch Coating at Alma College Lot - 2017

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	2.9400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3000e-004	5.4600e-003	4.6700e-003	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	0.6383	0.6383	7.0000e-005	0.0000	0.6397
Total	**3.7700e-003**	**5.4600e-003**	**4.6700e-003**	**1.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**	**0.0000**	**0.6383**	**0.6383**	**7.0000e-005**	**0.0000**	**0.6397**

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	4.3000e-004	6.1000e-004	5.9100e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0030	1.0030	5.0000e-005	0.0000	1.0041
Total	**4.3000e-004**	**6.1000e-004**	**5.9100e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0030**	**1.0030**	**5.0000e-005**	**0.0000**	**1.0041**

3.7 06: Trenching at Alma College - 2017

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	2.0100e-003	0.0177	0.0105	1.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	1.2048	1.2048	3.7000e-004	0.0000	1.2125
Total	**2.0100e-003**	**0.0177**	**0.0105**	**1.0000e-005**		**1.3800e-003**	**1.3800e-003**		**1.2700e-003**	**1.2700e-003**	**0.0000**	**1.2048**	**1.2048**	**3.7000e-004**	**0.0000**	**1.2125**

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	6.0000e-005	8.0000e-005	8.2000e-004	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1389	0.1389	1.0000e-005	0.0000	0.1390
Total	**6.0000e-005**	**8.0000e-005**	**8.2000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.7000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1389**	**0.1389**	**1.0000e-005**	**0.0000**	**0.1390**

3.7 06: Trenching at Alma College - 2017

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	2.0100e-003	0.0177	0.0105	1.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	1.2048	1.2048	3.7000e-004	0.0000	1.2125
Total	**2.0100e-003**	**0.0177**	**0.0105**	**1.0000e-005**		**1.3800e-003**	**1.3800e-003**		**1.2700e-003**	**1.2700e-003**	**0.0000**	**1.2048**	**1.2048**	**3.7000e-004**	**0.0000**	**1.2125**

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	6.0000e-005	8.0000e-005	8.2000e-004	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1389	0.1389	1.0000e-005	0.0000	0.1390
Total	**6.0000e-005**	**8.0000e-005**	**8.2000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.7000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1389**	**0.1389**	**1.0000e-005**	**0.0000**	**0.1390**

3.8 07: Building Construction - Renovating at Alma College - 2017

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	0.2187	1.8616	1.2781	1.8900e-003		0.1256	0.1256		0.1179	0.1179	0.0000	168.8328	168.8328	0.0416	0.0000	169.7054
Total	**0.2187**	**1.8616**	**1.2781**	**1.8900e-003**		**0.1256**	**0.1256**		**0.1179**	**0.1179**	**0.0000**	**168.8328**	**168.8328**	**0.0416**	**0.0000**	**169.7054**

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	8.8000e-003	0.0756	0.1054	2.0000e-004	5.4600e-003	1.0900e-003	6.5600e-003	1.5700e-003	1.0100e-003	2.5700e-003	0.0000	17.9814	17.9814	1.4000e-004	0.0000	17.9843
Worker	0.0141	0.0198	0.1922	4.5000e-004	0.0385	2.9000e-004	0.0388	0.0102	2.7000e-004	0.0105	0.0000	32.6373	32.6373	1.6600e-003	0.0000	32.6721
Total	**0.0229**	**0.0955**	**0.2976**	**6.5000e-004**	**0.0440**	**1.3800e-003**	**0.0454**	**0.0118**	**1.2800e-003**	**0.0131**	**0.0000**	**50.6186**	**50.6186**	**1.8000e-003**	**0.0000**	**50.6563**

3.8 07: Building Construction - Renovating at Alma College - 2017

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	0.2187	1.8616	1.2781	1.8900e-003		0.1256	0.1256		0.1179	0.1179	0.0000	168.8326	168.8326	0.0416	0.0000	169.7052
Total	**0.2187**	**1.8616**	**1.2781**	**1.8900e-003**		**0.1256**	**0.1256**		**0.1179**	**0.1179**	**0.0000**	**168.8326**	**168.8326**	**0.0416**	**0.0000**	**169.7052**

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	8.8000e-003	0.0756	0.1054	2.0000e-004	5.4600e-003	1.0900e-003	6.5600e-003	1.5700e-003	1.0100e-003	2.5700e-003	0.0000	17.9814	17.9814	1.4000e-004	0.0000	17.9843
Worker	0.0141	0.0198	0.1922	4.5000e-004	0.0385	2.9000e-004	0.0388	0.0102	2.7000e-004	0.0105	0.0000	32.6373	32.6373	1.6600e-003	0.0000	32.6721
Total	**0.0229**	**0.0955**	**0.2976**	**6.5000e-004**	**0.0440**	**1.3800e-003**	**0.0454**	**0.0118**	**1.2800e-003**	**0.0131**	**0.0000**	**50.6186**	**50.6186**	**1.8000e-003**	**0.0000**	**50.6563**

3.8 07: Building Construction - Renovating at Alma College - 2018

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	0.0787	0.6862	0.5172	7.9000e-004		0.0441	0.0441		0.0414	0.0414	0.0000	69.8471	69.8471	0.0171	0.0000	70.2060
Total	**0.0787**	**0.6862**	**0.5172**	**7.9000e-004**		**0.0441**	**0.0441**		**0.0414**	**0.0414**	**0.0000**	**69.8471**	**69.8471**	**0.0171**	**0.0000**	**70.2060**

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	3.3300e-003	0.0287	0.0415	8.0000e-005	2.2900e-003	4.2000e-004	2.7100e-003	6.6000e-004	3.9000e-004	1.0500e-003	0.0000	7.3926	7.3926	6.0000e-005	0.0000	7.3938
Worker	5.3000e-003	7.4700e-003	0.0722	1.9000e-004	0.0161	1.2000e-004	0.0162	4.2900e-003	1.1000e-004	4.4000e-003	0.0000	13.1482	13.1482	6.4000e-004	0.0000	13.1616
Total	**8.6300e-003**	**0.0361**	**0.1137**	**2.7000e-004**	**0.0184**	**5.4000e-004**	**0.0189**	**4.9500e-003**	**5.0000e-004**	**5.4500e-003**	**0.0000**	**20.5408**	**20.5408**	**7.0000e-004**	**0.0000**	**20.5554**

3.8 07: Building Construction - Renovating at Alma College - 2018

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	0.0787	0.6862	0.5172	7.9000e-004		0.0441	0.0441		0.0414	0.0414	0.0000	69.8470	69.8470	0.0171	0.0000	70.2059
Total	**0.0787**	**0.6862**	**0.5172**	**7.9000e-004**		**0.0441**	**0.0441**		**0.0414**	**0.0414**	**0.0000**	**69.8470**	**69.8470**	**0.0171**	**0.0000**	**70.2059**

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	3.3300e-003	0.0287	0.0415	8.0000e-005	2.2900e-003	4.2000e-004	2.7100e-003	6.6000e-004	3.9000e-004	1.0500e-003	0.0000	7.3926	7.3926	6.0000e-005	0.0000	7.3938
Worker	5.3000e-003	7.4700e-003	0.0722	1.9000e-004	0.0161	1.2000e-004	0.0162	4.2900e-003	1.1000e-004	4.4000e-003	0.0000	13.1482	13.1482	6.4000e-004	0.0000	13.1616
Total	**8.6300e-003**	**0.0361**	**0.1137**	**2.7000e-004**	**0.0184**	**5.4000e-004**	**0.0189**	**4.9500e-003**	**5.0000e-004**	**5.4500e-003**	**0.0000**	**20.5408**	**20.5408**	**7.0000e-004**	**0.0000**	**20.5554**

3.9 08: Arch Coating at Chapel at Alma College - 2018

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	5.7900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4900e-003	0.0100	9.2700e-003	1.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	0.0000	1.2766	1.2766	1.2000e-004	0.0000	1.2792
Total	**7.2800e-003**	**0.0100**	**9.2700e-003**	**1.0000e-005**		**7.5000e-004**	**7.5000e-004**		**7.5000e-004**	**7.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.2000e-004**	**0.0000**	**1.2792**

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	7.8000e-004	1.1000e-003	0.0106	3.0000e-005	2.3700e-003	2.0000e-005	2.3800e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	1.9314	1.9314	9.0000e-005	0.0000	1.9333
Total	**7.8000e-004**	**1.1000e-003**	**0.0106**	**3.0000e-005**	**2.3700e-003**	**2.0000e-005**	**2.3800e-003**	**6.3000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**1.9314**	**1.9314**	**9.0000e-005**	**0.0000**	**1.9333**

3.9 08: Arch Coating at Chapel at Alma College - 2018

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	5.7900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4900e-003	0.0100	9.2700e-003	1.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	0.0000	1.2766	1.2766	1.2000e-004	0.0000	1.2792
Total	**7.2800e-003**	**0.0100**	**9.2700e-003**	**1.0000e-005**		**7.5000e-004**	**7.5000e-004**		**7.5000e-004**	**7.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.2000e-004**	**0.0000**	**1.2792**

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	7.8000e-004	1.1000e-003	0.0106	3.0000e-005	2.3700e-003	2.0000e-005	2.3800e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	1.9314	1.9314	9.0000e-005	0.0000	1.9333
Total	**7.8000e-004**	**1.1000e-003**	**0.0106**	**3.0000e-005**	**2.3700e-003**	**2.0000e-005**	**2.3800e-003**	**6.3000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**1.9314**	**1.9314**	**9.0000e-005**	**0.0000**	**1.9333**

3.10 09: Demolition at Bear Creek Stables - 2019

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					9.2800e-003	0.0000	9.2800e-003	1.4100e-003	0.0000	1.4100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3394	0.3081	4.0000e-004		0.0165	0.0165		0.0153	0.0153	0.0000	35.6454	35.6454	9.9600e-003	0.0000	35.8545
Total	**0.0332**	**0.3394**	**0.3081**	**4.0000e-004**	**9.2800e-003**	**0.0165**	**0.0257**	**1.4100e-003**	**0.0153**	**0.0167**	**0.0000**	**35.6454**	**35.6454**	**9.9600e-003**	**0.0000**	**35.8545**

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	7.4000e-004	9.6200e-003	8.6900e-003	3.0000e-005	7.3000e-004	1.4000e-004	8.7000e-004	2.0000e-004	1.3000e-004	3.3000e-004	0.0000	2.7974	2.7974	2.0000e-005	0.0000	2.7979
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	5.8000e-004	5.5600e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.0741	1.0741	5.0000e-005	0.0000	1.0752
Total	**1.1500e-003**	**0.0102**	**0.0143**	**5.0000e-005**	**2.1000e-003**	**1.5000e-004**	**2.2500e-003**	**5.6000e-004**	**1.4000e-004**	**7.0000e-004**	**0.0000**	**3.8716**	**3.8716**	**7.0000e-005**	**0.0000**	**3.8731**

3.10 09: Demolition at Bear Creek Stables - 2019

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					9.2800e-003	0.0000	9.2800e-003	1.4100e-003	0.0000	1.4100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3394	0.3081	4.0000e-004		0.0165	0.0165		0.0153	0.0153	0.0000	35.6454	35.6454	9.9600e-003	0.0000	35.8544
Total	**0.0332**	**0.3394**	**0.3081**	**4.0000e-004**	**9.2800e-003**	**0.0165**	**0.0257**	**1.4100e-003**	**0.0153**	**0.0167**	**0.0000**	**35.6454**	**35.6454**	**9.9600e-003**	**0.0000**	**35.8544**

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	7.4000e-004	9.6200e-003	8.6900e-003	3.0000e-005	7.3000e-004	1.4000e-004	8.7000e-004	2.0000e-004	1.3000e-004	3.3000e-004	0.0000	2.7974	2.7974	2.0000e-005	0.0000	2.7979
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	5.8000e-004	5.5600e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.0741	1.0741	5.0000e-005	0.0000	1.0752
Total	**1.1500e-003**	**0.0102**	**0.0143**	**5.0000e-005**	**2.1000e-003**	**1.5000e-004**	**2.2500e-003**	**5.6000e-004**	**1.4000e-004**	**7.0000e-004**	**0.0000**	**3.8716**	**3.8716**	**7.0000e-005**	**0.0000**	**3.8731**

3.11 10: Site Clearing at Bear Creek Stables (Tree Removal) - 2019

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					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0335	0.0271	3.0000e-005		1.6600e-003	1.6600e-003		1.5300e-003	1.5300e-003	0.0000	2.6983	2.6983	8.5000e-004	0.0000	2.7162
Total	**3.1600e-003**	**0.0335**	**0.0271**	**3.0000e-005**	**0.0151**	**1.6600e-003**	**0.0167**	**8.2800e-003**	**1.5300e-003**	**9.8100e-003**	**0.0000**	**2.6983**	**2.6983**	**8.5000e-004**	**0.0000**	**2.7162**

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	3.0000e-005	4.5000e-004	4.0000e-004	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1301	0.1301	0.0000	0.0000	0.1301
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-005	5.0000e-005	4.6000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0895	0.0895	0.0000	0.0000	0.0896
Total	**6.0000e-005**	**5.0000e-004**	**8.6000e-004**	**0.0000**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**4.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**0.2196**	**0.2196**	**0.0000**	**0.0000**	**0.2197**

3.11 10: Site Clearing at Bear Creek Stables (Tree Removal) - 2019

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					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0335	0.0271	3.0000e-005		1.6600e-003	1.6600e-003		1.5300e-003	1.5300e-003	0.0000	2.6983	2.6983	8.5000e-004	0.0000	2.7162
Total	**3.1600e-003**	**0.0335**	**0.0271**	**3.0000e-005**	**0.0151**	**1.6600e-003**	**0.0167**	**8.2800e-003**	**1.5300e-003**	**9.8100e-003**	**0.0000**	**2.6983**	**2.6983**	**8.5000e-004**	**0.0000**	**2.7162**

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	3.0000e-005	4.5000e-004	4.0000e-004	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1301	0.1301	0.0000	0.0000	0.1301
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-005	5.0000e-005	4.6000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0895	0.0895	0.0000	0.0000	0.0896
Total	**6.0000e-005**	**5.0000e-004**	**8.6000e-004**	**0.0000**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**4.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**0.2196**	**0.2196**	**0.0000**	**0.0000**	**0.2197**

3.12 11: Grading at Bear Creek Stables - 2019

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					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0283	0.3264	0.1664	3.2000e-004		0.0145	0.0145		0.0134	0.0134	0.0000	28.7884	28.7884	9.1100e-003	0.0000	28.9797
Total	**0.0283**	**0.3264**	**0.1664**	**3.2000e-004**	**2.6500e-003**	**0.0145**	**0.0172**	**2.9000e-004**	**0.0134**	**0.0137**	**0.0000**	**28.7884**	**28.7884**	**9.1100e-003**	**0.0000**	**28.9797**

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	3.3000e-004	4.6000e-004	4.4500e-003	1.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8593	0.8593	4.0000e-005	0.0000	0.8601
Total	**3.3000e-004**	**4.6000e-004**	**4.4500e-003**	**1.0000e-005**	**1.0900e-003**	**1.0000e-005**	**1.1000e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8593**	**0.8593**	**4.0000e-005**	**0.0000**	**0.8601**

3.12 11: Grading at Bear Creek Stables - 2019

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					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0283	0.3264	0.1664	3.2000e-004		0.0145	0.0145		0.0134	0.0134	0.0000	28.7884	28.7884	9.1100e-003	0.0000	28.9797
Total	**0.0283**	**0.3264**	**0.1664**	**3.2000e-004**	**2.6500e-003**	**0.0145**	**0.0172**	**2.9000e-004**	**0.0134**	**0.0137**	**0.0000**	**28.7884**	**28.7884**	**9.1100e-003**	**0.0000**	**28.9797**

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	3.3000e-004	4.6000e-004	4.4500e-003	1.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8593	0.8593	4.0000e-005	0.0000	0.8601
Total	**3.3000e-004**	**4.6000e-004**	**4.4500e-003**	**1.0000e-005**	**1.0900e-003**	**1.0000e-005**	**1.1000e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8593**	**0.8593**	**4.0000e-005**	**0.0000**	**0.8601**

3.13 12: Roadway Upgrades at Bear Creek Stables - 2019

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	0.1469	1.5383	1.4796	2.3000e-003		0.0834	0.0834		0.0767	0.0767	0.0000	206.4065	206.4065	0.0653	0.0000	207.7779
Paving	4.3900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1513**	**1.5383**	**1.4796**	**2.3000e-003**		**0.0834**	**0.0834**		**0.0767**	**0.0767**	**0.0000**	**206.4065**	**206.4065**	**0.0653**	**0.0000**	**207.7779**

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	4.2300e-003	5.9400e-003	0.0572	1.6000e-004	0.0141	1.0000e-004	0.0142	3.7400e-003	9.0000e-005	3.8400e-003	0.0000	11.0635	11.0635	5.2000e-004	0.0000	11.0743
Total	**4.2300e-003**	**5.9400e-003**	**0.0572**	**1.6000e-004**	**0.0141**	**1.0000e-004**	**0.0142**	**3.7400e-003**	**9.0000e-005**	**3.8400e-003**	**0.0000**	**11.0635**	**11.0635**	**5.2000e-004**	**0.0000**	**11.0743**

3.13 12: Roadway Upgrades at Bear Creek Stables - 2019

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	0.1469	1.5383	1.4796	2.3000e-003		0.0834	0.0834		0.0767	0.0767	0.0000	206.4063	206.4063	0.0653	0.0000	207.7777
Paving	4.3900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1513**	**1.5383**	**1.4796**	**2.3000e-003**		**0.0834**	**0.0834**		**0.0767**	**0.0767**	**0.0000**	**206.4063**	**206.4063**	**0.0653**	**0.0000**	**207.7777**

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	4.2300e-003	5.9400e-003	0.0572	1.6000e-004	0.0141	1.0000e-004	0.0142	3.7400e-003	9.0000e-005	3.8400e-003	0.0000	11.0635	11.0635	5.2000e-004	0.0000	11.0743
Total	**4.2300e-003**	**5.9400e-003**	**0.0572**	**1.6000e-004**	**0.0141**	**1.0000e-004**	**0.0142**	**3.7400e-003**	**9.0000e-005**	**3.8400e-003**	**0.0000**	**11.0635**	**11.0635**	**5.2000e-004**	**0.0000**	**11.0743**

3.13 12: Roadway Upgrades at Bear Creek Stables - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.3100e-003	0.0965	0.1005	1.6000e-004		5.1700e-003	5.1700e-003		4.7600e-003	4.7600e-003	0.0000	13.7214	13.7214	4.4400e-003	0.0000	13.8146
Paving	3.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.6100e-003**	**0.0965**	**0.1005**	**1.6000e-004**		**5.1700e-003**	**5.1700e-003**		**4.7600e-003**	**4.7600e-003**	**0.0000**	**13.7214**	**13.7214**	**4.4400e-003**	**0.0000**	**13.8146**

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	2.7000e-004	3.7000e-004	3.5900e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.7217	0.7217	3.0000e-005	0.0000	0.7224
Total	**2.7000e-004**	**3.7000e-004**	**3.5900e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.6000e-004**	**2.5000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7217**	**0.7217**	**3.0000e-005**	**0.0000**	**0.7224**

3.13 12: Roadway Upgrades at Bear Creek Stables - 2020

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	9.3100e-003	0.0965	0.1005	1.6000e-004		5.1700e-003	5.1700e-003		4.7600e-003	4.7600e-003	0.0000	13.7214	13.7214	4.4400e-003	0.0000	13.8146
Paving	3.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.6100e-003**	**0.0965**	**0.1005**	**1.6000e-004**		**5.1700e-003**	**5.1700e-003**		**4.7600e-003**	**4.7600e-003**	**0.0000**	**13.7214**	**13.7214**	**4.4400e-003**	**0.0000**	**13.8146**

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	2.7000e-004	3.7000e-004	3.5900e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.7217	0.7217	3.0000e-005	0.0000	0.7224
Total	**2.7000e-004**	**3.7000e-004**	**3.5900e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.6000e-004**	**2.5000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7217**	**0.7217**	**3.0000e-005**	**0.0000**	**0.7224**

3.14 13: Paved Parking at Bear Creek Stables - 2020

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	0.0353	0.3653	0.3803	5.9000e-004		0.0196	0.0196		0.0180	0.0180	0.0000	51.9455	51.9455	0.0168	0.0000	52.2983
Paving	4.6900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0399**	**0.3653**	**0.3803**	**5.9000e-004**		**0.0196**	**0.0196**		**0.0180**	**0.0180**	**0.0000**	**51.9455**	**51.9455**	**0.0168**	**0.0000**	**52.2983**

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	1.0100e-003	1.4100e-003	0.0136	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.9000e-004	0.0000	2.7320	2.7320	1.2000e-004	0.0000	2.7347
Total	**1.0100e-003**	**1.4100e-003**	**0.0136**	**4.0000e-005**	**3.6200e-003**	**3.0000e-005**	**3.6500e-003**	**9.6000e-004**	**2.0000e-005**	**9.9000e-004**	**0.0000**	**2.7320**	**2.7320**	**1.2000e-004**	**0.0000**	**2.7347**

3.14 13: Paved Parking at Bear Creek Stables - 2020

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	0.0353	0.3653	0.3803	5.9000e-004		0.0196	0.0196		0.0180	0.0180	0.0000	51.9454	51.9454	0.0168	0.0000	52.2982
Paving	4.6900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0399**	**0.3653**	**0.3803**	**5.9000e-004**		**0.0196**	**0.0196**		**0.0180**	**0.0180**	**0.0000**	**51.9454**	**51.9454**	**0.0168**	**0.0000**	**52.2982**

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	1.0100e-003	1.4100e-003	0.0136	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.9000e-004	0.0000	2.7320	2.7320	1.2000e-004	0.0000	2.7347
Total	**1.0100e-003**	**1.4100e-003**	**0.0136**	**4.0000e-005**	**3.6200e-003**	**3.0000e-005**	**3.6500e-003**	**9.6000e-004**	**2.0000e-005**	**9.9000e-004**	**0.0000**	**2.7320**	**2.7320**	**1.2000e-004**	**0.0000**	**2.7347**

3.15 14: Arch Coating at Paved Areas at Bear Creek Stables - 2020

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	2.5400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8200e-003	0.0126	0.0137	2.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	1.9149	1.9149	1.5000e-004	0.0000	1.9181
Total	**4.3600e-003**	**0.0126**	**0.0137**	**2.0000e-005**		**8.3000e-004**	**8.3000e-004**		**8.3000e-004**	**8.3000e-004**	**0.0000**	**1.9149**	**1.9149**	**1.5000e-004**	**0.0000**	**1.9181**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	1.3800e-003	0.0133	4.0000e-005	3.5500e-003	3.0000e-005	3.5800e-003	9.4000e-004	2.0000e-005	9.7000e-004	0.0000	2.6805	2.6805	1.2000e-004	0.0000	2.6831
Total	**9.9000e-004**	**1.3800e-003**	**0.0133**	**4.0000e-005**	**3.5500e-003**	**3.0000e-005**	**3.5800e-003**	**9.4000e-004**	**2.0000e-005**	**9.7000e-004**	**0.0000**	**2.6805**	**2.6805**	**1.2000e-004**	**0.0000**	**2.6831**

3.15 14: Arch Coating at Paved Areas at Bear Creek Stables - 2020

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	2.5400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8200e-003	0.0126	0.0137	2.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	1.9149	1.9149	1.5000e-004	0.0000	1.9181
Total	**4.3600e-003**	**0.0126**	**0.0137**	**2.0000e-005**		**8.3000e-004**	**8.3000e-004**		**8.3000e-004**	**8.3000e-004**	**0.0000**	**1.9149**	**1.9149**	**1.5000e-004**	**0.0000**	**1.9181**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	1.3800e-003	0.0133	4.0000e-005	3.5500e-003	3.0000e-005	3.5800e-003	9.4000e-004	2.0000e-005	9.7000e-004	0.0000	2.6805	2.6805	1.2000e-004	0.0000	2.6831
Total	**9.9000e-004**	**1.3800e-003**	**0.0133**	**4.0000e-005**	**3.5500e-003**	**3.0000e-005**	**3.5800e-003**	**9.4000e-004**	**2.0000e-005**	**9.7000e-004**	**0.0000**	**2.6805**	**2.6805**	**1.2000e-004**	**0.0000**	**2.6831**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000

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		
Library	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Library	9.50	7.30	7.30	52.00	43.00	5.00	44	44	12
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.551804	0.058714	0.185161	0.122384	0.029330	0.004425	0.012674	0.024032	0.001776	0.001265	0.006176	0.000495	0.001764

5.0 Energy Detail

4.4 Fleet Mix

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	12.7359	12.7359	8.5000e-004	1.7000e-004	12.8062
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	12.7359	12.7359	8.5000e-004	1.7000e-004	12.8062
NaturalGas Mitigated	4.9000e-004	4.4700e-003	3.7600e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8708	4.8708	9.0000e-005	9.0000e-005	4.9004
NaturalGas Unmitigated	4.9000e-004	4.4700e-003	3.7600e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8708	4.8708	9.0000e-005	9.0000e-005	4.9004

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
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
Library	91275.3	4.9000e-004	4.4700e-003	3.7600e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8708	4.8708	9.0000e-005	9.0000e-005	4.9004
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
Total		**4.9000e-004**	**4.4700e-003**	**3.7600e-003**	**3.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**4.8708**	**4.8708**	**9.0000e-005**	**9.0000e-005**	**4.9004**

5.2 Energy by Land Use - NaturalGas

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					
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
Library	91275.3	4.9000e-004	4.4700e-003	3.7600e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8708	4.8708	9.0000e-005	9.0000e-005	4.9004
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
Total		**4.9000e-004**	**4.4700e-003**	**3.7600e-003**	**3.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**4.8708**	**4.8708**	**9.0000e-005**	**9.0000e-005**	**4.9004**

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
Library	30069.9	5.1241	3.4000e-004	7.0000e-005	5.1524
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	44668.8	7.6118	5.1000e-004	1.0000e-004	7.6539
Total		**12.7359**	**8.5000e-004**	**1.7000e-004**	**12.8062**

5.3 Energy by Land Use - Electricity

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
Library	30069.9	5.1241	3.4000e-004	7.0000e-005	5.1524
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	44668.8	7.6118	5.1000e-004	1.0000e-004	7.6539
Total		**12.7359**	**8.5000e-004**	**1.7000e-004**	**12.8062**

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	2.5176	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2000e-003
Unmitigated	2.5176	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2000e-003

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	0.0996					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.4178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5000e-004	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2000e-003
Total	**2.5176**	**1.0000e-005**	**1.5600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.0300e-003**	**3.0300e-003**	**1.0000e-005**	**0.0000**	**3.2000e-003**

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	0.0996					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.4178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5000e-004	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2000e-003
Total	**2.5176**	**1.0000e-005**	**1.5600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.0300e-003**	**3.0300e-003**	**1.0000e-005**	**0.0000**	**3.2000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0606	0.0108	4.0000e-005	0.2986
Unmitigated	0.0606	0.0108	4.0000e-005	0.2986

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.028301	0.0169	0.0000	0.0000	0.0170
Library	0.04745 / 0	0.0438	0.0108	4.0000e-005	0.2816
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
Total		**0.0606**	**0.0108**	**4.0000e-005**	**0.2986**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.028301	0.0169	0.0000	0.0000	0.0170
Library	0.04745 / 0	0.0438	0.0108	4.0000e-005	0.2816
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
Total		**0.0606**	**0.0108**	**4.0000e-005**	**0.2986**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.8079	0.0478	0.0000	1.8106
Unmitigated	0.8079	0.0478	0.0000	1.8106

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.91	0.1847	0.0109	0.0000	0.4140
Library	3.07	0.6232	0.0368	0.0000	1.3966
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.8079**	**0.0478**	**0.0000**	**1.8106**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.91	0.1847	0.0109	0.0000	0.4140
Library	3.07	0.6232	0.0368	0.0000	1.3966
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.8079**	**0.0478**	**0.0000**	**1.8106**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-7.3400	0.0000	0.0000	-7.3400

10.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Mixed Hardwood	-10	-7.3400	0.0000	0.0000	-7.3400
Total		**-7.3400**	**0.0000**	**0.0000**	**-7.3400**

Bear Creek - Phase 2

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	4.28	1000sqft	0.10	4,278.00	0
Unrefrigerated Warehouse-No Rail	24.22	1000sqft	0.56	24,218.00	0
Arena	31.20	1000sqft	10.03	31,200.00	0
City Park	6.50	Acre	6.50	283,140.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	375.68	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Post-2020 system average PG&E emissions based on 2013 EPS Report and 23.8% renewable portfolio reported in CPUC http://www.cpuc.ca.gov/PUC/energy/Renewables/. Post-2020 assumes 33% renewables.

Land Use - Trails represented by City Park. Arena includes both main and secondary arenas. Visitor center represented by general office building.

Construction Phase - BCS= Bear Creek Stables. Trail construction based on 3,600 sqft/day progress identified in USDA2014. Building construction durations based on CalEEMod defaults for construction of individual components.

Off-road Equipment -

Off-road Equipment - Based on equipment identified in USDA 2014 for earthen trails.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - USDA 2014 assumes trail construction will require 18 workers and 3 pick up trucks per day. Maximum of 30 workers per day and 12 truck trips per day.

Demolition -

Grading - USDA2014 estimates that 22 CY of soil is excavated from new trails per day.

Architectural Coating - Arch coating calculated separately to discount non-coated areas. Assume half of indoor arena is painted due to nature of outdoor arena. Assume that Stables require 3/4 of normal arch coating due to open usage of stables.

Vehicle Trips - Mobile emissions calculated off-model

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Area Coating - Squarefootage calculated off-model

Energy Use - Actual arena energy use would be lower due to proposed arena's open design. No HVAC would be used at actual arena, thus no NG use.

Water And Wastewater - Hydrology report assumed: up to 7,200 gpd for water use at Bear Creek Stables and 150 gpd for hikers, equestrians, and fire suppression reserves. Assume 100% septic treatment.

Sequestration -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	171,418.00	7,800.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	171,418.00	2,139.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	171,418.00	9,085.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	514,254.00	23,400.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	514,254.00	6,416.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	514,254.00	27,245.00
tblAreaCoating	Area_Nonresidential_Interior	514254	57062
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	300.00	370.00
tblConstructionPhase	NumDays	30.00	78.00
tblConstructionPhase	PhaseEndDate	5/27/2022	5/13/2022
tblConstructionPhase	PhaseEndDate	9/7/2021	5/20/2022
tblConstructionPhase	PhaseEndDate	3/22/2024	5/31/2024
tblConstructionPhase	PhaseStartDate	5/21/2022	5/8/2022
tblConstructionPhase	PhaseStartDate	4/21/2021	1/1/2022
tblConstructionPhase	PhaseStartDate	10/22/2022	1/1/2023
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24NG	20.74	0.00
tblGrading	AcresOfGrading	0.00	6.50
tblGrading	MaterialImported	0.00	1,107.00
tblLandUse	LandUseSquareFeet	4,280.00	4,278.00
tblLandUse	LandUseSquareFeet	24,220.00	24,218.00
tblOffRoadEquipment	HorsePower	255.00	80.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	375.68
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	56.00	12.00
tblTripsAndVMT	VendorTripNumber	56.00	12.00
tblTripsAndVMT	VendorTripNumber	56.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	36.00
tblTripsAndVMT	WorkerTripNumber	144.00	60.00
tblTripsAndVMT	WorkerTripNumber	144.00	60.00
tblTripsAndVMT	WorkerTripNumber	144.00	60.00
tblVehicleTrips	DV_TP	0.28	28.00
tblVehicleTrips	PB_TP	0.60	6.00
tblVehicleTrips	PR_TP	0.66	66.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	1.59	0.00
tblVehicleTrips	ST_TR	2.37	0.00
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	1.59	0.00
tblVehicleTrips	SU_TR	0.98	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	10.71	0.00

tblVehicleTrips	WD_TR	1.59	0.00
tblVehicleTrips	WD_TR	11.01	0.00
tblVehicleTrips	WD_TR	2.59	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	13,440,027.67	0.00
tblWater	IndoorWaterUseRate	760,700.44	29,200.00
tblWater	IndoorWaterUseRate	5,600,875.00	2,628,000.00
tblWater	OutdoorWaterUseRate	857,874.11	0.00
tblWater	OutdoorWaterUseRate	7,744,628.77	17,319.00
tblWater	OutdoorWaterUseRate	466,235.75	0.00
tblWater	SepticTankPercent	10.33	100.00
tblWater	SepticTankPercent	10.33	100.00
tblWater	SepticTankPercent	10.33	100.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	6.3000e-003	0.0278	0.0828	2.5000e-004	0.1070	5.2000e-004	0.1076	0.0530	4.8000e-004	0.0534	0.0000	18.5480	18.5480	4.9000e-004	0.0000	18.5582
2022	0.3123	1.6419	1.9615	3.6600e-003	0.0650	0.0829	0.1479	0.0175	0.0780	0.0954	0.0000	299.1191	299.1191	0.0574	0.0000	300.3233
2023	0.2312	1.9432	2.4787	4.6800e-003	0.0811	0.0924	0.1735	0.0218	0.0869	0.1087	0.0000	382.2767	382.2767	0.0736	0.0000	383.8229
2024	0.1756	0.7829	1.0641	2.0400e-003	0.0370	0.0350	0.0719	9.9200e-003	0.0329	0.0429	0.0000	165.8926	165.8926	0.0312	0.0000	166.5470
Total	**0.7254**	**4.3959**	**5.5871**	**0.0106**	**0.2901**	**0.2108**	**0.5009**	**0.1021**	**0.1983**	**0.3004**	**0.0000**	**865.8363**	**865.8363**	**0.1626**	**0.0000**	**869.2514**

2.1 Overall Construction

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					
2021	6.3000e-003	0.0278	0.0828	2.5000e-004	0.1070	5.2000e-004	0.1076	0.0530	4.8000e-004	0.0534	0.0000	18.5480	18.5480	4.9000e-004	0.0000	18.5582
2022	0.3123	1.6419	1.9615	3.6600e-003	0.0650	0.0829	0.1479	0.0175	0.0780	0.0954	0.0000	299.1188	299.1188	0.0574	0.0000	300.3230
2023	0.2312	1.9432	2.4787	4.6800e-003	0.0811	0.0924	0.1735	0.0218	0.0869	0.1087	0.0000	382.2763	382.2763	0.0736	0.0000	383.8225
2024	0.1756	0.7829	1.0641	2.0400e-003	0.0370	0.0350	0.0719	9.9200e-003	0.0329	0.0429	0.0000	165.8925	165.8925	0.0312	0.0000	166.5469
Total	**0.7254**	**4.3959**	**5.5871**	**0.0106**	**0.2901**	**0.2108**	**0.5009**	**0.1021**	**0.1983**	**0.3004**	**0.0000**	**865.8356**	**865.8356**	**0.1626**	**0.0000**	**869.2506**

	ROG	NOx	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**

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	1.4118	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2500e-003
Energy	8.7000e-004	7.9400e-003	6.6700e-003	5.0000e-005		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	86.9147	86.9147	5.3700e-003	1.2000e-003	87.3996
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	5.7183	0.0000	5.7183	0.3379	0.0000	12.8150
Water						0.0000	0.0000		0.0000	0.0000	0.0000	2.4604	2.4604	0.6037	2.0800e-003	15.7816
Total	**1.4127**	**7.9500e-003**	**7.2800e-003**	**5.0000e-005**	**0.0000**	**6.0000e-004**	**6.0000e-004**	**0.0000**	**6.0000e-004**	**6.0000e-004**	**5.7183**	**89.3763**	**95.0946**	**0.9470**	**3.2800e-003**	**115.9974**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4118	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2500e-003
Energy	8.7000e-004	7.9400e-003	6.6700e-003	5.0000e-005		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	86.9147	86.9147	5.3700e-003	1.2000e-003	87.3996
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	5.7183	0.0000	5.7183	0.3379	0.0000	12.8150
Water						0.0000	0.0000		0.0000	0.0000	0.0000	2.4604	2.4604	0.6037	2.0800e-003	15.7816
Total	**1.4127**	**7.9500e-003**	**7.2800e-003**	**5.0000e-005**	**0.0000**	**6.0000e-004**	**6.0000e-004**	**0.0000**	**6.0000e-004**	**6.0000e-004**	**5.7183**	**89.3763**	**95.0946**	**0.9470**	**3.2800e-003**	**115.9974**

	ROG	NOx	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	01: Trail Construction	Grading	1/1/2021	4/20/2021	5	78	
2	02: Visitor/Office Construction at BCS	Building Construction	1/1/2022	5/20/2022	5	100	
3	03: Arch Coating for Visitor/Office at BCS	Architectural Coating	5/8/2022	5/13/2022	5	5	
4	04: Stables and Livery Construction at BCS	Building Construction	5/14/2022	9/30/2022	5	100	
5	05: Arch Coating for Stables	Architectural Coating	10/1/2022	10/21/2022	5	15	
6	06: Arena Construction at BCS	Building Construction	1/1/2023	5/31/2024	5	370	
7	07: Arch Coating for Arena	Architectural Coating	6/1/2024	6/28/2024	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 6,416; Non-Residential Outdoor: 2,139 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
01: Trail Construction	Excavators	0	8.00	162	0.38
01: Trail Construction	Graders	0	8.00	174	0.41
01: Trail Construction	Rubber Tired Dozers	1	3.00	80	0.40
01: Trail Construction	Scrapers	0	8.00	361	0.48
01: Trail Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
02: Visitor/Office Construction at BCS	Cranes	1	7.00	226	0.29
02: Visitor/Office Construction at BCS	Forklifts	3	8.00	89	0.20
02: Visitor/Office Construction at BCS	Generator Sets	1	8.00	84	0.74
02: Visitor/Office Construction at BCS	Tractors/Loaders/Backhoes	3	7.00	97	0.37
02: Visitor/Office Construction at BCS	Welders	1	8.00	46	0.45
03: Arch Coating for Visitor/Office at BCS	Air Compressors	1	6.00	78	0.48
04: Stables and Livery Construction at BCS	Cranes	1	7.00	226	0.29
04: Stables and Livery Construction at BCS	Forklifts	3	8.00	89	0.20
04: Stables and Livery Construction at BCS	Generator Sets	1	8.00	84	0.74
04: Stables and Livery Construction at BCS	Tractors/Loaders/Backhoes	3	7.00	97	0.37
04: Stables and Livery Construction at BCS	Welders	1	8.00	46	0.45
05: Arch Coating for Stables	Air Compressors	1	6.00	78	0.48
06: Arena Construction at BCS	Cranes	1	7.00	226	0.29
06: Arena Construction at BCS	Forklifts	3	8.00	89	0.20
06: Arena Construction at BCS	Generator Sets	1	8.00	84	0.74
06: Arena Construction at BCS	Tractors/Loaders/Backhoes	3	7.00	97	0.37
06: Arena Construction at BCS	Welders	1	8.00	46	0.45
07: Arch Coating for Arena	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
01: Trail Construction	1	36.00	6.00	138.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
02: Visitor/Office Construction at BCS	9	60.00	12.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
03: Arch Coating for Visitor/Office at BCS	1	29.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
04: Stables and Livery Construction at BCS	9	60.00	12.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
05: Arch Coating for Stables	1	29.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
06: Arena Construction at BCS	9	60.00	12.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
07: Arch Coating for Arena	1	29.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 01: Trail Construction - 2021

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					0.0916	0.0000	0.0916	0.0488	0.0000	0.0488	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**0.0916**	**0.0000**	**0.0916**	**0.0488**	**0.0000**	**0.0488**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 01: Trail Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1400e-003	0.0111	0.0136	5.0000e-005	1.1700e-003	2.2000e-004	1.3900e-003	3.2000e-004	2.1000e-004	5.3000e-004	0.0000	4.3810	4.3810	3.0000e-005	0.0000	4.3817
Vendor	1.7900e-003	0.0121	0.0245	6.0000e-005	1.5100e-003	2.1000e-004	1.7200e-003	4.3000e-004	1.9000e-004	6.3000e-004	0.0000	4.6860	4.6860	4.0000e-005	0.0000	4.6868
Worker	3.3700e-003	4.6200e-003	0.0448	1.5000e-004	0.0128	9.0000e-005	0.0129	3.4000e-003	8.0000e-005	3.4800e-003	0.0000	9.4809	9.4809	4.2000e-004	0.0000	9.4897
Total	**6.3000e-003**	**0.0278**	**0.0828**	**2.6000e-004**	**0.0155**	**5.2000e-004**	**0.0160**	**4.1500e-003**	**4.8000e-004**	**4.6400e-003**	**0.0000**	**18.5480**	**18.5480**	**4.9000e-004**	**0.0000**	**18.5582**

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					0.0916	0.0000	0.0916	0.0488	0.0000	0.0488	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**0.0916**	**0.0000**	**0.0916**	**0.0488**	**0.0000**	**0.0488**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 01: Trail Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1400e-003	0.0111	0.0136	5.0000e-005	1.1700e-003	2.2000e-004	1.3900e-003	3.2000e-004	2.1000e-004	5.3000e-004	0.0000	4.3810	4.3810	3.0000e-005	0.0000	4.3817
Vendor	1.7900e-003	0.0121	0.0245	6.0000e-005	1.5100e-003	2.1000e-004	1.7200e-003	4.3000e-004	1.9000e-004	6.3000e-004	0.0000	4.6860	4.6860	4.0000e-005	0.0000	4.6868
Worker	3.3700e-003	4.6200e-003	0.0448	1.5000e-004	0.0128	9.0000e-005	0.0129	3.4000e-003	8.0000e-005	3.4800e-003	0.0000	9.4809	9.4809	4.2000e-004	0.0000	9.4897
Total	**6.3000e-003**	**0.0278**	**0.0828**	**2.6000e-004**	**0.0155**	**5.2000e-004**	**0.0160**	**4.1500e-003**	**4.8000e-004**	**4.6400e-003**	**0.0000**	**18.5480**	**18.5480**	**4.9000e-004**	**0.0000**	**18.5582**

3.3 02: Visitor/Office Construction at BCS - 2022

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	0.0850	0.7768	0.8164	1.3400e-003		0.0403	0.0403		0.0379	0.0379	0.0000	115.3825	115.3825	0.0276	0.0000	115.9622
Total	**0.0850**	**0.7768**	**0.8164**	**1.3400e-003**		**0.0403**	**0.0403**		**0.0379**	**0.0379**	**0.0000**	**115.3825**	**115.3825**	**0.0276**	**0.0000**	**115.9622**

3.3 02: Visitor/Office Construction at BCS - 2022

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	4.5000e-003	0.0274	0.0613	1.4000e-004	3.8700e-003	5.3000e-004	4.4000e-003	1.1100e-003	4.9000e-004	1.6000e-003	0.0000	12.0075	12.0075	9.0000e-005	0.0000	12.0094
Worker	6.8000e-003	9.2300e-003	0.0896	3.2000e-004	0.0273	1.9000e-004	0.0275	7.2600e-003	1.8000e-004	7.4400e-003	0.0000	19.9296	19.9296	8.5000e-004	0.0000	19.9475
Total	**0.0113**	**0.0367**	**0.1510**	**4.6000e-004**	**0.0312**	**7.2000e-004**	**0.0319**	**8.3700e-003**	**6.7000e-004**	**9.0400e-003**	**0.0000**	**31.9371**	**31.9371**	**9.4000e-004**	**0.0000**	**31.9570**

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	0.0850	0.7768	0.8164	1.3400e-003		0.0403	0.0403		0.0379	0.0379	0.0000	115.3824	115.3824	0.0276	0.0000	115.9621
Total	**0.0850**	**0.7768**	**0.8164**	**1.3400e-003**		**0.0403**	**0.0403**		**0.0379**	**0.0379**	**0.0000**	**115.3824**	**115.3824**	**0.0276**	**0.0000**	**115.9621**

3.3 02: Visitor/Office Construction at BCS - 2022

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	4.5000e-003	0.0274	0.0613	1.4000e-004	3.8700e-003	5.3000e-004	4.4000e-003	1.1100e-003	4.9000e-004	1.6000e-003	0.0000	12.0075	12.0075	9.0000e-005	0.0000	12.0094
Worker	6.8000e-003	9.2300e-003	0.0896	3.2000e-004	0.0273	1.9000e-004	0.0275	7.2600e-003	1.8000e-004	7.4400e-003	0.0000	19.9296	19.9296	8.5000e-004	0.0000	19.9475
Total	**0.0113**	**0.0367**	**0.1510**	**4.6000e-004**	**0.0312**	**7.2000e-004**	**0.0319**	**8.3700e-003**	**6.7000e-004**	**9.0400e-003**	**0.0000**	**31.9371**	**31.9371**	**9.4000e-004**	**0.0000**	**31.9570**

3.4 03: Arch Coating for Visitor/Office at BCS - 2022

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	0.0223					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6392
Total	**0.0228**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6392**

3.4 03: Arch Coating for Visitor/Office at BCS - 2022

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	1.6000e-004	2.2000e-004	2.1700e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.4816	0.4816	2.0000e-005	0.0000	0.4821
Total	**1.6000e-004**	**2.2000e-004**	**2.1700e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.4816**	**0.4816**	**2.0000e-005**	**0.0000**	**0.4821**

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	0.0223					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6392
Total	**0.0228**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6392**

3.4 03: Arch Coating for Visitor/Office at BCS - 2022

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	1.6000e-004	2.2000e-004	2.1700e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.4816	0.4816	2.0000e-005	0.0000	0.4821
Total	**1.6000e-004**	**2.2000e-004**	**2.1700e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.4816**	**0.4816**	**2.0000e-005**	**0.0000**	**0.4821**

3.5 04: Stables and Livery Construction at BCS - 2022

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	0.0850	0.7768	0.8164	1.3400e-003		0.0403	0.0403		0.0379	0.0379	0.0000	115.3825	115.3825	0.0276	0.0000	115.9622
Total	**0.0850**	**0.7768**	**0.8164**	**1.3400e-003**		**0.0403**	**0.0403**		**0.0379**	**0.0379**	**0.0000**	**115.3825**	**115.3825**	**0.0276**	**0.0000**	**115.9622**

3.5 04: Stables and Livery Construction at BCS - 2022

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	4.5000e-003	0.0274	0.0613	1.4000e-004	3.8700e-003	5.3000e-004	4.4000e-003	1.1100e-003	4.9000e-004	1.6000e-003	0.0000	12.0075	12.0075	9.0000e-005	0.0000	12.0094
Worker	6.8000e-003	9.2300e-003	0.0896	3.2000e-004	0.0273	1.9000e-004	0.0275	7.2600e-003	1.8000e-004	7.4400e-003	0.0000	19.9296	19.9296	8.5000e-004	0.0000	19.9475
Total	**0.0113**	**0.0367**	**0.1510**	**4.6000e-004**	**0.0312**	**7.2000e-004**	**0.0319**	**8.3700e-003**	**6.7000e-004**	**9.0400e-003**	**0.0000**	**31.9371**	**31.9371**	**9.4000e-004**	**0.0000**	**31.9570**

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	0.0850	0.7768	0.8164	1.3400e-003		0.0403	0.0403		0.0379	0.0379	0.0000	115.3824	115.3824	0.0276	0.0000	115.9621
Total	**0.0850**	**0.7768**	**0.8164**	**1.3400e-003**		**0.0403**	**0.0403**		**0.0379**	**0.0379**	**0.0000**	**115.3824**	**115.3824**	**0.0276**	**0.0000**	**115.9621**

3.5 04: Stables and Livery Construction at BCS - 2022

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	4.5000e-003	0.0274	0.0613	1.4000e-004	3.8700e-003	5.3000e-004	4.4000e-003	1.1100e-003	4.9000e-004	1.6000e-003	0.0000	12.0075	12.0075	9.0000e-005	0.0000	12.0094
Worker	6.8000e-003	9.2300e-003	0.0896	3.2000e-004	0.0273	1.9000e-004	0.0275	7.2600e-003	1.8000e-004	7.4400e-003	0.0000	19.9296	19.9296	8.5000e-004	0.0000	19.9475
Total	**0.0113**	**0.0367**	**0.1510**	**4.6000e-004**	**0.0312**	**7.2000e-004**	**0.0319**	**8.3700e-003**	**6.7000e-004**	**9.0400e-003**	**0.0000**	**31.9371**	**31.9371**	**9.4000e-004**	**0.0000**	**31.9570**

3.6 05: Arch Coating for Stables - 2022

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	0.0947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5300e-003	0.0106	0.0136	2.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	1.9149	1.9149	1.2000e-004	0.0000	1.9176
Total	**0.0963**	**0.0106**	**0.0136**	**2.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**1.9149**	**1.9149**	**1.2000e-004**	**0.0000**	**1.9176**

3.6 05: Arch Coating for Stables - 2022

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	4.9000e-004	6.7000e-004	6.5000e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.4449	1.4449	6.0000e-005	0.0000	1.4462
Total	**4.9000e-004**	**6.7000e-004**	**6.5000e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.4449**	**1.4449**	**6.0000e-005**	**0.0000**	**1.4462**

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	0.0947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5300e-003	0.0106	0.0136	2.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	1.9149	1.9149	1.2000e-004	0.0000	1.9176
Total	**0.0963**	**0.0106**	**0.0136**	**2.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**1.9149**	**1.9149**	**1.2000e-004**	**0.0000**	**1.9176**

3.6 05: Arch Coating for Stables - 2022

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	4.9000e-004	6.7000e-004	6.5000e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.4449	1.4449	6.0000e-005	0.0000	1.4462
Total	**4.9000e-004**	**6.7000e-004**	**6.5000e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.4449**	**1.4449**	**6.0000e-005**	**0.0000**	**1.4462**

3.7 06: Arena Construction at BCS - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2036	1.8606	2.1072	3.4900e-003		0.0906	0.0906		0.0852	0.0852	0.0000	300.0980	300.0980	0.0713	0.0000	301.5949
Total	**0.2036**	**1.8606**	**2.1072**	**3.4900e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**300.0980**	**300.0980**	**0.0713**	**0.0000**	**301.5949**

3.7 06: Arena Construction at BCS - 2023

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	0.0109	0.0601	0.1526	3.7000e-004	0.0101	1.3400e-003	0.0114	2.8900e-003	1.2300e-003	4.1200e-003	0.0000	31.1361	31.1361	2.3000e-004	0.0000	31.1408
Worker	0.0168	0.0225	0.2189	8.2000e-004	0.0710	5.0000e-004	0.0715	0.0189	4.7000e-004	0.0194	0.0000	51.0427	51.0427	2.1200e-003	0.0000	51.0872
Total	**0.0276**	**0.0826**	**0.3715**	**1.1900e-003**	**0.0811**	**1.8400e-003**	**0.0829**	**0.0218**	**1.7000e-003**	**0.0235**	**0.0000**	**82.1787**	**82.1787**	**2.3500e-003**	**0.0000**	**82.2280**

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	0.2036	1.8606	2.1072	3.4900e-003		0.0906	0.0906		0.0852	0.0852	0.0000	300.0976	300.0976	0.0713	0.0000	301.5946
Total	**0.2036**	**1.8606**	**2.1072**	**3.4900e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**300.0976**	**300.0976**	**0.0713**	**0.0000**	**301.5946**

3.7 06: Arena Construction at BCS - 2023

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	0.0109	0.0601	0.1526	3.7000e-004	0.0101	1.3400e-003	0.0114	2.8900e-003	1.2300e-003	4.1200e-003	0.0000	31.1361	31.1361	2.3000e-004	0.0000	31.1408
Worker	0.0168	0.0225	0.2189	8.2000e-004	0.0710	5.0000e-004	0.0715	0.0189	4.7000e-004	0.0194	0.0000	51.0427	51.0427	2.1200e-003	0.0000	51.0872
Total	**0.0276**	**0.0826**	**0.3715**	**1.1900e-003**	**0.0811**	**1.8400e-003**	**0.0829**	**0.0218**	**1.7000e-003**	**0.0235**	**0.0000**	**82.1787**	**82.1787**	**2.3500e-003**	**0.0000**	**82.2280**

3.7 06: Arena Construction at BCS - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0806	0.7358	0.8873	1.4800e-003		0.0336	0.0336		0.0316	0.0316	0.0000	126.9889	126.9889	0.0300	0.0000	127.6186
Total	**0.0806**	**0.7358**	**0.8873**	**1.4800e-003**		**0.0336**	**0.0336**		**0.0316**	**0.0316**	**0.0000**	**126.9889**	**126.9889**	**0.0300**	**0.0000**	**127.6186**

3.7 06: Arena Construction at BCS - 2024

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	4.5200e-003	0.0252	0.0634	1.6000e-004	4.2600e-003	5.7000e-004	4.8300e-003	1.2200e-003	5.2000e-004	1.7500e-003	0.0000	13.1779	13.1779	1.0000e-004	0.0000	13.1799
Worker	6.7200e-003	8.9900e-003	0.0875	3.5000e-004	0.0301	2.1000e-004	0.0303	7.9900e-003	2.0000e-004	8.1900e-003	0.0000	21.3007	21.3007	8.6000e-004	0.0000	21.3188
Total	**0.0112**	**0.0342**	**0.1510**	**5.1000e-004**	**0.0343**	**7.8000e-004**	**0.0351**	**9.2100e-003**	**7.2000e-004**	**9.9400e-003**	**0.0000**	**34.4786**	**34.4786**	**9.6000e-004**	**0.0000**	**34.4987**

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	0.0806	0.7358	0.8873	1.4800e-003		0.0336	0.0336		0.0316	0.0316	0.0000	126.9888	126.9888	0.0300	0.0000	127.6184
Total	**0.0806**	**0.7358**	**0.8873**	**1.4800e-003**		**0.0336**	**0.0336**		**0.0316**	**0.0316**	**0.0000**	**126.9888**	**126.9888**	**0.0300**	**0.0000**	**127.6184**

3.7 06: Arena Construction at BCS - 2024

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	4.5200e-003	0.0252	0.0634	1.6000e-004	4.2600e-003	5.7000e-004	4.8300e-003	1.2200e-003	5.2000e-004	1.7500e-003	0.0000	13.1779	13.1779	1.0000e-004	0.0000	13.1799
Worker	6.7200e-003	8.9900e-003	0.0875	3.5000e-004	0.0301	2.1000e-004	0.0303	7.9900e-003	2.0000e-004	8.1900e-003	0.0000	21.3007	21.3007	8.6000e-004	0.0000	21.3188
Total	**0.0112**	**0.0342**	**0.1510**	**5.1000e-004**	**0.0343**	**7.8000e-004**	**0.0351**	**9.2100e-003**	**7.2000e-004**	**9.9400e-003**	**0.0000**	**34.4786**	**34.4786**	**9.6000e-004**	**0.0000**	**34.4987**

3.8 07: Arch Coating for Arena - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0813					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5563
Total	**0.0832**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5563**

3.8 07: Arch Coating for Arena - 2024

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	5.9000e-004	7.9000e-004	7.6900e-003	3.0000e-005	2.6400e-003	2.0000e-005	2.6600e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	1.8719	1.8719	8.0000e-005	0.0000	1.8735
Total	**5.9000e-004**	**7.9000e-004**	**7.6900e-003**	**3.0000e-005**	**2.6400e-003**	**2.0000e-005**	**2.6600e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**1.8719**	**1.8719**	**8.0000e-005**	**0.0000**	**1.8735**

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	0.0813					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5563
Total	**0.0832**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5563**

3.8 07: Arch Coating for Arena - 2024

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	5.9000e-004	7.9000e-004	7.6900e-003	3.0000e-005	2.6400e-003	2.0000e-005	2.6600e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	1.8719	1.8719	8.0000e-005	0.0000	1.8735
Total	**5.9000e-004**	**7.9000e-004**	**7.6900e-003**	**3.0000e-005**	**2.6400e-003**	**2.0000e-005**	**2.6600e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**1.8719**	**1.8719**	**8.0000e-005**	**0.0000**	**1.8735**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Arena	9.50	7.30	7.30	0.00	81.00	19.00	66	28	6
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.551928	0.058741	0.185020	0.120900	0.029274	0.004403	0.013004	0.025258	0.001789	0.001251	0.006216	0.000467	0.001748

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	78.2664	78.2664	5.2100e-003	1.0400e-003	78.6987
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	78.2664	78.2664	5.2100e-003	1.0400e-003	78.6987
NaturalGas Mitigated	8.7000e-004	7.9400e-003	6.6700e-003	5.0000e-005		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	8.6483	8.6483	1.7000e-004	1.6000e-004	8.7009
NaturalGas Unmitigated	8.7000e-004	7.9400e-003	6.6700e-003	5.0000e-005		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	8.6483	8.6483	1.7000e-004	1.6000e-004	8.7009

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
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
General Office Building	73667.2	4.0000e-004	3.6100e-003	3.0300e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	3.9312	3.9312	8.0000e-005	7.0000e-005	3.9551
Unrefrigerated Warehouse-No Rail	88395.7	4.8000e-004	4.3300e-003	3.6400e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	4.7171	4.7171	9.0000e-005	9.0000e-005	4.7458
Arena	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		**8.8000e-004**	**7.9400e-003**	**6.6700e-003**	**5.0000e-005**		**6.0000e-004**	**6.0000e-004**		**6.0000e-004**	**6.0000e-004**	**0.0000**	**8.6483**	**8.6483**	**1.7000e-004**	**1.6000e-004**	**8.7009**

5.2 Energy by Land Use - NaturalGas

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					
General Office Building	73667.2	4.0000e-004	3.6100e-003	3.0300e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	3.9312	3.9312	8.0000e-005	7.0000e-005	3.9551
Unrefrigerated Warehouse-No Rail	88395.7	4.8000e-004	4.3300e-003	3.6400e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	4.7171	4.7171	9.0000e-005	9.0000e-005	4.7458
Arena	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
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
Total		**8.8000e-004**	**7.9400e-003**	**6.6700e-003**	**5.0000e-005**		**6.0000e-004**	**6.0000e-004**		**6.0000e-004**	**6.0000e-004**	**0.0000**	**8.6483**	**8.6483**	**1.7000e-004**	**1.6000e-004**	**8.7009**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	281736	48.0094	3.1900e-003	6.4000e-004	48.2746
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	84319.4	14.3685	9.6000e-004	1.9000e-004	14.4479
Unrefrigerated Warehouse-No Rail	93239.3	15.8885	1.0600e-003	2.1000e-004	15.9763
Total		**78.2664**	**5.2100e-003**	**1.0400e-003**	**78.6987**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	281736	48.0094	3.1900e-003	6.4000e-004	48.2746
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	84319.4	14.3685	9.6000e-004	1.9000e-004	14.4479
Unrefrigerated Warehouse-No Rail	93239.3	15.8885	1.0600e-003	2.1000e-004	15.9763
Total		**78.2664**	**5.2100e-003**	**1.0400e-003**	**78.6987**

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	1.4118	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2500e-003
Unmitigated	1.4118	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2500e-003

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	0.0728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3390					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2500e-003
Total	**1.4118**	**1.0000e-005**	**6.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1800e-003**	**1.1800e-003**	**0.0000**	**0.0000**	**1.2500e-003**

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	0.0728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3390					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2500e-003
Total	**1.4118**	**1.0000e-005**	**6.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1800e-003**	**1.1800e-003**	**0.0000**	**0.0000**	**1.2500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.4604	0.6037	2.0800e-003	15.7816
Unmitigated	2.4604	0.6037	2.0800e-003	15.7816

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0.017319	0.0103	0.0000	0.0000	0.0104
General Office Building	0.0292 / 0	0.0269	6.6300e-003	2.0000e-005	0.1733
Unrefrigerated Warehouse-No Rail	2.628 / 0	2.4232	0.5970	2.0500e-003	15.5979
Total		**2.4604**	**0.6037**	**2.0700e-003**	**15.7816**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0.017319	0.0103	0.0000	0.0000	0.0104
General Office Building	0.0292 / 0	0.0269	6.6300e-003	2.0000e-005	0.1733
Unrefrigerated Warehouse-No Rail	2.628 / 0	2.4232	0.5970	2.0500e-003	15.5979
Total		**2.4604**	**0.6037**	**2.0700e-003**	**15.7816**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.7183	0.3379	0.0000	12.8150
Unmitigated	5.7183	0.3379	0.0000	12.8150

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.86	0.1746	0.0103	0.0000	0.3912
City Park	0.56	0.1137	6.7200e-003	0.0000	0.2548
General Office Building	3.98	0.8079	0.0478	0.0000	1.8106
Unrefrigerated Warehouse-No Rail	22.77	4.6221	0.2732	0.0000	10.3584
Total		**5.7182**	**0.3380**	**0.0000**	**12.8150**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.86	0.1746	0.0103	0.0000	0.3912
City Park	0.56	0.1137	6.7200e-003	0.0000	0.2548
General Office Building	3.98	0.8079	0.0478	0.0000	1.8106
Unrefrigerated Warehouse-No Rail	22.77	4.6221	0.2732	0.0000	10.3584
Total		**5.7182**	**0.3380**	**0.0000**	**12.8150**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Bear Creek - Phase 3

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	91.00	Space	0.82	36,400.00	0
City Park	3.41	Acre	3.41	148,539.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	375.68	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Post-2020 PG&E emissions based on 2013 EPS Report and 23.8% renewable portfolio reported in CPUC http://www.cpuc.ca.gov/PUC/energy/Renewables/. Post-2020 assumes 33% renewables.

Land Use - Trails represented by City Park.

Construction Phase - Trail based on 3,600 sqft/day progress per USDA2014. Grading duration based Table 3.7 of CalEEMod Appendix D. All other non-default durations based on best estimates (see attached assumptions.)

Off-road Equipment -

Off-road Equipment - Based on equipment identified in USDA 2014 for earthen trails.

Off-road Equipment - Equipment reduced to 1 each to account for tree removal only.

Off-road Equipment - Adjusted based on Table 3.7 in CalEEmod Appendix D.

Off-road Equipment -

Off-road Equipment -

Trips and VMT - USDA 2014 assumes trail construction will require 18 workers and 3 pick up trucks per day.

Demolition -

Grading - USDA2014 estimates that 22 CY of soil is excavated from new trails per day.

Architectural Coating - Arch coating calculated separately to discount non-coated areas.

Vehicle Trips - Mobile sources calculated off-model

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Area Coating - Squarefootage calculated off-model

Energy Use -

Water And Wastewater - Hydrology report assumed up to 7,200 gpd for water use at Bear Creek Stables, 80 gpd for wine-tasting and receptions, 150 gpd for hikers, equestrians, and fire reserves. Assume 100% septic treatment.

Sequestration -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	74,816.00	1,051.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	224,447.00	0.00

tblAreaCoating	Area_Nonresidential_Interior	224448	0
tblConstructionPhase	NumDays	18.00	2.00
tblConstructionPhase	NumDays	8.00	41.00
tblConstructionPhase	NumDays	8.00	7.00
tblConstructionPhase	PhaseEndDate	3/5/2026	1/7/2027
tblConstructionPhase	PhaseStartDate	2/27/2026	1/1/2027
tblGrading	AcresOfGrading	0.00	3.41
tblGrading	AcresOfGrading	10.50	3.50
tblGrading	MaterialImported	0.00	700.00
tblGrading	MaterialImported	0.00	32.00
tblOffRoadEquipment	HorsePower	255.00	80.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	375.68
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2030
tblSequestration	NumberOfNewTrees	0.00	-10.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	3.00	36.00
tblVehicleTrips	ST_TR	1.59	0.00

tblVehicleTrips	SU_TR	1.59	0.00
tblVehicleTrips	WD_TR	1.59	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	OutdoorWaterUseRate	4,062,951.40	9,130.00
tblWater	SepticTankPercent	10.33	100.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	2.6900e-003	0.0101	0.0356	1.3000e-004	0.0562	2.6000e-004	0.0565	0.0278	2.4000e-004	0.0281	0.0000	9.2937	9.2937	2.1000e-004	0.0000	9.2982
2027	0.0185	0.1241	0.1661	3.0000e-004	0.0191	5.6500e-003	0.0247	9.0600e-003	5.2200e-003	0.0143	0.0000	25.5586	25.5586	7.6100e-003	0.0000	25.7184
Total	**0.0212**	**0.1342**	**0.2017**	**4.3000e-004**	**0.0753**	**5.9100e-003**	**0.0812**	**0.0369**	**5.4600e-003**	**0.0423**	**0.0000**	**34.8523**	**34.8523**	**7.8200e-003**	**0.0000**	**35.0166**

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					
2026	2.6900e-003	0.0101	0.0356	1.3000e-004	0.0562	2.6000e-004	0.0565	0.0278	2.4000e-004	0.0281	0.0000	9.2937	9.2937	2.1000e-004	0.0000	9.2982
2027	0.0185	0.1241	0.1661	3.0000e-004	0.0191	5.6500e-003	0.0247	9.0600e-003	5.2200e-003	0.0143	0.0000	25.5585	25.5585	7.6100e-003	0.0000	25.7184
Total	**0.0212**	**0.1342**	**0.2017**	**4.3000e-004**	**0.0753**	**5.9100e-003**	**0.0812**	**0.0369**	**5.4600e-003**	**0.0423**	**0.0000**	**34.8523**	**34.8523**	**7.8200e-003**	**0.0000**	**35.0166**

	ROG	NOx	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**

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	0.7484	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6900e-003	1.6900e-003	0.0000	0.0000	1.7800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.4584	5.4584	3.6000e-004	7.0000e-005	5.4886
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	0.0589	0.0000	0.0589	3.4800e-003	0.0000	0.1319
Water						0.0000	0.0000		0.0000	0.0000	0.0000	5.4500e-003	5.4500e-003	0.0000	0.0000	5.4800e-003
Total	**0.7484**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0589**	**5.4656**	**5.5244**	**3.8400e-003**	**7.0000e-005**	**5.6278**

2.2 Overall Operational

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	0.7484	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6900e-003	1.6900e-003	0.0000	0.0000	1.7800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.4584	5.4584	3.6000e-004	7.0000e-005	5.4886
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	0.0589	0.0000	0.0589	3.4800e-003	0.0000	0.1319
Water						0.0000	0.0000		0.0000	0.0000	0.0000	5.4500e-003	5.4500e-003	0.0000	0.0000	5.4800e-003
Total	**0.7484**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0589**	**5.4656**	**5.5244**	**3.8400e-003**	**7.0000e-005**	**5.6278**

	ROG	NOx	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**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	-7.3400
Total	**-7.3400**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	01: Trail Construction	Grading	1/1/2026	2/26/2026	5	41	
2	02: Removal of Trees	Site Preparation	1/1/2027	1/7/2027	5	5	
3	03: Grading at Lower Parking Area	Grading	1/8/2027	1/18/2027	5	7	
4	04: Paving at Lower Parking Area	Paving	1/19/2027	2/11/2027	5	18	
5	05: Arch Coating at Lower Parking Area	Architectural Coating	2/12/2027	2/15/2027	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 1,051 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
01: Trail Construction	Excavators	0	8.00	162	0.38
01: Trail Construction	Graders	0	8.00	174	0.41
01: Trail Construction	Rubber Tired Dozers	1	3.00	80	0.40
01: Trail Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
02: Removal of Trees	Rubber Tired Dozers	1	8.00	255	0.40
02: Removal of Trees	Tractors/Loaders/Backhoes	1	8.00	97	0.37
03: Grading at Lower Parking Area	Crawler Tractors	1	8.00	208	0.43
03: Grading at Lower Parking Area	Excavators	0	8.00	162	0.38
03: Grading at Lower Parking Area	Graders	1	8.00	174	0.41
03: Grading at Lower Parking Area	Rubber Tired Dozers	0	8.00	255	0.40
03: Grading at Lower Parking Area	Scrapers	1	4.00	361	0.48
03: Grading at Lower Parking Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
04: Paving at Lower Parking Area	Cement and Mortar Mixers	2	6.00	9	0.56
04: Paving at Lower Parking Area	Pavers	1	8.00	125	0.42
04: Paving at Lower Parking Area	Paving Equipment	2	6.00	130	0.36
04: Paving at Lower Parking Area	Rollers	2	6.00	80	0.38
04: Paving at Lower Parking Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
05: Arch Coating at Lower Parking Area	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
01: Trail Construction	1	36.00	6.00	69.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
02: Removal of Trees	2	5.00	0.00	3.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
03: Grading at Lower Parking Area	3	8.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
04: Paving at Lower Parking Area	8	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
05: Arch Coating at Lower Parking Area	1	16.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 01: Trail Construction - 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					
Fugitive Dust					0.0481	0.0000	0.0481	0.0256	0.0000	0.0256	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**0.0481**	**0.0000**	**0.0481**	**0.0256**	**0.0000**	**0.0256**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 01: Trail Construction - 2026

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	5.0000e-004	3.6900e-003	6.3100e-003	3.0000e-005	5.8000e-004	1.1000e-004	6.9000e-004	1.6000e-004	1.0000e-004	2.6000e-004	0.0000	2.1811	2.1811	2.0000e-005	0.0000	2.1814
Vendor	8.1000e-004	4.5800e-003	0.0115	3.0000e-005	8.0000e-004	1.0000e-004	9.0000e-004	2.3000e-004	1.0000e-004	3.2000e-004	0.0000	2.4573	2.4573	2.0000e-005	0.0000	2.4577
Worker	1.3700e-003	1.8200e-003	0.0178	8.0000e-005	6.7200e-003	5.0000e-005	6.7700e-003	1.7900e-003	4.0000e-005	1.8300e-003	0.0000	4.6553	4.6553	1.8000e-004	0.0000	4.6591
Total	**2.6800e-003**	**0.0101**	**0.0356**	**1.4000e-004**	**8.1000e-003**	**2.6000e-004**	**8.3600e-003**	**2.1800e-003**	**2.4000e-004**	**2.4100e-003**	**0.0000**	**9.2937**	**9.2937**	**2.2000e-004**	**0.0000**	**9.2982**

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					0.0481	0.0000	0.0481	0.0256	0.0000	0.0256	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**0.0481**	**0.0000**	**0.0481**	**0.0256**	**0.0000**	**0.0256**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 01: Trail Construction - 2026

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	5.0000e-004	3.6900e-003	6.3100e-003	3.0000e-005	5.8000e-004	1.1000e-004	6.9000e-004	1.6000e-004	1.0000e-004	2.6000e-004	0.0000	2.1811	2.1811	2.0000e-005	0.0000	2.1814
Vendor	8.1000e-004	4.5800e-003	0.0115	3.0000e-005	8.0000e-004	1.0000e-004	9.0000e-004	2.3000e-004	1.0000e-004	3.2000e-004	0.0000	2.4573	2.4573	2.0000e-005	0.0000	2.4577
Worker	1.3700e-003	1.8200e-003	0.0178	8.0000e-005	6.7200e-003	5.0000e-005	6.7700e-003	1.7900e-003	4.0000e-005	1.8300e-003	0.0000	4.6553	4.6553	1.8000e-004	0.0000	4.6591
Total	**2.6800e-003**	**0.0101**	**0.0356**	**1.4000e-004**	**8.1000e-003**	**2.6000e-004**	**8.3600e-003**	**2.1800e-003**	**2.4000e-004**	**2.4100e-003**	**0.0000**	**9.2937**	**9.2937**	**2.2000e-004**	**0.0000**	**9.2982**

3.3 02: Removal of Trees - 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					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9800e-003	0.0185	0.0189	3.0000e-005		8.1000e-004	8.1000e-004		7.5000e-004	7.5000e-004	0.0000	2.6397	2.6397	8.5000e-004	0.0000	2.6577
Total	**1.9800e-003**	**0.0185**	**0.0189**	**3.0000e-005**	**0.0151**	**8.1000e-004**	**0.0159**	**8.2800e-003**	**7.5000e-004**	**9.0300e-003**	**0.0000**	**2.6397**	**2.6397**	**8.5000e-004**	**0.0000**	**2.6577**

3.3 02: Removal of Trees - 2027

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	2.0000e-005	1.6000e-004	2.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0949	0.0949	0.0000	0.0000	0.0949
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	2.0000e-005	3.0000e-005	2.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0781	0.0781	0.0000	0.0000	0.0782
Total	**4.0000e-005**	**1.9000e-004**	**5.6000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1730**	**0.1730**	**0.0000**	**0.0000**	**0.1730**

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					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9800e-003	0.0185	0.0189	3.0000e-005		8.1000e-004	8.1000e-004		7.5000e-004	7.5000e-004	0.0000	2.6397	2.6397	8.5000e-004	0.0000	2.6577
Total	**1.9800e-003**	**0.0185**	**0.0189**	**3.0000e-005**	**0.0151**	**8.1000e-004**	**0.0159**	**8.2800e-003**	**7.5000e-004**	**9.0300e-003**	**0.0000**	**2.6397**	**2.6397**	**8.5000e-004**	**0.0000**	**2.6577**

3.3 02: Removal of Trees - 2027

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	2.0000e-005	1.6000e-004	2.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0949	0.0949	0.0000	0.0000	0.0949
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	2.0000e-005	3.0000e-005	2.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0781	0.0781	0.0000	0.0000	0.0782
Total	**4.0000e-005**	**1.9000e-004**	**5.6000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1730**	**0.1730**	**0.0000**	**0.0000**	**0.1730**

3.4 03: Grading at Lower Parking Area - 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					1.8600e-003	0.0000	1.8600e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8900e-003	0.0368	0.0315	7.0000e-005		1.6300e-003	1.6300e-003		1.5000e-003	1.5000e-003	0.0000	6.5665	6.5665	2.1200e-003	0.0000	6.6111
Total	**3.8900e-003**	**0.0368**	**0.0315**	**7.0000e-005**	**1.8600e-003**	**1.6300e-003**	**3.4900e-003**	**2.0000e-004**	**1.5000e-003**	**1.7000e-003**	**0.0000**	**6.5665**	**6.5665**	**2.1200e-003**	**0.0000**	**6.6111**

3.4 03: Grading at Lower Parking Area - 2027

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	7.0000e-005	6.5000e-004	0.0000	2.5000e-004	0.0000	2.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.1750	0.1750	1.0000e-005	0.0000	0.1751
Total	**5.0000e-005**	**7.0000e-005**	**6.5000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**2.6000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.1750**	**0.1750**	**1.0000e-005**	**0.0000**	**0.1751**

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					1.8600e-003	0.0000	1.8600e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8900e-003	0.0368	0.0315	7.0000e-005		1.6300e-003	1.6300e-003		1.5000e-003	1.5000e-003	0.0000	6.5665	6.5665	2.1200e-003	0.0000	6.6111
Total	**3.8900e-003**	**0.0368**	**0.0315**	**7.0000e-005**	**1.8600e-003**	**1.6300e-003**	**3.4900e-003**	**2.0000e-004**	**1.5000e-003**	**1.7000e-003**	**0.0000**	**6.5665**	**6.5665**	**2.1200e-003**	**0.0000**	**6.6111**

3.4 03: Grading at Lower Parking Area - 2027

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	7.0000e-005	6.5000e-004	0.0000	2.5000e-004	0.0000	2.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.1750	0.1750	1.0000e-005	0.0000	0.1751
Total	**5.0000e-005**	**7.0000e-005**	**6.5000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**2.6000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.1750**	**0.1750**	**1.0000e-005**	**0.0000**	**0.1751**

3.5 04: Paving at Lower Parking Area - 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					
Off-Road	7.2900e-003	0.0670	0.1081	1.7000e-004		3.1300e-003	3.1300e-003		2.9000e-003	2.9000e-003	0.0000	14.5244	14.5244	4.5600e-003	0.0000	14.6202
Paving	1.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3600e-003**	**0.0670**	**0.1081**	**1.7000e-004**		**3.1300e-003**	**3.1300e-003**		**2.9000e-003**	**2.9000e-003**	**0.0000**	**14.5244**	**14.5244**	**4.5600e-003**	**0.0000**	**14.6202**

3.5 04: Paving at Lower Parking Area - 2027

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	3.2000e-004	4.3000e-004	4.1800e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.1247	1.1247	4.0000e-005	0.0000	1.1256
Total	**3.2000e-004**	**4.3000e-004**	**4.1800e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6500e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.1247**	**1.1247**	**4.0000e-005**	**0.0000**	**1.1256**

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	7.2900e-003	0.0670	0.1081	1.7000e-004		3.1300e-003	3.1300e-003		2.9000e-003	2.9000e-003	0.0000	14.5244	14.5244	4.5600e-003	0.0000	14.6202
Paving	1.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3600e-003**	**0.0670**	**0.1081**	**1.7000e-004**		**3.1300e-003**	**3.1300e-003**		**2.9000e-003**	**2.9000e-003**	**0.0000**	**14.5244**	**14.5244**	**4.5600e-003**	**0.0000**	**14.6202**

3.5 04: Paving at Lower Parking Area - 2027

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	3.2000e-004	4.3000e-004	4.1800e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.1247	1.1247	4.0000e-005	0.0000	1.1256
Total	**3.2000e-004**	**4.3000e-004**	**4.1800e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6500e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.1247**	**1.1247**	**4.0000e-005**	**0.0000**	**1.1256**

3.6 05: Arch Coating at Lower Parking Area - 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					
Archit. Coating	3.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7000e-004	1.1500e-003	1.8100e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.2553	0.2553	1.0000e-005	0.0000	0.2556
Total	**3.8200e-003**	**1.1500e-003**	**1.8100e-003**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.2553**	**0.2553**	**1.0000e-005**	**0.0000**	**0.2556**

3.6 05: Arch Coating at Lower Parking Area - 2027

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-005	4.0000e-005	3.7000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1000	0.1000	0.0000	0.0000	0.1001
Total	**3.0000e-005**	**4.0000e-005**	**3.7000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1000**	**0.1000**	**0.0000**	**0.0000**	**0.1001**

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	3.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7000e-004	1.1500e-003	1.8100e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.2553	0.2553	1.0000e-005	0.0000	0.2556
Total	**3.8200e-003**	**1.1500e-003**	**1.8100e-003**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.2553**	**0.2553**	**1.0000e-005**	**0.0000**	**0.2556**

3.6 05: Arch Coating at Lower Parking Area - 2027

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-005	4.0000e-005	3.7000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1000	0.1000	0.0000	0.0000	0.1001
Total	**3.0000e-005**	**4.0000e-005**	**3.7000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1000**	**0.1000**	**0.0000**	**0.0000**	**0.1001**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000

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		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.552333	0.058808	0.184358	0.118913	0.029447	0.004459	0.013404	0.026791	0.001843	0.001224	0.006259	0.000436	0.001725

5.0 Energy Detail

4.4 Fleet Mix

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	5.4584	5.4584	3.6000e-004	7.0000e-005	5.4886
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5.4584	5.4584	3.6000e-004	7.0000e-005	5.4886
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

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					
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
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
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**

5.2 Energy by Land Use - NaturalGas

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					
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
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
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
Parking Lot	32032	5.4584	3.6000e-004	7.0000e-005	5.4886
Total		**5.4584**	**3.6000e-004**	**7.0000e-005**	**5.4886**

5.3 Energy by Land Use - Electricity

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
Parking Lot	32032	5.4584	3.6000e-004	7.0000e-005	5.4886
Total		**5.4584**	**3.6000e-004**	**7.0000e-005**	**5.4886**

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	0.7484	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6900e-003	1.6900e-003	0.0000	0.0000	1.7800e-003
Unmitigated	0.7484	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6900e-003	1.6900e-003	0.0000	0.0000	1.7800e-003

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	0.0260					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7223					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6900e-003	1.6900e-003	0.0000	0.0000	1.7800e-003
Total	**0.7484**	**1.0000e-005**	**8.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6900e-003**	**1.6900e-003**	**0.0000**	**0.0000**	**1.7800e-003**

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	0.0260					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7223					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6900e-003	1.6900e-003	0.0000	0.0000	1.7800e-003
Total	**0.7484**	**1.0000e-005**	**8.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6900e-003**	**1.6900e-003**	**0.0000**	**0.0000**	**1.7800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.4500e-003	0.0000	0.0000	5.4800e-003
Unmitigated	5.4500e-003	0.0000	0.0000	5.4800e-003

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.00913	5.4500e-003	0.0000	0.0000	5.4800e-003
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.4500e-003**	**0.0000**	**0.0000**	**5.4800e-003**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.00913	5.4500e-003	0.0000	0.0000	5.4800e-003
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.4500e-003**	**0.0000**	**0.0000**	**5.4800e-003**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0589	3.4800e-003	0.0000	0.1319
Unmitigated	0.0589	3.4800e-003	0.0000	0.1319

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.29	0.0589	3.4800e-003	0.0000	0.1319
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0589**	**3.4800e-003**	**0.0000**	**0.1319**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.29	0.0589	3.4800e-003	0.0000	0.1319
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0589**	**3.4800e-003**	**0.0000**	**0.1319**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-7.3400	0.0000	0.0000	-7.3400

10.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Mixed Hardwood	-10	-7.3400	0.0000	0.0000	-7.3400
Total		**-7.3400**	**0.0000**	**0.0000**	**-7.3400**

Bear Creek - Phase 3 - 1 acre parking lot

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.00	Acre	1.00	43,560.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	375.68	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Post-2020 PG&E emissions based on 2013 EPS Report and 23.8% renewable portfolio reported in CPUC http://www.cpuc.ca.gov/PUC/energy/Renewables/. Post-2020 assumes 33% renewables.

Land Use - 1 acre parking lot for horse trailers

Construction Phase -

Off-road Equipment -

Trips and VMT -

Demolition -

Grading - Assuming building on already cleared land.

Architectural Coating - Arch coating calculated separately to discount non-coated areas.

Vehicle Trips - Mobile sources calculated off-model

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Consumer Products - no consumer products for parking lot

Area Coating - Squarefootage calculated off-model

Energy Use -

Water And Wastewater -

Sequestration -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	653.00	510.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,960.00	0.00
tblAreaCoating	Area_Nonresidential_Interior	1960	0
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	375.68
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2030

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					
2026	6.5100e-003	0.0296	0.0423	7.0000e-005	8.3100e-003	1.3800e-003	9.6900e-003	4.1300e-003	1.2800e-003	5.4100e-003	0.0000	5.8702	5.8702	1.6100e-003	0.0000	5.9040
Total	**6.5100e-003**	**0.0296**	**0.0423**	**7.0000e-005**	**8.3100e-003**	**1.3800e-003**	**9.6900e-003**	**4.1300e-003**	**1.2800e-003**	**5.4100e-003**	**0.0000**	**5.8702**	**5.8702**	**1.6100e-003**	**0.0000**	**5.9040**

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					
2026	6.5100e-003	0.0296	0.0423	7.0000e-005	8.3100e-003	1.3800e-003	9.6900e-003	4.1300e-003	1.2800e-003	5.4100e-003	0.0000	5.8702	5.8702	1.6100e-003	0.0000	5.9040
Total	**6.5100e-003**	**0.0296**	**0.0423**	**7.0000e-005**	**8.3100e-003**	**1.3800e-003**	**9.6900e-003**	**4.1300e-003**	**1.2800e-003**	**5.4100e-003**	**0.0000**	**5.8702**	**5.8702**	**1.6100e-003**	**0.0000**	**5.9040**

	ROG	NOx	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**

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	0.1704	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.5321	6.5321	4.3000e-004	9.0000e-005	6.5682
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	**0.1704**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.5321**	**6.5321**	**4.3000e-004**	**9.0000e-005**	**6.5682**

2.2 Overall Operational

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	0.1704	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.5321	6.5321	4.3000e-004	9.0000e-005	6.5682
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	**0.1704**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.5321**	**6.5321**	**4.3000e-004**	**9.0000e-005**	**6.5682**

	ROG	NOx	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	1/1/2026	1/1/2026	5	1	
2	Grading	Grading	1/2/2026	1/5/2026	5	2	
3	Paving	Paving	1/6/2026	1/12/2026	5	5	
4	Architectural Coating	Architectural Coating	1/13/2026	1/19/2026	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 510 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	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
Site Preparation	3	8.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 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					
Fugitive Dust					2.9000e-003	0.0000	2.9000e-003	1.4800e-003	0.0000	1.4800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6000e-004	5.0600e-003	5.5900e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.2000e-004	2.2000e-004	0.0000	0.7522	0.7522	2.4000e-004	0.0000	0.7573
Total	**5.6000e-004**	**5.0600e-003**	**5.5900e-003**	**1.0000e-005**	**2.9000e-003**	**2.4000e-004**	**3.1400e-003**	**1.4800e-003**	**2.2000e-004**	**1.7000e-003**	**0.0000**	**0.7522**	**0.7522**	**2.4000e-004**	**0.0000**	**0.7573**

3.2 Site Preparation - 2026

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	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0252	0.0252	0.0000	0.0000	0.0253
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0252**	**0.0252**	**0.0000**	**0.0000**	**0.0253**

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					2.9000e-003	0.0000	2.9000e-003	1.4800e-003	0.0000	1.4800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6000e-004	5.0600e-003	5.5900e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.2000e-004	2.2000e-004	0.0000	0.7522	0.7522	2.4000e-004	0.0000	0.7573
Total	**5.6000e-004**	**5.0600e-003**	**5.5900e-003**	**1.0000e-005**	**2.9000e-003**	**2.4000e-004**	**3.1400e-003**	**1.4800e-003**	**2.2000e-004**	**1.7000e-003**	**0.0000**	**0.7522**	**0.7522**	**2.4000e-004**	**0.0000**	**0.7573**

3.2 Site Preparation - 2026

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	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0252	0.0252	0.0000	0.0000	0.0253
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0252**	**0.0252**	**0.0000**	**0.0000**	**0.0253**

3.3 Grading - 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					
Fugitive Dust					4.9100e-003	0.0000	4.9100e-003	2.5300e-003	0.0000	2.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2000e-004	8.3300e-003	9.1700e-003	1.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	1.2358	1.2358	4.0000e-004	0.0000	1.2442
Total	**9.2000e-004**	**8.3300e-003**	**9.1700e-003**	**1.0000e-005**	**4.9100e-003**	**3.9000e-004**	**5.3000e-003**	**2.5300e-003**	**3.6000e-004**	**2.8900e-003**	**0.0000**	**1.2358**	**1.2358**	**4.0000e-004**	**0.0000**	**1.2442**

3.3 Grading - 2026

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	1.0000e-005	2.0000e-005	1.9000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0505	0.0505	0.0000	0.0000	0.0505
Total	**1.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0505**	**0.0505**	**0.0000**	**0.0000**	**0.0505**

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					4.9100e-003	0.0000	4.9100e-003	2.5300e-003	0.0000	2.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2000e-004	8.3300e-003	9.1700e-003	1.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	1.2358	1.2358	4.0000e-004	0.0000	1.2442
Total	**9.2000e-004**	**8.3300e-003**	**9.1700e-003**	**1.0000e-005**	**4.9100e-003**	**3.9000e-004**	**5.3000e-003**	**2.5300e-003**	**3.6000e-004**	**2.8900e-003**	**0.0000**	**1.2358**	**1.2358**	**4.0000e-004**	**0.0000**	**1.2442**

3.3 Grading - 2026

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	1.0000e-005	2.0000e-005	1.9000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0505	0.0505	0.0000	0.0000	0.0505
Total	**1.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0505**	**0.0505**	**0.0000**	**0.0000**	**0.0505**

3.4 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	1.4100e-003	0.0132	0.0217	3.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004	0.0000	2.9001	2.9001	9.2000e-004	0.0000	2.9194
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.7200e-003**	**0.0132**	**0.0217**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**2.9001**	**2.9001**	**9.2000e-004**	**0.0000**	**2.9194**

3.4 Paving - 2026

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	6.0000e-005	8.0000e-005	7.9000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2050	0.2050	1.0000e-005	0.0000	0.2052
Total	**6.0000e-005**	**8.0000e-005**	**7.9000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2050**	**0.2050**	**1.0000e-005**	**0.0000**	**0.2052**

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	1.4100e-003	0.0132	0.0217	3.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004	0.0000	2.9001	2.9001	9.2000e-004	0.0000	2.9194
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.7200e-003**	**0.0132**	**0.0217**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**2.9001**	**2.9001**	**9.2000e-004**	**0.0000**	**2.9194**

3.4 Paving - 2026

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	6.0000e-005	8.0000e-005	7.9000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2050	0.2050	1.0000e-005	0.0000	0.2052
Total	**6.0000e-005**	**8.0000e-005**	**7.9000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2050**	**0.2050**	**1.0000e-005**	**0.0000**	**0.2052**

3.5 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	1.7700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3000e-004	2.8600e-003	4.5200e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.6383	0.6383	3.0000e-005	0.0000	0.6390
Total	**2.2000e-003**	**2.8600e-003**	**4.5200e-003**	**1.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.6383**	**0.6383**	**3.0000e-005**	**0.0000**	**0.6390**

3.5 Architectural Coating - 2026

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	2.0000e-005	2.0000e-005	2.4000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0631	0.0631	0.0000	0.0000	0.0631
Total	**2.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0631**	**0.0631**	**0.0000**	**0.0000**	**0.0631**

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	1.7700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3000e-004	2.8600e-003	4.5200e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.6383	0.6383	3.0000e-005	0.0000	0.6390
Total	**2.2000e-003**	**2.8600e-003**	**4.5200e-003**	**1.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.6383**	**0.6383**	**3.0000e-005**	**0.0000**	**0.6390**

3.5 Architectural Coating - 2026

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	2.0000e-005	2.0000e-005	2.4000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0631	0.0631	0.0000	0.0000	0.0631
Total	**2.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0631**	**0.0631**	**0.0000**	**0.0000**	**0.0631**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.552333	0.058808	0.184358	0.118913	0.029447	0.004459	0.013404	0.026791	0.001843	0.001224	0.006259	0.000436	0.001725

4.4 Fleet Mix

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	6.5321	6.5321	4.3000e-004	9.0000e-005	6.5682
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6.5321	6.5321	4.3000e-004	9.0000e-005	6.5682
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

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					
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
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**

5.2 Energy by Land Use - NaturalGas

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					
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
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			
Parking Lot	38332.8	6.5321	4.3000e-004	9.0000e-005	6.5682
Total		**6.5321**	**4.3000e-004**	**9.0000e-005**	**6.5682**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	38332.8	6.5321	4.3000e-004	9.0000e-005	6.5682
Total		**6.5321**	**4.3000e-004**	**9.0000e-005**	**6.5682**

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	0.1704	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.1704	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	2.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1701					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.1704**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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					
Consumer Products	0.1701					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Architectural Coating	2.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1704**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Bear Creek - Retaining Wall

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unenclosed Parking Structure	1.00	Acre	1.00	43,560.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	5			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction-Only analysis. No Electricity Use.

Land Use -

Construction Phase - Based on 8 week maximum construction duration

Off-road Equipment - Edited for retaining wall construction

Off-road Equipment - Edited for retaining wall construction

Off-road Equipment -

Off-road Equipment - Edited for retaining wall construction

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	30.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	3/8/2017	6/7/2017
tblConstructionPhase	PhaseStartDate	1/26/2017	1/19/2017
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Finishing
tblOffRoadEquipment	PhaseName		Wall Construction
tblOffRoadEquipment	PhaseName		Wall Construction
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	PhaseName		Finishing
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	PhaseName		Wall Construction
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	0
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	5.00	10.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0339	0.3228	0.3033	5.7000e-004	0.0107	0.0169	0.0276	2.8900e-003	0.0156	0.0185	0.0000	50.3440	50.3440	0.0110	0.0000	50.5744
Total	**0.0339**	**0.3228**	**0.3033**	**5.7000e-004**	**0.0107**	**0.0169**	**0.0276**	**2.8900e-003**	**0.0156**	**0.0185**	**0.0000**	**50.3440**	**50.3440**	**0.0110**	**0.0000**	**50.5744**

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					
2017	0.0339	0.3228	0.3033	5.7000e-004	0.0107	0.0169	0.0276	2.8900e-003	0.0156	0.0185	0.0000	50.3439	50.3439	0.0110	0.0000	50.5744
Total	**0.0339**	**0.3228**	**0.3033**	**5.7000e-004**	**0.0107**	**0.0169**	**0.0276**	**2.8900e-003**	**0.0156**	**0.0185**	**0.0000**	**50.3439**	**50.3439**	**0.0110**	**0.0000**	**50.5744**

	ROG	NOx	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**

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	0.1928	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
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	0.0000	0.0000	0.0000	0.0000	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	**0.1928**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

2.2 Overall Operational

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	0.1928	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
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	0.0000	0.0000	0.0000	0.0000	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	**0.1928**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	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	Excavation	Grading	1/19/2017	1/25/2017	5	5	
2	Wall Construction	Building Construction	1/19/2017	6/7/2017	5	30	
3	Finishing	Paving	6/8/2017	6/14/2017	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Excavation	Excavators	1	6.00	162	0.38
Excavation	Off-Highway Trucks	1	3.00	400	0.38
Excavation	Skid Steer Loaders	1	6.00	64	0.37
Excavation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Wall Construction	Bore/Drill Rigs	1	2.00	205	0.50
Wall Construction	Dumpers/Tenders	1	6.00	16	0.38
Wall Construction	Skid Steer Loaders	1	8.00	64	0.37
Wall Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Finishing	Air Compressors	1	6.00	78	0.48
Finishing	Plate Compactors	1	8.00	8	0.43

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
Excavation	4	10.00	0.00	0.00	12.40	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Wall Construction	4	18.00	7.00	0.00	12.40	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing	2	10.00	0.00	0.00	12.40	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Excavation - 2017

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3900e-003	0.0260	0.0186	3.0000e-005		1.3500e-003	1.3500e-003		1.2400e-003	1.2400e-003	0.0000	3.0495	3.0495	9.3000e-004	0.0000	3.0692
Total	**2.3900e-003**	**0.0260**	**0.0186**	**3.0000e-005**	**0.0000**	**1.3500e-003**	**1.3500e-003**	**0.0000**	**1.2400e-003**	**1.2400e-003**	**0.0000**	**3.0495**	**3.0495**	**9.3000e-004**	**0.0000**	**3.0692**

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	8.0000e-005	1.2000e-004	1.1400e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1931
Total	**8.0000e-005**	**1.2000e-004**	**1.1400e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1929**	**0.1929**	**1.0000e-005**	**0.0000**	**0.1931**

3.2 Excavation - 2017

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3900e-003	0.0260	0.0186	3.0000e-005		1.3500e-003	1.3500e-003		1.2400e-003	1.2400e-003	0.0000	3.0495	3.0495	9.3000e-004	0.0000	3.0692
Total	**2.3900e-003**	**0.0260**	**0.0186**	**3.0000e-005**	**0.0000**	**1.3500e-003**	**1.3500e-003**	**0.0000**	**1.2400e-003**	**1.2400e-003**	**0.0000**	**3.0495**	**3.0495**	**9.3000e-004**	**0.0000**	**3.0692**

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	8.0000e-005	1.2000e-004	1.1400e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1931
Total	**8.0000e-005**	**1.2000e-004**	**1.1400e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1929**	**0.1929**	**1.0000e-005**	**0.0000**	**0.1931**

3.3 Wall Construction - 2017

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	0.0239	0.2573	0.1934	3.6000e-004		0.0146	0.0146		0.0135	0.0135	0.0000	32.4705	32.4705	9.5400e-003	0.0000	32.6708
Total	**0.0239**	**0.2573**	**0.1934**	**3.6000e-004**		**0.0146**	**0.0146**		**0.0135**	**0.0135**	**0.0000**	**32.4705**	**32.4705**	**9.5400e-003**	**0.0000**	**32.6708**

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	3.5200e-003	0.0289	0.0429	8.0000e-005	2.0400e-003	4.1000e-004	2.4600e-003	5.9000e-004	3.8000e-004	9.6000e-004	0.0000	6.7776	6.7776	5.0000e-005	0.0000	6.7787
Worker	3.0000e-003	4.2200e-003	0.0409	9.0000e-005	8.1900e-003	6.0000e-005	8.2600e-003	2.1800e-003	6.0000e-005	2.2400e-003	0.0000	6.9441	6.9441	3.5000e-004	0.0000	6.9515
Total	**6.5200e-003**	**0.0332**	**0.0838**	**1.7000e-004**	**0.0102**	**4.7000e-004**	**0.0107**	**2.7700e-003**	**4.4000e-004**	**3.2000e-003**	**0.0000**	**13.7217**	**13.7217**	**4.0000e-004**	**0.0000**	**13.7302**

3.3 Wall Construction - 2017

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	0.0239	0.2573	0.1934	3.6000e-004		0.0146	0.0146		0.0135	0.0135	0.0000	32.4704	32.4704	9.5400e-003	0.0000	32.6708
Total	**0.0239**	**0.2573**	**0.1934**	**3.6000e-004**		**0.0146**	**0.0146**		**0.0135**	**0.0135**	**0.0000**	**32.4704**	**32.4704**	**9.5400e-003**	**0.0000**	**32.6708**

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	3.5200e-003	0.0289	0.0429	8.0000e-005	2.0400e-003	4.1000e-004	2.4600e-003	5.9000e-004	3.8000e-004	9.6000e-004	0.0000	6.7776	6.7776	5.0000e-005	0.0000	6.7787
Worker	3.0000e-003	4.2200e-003	0.0409	9.0000e-005	8.1900e-003	6.0000e-005	8.2600e-003	2.1800e-003	6.0000e-005	2.2400e-003	0.0000	6.9441	6.9441	3.5000e-004	0.0000	6.9515
Total	**6.5200e-003**	**0.0332**	**0.0838**	**1.7000e-004**	**0.0102**	**4.7000e-004**	**0.0107**	**2.7700e-003**	**4.4000e-004**	**3.2000e-003**	**0.0000**	**13.7217**	**13.7217**	**4.0000e-004**	**0.0000**	**13.7302**

3.4 Finishing - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.3000e-004	6.0900e-003	5.2000e-003	1.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	0.7165	0.7165	8.0000e-005	0.0000	0.7181
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.3000e-004**	**6.0900e-003**	**5.2000e-003**	**1.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**0.7165**	**0.7165**	**8.0000e-005**	**0.0000**	**0.7181**

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	8.0000e-005	1.2000e-004	1.1400e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1931
Total	**8.0000e-005**	**1.2000e-004**	**1.1400e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1929**	**0.1929**	**1.0000e-005**	**0.0000**	**0.1931**

3.4 Finishing - 2017

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	9.3000e-004	6.0900e-003	5.2000e-003	1.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	0.7165	0.7165	8.0000e-005	0.0000	0.7181
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.3000e-004**	**6.0900e-003**	**5.2000e-003**	**1.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**0.7165**	**0.7165**	**8.0000e-005**	**0.0000**	**0.7181**

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	8.0000e-005	1.2000e-004	1.1400e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1931
Total	**8.0000e-005**	**1.2000e-004**	**1.1400e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1929**	**0.1929**	**1.0000e-005**	**0.0000**	**0.1931**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Unenclosed Parking Structure	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.551461	0.058468	0.185554	0.123211	0.029507	0.004440	0.012712	0.023230	0.001775	0.001270	0.006089	0.000516	0.001766

4.4 Fleet Mix

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

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					
Unenclosed Parking Structure	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**

5.2 Energy by Land Use - NaturalGas

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					
Unenclosed Parking Structure	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			
Unenclosed Parking Structure	114563	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unenclosed Parking Structure	114563	0.0000	0.0000	0.0000	0.0000
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	0.1928	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.1928	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.0227					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1701					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.1928**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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	0.0227					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1701					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.1928**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Road Construction Emissions Model

Version 7.1.5.1

Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

Input Type		
Project Name	Bear Creek	
Construction Start Year	2020	Enter a Year between 2009 and 2025 (inclusive)
Project Type	3	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	2.00	months
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.01	miles
Total Project Area	1.00	acre
Maximum Area Disturbed/Day	1.00	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	30.00	yd^3/day
Soil Exported	30.00	yd^3/day
Average Truck Capacity	20	yd^3 (assume 20 if unknown)

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months
Grubbing/Land Clearing		0.20
Grading/Excavation		0.80
Drainage/Utilities/Sub-Grade		0.70
Paving		0.30
Totals	0.00	2.00

2005	%	2006	%	2007	%
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00

NOTE: soil hauling emissions are included in the Grading/Excavation Construction Period Phase, therefore the Construction Period for Grading/Excavation cannot be zero if hauling is part of the project.

Bear Creek: Road Construction Emissions Model Inputs for a Vehicle Bridge (based on an 8-week construction period)

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions	User Override of Soil Hauling Defaults	Default Values
User Input		
Miles/round trip		30
Round trips/day		3
Vehicle miles traveled/day (calculated)		90

Hauling Emissions	**ROG**	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate (grams/mile)	0.16	4.67	0.71	0.16	0.09	1558.59
Emission rate (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day	0.03	0.93	0.14	0.03	0.02	308.97
Tons per contruction period	0.00	0.01	0.00	0.00	0.00	2.72

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing		5
No. of employees: Grading/Excavation		28
No. of employees: Drainage/Utilities/Sub-Grade		18
No. of employees: Paving		8

	ROG	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate - Grubbing/Land Clearing (grams/mile)	0.105	0.129	1.196	0.047	0.020	441.856
Emission rate - Grading/Excavation (grams/mile)	0.105	0.129	1.196	0.047	0.020	441.856
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.105	0.129	1.196	0.047	0.020	441.856
Emission rate - Paving (grams/mile)	0.105	0.129	1.196	0.047	0.020	441.856
Emission rate - Grubbing/Land Clearing (grams/trip)	0.353	0.205	2.824	0.004	0.004	95.943
Emission rate - Grading/Excavation (grams/trip)	0.353	0.205	2.824	0.004	0.004	95.943
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.353	0.205	2.824	0.004	0.004	95.943
Emission rate - Paving (grams/trip)	0.353	0.205	2.824	0.004	0.004	95.943
Pounds per day - Grubbing/Land Clearing	0.054	0.061	0.589	0.021	0.009	196.763
Tons per const. Period - Grub/Land Clear	0.000	0.000	0.001	0.000	0.000	0.433
Pounds per day - Grading/Excavation	0.298	0.337	3.239	0.114	0.048	1082.199
Tons per const. Period - Grading/Excavation	0.003	0.003	0.029	0.001	0.000	9.523
Pounds per day - Drainage/Utilities/Sub-Grade	0.190	0.214	2.061	0.072	0.030	688.672
Tons per const. Period - Drain/Util/Sub-Grade	0.001	0.002	0.016	0.001	0.000	5.303
Pounds per day - Paving	0.081	0.092	0.883	0.031	0.013	295.145
Tons per const. Period - Paving	0.000	0.000	0.003	0.000	0.000	0.974
tons per construction period	0.004	0.005	0.049	0.002	0.001	16.233

Bear Creek: Road Construction Emissions Model Inputs for a Vehicle Bridge (based on an 8-week construction period)

Water truck default values can be overriden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		1		40
Grading/Excavation - Exhaust		1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.16	4.67	0.71	0.16	0.09	1558.59
Emission rate - Grading/Excavation (grams/mile)	0.16	4.67	0.71	0.16	0.09	1558.59
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.16	4.67	0.71	0.16	0.09	1558.59
Pounds per day - Grubbing/Land Clearing	0.01	0.41	0.06	0.01	0.01	137.32
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00	0.00	0.30
Pound per day - Grading/Excavation	0.01	0.41	0.06	0.01	0.01	137.32
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	1.21
Pound per day - Drainage/Utilities/Subgrade	0.01	0.41	0.06	0.01	0.01	137.32
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.00	0.00	0.00	0.00	1.06

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		1	10.0	0.0	2.1	0.0
Fugitive Dust - Grading/Excavation		1	10.0	0.1	2.1	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		1	10.0	0.1	2.1	0.0

Bear Creek: Road Construction Emissions Model Inputs for a Vehicle Bridge (based on an 8-week construction period)

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Crawler Tractors	0.59	4.47	7.29	0.27	0.25	824.47
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
1.00	2	Excavators	0.27	2.79	2.49	0.12	0.11	572.76
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Signal Boards	0.22	1.23	1.14	0.06	0.05	157.43
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	1.1	8.5	10.9	0.5	0.4	1554.7
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.0	0.0	0.0	3.4

Bear Creek: Road Construction Emissions Model Inputs for a Vehicle Bridge (based on an 8-week construction period)

Grading/Excavation	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	1	Cranes	0.46	3.00	5.24	0.22	0.20	601.68
0.00	2	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
1.00	4	Excavators	0.27	2.79	2.49	0.12	0.11	572.76
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3	Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
0.00	4	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	0.7	5.8	7.7	0.3	0.3	1174.4
	Grading	tons per phase	0.0	0.1	0.1	0.0	0.0	10.3

Bear Creek: Road Construction Emissions Model Inputs for a Vehicle Bridge (based on an 8-week construction period)

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Air Compressors	0.49	3.37	3.35	0.23	0.21	507.95
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
1.00		Excavators	0.27	2.79	2.49	0.12	0.11	572.76
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Generator Sets	0.35	2.93	2.98	0.18	0.16	487.07
0.00	2	Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.04	0.21	0.25	0.01	0.01	34.45
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pumps	0.30	2.43	2.46	0.15	0.14	396.14
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rough Terrain Forklifts	0.14	2.03	1.74	0.07	0.07	372.80
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
0.00	4	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Signal Boards	0.22	1.23	1.14	0.06	0.05	157.43
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	1.8	15.0	14.4	0.8	0.8	2528.6
	Drainage	tons per phase	0.0	0.1	0.1	0.0	0.0	19.5

Bear Creek: Road Construction Emissions Model Inputs for a Vehicle Bridge (based on an 8-week construction period)

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
1.00		Excavators	0.27	2.79	2.49	0.12	0.11	572.76
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Pavers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rollers	0.22	1.51	2.07	0.13	0.12	279.47
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	0.5	4.3	4.6	0.3	0.2	852.2
	Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	2.8
Total Emissions all Phases (tons per construction period) =>			0.0	0.2	0.2	0.0	0.0	36.0

Bear Creek: Road Construction Emissions Model Inputs for a Vehicle Bridge (based on an 8-week construction period)

Equipment default values for horsepower and hours/day can be overridden in cells C289 through C322 and E289 through E322.

Equipment		Default Values Horsepower		Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		106		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		10		8
Concrete/Industrial Saws		64		8
Cranes		226		8
Crawler Tractors		208		8
Crushing/Proc. Equipment		142		8
Excavators		163		8
Forklifts		89		8
Generator Sets		66		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		26		8
Pumps		53		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		20		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		45		8

0

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> Bear Creek Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	1.1	9.1	11.4	10.5	0.5	10.0	2.5	0.4	2.1	1,888.7
Grading/Excavation	1.1	9.2	9.4	10.5	0.5	10.0	2.5	0.4	2.1	2,702.9
Drainage/Utilities/Sub-Grade	2.0	17.1	15.1	10.9	0.9	10.0	2.9	0.8	2.1	3,354.6
Paving	0.6	5.2	4.7	0.3	0.3	-	0.2	0.2	-	1,147.4
Maximum (pounds/day)	2.0	17.1	15.1	10.9	0.9	10.0	2.9	0.8	2.1	3,354.6
Total (tons/construction project)	0.0	0.3	0.2	0.2	0.0	0.2	0.1	0.0	0.0	57.6

Notes:		
	Project Start Year ->	2020
	Project Length (months) ->	2
	Total Project Area (acres) ->	1
	Maximum Area Disturbed/Day (acres) ->	1
	Total Soil Imported/Exported (yd^3/day)->	60

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Bear Creek Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	0.5	4.2	5.2	4.8	0.2	4.5	1.1	0.2	0.9	858.5
Grading/Excavation	0.5	4.2	4.3	4.8	0.2	4.5	1.1	0.2	0.9	1,228.6
Drainage/Utilities/Sub-Grade	0.9	7.8	6.8	5.0	0.4	4.5	1.3	0.4	0.9	1,524.8
Paving	0.3	2.4	2.1	0.1	0.1	-	0.1	0.1	-	521.5
Maximum (kilograms/day)	0.9	7.8	6.8	5.0	0.4	4.5	1.3	0.4	0.9	1,524.8
Total (megagrams/construction project)	0.0	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	52.2

Notes:		
	Project Start Year ->	2020
	Project Length (months) ->	2
	Total Project Area (hectares) ->	0
	Maximum Area Disturbed/Day (hectares) ->	0
	Total Soil Imported/Exported (meters^3/day)->	46

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Appendix E

Noise Modeling Data

Appendix – Acoustic Fundamentals

Acoustic Fundamentals

Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz, or thousands of hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB).

Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than if only one of the sound sources was producing sound under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz, and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted"

sound level (expressed in units of A-weighted decibels [dBA]) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgment correlates well with the A-scale sound levels of those sounds. Thus, noise levels are typically reported in terms of A-weighted decibels or dBA. Table 1 describes typical A-weighted noise levels for various noise sources.

Table 1 Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 miles per hour	— 80 —	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, daytime, Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	— 60 —	
Quiet urban daytime	— 50 —	Large business office ,Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime	— 30 —	Library, Bedroom at night
Quiet rural nighttime	— 20 —	
	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: California Department of Transportation (Caltrans) 2013: Table 2-5

Human Response to Changes in Noise Levels

As discussed above, the doubling of sound energy results in a 3-dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different from what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound would generally be perceived as barely detectable.

Common Noise Descriptors

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others fluctuate slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors used throughout this section.

Equivalent Continuous Sound Level (L_{eq}): L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A-weighted equivalent sound level ($L_{eq[h]}$) is the energy average of A-weighted sound levels occurring during a 1-hour period and is the basis for noise abatement criteria used by Caltrans and Federal Highway Administration (FHWA).

Percentile-Exceeded Sound Level (L_{xx}): L_{xx} represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time).

Maximum Sound Level (L_{max}): L_{max} is the highest instantaneous sound level measured during a specified period.

Day-Night Level (L_{dn}): L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB "penalty" applied to A-weighted sound levels occurring during nighttime hours between 10 p.m. and 7 a.m.

Community Noise Equivalent Level (CNEL) or Day-Evening-Night Level (L_{den}): Similar to L_{dn}, CNEL or L_{den} is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m. and a 5-dB penalty applied to the A-weighted sound levels occurring during evening hours between 7 p.m. and 10 p.m.

SEL (single-event (impulsive) noise level) – A receiver's cumulative noise exposure from a single impulsive-noise event, which is defined as an acoustical event of short duration and which involves a change in sound pressure above some reference value.

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Roads and highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources, thus propagating at a slower rate in comparison to a point source. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Ground Absorption

The propagation path of noise from a source to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective-wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an excess ground-

attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance. This would hold true for point sources, resulting in an overall drop-off rate of up to 7.5 dB per doubling of distance.

Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels, as wind can carry sound. Sound levels can be increased at large distances (e.g., more than 500 feet) from the source because of atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. Taller barriers provide increased noise reduction. Vegetation between the source and receiver is rarely effective in reducing noise because it does not create a solid barrier.

Vibration Fundamentals

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV and RMS vibration velocity are normally described in inches per second (in/sec) or in millimeters per second (mm/s). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (Federal Transit Administration [FTA] 2006:7-5, Caltrans 2013:6).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2006:7-5). This is based on a reference value of 1 micro inch per second.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Ground vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2006:7-7).

Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities can generate sufficient ground vibrations to pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2006:7-5).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 2 describes the general human response to different ground vibration-velocity levels.

Table 2 Human Response to Different Levels of Ground Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Notes: VdB = vibration decibels referenced to 1 µ inch/second and based on the root mean square (RMS) velocity amplitude.

Source: FTA 2006:7-8

REFERENCES

California Department of Transportation. 2013 (September). *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Division of Environmental Analysis Environmental Engineering Hazardous Waste, Air, Noise, Paleontology Office. Sacramento, California.

Caltrans. *See* California Department of Transportation.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. Washington, D.C

FTA. *See* Federal Transit Administration.

Construction Source Noise Prediction Model

Hourly Average Noise Levels (Ldn): Trail Construction

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Ambient Threshold	549	55
Standard Threshold	87	75
Residence	20	92
Residence	50	81

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Dozer	85	0.4

Ground Type	Soft
Source Height*	8
Receiver Height*	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Dozer	81

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
81

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

* Assumes source and receiver are at the same elevation.

Construction Source Noise Prediction Model

Maximum Noise Levels (Lmax): Trail Construction

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Ambient Threshold	792	55
Standard Threshold	126	75
Residence	20	95
Residence	50	85

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Dozer	85	1

Ground Type	Soft
Source Height*	8
Receiver Height*	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Dozer	85

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
85

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

* Assumes source and receiver are at the same elevation.

Construction Source Noise Prediction Model

Hourly Average Noise Levels (Ldn): Lower Parking Area

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Ambient Threshold	1,125	55
Standard Threshold	178	75
Residence	500	65
Commercial Land Use	150	78

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Paver	85	0.4
Paver	85	0.4
Pavement Scarafier	85	0.4
Pavement Scarafier	85	0.4
Roller	85	0.4
Roller	85	0.4

Ground Type	Soft	
Source Height (ft)	8	(Staging Area 1)
Receiver Height (ft)	35	(Camel Hill Vineyards)
Ground Factor[2]	0.37	

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Paver	81
Paver	81
Pavement Scarafier	81
Pavement Scarafier	81
Roller	81
Roller	81
Combined Predicted Noise Level (L_{eq} dBA at 50 feet)	
89	

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Construction Source Noise Prediction Model

Maximum Noise Levels (Lmax): Lower Parking Area

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Ambient Threshold	1,623	55
Standard Threshold	257	75
Residence	500	69
Commercial Land Use	150	81

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Paver	85	1
Paver	85	1
Pavement Scarafier	85	1
Pavement Scarafier	85	1
Roller	85	1
Roller	85	1

Ground Type	Soft	
Source Height (ft)	8	(Staging Area 1)
Receiver Height (ft)	35	(Camel Hill Vineyards)
Ground Factor[2]	0.37	

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Paver	85
Paver	85
Pavement Scarafier	85
Pavement Scarafier	85
Roller	85
Roller	85
Combined Predicted Noise Level (L_{eq} dBA at 50 feet)	
	93

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

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 2006: pg 6-23); and

D = Distance from source to receiver.

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)
Large dozer	87.0	@	25	80.9	@	40
Small dozer	58.0	@	25	80.0	@	5

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)
Large dozer	0.089	@	25	0.044	@	40
Small dozer	0.003	@	25	0.034	@	5

Notes:

Computation of propagated vibration levels is based on the equations presented on pg. 12-11 of FTA 2006. 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.

Sources:

Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 22, 2015.

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	Reference Noise Level			Attenuation Characteristics				Attenuated 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)
250 patrons at 90 dB at 3ft per patron	114.0	@	3	soft	6	5	0.65	44.1	@	1300
Parking Lot at Staging Area 1	78.1	@	15	soft	8	35	0.37	42.1	@	500

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. 12-3 and 12-4 of FTA 2006.

Computation of the ground factor is based on the equation presentd in Figure 6-23 on pg. 6-23 of FTA 2006, 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).

Sources:

Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 22, 2015.

Annual Average Daily Trip (AADT) Estimates

Turn Link Volumes at Bear Creek Rd - SR17 Intersection (West)	Existing			Project			Existing Plus Project			Percent increase from Existing		
	AM Peak	PM Peak	Saturday Peak	AM Peak	PM Peak	Saturday Peak	AM Peak	PM Peak	Saturday Peak	AM Peak	PM Peak	Saturday Peak
Westbound												
Left Turn	1	135	4	0	0	0	1	135	4			
Through	230	0	7	5	0	21	235	0	28			
Right Turn	4	93	9	0	0	0	4	93	9			
Northbound												
Left Turn	35	5	88	51	44	265	86	49	353			
Through	44	38	73	0	0	0	44	38	73			
Right Turn	62	0	158	0	0	0	62	0	158			
Eastbound												
Left Turn	4	6	2	0	0	1	4	6	3			
Through	3	1	124	42	53	46	45	54	170			
Right Turn	14	49	4	1	3	1	15	52	5			
Southbound												
Left Turn	119	0	84	0	0	0	119	0	84			
Through	12	2	9	0	0	0	12	2	9			
Right Turn	1	13	3	1	0	8	2	13	11			
Calculated Roadway Volumes												
West Link (Bear Creek Rd.)	**269**	**19**	**222**	**99**	**97**	**340**	**368**	**116**	**562**	**37%**	**511%**	**153%**
North Link (SR17 off-ramp)	64	139	93	0	0	1	64	139	94	0%	0%	1%
East Link (SR17 NB connection)	414	1	373	47	53	67	461	54	440	11%	5300%	18%
South Link (SR17 on-ramp)	71	224	90	1	3	1	72	227	91	1%	1%	1%

Notes: NA = Not Applicable
Source: Hexagon Transportation Consultants 2015 (July): Figures 3, 4, and 5

Maximum Weekday (WD) Peak Hour and Weekend Mid-Day (MD) Hour traffic volumes							
		Proposed Project					
Street	Segment	Existing		Project		Existing + Project	
		WD PM	WE MD	WD PM	WE MD	WD PM	WE MD
Bear Creek Rd	West of SR17	269	222	99	340	368	562

WD = Weekday, WE = Weekend, MD = Mid-day

K Factor for Bear Creek Road.	
Default K Factor	10%

Project AADT (Calculated) (vehicles per day)										
	Existing			Project			Existing + Project			Percent change in Annual Average
	WD PM	WE MD	Annual Average	WD PM	WE MD	Annual Average*	WD PM	WE MD	Annual Average	
Bear Creek Road	2,690	2,220	2,556	990	3,400	1,002	3,680	5,620	3,558	39%

* Assumes two special events per year. Assume weekday AADT for other non-event weekends.

Traffic Noise Spreadsheet Calculator

Project: Bear Creek Redwoods Preserve Plan

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

Segment Description and Location			Input										Output				
					Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	Segment	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
1	Bear Creek Road (Existing)	West of SR 17	2,556	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	52.2	6	14	30	65
1	Bear Creek Road (Existing + Project)	West of SR 17	3,558	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	53.6	8	17	38	81
2	SR 17 (Existing)**	At Bear Creek Road	67,000	55	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	72.0	135	292	629	1355
3	SR 17 (Existing + Project)	At Bear Creek Road	68,002	55	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	72.0	137	295	635	1368
4	Bear Creek Road (Construction only)	West of SR 17	361	35	100	100	72.0%	0.0%	28.0%	100.0%	0.0%	0.0%					
4	Bear Creek Road (Construction + Existing)	West of SR 17	2,917	35	100	100	93.9%	1.8%	4.3%	82.5%	13.1%	4.4%	54.2	9	19	41	88

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

** Based on average between volumes back and ahead of Bear Creek Rd. at SR17. California Department of Transportation. 2014. Traffic Data Branch. 2014 All Traffic Volumes on CSHS. Available: http://traffic-counts.dot.ca.gov/2014all/Route16-20.html. Accessed September 18, 2015.