DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

CERRO COSO COMMUNITY COLLEGE CONSTRUCTION PROJECT

KERN COMMUNITY COLLEGE DISTRICT

SEPTEMBER 2020

DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

CERRO COSO COMMUNITY COLLEGE CONSTRUCTION PROJECT

Prepared for:

Kern Community College District
2100 Chester Avenue
Bakersfield, CA 93301
Contact Person: Daniel Reed
dareed@kccd.edu

Consultant:

5080 California Avenue, Suite 220
Bakersfield, CA 93309
Contact: Jaymie Brauer, Principal Planner
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Project #200104

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Cerro Coso Community College Construction Project

Lead Agency: Kern Community College District | Contact Person: Daniel Deed
Mailing Address: 2100 Chester Avenue | Phone: 661-336-5181
City: Bakersfield | Zip: 93301 | County: Kern

Project Location: County: Kern | City/Nearest Community: Ridgecrest
Cross Streets: 3000 College Heights Blvd | Zip Code: 93555
Longitude/Latitude (degrees, minutes and seconds): 35 ° 34 ′ 00 ″ N / 117 ° 40 ′ 05 ″ W | Total Acres: 133 ac
Assessor's Parcel No.: 511-010-05 and 343-120-49 | Section: 21 & 22 | Twp.: 27S | Range: 40 E | Base: MDB&M
Within 2 Miles: State Hwy #: N/A | Waterways: N/A
Airports: N/A | Railways: N/A | Schools: N/A

Document Type:

CEQA:
- [ ] NOP
- [ ] Early Cons
- [ ] Neg Dec
- [x] Mit Neg Dec
- [ ] Draft EIR
- [ ] Supplement/Subsequent EIR
- (Prior SCH No.) ______
- Other: ______

NEPA:
- [ ] NOI
- [ ] EA
- [ ] Draft EIS
- [ ] FONSI

Other:
- [ ] Joint Document
- [ ] Final Document
- [ ] Other: ______

Local Action Type:

- [ ] General Plan Update
- [ ] General Plan Amendment
- [ ] General Plan Element
- [ ] Community Plan
- [ ] Specific Plan
- [x] Master Plan
- [ ] Planned Unit Development
- [ ] Site Plan
- [ ] Rezone
- [ ] Prezone
- [ ] Use Permit
- [ ] Land Division (Subdivision, etc.)
- [ ] Annexation
- [ ] Redevelopment
- [ ] Coastal Permit
- [ ] Other: ______

Development Type:

- [ ] Residential: Units ______ Acres ______
- [ ] Office: Sq.ft. ______ Acres ______ Employees ______
- [ ] Commercial: Sq.ft. ______ Acres ______ Employees ______
- [ ] Industrial: Sq.ft. ______ Acres ______ Employees ______
- [x] Educational: new construction, upgrades to existing buildings, and additional parking.
- [ ] Recreational: ______
- [ ] Water Facilities: Type ______ MGD ______
- [ ] Transportation: Type ______
- [ ] Mining: Mineral ______
- [ ] Power: Type ______ MW ______
- [ ] Waste Treatment: Type ______ MGD ______
- [ ] Hazardous Waste: Type ______
- [ ] Other: ______

Project Issues Discussed in Document:

- [x] Aesthetic/Visual
- [x] Agricultural Land
- [x] Air Quality
- [x] Archeological/Historical
- [x] Biological Resources
- [ ] Coastal Zone
- [x] Drainage/Absorption
- [ ] Economic/Jobs
- [ ] Fiscal
- [x] Flood Plain/Flooding
- [x] Forest Land/Fire Hazard
- [x] Geologic/Seismic
- [x] Minerals
- [x] Noise
- [x] Population/Housing Balance
- [x] Public Services/Facilities
- [x] Recreation/Parks
- [x] Schools/Universities
- [x] Septic Systems
- [x] Sewer Capacity
- [x] Soil Erosion/Compaction/Grading
- [x] Solid Waste
- [x] Toxic/Hazardous
- [x] Traffic/Circulation
- [x] Vegetation
- [x] Water Quality
- [x] Water Supply/Groundwater
- [x] Wetland/Riparian
- [x] Growth Inducement
- [x] Land Use
- [ ] Cumulative Effects
- [ ] Other: ______

Present Land Use/Zoning/General Plan Designation:

Institutional (IS) / Recreational, School, Public Use (RSP)

Project Description: *(please use a separate page if necessary)*

The Project includes new construction, upgrades to existing buildings, and additional parking. No new construction would occur outside of the existing campus footprint. The Project will include construction of a new 7,500 square foot Physical Education Outdoor Complex (PE Complex) and Fieldhouse, the demolition of the existing Maintenance and Operations (M&O) building and the construction of a new 2,800 square foot M&O building is also proposed. No expansion of students or staff is anticipated.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

x	Air Resources Board		Office of Historic Preservation
	Boating & Waterways, Department of		Office of Public School Construction
	California Emergency Management Agency		Parks & Recreation, Department of
	California Highway Patrol		Pesticide Regulation, Department of
x	Caltrans District # 6		Public Utilities Commission
	Caltrans Division of Aeronautics	x	Regional WQCB # 5
	Caltrans Planning		Resources Agency
	Central Valley Flood Protection Board		Resources Recycling and Recovery, Department of
	Coachella Valley Mtns. Conservancy		S.F. Bay Conservation & Development Comm.
	Coastal Commission		San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
	Colorado River Board		San Joaquin River Conservancy
	Conservation, Department of		Santa Monica Mtns. Conservancy
	Corrections, Department of		State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
	Education, Department of	x	SWRCB: Water Quality
	Energy Commission		SWRCB: Water Rights
x	Fish & Game Region # 4		Tahoe Regional Planning Agency
	Food & Agriculture, Department of	x	Toxic Substances Control, Department of
	Forestry and Fire Protection, Department of	x	Water Resources, Department of
	General Services, Department of		
	Health Services, Department of	X	Other: Division of the State Architect
	Housing & Community Development		Other:
x	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date September 16, 2020 Ending Date October 15, 2020

Lead Agency (Complete if applicable):

Consulting Firm: QK Inc.
Address: 5080 California Ave, Suite 220
City/State/Zip: Bakersfield, CA 93309
Contact: Jaymie Brauer
Phone: 661-616-2600

Applicant: Kern Community College District
Address: 2100 Chester Avenue
City/State/Zip: Bakersfield, CA 93309
Phone: 661-336-5181

Signature of Lead Agency Representative: /S/ **Date:** Sept 15, 2020

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

NOTICE OF PUBLIC HEARING AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

This is to advise that the Kern Community College District (KCCD) has prepared a Mitigated Negative Declaration for the Project identified below that is scheduled to be the subject of a public hearing and consideration of adoption at the Kern Community College District – Board of Trustees meeting on Thursday, **November 12, 2020**.

PLEASE BE ADVISED that the Kern Community College District – Board of Trustees will consider adopting the Mitigated Negative Declaration at the Board's meeting to be held on **November 12, 2020**. Presentations will be made at approximately 1:00 p.m. Action on items on the board agenda will occur after the presentations. During the current COVID-19 crisis, the Board will conduct this meeting via teleconference participation from remote locations via telephone or video. Participation and call-in numbers/codes can be found at this URL- https://go.boarddocs.com/ca/kccd/Board.nsf/Public.

Project Name

Cerro Coso Community College Construction Project

Project Location

3000 College Heights Boulevard in Ridgecrest, California.

Project Description

The Kern Community College District (KCCD, as lead agency) proposes to complete several construction projects identified in their 2018 Facilities Master Plan (Project) at the Cerro Coso Community College campus located within the City of Ridgecrest, California. Construction will include remodeling and modernizing existing buildings, adding parking, and relocating several buildings and athletic fields. The Project will not increase the staff or student population. The Project site would be primarily accessed from College Heights Boulevard.

The document and documents referenced in the Initial Study/Mitigated Negative Declaration are available for review at Kern Community College District Office, 2100 Chester Avenue, Bakersfield, CA 93301, and at Cerro Coso Community College located at 3000 College Heights Blvd, Ridgecrest, CA 93555.

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document was 30 days (CEQA Section 15073[b]). The public review period began on Wednesday September 16, 2020 and ends on Thursday October 15, 2020. For further information, please contact Jaymie Brauer at 661-616-2600.

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Ridgecrest, CA 93556

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P.O. Box 634
Inyokern, CA 93527

Kern County Fire Department
2820 M Street
Bakersfield, CA 93301

East Kern Air Pollution Control District
2700 M Street, Suite 302
Bakersfield, CA 93301-2370

Eastern Kern Resource Cons Dist
300 South Richmond Road
Ridgecrest, CA 93555-4436

Kern County Health Department
1800 Mt. Vernon Avenue,
Bakersfield, CA 93306

Kern COG
1401 19th Street, Suite 300
Bakersfield, CA 93301

Kern County Public Works
Department/Building & Development/Survey

Kern County Environment Health Serv
2700 M Street, Suite 300
Bakersfield, CA 93301

Kern County Library
Ridgecrest Branch
131 East Las Flores
Ridgecrest, CA 93555

City of Ridgecrest- Planning Dept
100 West California Avenue
Ridgecrest, CA 93555

Planning & Natural
Resources Department
2700 M Street, Suite 100
Bakersfield, CA 93301

California Historical Resources Info.
Southern SJV Information Center
Cal State University, Bakersfield
9001 Stockdale Highway
Bakersfield, CA 93311

Kern Valley Indian Council
Attn: Robert Robinson, Chairperson P.O. Box 401
Weldon, CA 93283

Kern County Water Agency
P.O. Box 58
Bakersfield, CA 93302-0058

US Fish and Wildlife Service
2800 Cottage Way, W-2606
Sacramento, CA 95825

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MITIGATED NEGATIVE DECLARATION

As Lead Agency under the California Environmental Quality Act (CEQA), the Kern Community College District (KCCD) reviewed the Project described below to determine whether it could have a significant effect on the environment because of its development. In accordance with CEQA Guidelines Section 15382, "[s]ignificant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Project Name

Cerro Coso Community College Construction Project

Project Location

3000 College Heights Boulevard in Ridgecrest, California.

Project Description

The District proposes to complete several construction projects identified in their 2018 Facilities Master Plan at the Cerro Coso Community College campus (Project), located in the City of Ridgecrest, California. Construction will include remodeling and modernizing existing buildings, adding parking, and relocating several buildings and athletic fields. The Project will not increase the staff or student population. Figure 1-1 is a map of the regional location and Figure 1-2 shows the Project's aerial location. Figure 1-3 provides the conceptual site plan for the proposed construction and renovations.

The Project includes new construction, upgrades to existing buildings, and additional parking. No new construction would occur outside of the existing campus footprint. The Project will include construction of a new 7,500 square foot Physical Education Outdoor Complex (PE Complex) and Fieldhouse, the demolition of the existing Maintenance and Operations (M&O) building and the construction of a new 2,800 square foot M&O building is also proposed. The Project is not expected to increase capacity of students or staff. The Project components were initially proposed in the 2018 Cerro Coso Community College Facilities Master Plan in order to better serve existing students and faculty members. The Project components are listed in Table 1-1 below. The letter of the component corresponds to the facilities identified in Figure 1-3.

Table 1-1
Project Components

Project Component	Description
F. Fieldhouse There will be 2,500 square feet of field house and there will be 5,000 square feet of training facility.	A new 12,000 square foot fieldhouse will house much needed support space for athletics, recreation, and physical education. The large structure will house indoor practice fields for campus and community use. The building will also hold additional support spaces for athletes, such as training rooms, locker rooms, therapy rooms. Because of its proximity to the field sports (baseball, softball, and soccer), the fieldhouse will also house amenity and support spaces for athletics spectators such as concessions and indoor restrooms. The building fronts the main east-west pedestrian spine and an open plaza with vehicular drop-off area, accessible parking, and a large pedestrian plaza. Entry points into the building are located at the southwest and southeast corners of the building and are marked with plaza spaces. An indoor breezeway connects the entrances parallel the east-west pedestrian spine.
G. Upgrade and Refurbish softball field bleachers and press box.	Improvement and modernization of the existing softball field, bleachers and the press box. This will include new outdoor lighting.
M. Maintenance and Operations Building	A new 2,800 square foot Maintenance & Operations (M&O) building will centralize more storage and workspace. The building will be built to the west of the current M&O building to avoid the need for swing space. Once the new building is completed, the current M&O building will be demolished, and a parking lot (vehicular and golf carts) will be constructed in its place.

(Cerro Coso Community College, 2019)

The Project site would be primarily accessed from College Heights Boulevard. Cerro Coso has the largest community college service area in California, and in result offers six campus locations and distance learning options. The proposed Project would enhance the existing conditions of the facilities and would better serve current staff and student population of the Indian Wells Valley campus.

Mailing Address and Phone Number of Contact Person

Kern Community College District
2100 Chester Avenue
Bakersfield, CA 93301
Contact Person: Daniel Reed
Phone: (661) 336-5181

Findings

As Lead Agency, the District finds that the Project will not have a significant effect on the environment. The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study

(IS) (see Section 3 - *Environmental Checklist*) identified one or more potentially significant effects on the environment, but revisions to the Project have been made before the release of this Mitigated Negative Declaration (MND) or mitigation measures would be implemented that reduce all potentially significant impacts to less-than-significant levels. The Lead Agency further finds that there is no substantial evidence that this Project would have a significant effect on the environment.

Mitigation Measures Included in the Project to Avoid Potentially Significant Effects

MM BIO-1: Prior to ground disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction.

The clearance survey shall include walking transects to identify presence of Desert tortoise, Mohave ground squirrel, Swainson's hawk, burrowing owl, long eared owl, nesting birds and other special-status species and their sign, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the Project and a 250-foot buffer, where feasible. If no evidence of special-status species is detected, no further action is required but measure BIO-3 shall be implemented.

MM BIO-2: If dens that could support American badger are discovered during the pre-activity surveys conducted under MM BIO-1, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

- Potential Den – 50 feet
- Known Den – 100 feet

MM BIO-3: If construction is planned outside the nesting period for raptors (other than burrowing owl) and migratory birds (February 15 to August 31), no mitigation shall be required. If construction is planned during the nesting season for migratory birds and raptors, a preconstruction survey to identify active bird nests shall be conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500-foot buffer for raptors. If nesting birds are identified during the survey, active raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season.

No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and may be removed, and monitoring may cease.

MM BIO-4: If all Project activities are completed outside of the Swainson's hawk nesting season (February 15 through August 31), this mitigation measure may be disregarded. If no Swainson's hawk nests are found, no further action is required.

Nesting surveys for the Swainson's hawks shall be conducted in accordance with the protocol outlined in the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000). If potential Swainson's hawk nests or nesting substrates are located within 0.5 mile of the Project site, then those nests or substrates must be monitored for activity on a routine and repeating basis throughout the breeding season, or until Swainson's hawks or other raptor species are verified to be using them. The protocol recommends that the following visits be made to each nest or nesting site: one visit during January 1-March 20 to identify potential nest sites, three visits during March 20-April 5, three visits during April 5-April 20, and three visits during June 10-July 30. A fewer number of visits may be permissible if deemed adequate by the City after consultation with a qualified biologist. To meet the minimum level of protection for the species, surveys shall be completed for at least the two survey periods immediately prior to Project-related ground disturbance activities. If Swainson's hawks are not found to nest within the survey area, then no further action is warranted.

MM-BIO-5: If an active Swainson's hawk nest is discovered at any time within 0.5-mile of active construction, a qualified biologist will complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and at the discretion of the qualified biologist.

MM BIO-6: A qualified biologist shall conduct a pre-construction survey on the Project site and within 500 feet of its perimeter, where feasible, to identify the presence of the western burrowing owl. The survey shall be conducted between 14 and 30 days prior to the start of construction activities. If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the CDFW staff report on burrowing owl mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 250 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Wildlife (2012). During the breeding season (February 1 through August 31), a 500-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

In addition, impacts to occupied burrowing owl burrows shall be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting	April 1-Aug 15	200	500 m	500 m
Nesting	Aug 16-Oct 15	200 m	200 m	500 m
Nesting	Oct 16-Mar 31	50 m	100 m	500 m

MM-BIO-7: Prior to ground disturbance activities, or within one week of being deployed at the Project site for newly hired workers, all construction workers at the Project site shall attend a Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified biologist.

The Construction Worker Environmental Awareness Training and Education Program shall be presented by the biologist and shall include information on the life history wildlife and plant species that may be encountered during construction activities, their legal protections, the definition of "take" under the Endangered Species Act, measures the Project operator is implementing to protect the species, reporting requirements, specific measures that each worker must employ to avoid take of the species, and penalties for violation of the Act. Identification and information regarding special-status or other sensitive species with the potential to occur on the Project site shall also be provided to construction personnel. The program shall include:

- An acknowledgement form signed by each worker indicating that environmental training has been completed; and
- A copy of the training transcript and/or training video/CD, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be maintain on site for the duration of construction activities.

MM CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.

MM CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.

MM GEO-1: Prior to the ground disturbance activities, a qualified engineer shall be obtained. The Project engineer, structural engineer, civil engineer, general contractor, the earthwork contractor shall meet to discuss the grading plan and grading requirements as outlined in the final Geotechnical Report.

MM GEO-2: Prior to construction, the District shall submit an approved copy of: 1) the approved Storm Water Pollution Prevention Plan (SWPPP) and 2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials; and
- Managing waste, aggressively controlling litter, and implementing sediment controls

The SWPPP shall describe the best management practices (BMPs) that will be incorporated to reduce the potential for soil erosion and loss of topsoil. The BMPs could include soil stabilizers and silt fencing as well as other measures.

MM GEO-3: During any ground disturbance activities, if paleontological resources are encountered, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or other appropriate facility regarding any discoveries of paleontological resources.

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.

MM HAZ-1: Prior to operation of the Project, the Project proponent shall prepare a revised Hazardous Materials Business Plan that identifies the changes to the college campus and submit it to the California Environmental Reporting System (CERS). Once approved, a copy shall be submitted to the Kern County Environmental Health Services Division/Hazardous Materials Section. The Project proponent shall provide the hazardous materials business plan to all contractors working on the Project and shall ensure that one copy is available at the Project site at all times.

MM HYD-1: The District shall limit grading to the minimum area necessary for construction and operation of the Project. Final grading plans shall include best management practices to limit on-site and off-site erosion.

SECTION 1 - INTRODUCTION

1.1 - Overview

The District proposes to demolish and replace several existing structures, modernize currently existing buildings, add additional parking, and relocate several buildings or athletic fields at their Cerro Coso Community College campus (Project), located in the City of Ridgecrest, California. The Cerro Coso offers instruction to approximately 2,850 students at six locations and through distance education and serves a population base of approximately 85,000 (Cerro Coso Community College, 2017). Figure 1-1 is a map of the regional location and Figure 1-2 shows the Project's aerial location. Figure 1-3 provides the conceptual site plan for the proposed construction and renovations.

1.2 - California Environmental Quality Act

The District is the Lead Agency for this Project pursuant to the CEQA Guidelines (Public Resources Code Section 15000 et seq.). The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see Section 3 – *Initial Study*) provides analysis that examines the potential environmental effects of the construction and operation of the Project. Section 15063 of the CEQA Guidelines requires the Lead Agency to prepare an IS to determine whether a discretionary Project will have a significant effect on the environment. A Mitigated Negative Declaration (MND) is appropriate when an IS has been prepared and a determination can be made that no significant environmental effects will occur because revisions to the Project have been made or mitigation measures will be implemented that reduce all potentially significant impacts to less-than-significant levels. The content of an MND is the same as a Negative Declaration, with the addition of identified mitigation measures and a Mitigation Monitoring and Reporting Program (MMRP) (see Section 6 – *Mitigation Monitoring and Reporting Program*).

Based on the IS, the Lead Agency has determined that the environmental review for the proposed application can be completed with an MND.

1.3 - Impact Terminology

The following terminology is used to describe the level of significance of impacts.

- A finding of "no impact" is appropriate if the analysis concludes that the Project would not affect a topic area in any way.
- An impact is considered "less than significant" if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered "less than significant with mitigation incorporated" if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of environmental commitments that have been agreed to by the applicant.
- An impact is considered "potentially significant" if the analysis concludes that it could have a substantial adverse effect on the environment.

1.4 - Document Organization and Contents

The content and format of this IS/MND is designed to meet the requirements of CEQA. The report contains the following sections:

- Section 1 – *Introduction:* This section provides an overview of CEQA requirements, intended uses of the IS/MND, document organization, and a list of regulations that have been incorporated by reference.
- Section 2 – *Project Description:* This section describes the Project and provides data on the site's location.
- Section 3 – *Initial Study:* This section contains the evaluation of 21 different environmental resource factors contained in Appendix G of the CEQA Guidelines. Each environmental resource factor is analyzed to determine whether the proposed Project would have an impact. One of four findings is made which include: no impact, less-than-significant impact, less than significant with mitigation, or significant and unavoidable. If the evaluation results in a finding of significant and unavoidable for any of the 21 environmental resource factors, then an Environmental Impact Report will be required.
- Section 4 – *List of Preparers:* This section identifies the individuals who prepared the IS/MND.
- Section 5 – *Bibliography:* This section contains a full list of references that were used in the preparation of this IS/MND.
- Section 6 – *Mitigation Monitoring and Reporting Program:* This section contains the Mitigation Monitoring and Reporting Program.

1.5 - Incorporated by Reference

The following documents and/or regulations are incorporated into this IS/MND by reference:

- Kern Community College - Cerro Coso Community College Educational Master Plan;
- Kern Community College - Cerro Coso Facilities Master Plan;
- Kern Community College- Cerro Coso Community College Emergency Action Plan;
- City of Ridgecrest Emergency Operations Plan;
- California Building Code, Title 24.

Figure 1-1
Regional Location

Figure 1-2
Project Location

Figure 1-3
Conceptual Site Plan

SECTION 2 - PROJECT DESCRIPTION

2.1 - Introduction

The District proposes to demolish and replace several existing structures, modernize currently existing buildings, add additional parking, and relocate several buildings or athletic fields at their Cerro Coso Community College campus (Project), located in the City of Ridgecrest, California. The Cerro Coso offers instruction to approximately 2,850 students at six locations and through distance education and serves a population base of approximately 85,000 (Cerro Coso Community College, 2017). Figure 1-1 is a map of the regional location and Figure 1-2 shows the Project's aerial location. Figure 1-3 provides the conceptual site plan for the proposed construction and renovations.

2.2 - Project Location

The Project site is located at 3000 College Heights Boulevard in Ridgecrest, California. The site is within Section 21 & 22, Township 27 South, Range 40 East, Mount Diablo Base and Meridian (MDB&M) and the Ridgecrest South U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The site is within Assessor's Parcel Numbers (APN) 511-010-05 and 343-120-49.

The Project is within the Ridgecrest General Plan, which designates the Project site as Institutional (I). Additionally, the Project site is zoned Recreational, School, Public Use (City of Ridgecrest, 2009).

2.3 - Project Environment

Cerro Coso Community College was established in 1973, however, the educational programs and services have been present at the Indian Wells Valley campus since 1951 (Cerro Coso Community College, 2017). The site is bordered by mainly Federal Land owned by the Bureau of Land Management to the north, south, and west.

Fire service would be served by the County of Kern via Station 77 located at 815 West Dolphin Avenue in Ridgecrest. Police service would be served by the City of Ridgecrest Police Department located at 100 West California Avenue in Ridgecrest. Sanitation/garbage collection will be provided by a local waste hauler. Water service will be provided by Indian Wells Valley Water District (IWVWD).

2.4 - Proposed Project

The District proposes to complete several construction projects identified in their 2018 Facilities Master Plan at the Cerro Coso Community College campus (Project), located in the City of Ridgecrest, California. Construction will include remodeling and modernizing existing buildings, adding parking, and relocating several buildings and athletic fields. The Project will not increase the staff or student population. Figure 1-1 is a map of the regional location and Figure 1-2 shows the Project's aerial location. Figure 1-3 provides the conceptual site plan for the proposed construction and renovations.

The Project includes new construction, upgrades to existing buildings, and additional parking. No new construction would occur outside of the existing campus footprint. The Project will include construction of a new 7,500 square foot Physical Education Outdoor Complex (PE Complex) and Fieldhouse, the demolition of the existing Maintenance and Operations (M&O) building and the construction of a new 2,800 square foot M&O building is also proposed. The Project is not expected to increase capacity of students or staff. The Project components were initially proposed in the 2018 Cerro Coso Community College Facilities Master Plan in order to better serve existing students and faculty members. The Project components are listed in Table 2-1 below. The letter of the component corresponds to the facilities identified in Figure 1-3.

Table 2-1
Project Components

Project Component	Description
H. Fieldhouse There will be 2,500 square feet of field house and there will be 5,000 square feet of training facility.	A new 12,000 square foot fieldhouse will house much needed support space for athletics, recreation, and physical education. The large structure will house indoor practice fields for campus and community use. The building will also hold additional support spaces for athletes, such as training rooms, locker rooms, therapy rooms. Because of its proximity to the field sports (baseball, softball, and soccer), the fieldhouse will also house amenity and support spaces for athletics spectators such as concessions and indoor restrooms. The building fronts the main east-west pedestrian spine and an open plaza with vehicular drop-off area, accessible parking, and a large pedestrian plaza. Entry points into the building are located at the southwest and southeast corners of the building and are marked with plaza spaces. An indoor breezeway connects the entrances parallel the east-west pedestrian spine.
I. Upgrade and Refurbish softball field bleachers and press box.	Improvement and modernization of the existing softball field, bleachers and the press box. This will include new outdoor lighting.
M. Maintenance and Operations Building	A new 2,800 square foot Maintenance & Operations (M&O) building will centralize more storage and workspace. The building will be built to the west of the current M&O building to avoid the need for swing space. Once the new building is completed, the current M&O building will be demolished, and a parking lot (vehicular and golf carts) will be constructed in its place.

(Cerro Coso Community College, 2019)

The Project site would be primarily accessed from College Heights Boulevard. Cerro Coso has the largest community college service area in California, and in result offers six campus locations and distance learning options. The proposed Project would enhance the existing conditions of the facilities and would better serve current staff and student population of the Indian Wells Valley campus.

SECTION 3 - INITIAL STUDY

3.1 - Environmental Checklist

1. **Project Title:**

   Cerro Coso Community College Construction Project

2. **Lead Agency Name and Address:**

   Kern Community College District
   2100 Chester Avenue
   Bakersfield, CA 93301

3. **Contact Person and Phone Number:**

   Daniel Reed
   (661) 336-5181

4. **Project Location:**

   3000 College Heights Blvd, Ridgecrest, CA 93555

5. **General Plan Designation:**

   Institutional (IS)

6. **Zoning:**

   Recreational, School, Public Use (RSP)

7. **Description of Project:**

   Please see Section 2.

8. **Surrounding Land Uses and Setting:**

   Residential properties to the north, Open Space designations to the east, west, and south.

9. **Other Public Agencies Whose Approval May be Required:**

   - California Department of Toxic Substances Control;
   - Regional Water Quality Control Board- Lohatan
   - California Division of the State Architect; and
   - Eastern Kern Air Pollution Control District.

3.2 - Environmental Factors Potentially Affected

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

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

3.3 - Determination

On the basis of this initial evaluation:

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

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

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

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

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

Signature	Date
Printed Name	For

3.4 - Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a Project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

    a. The significance criteria or threshold, if any, used to evaluate each question; and

    b. The mitigation measure identified, if any, to reduce the impact to less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.1 - AESTHETICS				
Except as provided in Public Resources Code Section 21099, would the Project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☒	☐
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?	☐	☐	☒	☐
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion

Impact #3.4.1a – Would the Project have a substantial adverse effect on a scenic vista?

The Project does not include construction of new buildings taller than the existing buildings. The General Plan identifies the City's surrounding mountains and desert as scenic vistas (City of Ridgecrest, 2009). The Project footprint will be within the existing Cerro Coso Community College campus site and would not additionally block or preclude existing views to the surrounding vistas. The General Plan identifies College Heights Boulevard as a scenic corridor (City of Ridgecrest, 2009). The corridor boundary for areas of urban character have been defined as up to 200 feet from the center of the roadway. The construction of the Project will not be visible from the roadway. Any construction-related impacts to the visual character of the site and its surroundings would be temporary, therefore, the impacts to scenic vistas would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.1b – Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

The Project does not lie near or within a State Designated or Eligible State Scenic Highway (California Department of Transportation, 2020). Further, the Project does not include the removal of trees determined to be scenic or of scenic value, the destruction of rock outcroppings or degradation of any historic building. The Project will not result in development that is substantially different than surrounding land uses. Therefore, impacts to scenic resources would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.1c – Would the Project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?

The Project is within an existing community college campus with Bureau of Land Management (BLM) owned land that consists of natural open spaces surrounding the campus. However, the entirety of the Project will be within the existing and developed campus. The Project component to renovate the existing buildings will improve the existing visual character of the site. The Project's appearance would not degrade the visual character of the site or its surroundings. Therefore, the Project would not result in a substantial impact to the visual quality of the area.

See also discussion of Impact #3.4.1a, above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.1d – Would the Project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Construction of the proposed Project would generally occur during daytime hours, typically from 7:00 a.m. to 6:00 p.m. All lighting would be directed downward and shielded to focus illumination on the desired work areas only and prevent light spillage. Because lighting used to illuminate work areas would be shielded, focused downward, and turned off by 6:00 p.m., the potential for lighting to affect any residential areas approximately a mile north of the

Project site adversely is minimal. Increased truck traffic and the transport of construction materials to the Project site would temporarily increase glare conditions during construction. However, this increase in glare would be minimal. Construction activity would focus on specific areas on the site, and any sources of glare would not be stationary for a prolonged period of time. Therefore, construction of the proposed Project would not create a new source of substantial glare that would affect daytime views in the area.

Upon completion of the construction, the Project will not create a new source of light and glare beyond what is already existing on the campus. Any light and glare impacts related to the construction of the proposed Project would be temporary, therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.2 - Agriculture and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or a Williamson Act Contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

Impact #3.4.2a – Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The proposed Project is located on a "Urban and Built-Up Land" as designated by the Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) (see

Figure 3.4.2-1) (CA Department of Conservation, 2016). Therefore, no farmland would be converted to a non-agricultural use as a result of the proposed Project and there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.2b – Would the Project conflict with existing zoning for agricultural use or a Williamson Act Contract?

The Project site is zoned Recreational, School, Public Use (RSP) and the surrounding area is zoned Open Space (OS). There are no lands identified as farmland or under cultivation adjacent to the Project site. The land is classified as Non-Agricultural or Natural Vegetation by the FMMP–and does not include properties are subject to a Williamson Act Land Use Contract. Therefore, there would be no impacts to existing agricultural zoning or Williamson Act Contracts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***

Impact #3.4.2c – Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

The Public Resources Code Section 12220 (g) and Section 4526 defines "Forest land" as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. There are no forest lands identified on the Project site or within its vicinity; therefore, there would be no conflict with or impacts to zoning for forest land or timber land. The Project would not result in the loss or conversion of forest land to a non-forest use.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.2d – Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

See discussion of Impact #3.4.2c, above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.2e – Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

See discussion of Impacts #3.4.2b and #3.4.2c, above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

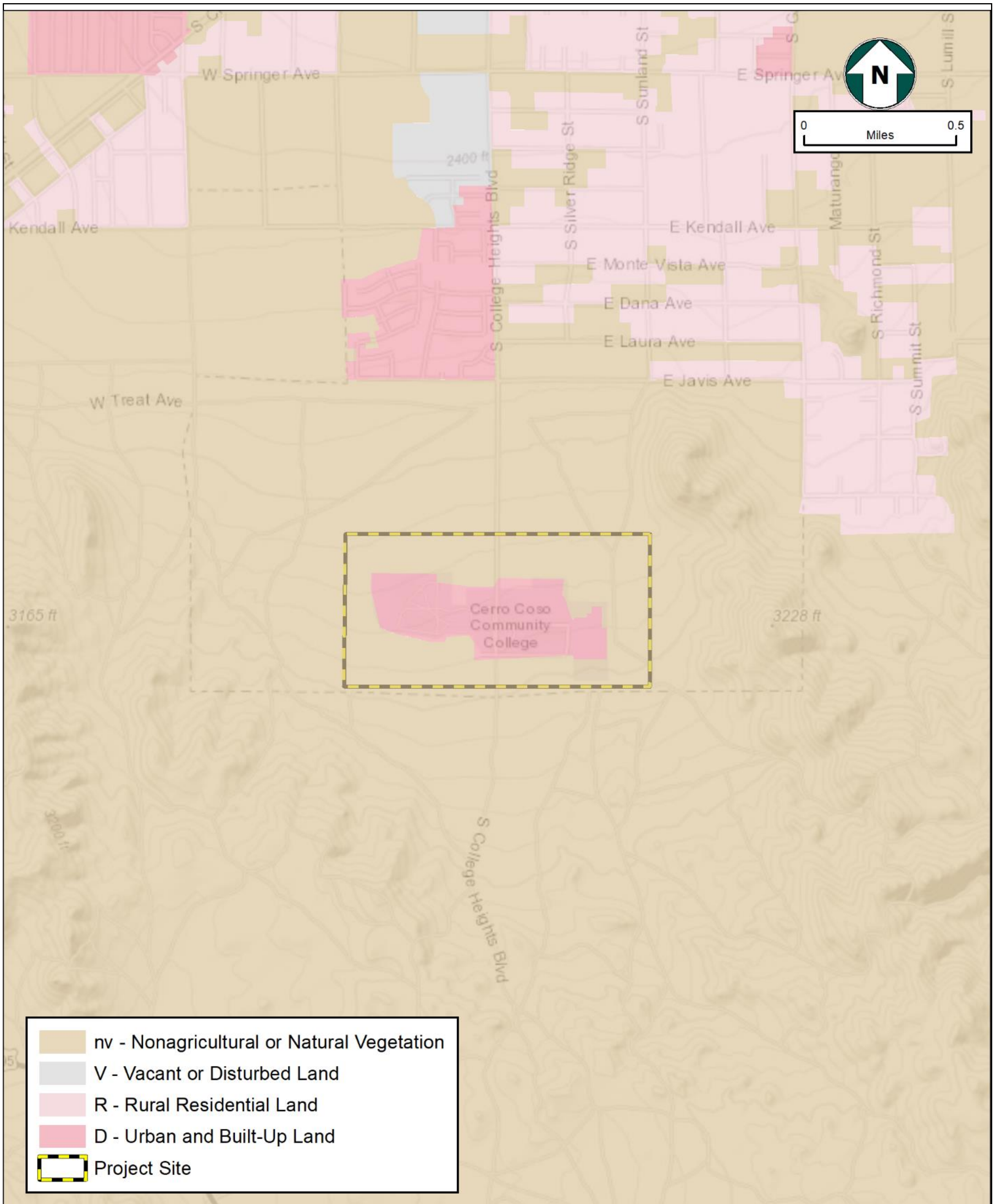

Figure 3.4.2-1
Farmland Mapping and Monitoring Program

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.3 - AIR QUALITY

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

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

Discussion

The following analysis is based primarily on an Air Quality Impact Analysis prepared is for the Project (Trinity Consultants, 2020). The AQIA is included in this document as Appendix A.

Impact #3.4.3a – Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The CEQA Guidelines indicate that a significant impact would occur if the proposed Project would conflict with or obstruct implementation of the applicable air quality plan. The Project is within the Eastern Kern Air Pollution Control District (EKAPCD) jurisdiction. Under the provisions of the U.S. Clean Air Act, the Kern County portion of the Mojave Desert Air Basin (MDAB) has been classified as non-attainment, attainment, unclassified/attainment, or unclassified under the established NAAQS and CAAQS for various pollutants. Table 3.4.3-1 below provides the EKAPCD's designation and classification based on the various criteria pollutant under both NAAQS and CAAQS.

Table 3.4.3-1
EKAPCD Attainment Status

Pollutant	Designation/Classification National Ambient Air Quality Standards (NAAQS) EKAPCD	Kern River / Cummings Valley	Indian Wells Valley	State Ambient Air Quality Standards (CAAQS)
Ozone – 1 Hour	Attainment	Part of EKAPCD Area	Part of EKAPCD Area	Nonattainment
Ozone – 8 Hour	Serious Nonattainment	Part of EKAPCD Area	Unclassifiable/ Attainment	Nonattainment
PM_{10}	Unclassifiable/ Attainment	Serious Nonattainment	Attainment Maintenance	Nonattainment
$PM_{2.5}$	Unclassifiable/ Attainment	Part of EKAPCD Area	Part of EKAPCD Area	Unclassified
Carbon Monoxide	Unclassifiable/ Attainment	Part of EKAPCD Area	Part of EKAPCD Area	Unclassified
Nitrogen Dioxide	Unclassifiable	Part of EKAPCD Area	Part of EKAPCD Area	Attainment
Sulfur Dioxide	Unclassifiable	Part of EKAPCD Area	Part of EKAPCD Area	Attainment
Lead Particulates	Unclassifiable/ Attainment	Part of EKAPCD Area	Part of EKAPCD Area	Attainment

(Trinity Consultants, 2020)

As shown above, the EKAPCD has been designated as nonattainment for the state one-hour and eight-hour standards for O3, and PM10, unclassified PM2.5 and CO, and attainment for NOX, SOX, and Lead. In order to maintain consistency with CEQA, the EKACPD adopted guidelines to assist applicants in complying with the various requirements. According to the EKAPCD's Guidelines (EKAPCD, 1999), a proposed project does not have significant air quality impacts on the environment, if operation of the project will:

- Emit (from all projects sources subject to EKAPCD Rule 201) less than offsets trigger levels set forth in Subsection III.B.3 of EKAPCD's Rule 210.1 (New and Modified Source Review Rule);
- Emit less than 137 pounds per day (25 tons per year) of NOx or Reactive Organic Compounds from motor vehicle trips (indirect sources only);
- Not cause or contribute to exceeding any California or National Ambient Air Quality Standard;
- Not exceed the District health risk public notification thresholds adopted by the EKAPCD Board; or
- Be consistent with adopted Federal and State Air Quality Attainment Plans.

The guideline thresholds are designed to implement the general criteria for air quality emissions as required in the State CEQA Guidelines, Appendix G, Paragraph III and CEQA (State of California CEQA Guidelines, §15064.7). As such, EKAPCD thresholds provide a means by which the general standards set forth by Appendix G may be used to quantitatively measure the air quality impacts of a specific project. According to the EKAPCD Guidelines and Thresholds of Significance, which apply to a project located within the proposed project area would result in a significant impact if it exceeds any of the thresholds are presented in Table 3.4.3-2.

Table 3.4.3-2
EKAPCD CEQA Thresholds of Significance

Criteria Pollutant	Significance Level	
	Daily (Indirect/Mobile Only)	Annual
NOx	137 lbs/day	25 tons/yr
ROG	137 lbs/day	25 tons/yr
SOx	-	27 tons/yr
PM_{10}	-	15 tons/yr
$PM_{2.5}$	-	15 tons/yr

(EKAPCD, 1999)

Project emissions were estimated for the following Project development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed Project were estimated in CalEEMod using a phased construction schedule and Project default estimated construction equipment for the development and renovation of the KCCD Cerro Coso campus. Demolition activities emissions were also estimated in the Phases which they occur.
- Long-term (Operations) – Long term emissions were also estimated in CalEEMod using model defaults and Project estimates for operations of the upgraded facilities. There are no anticipated increases in mobile activities associated with this Project.

Project's Contribution to Air Quality Violations

The construction emissions were therefore based on the default CalEEMod equipment list for the proposed Project's land use type and development intensity. Applying model defaults as well as a conservative analysis approach, construction emissions were estimated as if construction started in January of 2021. Based on estimates from the KCCCD, the Project is estimated to be developed in 3 phases, with Phase 1 occurring over the next immediate 5 years, Phase 2 occurring over the next 5-10 years, and Phase 3 occurring in the future, which was assumed to begin, at the earliest, in 10 years. The dates entered into the CalEEMod program may not represent the actual dates the equipment will operate; however, the total construction time is based on model defaults for the specific land use types and intensities proposed, and therefore, all estimated emission totals are conservative and reflect a reasonable and legally sufficient estimate of potential impacts. All construction equipment activity levels were assumed based on the specified CalEEMod default values for type and number of equipment, operating hours per day, and horsepower.

EKAPCD's required measures for all projects were also applied:

- Water exposed areas 2 times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Table 3.4.3-3 presents the Project's short-term emissions based on the anticipated construction period.

Table 3.4.3-3
Short-Term Project Emissions

Emissions Source	Pollutants (tons/year)					
	ROG	NOx	CO	SOX	PM_{10}	$PM_{2.5}$
Unmitigated						
2021	0.55	5.15	3.95	0.01	1.18	0.57
2022	0.56	4.52	4.39	0.02	0.99	0.34
2023	0.51	3.81	4.15	0.02	0.98	0.33
2024	2.95	1.91	2.28	0.01	0.47	0.16
2025	0.21	1.85	2.28	0.00	0.25	0.13
2026	0.11	0.01	0.02	0.00	0.00	0.00
2030	0.28	1.66	2.63	0.01	0.53	0.21
2031	1.81	0.70	1.16	0.00	0.14	0.05
Maximum Annual Emission	2.95	5.15	4.39	0.01	1.18	0.57
Mitigated						
2021	0.55	5.15	3.95	0.01	0.85	0.41
2022	0.56	4.52	4.39	0.02	0.99	0.34
2023	0.51	3.81	4.15	0.02	0.98	0.33
2024	2.95	1.91	2.28	0.01	0.47	0.16
2025	0.21	1.85	2.28	0.00	0.21	0.11
2026	0.11	0.01	0.02	0.00	0.00	0.00
2030	0.28	1.66	2.63	0.01	0.40	0.15
2031	1.81	0.70	1.16	0.00	0.14	0.05
Maximum Annual Emission	2.95	5.15	4.39	0.01	0.99	0.41
Significance Threshold	25	25	N/A	27	15	15
Is Threshold Exceeded for a Single Year After Mitigation?	NO	NO	NO	NO	NO	NO

Source: Insight, 2020

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed EKAPCD significance threshold levels during any given year and would therefore be less than significant.

Long-term emissions for the Project are caused by area and energy sources. The Project will have no increase in operational mobile activities as no increase in student or faculty population is anticipated to result from this Project. The proposed Project is expected to have long-term air quality impacts as shown in Table 3.4.3-4.

Table 3.4.3-4
Post-Project (Operational) Emissions

Emissions Source	Pollutants (tons/year)					
	ROG	NOx	CO	S0X	PM10	PM2.5
Phase 1 Operations - 2022	0.55	0.08	0.07	0.00	0.01	0.01
Phase 2 Operations -2026	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 Operations - 2026	0.72	0.23	0.46	0.00	0.02	0.02
Total Max. Emissions at Full Build-Out	1.27	0.31	0.54	0.00	0.03	0.03
EKAPCD Significance Threshold	25	25	N/A	27	15	15
Is Threshold Exceeded After Mitigation?	NO	NO	NO	NO	NO	NO

Operation-related emissions, as calculated by CalEEMod, would be less than the EKAPCD significant threshold levels. Therefore, the proposed Project would have a less-than-significant impact during Project operations.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.3b – Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or State ambient air quality standard?

A cumulatively considerable net increase could be said to occur if the Project would exceed thresholds established by agencies having jurisdiction within the Project area or region. As discussed in #3.4.3b, above, the Project would not exceed the thresholds established by the EKAPCD and thus would not be considered cumulatively considerable. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.3c – Would the Project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are defined as areas where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, and daycare centers. The nearest sensitive receptor to the Project site is the residential development approximately 0.65 miles north of the Project. The only non-residential receptor within two miles of the Project site is Miss Laura's Daycare approximately one mile north east of the site.

The proposed Project, because of its educational nature, is not expected to result in the generation of odors or hazardous air pollutants. Projects are considered for potential health risks wherein a new or modified source of Hazardous Air Pollutants (HAPs) is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. The proposed Project would not result in an increase of operational emissions of Hazardous Air Pollutants (HAPs); however, the Project would result in construction emissions of HAPs and would be located near existing residents. Therefore, an assessment of the potential risk to the population attributable to construction emissions of hazardous air pollutants from the proposed Project was determined using the Hotspots Analysis and Reporting Program (HARP2) software distributed by the California Air Resources Board (CARB). Assumptions and output files are available in Appendix A. The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of one in one million (1 x 10-6) and 0.2, respectively for the proposed Project. The PMIs are identified by receptor location and risk and are provided in Table 3.4.3-5.

Table 3.4.3-5
Potential Maximum Impacts Predicted by HARP

	Value	UTM West	UTM North
Excess Cancer Risk	5.87E-07	439341.82	3937434.55
Chronic Hazard Index	3.72E-04	439485.54	3937434.55

(Trinity Consultants, 2020)

As shown above in Table 3.4.3-5, the maximum predicted cancer risk for the proposed Project is 5.87E-07. The maximum chronic non-cancer hazard index for the proposed Project is 3.72E-04. Since the PMI remained below the significance threshold for cancer and chronic risk, this Project would have a *less than significant effect* on any of the surrounding communities.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.3d: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The proposed Project is not considered a source of objectionable odors or odorous compounds. Furthermore, there would not be any significant source of objectionable odors in close proximity to the Project site when it is in operation. As such, there would be a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.4 - BIOLOGICAL RESOURCES				
Would the Project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c. Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☒	☐

Discussion

The biological resources evaluation is based upon a review of available literature and databases and existing site conditions evaluated during a reconnaissance survey. These studies evaluated the potential for sensitive biological resources to occur on and in the vicinity of the Project, and any impacts that could potentially occur.

Reviews of the California Department of Fish and Wildlife's California Natural Diversity Database (California Department of Fish and Wildlife, 2020), the California Native Plant Society's Rare Plant Program Inventory (California Native Plant Society, 2020), and the United States Fish and Wildlife Service's Information for Planning and Consultation online tool (US Fish and Wildlife Service, 2020) was conducted to identify special-status plant and wildlife species with the potential to occur within the Project and in the vicinity of the Project (the surrounding nine quads and a 10-mile radius). Information regarding the presence of Critical Habitat in the Project vicinity was obtained from the United States Fish and Wildlife Service's Critical Habitat Mapper database (USFWS, 2020b). The results of the database inquiries were reviewed to evaluate the potential for occurrence of special-status species and other sensitive biological resources known to occur on or near the Project site prior to conducting the biological reconnaissance survey.

On March 17, 2020, QK biologists conducted a biological reconnaissance survey of the Project and accessible areas within 250 feet (Survey Area). Meandering pedestrian transects were walked through the Survey Area to achieve 100% visual coverage, with the aid of binoculars. The purpose of the survey was to determine the presence and extent of existing plant communities and any sensitive habitats, the presence and potential for occurrence of special-status plant and animal species, and to identify any other sensitive biological resources within the Survey Area. Protocol surveys for specific special-status wildlife species were not conducted. Locations of sensitive biological resources were documented using the ArcGIS Collector application installed on an iPad. Photographs were taken to document the existing landscape and sensitive biological resources; detailed notes on observed plant and wildlife species and site conditions were taken while conducting the survey.

General Site Conditions

The Project areas are within the footprint of the Cerro Coso Community College campus, which was built in the 1970s. The campus is located within the Mojave Desert, on sandy soil, and is surrounded by creosote bush scrub. This habitat is an open, scattered assemblage dominated by creosote bush (*Larrea tridentata*). Rainfall prior to the survey was sufficient to yield wildflower blooms, including goldfields (*Lasthenia gracilis*), common phacelia (*Phacelia distans*), and fiddleneck (*Amsinckia tessellata*). Vegetation within the campus is mostly non-native, with grass lawns and planted trees and shrubs (cottonwood (*Populus fremontii*), oleander (*Nerium oleander*), firethorn (*Pyracantha* sp.) pine (*Pinus* sp.) that are much taller and denser than the surrounding native vegetation. The borders of the campus support some native plant species (rubber rabbitbrush (*Ericameria nauseosa*), annual bursage (*Ambrosia acanthicarpa*), fiddleneck). The campus consists of several buildings, athletic facilities, dirt lots, and parking lots. The athletic facilities are surrounded by a chain link fence on all sides that are bordered by natural habitat, although there are gaps beneath the fence in a few locations. There are solar panels, maintenance yards, and piles of discarded equipment (like file cabinets, light posts, and chairs) on the east side of the campus. During the survey, pickup trucks regularly entered and exited the maintenance yards on the east side of the campus, and a fuel truck also entered the eastern yard. The college's baseball team held batting practice during the survey, and a riding mower was used on the grass lawns surrounding all of the athletic facilities.

In general, the wildlife species observed during the survey were not typical of creosote bush scrub, but rather were typical of urban and forested areas. There were very few small mammal burrows observed and most appeared inactive. Multiple bird nests were observed, most in planted trees on the campus. A great horned owl (*Bubo virginianus*) and a common raven (*Corvus corax*) were observed incubating on stick nests in pine trees near the baseball field and running track, respectively, and on the east side of campus a hawk (*Buteo* sp.)was observed on a nest in a cottonwood tree (species could not be determined). A house finch (*Haemorhous mexicanus*) had made a nest within a generator enclosure near the western maintenance yard on the east side of the campus. Three other nests were found but no activity was observed so species could not be determined. A long-eared owl, a California Species of Special Concern, was flushed from a cluster of shrubs and a pine tree planted adjacent to the running track, but no nest was found in this vegetation.

There were 35 plant species, 15 bird species, two reptile species, and three mammal species identified during the reconnaissance survey, either through direct observation or by the presence of diagnostic signs (Table 3.4.4-1).

Table 3.4.4-1
List of Plant and Wildlife Species Observed on the Project Site

Scientific name	Common name
Plants	
Acacia sp.	acacia
Ambrosia acanthicarpa	annual bursage
Ambrosia dumosa	burro weed
Amsinckia tessellata	devil's lettuce
Astragalus sp.	milk vetch
Atriplex polycarpa	allscale saltbush
Bromus diandrus	ripgut brome
Bromus madritensis ssp. *rubens*	red brome
Brassicaceae sp.	annual mustard
Chaenactis sp.	pincushion flower
Cucurbita palmata	coyote melon
Cylindropuntia echinocarpa	silver cholla
Ericameria nauseosa	rubber rabbitbrush
Erigeron canadensis	horseweed
Erodium cicutarium	red-stemmed filaree
Eschscholzia parishii	Parish's poppy
Eucalyptus sp.	eucalyptus
Larrea tridentata	creosote bush
Lasthenia gracilis	goldfields
Lepidium sp.	pepper grass
Malacothrix coulteri	snake's head
Malacothrix glabrata	desert dandelion

Scientific name	Common name
Nerium oleander	oleander
Opuntia basilaris	beavertail cactus
Pectocarya penicillata	winged pectocarya
Phacelia distans	common phacelia
Phacelia fremontii	Fremont's phacelia
Pinus sp.	pine
Platanus occidentalis	American sycamore
Populus fremontii	cottonwood
Pyracantha sp.	firethorn
Rosmarinus officinalis	rosemary
Schismus arabicus	Mediterranean grass
Sisymbrium altissimum	tumble mustard
Tamarix sp.	salt cedar
Washingtonia filifera	California fan palm
	various ornamental
Wildlife	
Asio otus	long-eared owl
Bubo virginianus	great horned owl
Buteo jamaicensis	red-tailed hawk
Calypte anna	Anna's hummingbird
Canis familiaris	domestic dog*
Canis latrans	coyote*
Corvus corax	common raven
Haemorhous mexicanus	house finch
Mimus polyglottos	northern mockingbird
Regulus calendula	ruby-crowned kinglet
Saya nigricans	black phoebe
Sceloporus occidentalis longipes	great basin fence lizard
Spinus lawrencei	Lawrence's goldfinch
Spinus psaltria	lesser goldfinch
Sturnus vulgaris	European starling
Sylvilagus audobonii	desert cottontail
Turdus migratorius	American robin
Uta stansburiana	side-blotched lizard
Zenaida macroura	mourning dove
Zonotrichia leucophrys	white-crowned sparrow

*Indicates that only sign of the species (e.g., scat, tracks, burrows) was observed.

Impact Analysis

This section describes the results of the database searches and, using conditions present on the Project as determined by the reconnaissance survey, provides an analysis of Project impacts on each of six biological evaluation criteria. Each of the biological evaluation criteria were determined to be in one of three categories; less-than-significant impacts with mitigation incorporated, less-than-significant impacts, and no impacts. Each of the evaluation criteria are discussed below and mitigation measures are provided as warranted to, when implemented, reduce impacts to below significant levels.

Impact #3.4.4a – Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The literature search indicated that there is potential for several special-status species to be present on or in the vicinity of the Project. An evaluation of each of the potential special-status species, which included habitat requirements, likelihood of required habitat to occur within the Project area, and a comparison to the CNDDB records was conducted. The results of this evaluation concluded that nine plant, one natural community, and twelve (12) wildlife species with special status have a reasonable potential to occur on or near the Project.

Sensitive Natural Communities and Special-Status Species

SENSITIVE NATURAL COMMUNITIES AND SPECIAL-STATUS PLANT SPECIES

Based on the survey and database queries, there is one sensitive natural community and nine special-status plant species that have the potential to occur within the subject quadrangle and eight surrounding quadrangles: Mojave Creosote Bush Scrub; and Kern County evening-primrose (*Camissonia kernensis* ssp. *kernensis*), Mojave spineflower (*Chorizanthe spinosa*), Clokey's cryptantha (*Cryptantha clokeyi*), Red Rock Canyon monkeyflower (*Erythranthe rhodopetra*), Red Rock poppy (*Eschscholzia minutiflora* ssp. *twisselmannii*), Death Valley sandmat (*Euphorbia vallis-mortae*), solitary blazing star (*Mentzelia eremophila*), Charlotte's phacelia (*Phacelia nashiana*), and Mojave fish-hook cactus (*Sclerocactus polyancistrus*). There are CNDDB records for two rare plant species within 10 miles of the Project site, Clokey's cryptantha and Red Rock poppy.

The Project construction sites are all within the current college campus footprint, where no Mojave creosote bush scrub is present. There are suitable habitat conditions on the edges of the Project footprint for all of the rare plant species listed above; however, the survey was conducted during the blooming period for six of these nine species (Kern County evening-primrose, Mojave spineflower, Red Rock Canyon monkeyflower, Red Rock poppy, solitary blazing star, Charlotte's phacelia), and none were observed. Mojave five-hook cactus and Death Valley sandmat are perennial plants and would have been observed if present, even outside of their blooming periods. The survey was conducted outside of the blooming period for Clokey's cryptantha, but no *Cryptantha* species were observed. Although any of these rare plant species have the potential to occur in the native vegetation on the borders of the college campus, all Project activities will be restricted to previously disturbed areas that are either barren or vegetated with non-native species. Thus, no protection measures for special-status plant species or communities are warranted.

SENSITIVE WILDLIFE SPECIES

Based on the database queries there were six special-status wildlife species that were identified as having a potential to occur within the subject quadrangle and eight surrounding quadrangles. There were records of nine wildlife species in the CNDDB that occur within a 10-mile buffer of the Project site, three of which were eliminated from consideration due to the lack of suitable habitat: spotted bat (*Euderma maculatum*) roosts exclusively in rock crevices and caves, which are not present on or near the Project; Yuma myotis (*Myotis ymanensis*) rarely occurs in the Mojave desert and is closely associated with water bodies, which are not present on or near the Project; and golden eagle (*Aquila chrysaetos*), which nests on cliffsides and transmission towers, which are not present on or the Project. The IPaC query indicated that California condor (*Gymnogyps californianus)* could be present, but there are no suitable roosting or nesting sites on or around the Project for this species; may soar overhead during routine foraging efforts but would not be affected by Project activities. The remaining six species have the potential to occur within the Project site and vicinity: desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), American badger (*Taxidea taxus*), burrowing owl (*Athene cunicularia*), prairie falcon (*Falco mexicanus*), and LeConte's thrasher (*Toxostoma lecontei*). The Swainson's hawk (*Buteo swainsonsi*), was not identified by the database search but has suitable nesting and foraging habitat within the Project vicinity, is included in this impact analysis. One California Species of Special Concern, long-eared owl (*Asio otis*), was observed during the survey. Several bird nests were observed during the survey.

Desert Tortoise

Desert tortoise (*Gopherus agassizii*), a federally and State Threatened species, has potential to occur in the habitat surrounding the Project, but is highly unlikely to be present within the Project footprint. The nearest historical CNDDB record for the species is from 1990 and approximately 0.4 mile north of the Project (EONDX 66498). The creosote scrub habitat surrounding the Project provides high quality habitat, but no individuals or sign of the species (burrows, scat) were observed during the survey. It is possible that desert tortoise may occupy this habitat in the future. However, since the Project does not contain any preferred food sources or loose soils for burrow excavation, it is very unlikely that desert tortoise would be attracted to or occur within the Project. Additionally, chain link fence bordering the western portion of the college campus would mainly preclude tortoises from entering those construction areas.

Mohave Ground Squirrel

Mohave ground squirrel (*Xerospermophilus mohavensis*), a State Threatened species, has a low probability of occurring within the Project footprint. The nearest CNDDB record for Mohave ground squirrel overlaps the Project and is from 1990 (EONDX 7309). The creosote scrub habitat surrounding the Project provides high quality habitat, but no individuals or burrows were observed during the survey. It is possible that Mohave ground squirrel may occupy this habitat in the future. However, the Project site is developed and is an active educational facility. It does not provide suitable foraging or burrowing habitat for the species and Mohave ground squirrel is not expected to occur.

American Badger

American badger (*Taxidea taxus*), a California Species of Special Concern, has a low potential to occur within the Project, although it could be present in the surrounding habitat. The nearest CNDDB record is approximately 6.5 miles west of the Project, from 1970 (EONDX 57406). There is no suitable habitat within the Project footprint and no individuals or sign of the species (dens, tracks) were observed during the survey.

Burrowing Owl

Burrowing owl (*Athene cunicularia*), a California Species of Special Concern, has a low potential to occur within the Project, but may be found in the surrounding habitat. The nearest CNDDB record is from 2007 and approximately 2.4 miles north of the Project (EONDX 70142). No individuals or sign of the species (burrows, pellets) were observed during the survey.

Prairie Falcon

Prairie falcon (*Falco mexicanus*) has a low potential to occur within the Project site and immediate surrounding area. The nearest CNDDB record for the species is approximately 10 miles southeast of the Project (EONDX 26405). There are no cliff crevices where this species may nest and there is no foraging habitat in the Project footprint. The species may forage in the surrounding habitat.

Le Conte's Thrasher

Le Conte's thrasher (*Toxostoma lecontei*), a California Species of Special Concern, is unlikely to occur within the Project footprint but may occur in the surrounding habitat. The nearest CNDDB record is approximately 7.6 miles east of the Project (EONDX 6935). This species was not observed during the survey and there is no suitable habitat within the Project footprint.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a State Threatened species and has potential to occur on the Project. Swainson's hawks forage in open fields, shrublands, and grasslands, and typically nest in scattered trees or small groves. The Project contains suitable nesting trees and is surrounding by suitable foraging habitat. No suitable nests were observed on the Project site or surrounding area. There are no CNDDB records for the species within 10 miles.

Long-Eared Owl

A Long-eared owl (*Asio otus*), a California Species of Special Concern, was observed within the Project area at the east end of the running track. No nest could be located within the vegetation from which the owl was flushed. This species is migratory and may not breed in the vicinity of the Project. The Project supports suboptimal habitat for this species, which prefers riparian and dense woodland habitat.

Nesting Migratory Birds

Migratory bird species are protected under the federal Migratory Bird Treaty Act. Several active bird nests were observed during the survey, including great horned owl, common raven, and house finch. The Project and surrounding vicinity provide suitable nesting habitat for a variety of bird species which may nest in tree branches and cavities, shrubs, man-made structures, and directly on the ground.

CONCLUSION

The Project footprint occurs within the existing Cerro Coso Community College campus, which has been repeatedly disturbed and built upon since the 1970s. Although the surrounding land supports high quality creosote bush scrub habitat, the Project supports mainly non-native planted species. A few native species occur along the edges of the Project areas where they border native habitat.

One California Species of Special Concern, long-eared owl, was identified during the biological survey. No nest was found for this individual and it is believed that it may have been nonbreeding and/or a migrant. Several bird nests were identified, four of which were determined to be active. No other special-status plant or wildlife species were observed during the survey.

Special-status plant species may occur on the edges of the college campus but are unlikely to be impacted by Project activities because these will occur on previously disturbed ground that is either bare or vegetated with non-native species; no mitigation measures to protect, avoid, or minimize impacts to special-status plant species or communities are warranted. There is the potential for some special-status or protected wildlife species to be impacted by Project activities. Mitigation Measures MM BIO-1 through MM BIO-8 would protect, avoid, and minimize impacts to special-status wildlife species, as provided below. When implemented, these measures would reduce impacts to these species to levels that are less than significant.

Through implementation of the mitigation measures listed below, impacts of the proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Therefore, the Project will have a less-than-significant impact with incorporation of mitigation measures.

MITIGATION MEASURE(S)

MM BIO-1: Prior to ground disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction.

The clearance survey shall include walking transects to identify presence of Desert tortoise, Mohave ground squirrel, Swainson's hawk, burrowing owl, long eared owl, nesting birds and other special-status species and their sign, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the Project and a 250-foot buffer, where feasible. If no evidence of special-status species is detected, no further action is required but measure BIO-3 shall be implemented.

MM BIO-2: If dens that could support American badger are discovered during the pre-activity surveys conducted under MM BIO-1, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

- Potential Den – 50 feet
- Known Den – 100 feet

MM BIO-3: If construction is planned outside the nesting period for raptors (other than burrowing owl) and migratory birds (February 15 to August 31), no mitigation shall be required. If construction is planned during the nesting season for migratory birds and raptors, a preconstruction survey to identify active bird nests shall be conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500-foot buffer for raptors. If nesting birds are identified during the survey, active raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season.

No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and may be removed, and monitoring may cease.

MM BIO-4: If all Project activities are completed outside of the Swainson's hawk nesting season (February 15 through August 31), this mitigation measure may be disregarded. If no Swainson's hawk nests are found, no further action is required.

Nesting surveys for the Swainson's hawks shall be conducted in accordance with the protocol outlined in the Recommended Timing and Methodology for Swainson's Hawk

Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000). If potential Swainson's hawk nests or nesting substrates are located within 0.5 mile of the Project site, then those nests or substrates must be monitored for activity on a routine and repeating basis throughout the breeding season, or until Swainson's hawks or other raptor species are verified to be using them. The protocol recommends that the following visits be made to each nest or nesting site: one visit during January 1-March 20 to identify potential nest sites, three visits during March 20-April 5, three visits during April 5-April 20, and three visits during June 10-July 30. A fewer number of visits may be permissible if deemed adequate by the City after consultation with a qualified biologist. To meet the minimum level of protection for the species, surveys shall be completed for at least the two survey periods immediately prior to Project-related ground disturbance activities. If Swainson's hawks are not found to nest within the survey area, then no further action is warranted.

MM BIO-5: If an active Swainson's hawk nest is discovered at any time within 0.5-mile of active construction, a qualified biologist will complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and at the discretion of the qualified biologist.

MM BIO-6: A qualified biologist shall conduct a pre-construction survey on the Project site and within 500 feet of its perimeter, where feasible, to identify the presence of the western burrowing owl. The survey shall be conducted between 14 and 30 days prior to the start of construction activities. If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the CDFW staff report on burrowing owl mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 250 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Wildlife (2012). During the breeding season (February 1 through August 31), a 500-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

In addition, impacts to occupied burrowing owl burrows shall be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through noninvasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

MM BIO-7: Prior to ground disturbance activities, or within one week of being deployed at the Project site for newly hired workers, all construction workers at the Project site shall attend a Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified biologist.

The Construction Worker Environmental Awareness Training and Education Program shall be presented by the biologist and shall include information on the life history wildlife and plant species that may be encountered during construction activities, their legal protections, the definition of "take" under the Endangered Species Act, measures the Project operator is implementing to protect the species, reporting requirements, specific measures that each worker must employ to avoid take of the species, and penalties for violation of the Act. Identification and information regarding special-status or other sensitive species with the potential to occur on the Project site shall also be provided to construction personnel. The program shall include:

- An acknowledgement form signed by each worker indicating that environmental training has been completed.
- A copy of the training transcript and/or training video/CD, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be maintain on site for the duration of construction activities.

LEVEL OF SIGNIFICANCE

Impacts would be ***less-than-significant impact with mitigation incorporated***.

Impact #3.4.4b – Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

There were no CNDDB occurrences of sensitive natural communities within 10-miles of the Project site. The habitat surrounding the Project does support creosote bush scrub, a sensitive natural community ranked G5, S5. The Project is highly disturbed and does not support creosote bush scrub. The Project is not located within a river or an area that encompasses a river or potential floodplain and does not contain nor is near any riparian habitat. The proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. Therefore, the Project's impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.4c – Would the Project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The United States Army Corps of Engineers (USACE) has regulatory authority over the Clean Water Act (CWA), as provided for by the EPA. The USACE has established specific criteria for the determination of wetlands based upon the presence of wetland hydrology, hydric soils, and hydrophilic vegetation. There are no federally protected wetlands or vernal pools that occur within the Project.

Wetlands, streams, reservoirs, sloughs, and ponds typically meet the criteria for federal jurisdiction under Section 404 of the CWA and state jurisdiction under the Porter-Cologne Water Quality Control Act. Streams and ponds typically meet the criteria for State jurisdiction under Section 1602 of the California Fish and Game Code. There are no features on or near the Project that would meet the criteria for either federal or State jurisdiction. Accordingly, there are no wetlands or Waters of the U.S. occurring on the Project site. There would be no impact to federally protected wetlands or waterways as a result of the proposed Project. Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.4d – Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife migratory corridors are described as a narrow stretch of land that connects two open pieces of habitat that would otherwise be unconnected. These routes provide shelter and sufficient food supplies to support wildlife species during migration. Movement corridors generally consist of riparian, woodlands, or forested habitats that span contiguous acres of undisturbed habitat and are important elements of resident species' home ranges.

The proposed Project and surrounding area does not occur within a known terrestrial migration route, significant wildlife corridor, or linkage area as identified by the Essential Habitat Connectivity Project (Spencer, W.D., et al, 2010). The survey conducted for the Project did not provide evidence of a wildlife nursery or important migratory habitat being present on the Project site. Migratory birds and raptors could use habitat on and near the Project for foraging and/or as stopover sites during migrations or movement between local areas.

The Project will not restrict, eliminate, or significantly alter a wildlife movement corridor, wildlife core area, or Essential Habitat Connectivity area, either during construction or after the Project has been constructed. Project construction will not substantially interfere with wildlife movements or reduce breeding opportunities.

The proposed Project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Therefore, the Project's impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.4e – Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Project is subject to the General Plan for the City of Ridgecrest (City of Ridgecrest 2010). This Plan requires the implementation of several measures to conserve natural resources, including Measures OSC-5.2 through OSC-5.7, which include biological surveys, implementation of appropriate mitigation measures, and the retention of natural open space areas surrounding Cerro Coso Community College. The Project has been planned to be in compliance with the City of Ridgecrest General Plan. Therefore, implementation of the proposed Project would have no conflict related to an adopted local policies or ordinances protecting biological.

MITIGATION MEASURE(S)

No mitigation is required.

Level of Significance

Impacts would be ***less than significant***.

Impact #3.4.4f – Would the Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan?

The Project is not located within any other Natural Community Conservation Plan or any other local, regional, or State Conservation Plan. With mitigation, the proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

Impacts would be ***less than significant***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.5 - CULTURAL RESOURCES				
Would the Project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

This section is based on a cultural resource record search obtained from the Southern San Joaquin Valley Information Center of the California Historical Resources Information System at the California State University, Bakersfield and a Sacred Lands File Request to the Native American Heritage Commission (see Appendix B).

Impact #3.4.5a – Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

As defined by CEQA Guidelines Section 15064.5, "historical resources" are:

- A resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Public Resource Code Section 5024.1, Title 14 California Code of Regulations, Section 4850 et seq.).
- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency

to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Public Resources Code Section 5024.1, Title 14 CCR, Section 4852) including the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

The records search revealed that except for a survey of a ½-linear segment of College Heights Boulevard running north through south through the center of the Project. No cultural resources have been recorded on the project and it is not known if any exist there. One additional cultural resource study was conducted within a half mile of the property which consisted of spot inspections of several abandoned mine sites. Fifteen cultural resources have been recorded within a half mile of the project all of which are historic remains of mines and mining activities associated with the Rademacher Mining District (QK, 2020).

A request for a Sacred Land File search was submitted to the Native American Heritage Commission (NAHC) and a negative response was received on March 18, 2020 (Appendix B). On July 10, 2020, letters were mailed to each of the Native American tribes identified by the NAHC (see Appendix B). The letters included a brief Project description and location maps. On July 31, 2020, Alexandra McCleary, the Tribal Archaeologist for the San Manuel Band of Mission Indians indicated that the Project is located outside of Serrano ancestral territory and would not request to receive consulting party status with KCCD or participate in the scoping, development, or review of the documents. To date, no response has been received from other tribes.

Although there is no obvious evidence of historical or archaeological resources on the Project site, there is the potential during construction for the discovery of cultural resources. Grading and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the Project area, including historical resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact under CEQA. However, implementation of MM CUL-1 would reduce potential impacts to cultural resources to less-than-significant levels.

MITIGATION MEASURE(S)

MM CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.

LEVEL OF SIGNIFICANCE

Impact would be ***less than significant with mitigation incorporated***.

Impact #3.4.5b – Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

See discussion of Impact #3.4.5a, above.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

Impact #3.4.5c – Would the Project disturb any human remains, including those interred outside of formal cemeteries?

Although unlikely, subsurface construction activities, such as trenching and grading, associated with the proposed Project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. Although considered unlikely subsurface construction activities could cause a potentially significant impact to previously undiscovered human burial sites. The records searches did not indicate the presence of human remains, burials, or cemeteries within the Project site. No human remains have been discovered at the Project site, and no burials or cemeteries are known to occur within the area of the site. However, construction would involve earth-disturbing activities, and it is still possible that human remains may be discovered, possibly in association with archaeological sites. Implementation of the below mitigation measure would ensure that the proposed Project would not directly or indirectly destroy previously unknown human remains. The proposed Project would not disturb any known human remains, including those interred outside of formal cemeteries. Therefore, the Project would have a less-than-significant impact with incorporation of mitigation measures.

MITIGATION MEASURE(S)

MM CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.

LEVEL OF SIGNIFICANCE

Impact would be ***less than significant with mitigation incorporated***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.6 - ENERGY				
Would the Project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion

This analysis of energy impacts is based on calculations using data provided by the Project applicant and the data within the AQIA prepared for this Project (Trinity Consultants, 2020) which can be found in Appendix A.

Impact #3.4.6a – Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Energy demand during the construction phase would result from the transportation of materials, construction equipment, and employee vehicle trips. Construction equipment includes excavators, graders, off-highway trucks, rubber-tired dozers, scrapers, tractors, loaders, backhoes, forklifts, cement and mortar mixers and cranes. The Project would comply with the State and local requirements regarding the use of fuel-efficient vehicles

There are no unusual Project characteristics that would cause construction equipment to be less energy efficient compared with other similar construction sites in other parts of the State. Thus, construction-related fuel consumption at the Project would not result in inefficient, wasteful, or unnecessary energy use.

Energy demand during the operational phase would result from maintenance equipment, on-site lighting, and the arrival and departure of students and staff. According to calculations based on data provided by the applicant, the Project site used approximately 1,556,686 KWH in 2018-2019 (Cerro Coso Community College, 2020). The campus has an existing array of photovoltaic solar panels that help offset energy demand from the utility grid. It is anticipated that the upgrades and new construction of the proposed Project would decrease overall energy consumption with the installation of more energy efficient building materials, fixtures, and compliance with current building standards and codes.

The 2016 California Green Building Standard Codes will be implemented to encourage sustainable construction practices. The Project will comply with Title 24, Chapter 4 of the California Building Standards Commission for all school buildings and the California Energy Code of Regulations. Finally, the Project will comply with the 2016 California Green Building Standard Codes to the extent feasible to help reduced energy and water consumption.

Energy saving strategies will be implemented where possible to further reduce the Project's energy consumption, during the construction phase. Strategies being implemented include those recommended by the California Air Resources Board (CARB) that may reduce both the Project's energy consumption, including diesel anti-idling measures, light-duty vehicle technology, usage of alternative fuels such as biodiesel blends and ethanol, and heavy-duty vehicle design measures to reduce energy consumption.

The Project may also incorporate energy saving design features to offset electrical lighting use in the facility by installing skylights and dual-pane glass windows with window treatments throughout the campus. Energy efficient lighting and motion detector switches will be installed throughout the interior of the facility. In addition, the Project will use low flow toilets and other water reduction methods. The campus will have landscaping including xeriscaping, drought tolerant plants and trees and drip irrigation to reduce water consumption. Based on this analysis, the Project would not conflict with or obstruct a State or local plan related to renewable energy or energy consumption and impacts would be less than significant. Construction and operations related fuel consumption at the Project would not result in inefficient, wasteful, or unnecessary energy use. The Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.6b – Would the Project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

See Impact #3.4.6a, above.

The Project must comply with Title 24, Chapter 4 of the California Green Building Standards Code for residential development and Part 6, of the California Energy Code (CEC) the California Code of Regulations (CCR), Title 20 with adoptions of the California Energy Commission (California Building Standards Commission, 2019).

Energy saving strategies will be implemented where feasible to reduce the Project's energy consumption during the construction and post-construction phases. Strategies being implemented include those recommended by the California Air Resources Board (CARB) that may reduce both the Project's construction energy consumption, including diesel anti-idling measures, light-duty vehicle technology, usage of alternative fuels such as biodiesel blends and ethanol, and heavy-duty vehicle design measures to reduce energy consumption. The continued use of solar-generated energy along with the energy efficiency components outlined above will assist California in meeting greenhouse gas (GHG) emissions reduction goal by 2020 and 2030 as required by the California Global Warming Solutions Act (AB 32), as amended by SB 32 in 2016.

Mitigation Measure(s)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.7 - Geology and Soils

Would the Project:

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

f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Discussion

Discussion is based on the *Geotechnical Engineering Investigation for the Proposed Maintenance & Operation Facility* and the *Updated Geotechnical Engineering Investigation for the Proposed Outdoor Physical Education Complex* prepared for the Project (Krazan and Associates, 2020a) (Krazan & Associates, Inc., 2020b), and attached as Appendix C.

Impact #3.4.7a(i) – Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The Project site is not located within an Alquist-Priolo Earthquake Zone. However, there are several earthquake faults that exist in the Ridgecrest area (Fault Activity Map of California , 2010). The faults that are located within the vicinity of the subject site are the Little Lake, Garlock, and So Sierra Nevada Zone Faults. These faults are located approximately 2.8, 7.8, and 13.8 miles from the subject site, respectively. Recent activity along these faults have caused two major earthquakes in the area. The first earthquake was felt on July 4th, 2019 with a 6.4 magnitude and a second earthquake was felt the following day, July 5th, 2019, with a 7.1 magnitude. (Krazan and Associates, 2020a)

Zones of Required Investigation referred to as "Seismic Hazard Zones" in CCR Article 10, Section 3722, are areas shown on Seismic Hazard Zone Maps where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake-induced landslide ground displacements. The site is within the Ridgecrest South Quadrangle and is not located in an area designated as a Rupture Hazard Zone (Krazan & Associates, Inc., 2020b).

The proposed Project would comply with the most recent California Building Standards Code (CBC), which is implemented by the District and provides criteria for the seismic design of buildings. Compliance with local and State codes and regulations would reduce impacts to less-than-significant levels.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

Impact would be ***less than significant***.

Impact #3.4.7a(ii) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Although ground rupture is not considered to be a major concern at the Project site, the site will likely be subject to at least one moderate to severe earthquake and associated seismic shaking during its lifetime, as well as periodic slight to moderate earthquakes and with the ongoing earthquakes, some degree of structural damage due to stronger seismic shaking should be expected at the site, but the risk can be reduced through adherence to seismic design codes (Krazan and Associates, 2020a). One of the most common phenomena during seismic shaking accompanying any earthquake is the induced settlement of loose unconsolidated soils. Based on site subsurface conditions and the moderate to high seismicity of the region, any loose fill materials at the site could be vulnerable to this potential hazard. However, this hazard can be mitigated by following the design and construction technics such as over-excavation and rework of the loose soils and/or fill. Based on the moderate to strong penetration resistance measured, the native deposits underlying the surface materials do not appear to be subject to significant seismic settlement (Krazan and Associates, 2020a). However, in order to reduce impacts related to unstable soils, MM GEO-1 requires a registered engineering geologist or soils engineer to prepare a final geotechnical report that would assess requirements necessary to provide sufficient specification for Project structures. With implementation of MM GEO-1, impacts would be less than significant.

Structures constructed as part of the Project would be required by State law to be constructed in accordance with all applicable California Educational Code, International Building Code (IBC) and CBC earthquake construction standards, including those relating to soil characteristics. Adherence to all applicable regulations would avoid any potential impacts to structures resulting seismic events at the Project site. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

MM GEO-1: Prior to the ground disturbance activities, the a qualified engineer shall be obtained. The Project engineer, structural engineer, civil engineer, general contractor, the earthwork contractor shall meet to discuss the grading plan and grading requirements as outlined in the final Geotechnical Report.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation***.

Impact #3.4.7a(iii) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction could result in local areas during a strong earthquake or seismic ground shaking where unconsolidated sediments and a high-water table coincide. Based on soil borings completed on the Project site, groundwater is anticipated to be in excess of 50 feet below site grades. The potential for seismic-induced soil liquefaction within the Project site is low due to absence of shallow groundwater as well as the very dense soil conditions. Therefore, liquefaction potential is not considered to be significant (Krazan & Associates, Inc., 2020b).

Structures constructed as part of the Project would be required by State law to be constructed in accordance with all applicable IBC and CBC earthquake construction standards, including those relating to soil characteristics. Adherence to all applicable regulations and implementation of MM GEO-1 would reduce potential impacts to structures resulting from seismically related ground failure to less than significant levels. . liquefaction

MITIGATION MEASURE(S)

Implementation of MM GEO-1.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation***.

Impact #3.4.7a(iv) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

There is no potential for rock fall and landslides to impact the site in the event of a major earthquake, as the proposed site and surrounding areas are flat and do not include dramatic elevation changes. The Project is within areas that have already been disturbed. Impact would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.7b – Would the Project result in substantial soil erosion or the loss of topsoil?

The proposed Project site is undeveloped but has been somewhat graded in the past. With respect to soil erosion by wind, earthwork at the site during construction would cause disturbed soils to be exposed and possibly affected by wind erosion. Construction activities associated with the proposed Project will disturb surface vegetation and soils during construction and would expose these disturbed areas to erosion by wind and water. To reduce the potential for soil erosion and loss of topsoil, the Project would comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit from the State of California Regional Water Quality Control Board- Lohantan (RWQCB) during construction. Under the NPDES, the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) are required for construction activities that would disturb an area of one acre or more. A SWPPP must identify potential sources of erosion or sedimentation as well as identify and implement best management practices (BMPs) that ensure reduce erosion. Typical BMPs intended to control erosion include sandbags, retention basins, silt fencing, street sweeping, etc. Mitigation Measure MM GEO-2 requires the approval of a SWPPP to comply with the NPDES General Construction Permit. The Project will comply with all the grading requirements as outlined in Title 24 and California Building Code.

Once constructed the Project will have both impermeable surfaces as well as permeable surfaces. Permeable surfaces would include undeveloped land and landscaped areas where water will percolate. Impermeable surfaces would include roadways, driveways and building sites. Stormwater would be directed to the existing sewer system.

Overall, development of the Project would not result in conditions where substantial surface soils would be exposed to wind and water erosion. The Project is not expected to result in substantial soil erosion or the loss of topsoil with the incorporation of mitigation measure MM GEO-2.

The Project would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant with incorporation of mitigation measures.

MITIGATION MEASURE(S)

MM GEO-2: Prior to construction, the District shall submit an approved copy of: 1) the approved Storm Water Pollution Prevention Plan (SWPPP) and 2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials; and
- Managing waste, aggressively controlling litter, and implementing sediment controls

The SWPPP shall describe the best management practices (BMPs) that will be incorporated to reduce the potential for soil erosion and loss of topsoil. The BMPs could include soil stabilizers and silt fencing as well as other measures.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant. with mitigation incorporated***.

Impact #3.4.7c – Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

See Impacts #3.4.7a-c, above

Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. The potential for seismic-induced soil liquefaction within the project site is low due to absence of shallow groundwater as well as the very dense soil conditions (Krazan & Associates, Inc., 2020b). Additionally, the Project is not within an area with unstable soils, according to the Kern County General Plan (Kern County, 2009). The subject site is relatively flat and level with no significant slopes. In order to reduce impacts related to unstable soils, MM GEO-1 requires a registered engineering geologist or soils engineer to provide recommendations to provide sufficient specification for Project structures. With implementation of MM GEO-1, impacts would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM GEO-1.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated.***

Impact #3.4.7d – Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

See Impact 3.4.7b and c.

Expansive soils have the potential to undergo volume change, or shrinkage and swelling with changes in soil moisture. The near-surface sand soils encountered at the Project site have been identified as having a low expansion potential (Krazan & Associates, Inc., 2020b). Any recommendations based on the results of the evaluation would be performed according to standard geotechnical engineering practices and meet all local and State codes and regulations. With implementation of MM GEO-1 and MM GEO-2, impacts related to expansive soils would be less than significant.

MITIGATION MEASURE(S)

Implementation of GEO-1 and GEO-2.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated.***

Impact #3.4.7e – Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

The proposed Project does not include septic tank installation. The Project would connect to existing wastewater infrastructure provided by the Kern Community College District. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***

Impact #3.4.7f – Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Project does not intend to use undisturbed land; all construction will be conducted within the footprint of the existing campus. There are no unique geological features or known fossil-bearing sediments in the vicinity of the Project site. However, there remains the possibility for previously unknown, buried paleontological resources or unique geological sites to be uncovered during subsurface construction activities. Therefore, this would be a potentially significant impact. Implementation of MM GEO-3 would reduce potential impacts to a less than significant level.

MITIGATION MEASURE(S)

MM GEO-3: During any ground disturbance activities, if paleontological resources are encountered, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or other appropriate facility regarding any discoveries of paleontological resources.

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.

LEVEL OF SIGNIFICANCE

Impact would be ***less than significant with mitigation incorporated***.

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

Discussion

An air quality and greenhouse gas analysis report was relied upon in the analysis of impacts related to greenhouse gases (GHGs) (Trinity Consultants, 2020) (see Appendix A). This report was prepared in accordance with the EKAPCDs guidelines and adopted policies of CARB.

In addition to providing an assessment of the Project's impacts to GHGs, the report includes a detailed description of the regulatory environment as it relates to GHGs.

GHGs are identified as any gas that absorbs infrared radiation in the atmosphere. GHGs include water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), halogenated fluorocarbons (HCFCs), ozone (O3), perfluorinated carbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF6). On December 7, 2009, the EPA issued an Endangerment Finding on the above referenced key well-mixed GHGs. These GHGs are considered "pollutants" under the Endangerment Finding. However, these findings do not themselves impose any requirements on industry or other entities.

The Global Warming Solutions Act [Assembly Bill (AB) 32] was passed by the California Legislature and signed into law by the Governor in 2006. AB 32 requires that GHGs emissions in 2020 be reduced to 1990 levels.

Impact #3.4.8a – Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The SJVAPCD's "Non-Residential On-Site Mitigation Checklist" was utilized in preparing the mitigation measures and evaluating the projects features as a proxy for EKAPCD. These measures include using controls that limit the exhaust from construction equipment and using alternatives to diesel when possible. Additional reductions would be achieved through the regulatory process of the air district and CARB as required changes to diesel engines are implemented which would affect the product delivery trucks and limits on idling. The strategies are listed in Table 4-9 of Appendix A.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the Project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB32. The Project will result in GHG emissions below the EKAPCD's GHG threshold, as demonstrated in Table 3.4.8-1.

The proposed Project's construction and operational GHG emissions were estimated using CalEEMod and are summarized below.

Table 3.4.8-1
Estimated Annual GHG Emissions (MT/Year)

Source		CO_2	CH_4	N_2O	CO_2e
Construction Emissions					
Phase 1	2021	982.29	0.16	0.00	986.34
	2022	1503.53	0.13	0.00	1506.81
	2023	1465.77	0.11	0.00	1468.64
	2024	721.36	0.07	0.00	723.07
Phase 2	2025	435.47	0.08	0.00	437.43
	2026	3.27	0.00	0.00	3.28
Phase 3	2030	713.63	0.03	0.00	714.34
	2031	296.74	0.01	0.00	297.04
Mitigated Operational Emissions					
Area		0.48	0.00	0.00	0.01
Energy		850.73	0.03	0.01	0.02
Mobile		0.00	0.00	0.00	0.02
Waste		137.59	8.13	0.00	0.01
Water		158.36	0.78	0.02	0.00
Total Project Operational Emissions		1,147.15	8.94	0.03	0.00
Annualized Construction Emissions		204.07	0.02	0.00	204.57
Project Emissions		1,351.22	8.96	0.03	1,584.26
EKAPCD GHG Significance Threshold					25,000
Significance Threshold Exceeded?					NO

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF6), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. The Project's GHG emissions are below the threshold established by the EKAPCD; therefore, the Project would have less-than-significant impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.8b – Would the Project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Air quality impacts from proposed projects within the eastern Kern County are controlled through policies and provisions of the EKAPCD and the Kern County General Plan (Kern County, 2009). In order to demonstrate that a proposed project would not cause further air quality degradation in either of the EKAPCD's plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the EKAPCD's adopted AQAP. The EKAPCD is required to submit a "Rate of Progress" document to the CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires the local air districts with severe or extreme air quality problems to provide for a 5 percent reduction in non-attainment emissions per year. The Attainment Plans prepared for Eastern Kern County by the EKAPCD complies with this requirement. CARB reviews, approves, or amends the document and forwards the plan to the U.S. Environmental Protection Agency (U.S. EPA) for final review and approval within the State Implementation Plan (SIP).

Air pollution sources associated with stationary sources are regulated through the EKAPCD permitting authority under the New and Modified Stationary Source Review Rule (EKAPCD Rule 210.1). Owners of any new or modified equipment that emits, reduces, or controls air contaminants, except those specifically exempted by the EKAPCD, are required to apply for an Authority to Construct and Permit to Operate (EKAPCD Rule 201). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (EKAPCD Rule 210.1, III.B.). Through this mechanism, the EKAPCD would ensure that all stationary sources within a project area would be subject to the standards of the EKAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

As the growth represented by the proposed Project will not be required to be updated in the Kern County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. That, by definition, the proposed emissions from the Project are below the EKAPCD's established emissions impact thresholds; and
2. The Project proposes no growth to residences, employment, and households.

Based on these factors, the Project appears to be consistent with the AQAP.

Under current policies, only after a General Plan Amendment (GPA) is approved, can housing and employment assumptions be updated to reflect the capacity changes. Since the proposed development does not require a GPA and zone change, the existing growth forecast will not be modified to reflect these changes. Since the Project will not increase population, employment, or households, an analysis based on Kern COG regional forecast was not conducted. Therefore, the Project is considered to be "consistent" and in conformance with the AQAP. Therefore, the Project's impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.9 - *Hazards and Hazardous Materials*				
Would the Project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	☐	☐	☐	☒
f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

Discussion

Impact #3.4.9a – Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The building and operation of the proposed Project would not involve the transport, use, and storage of large quantities of hazardous materials. Although construction of the site would involve the transport and use of minor quantities of hazardous materials, such materials would be limited to fuels, oils, lubricants, hydraulic fluids, paints and solvents utilized at the Project site for construction purposes. Moreover, use of such materials would be temporary in nature and would cease upon completion of the Project. However, minor amounts of custodial chemicals would be used on site for cleaning supplies. Interstate(I)395 and SR 14 are the nearest Hazardous Materials Shipping Routes to the Project site that would be utilized during the construction of the Project (Kern County, 2009).

The presence and use of these materials, which can be classified as hazardous materials, create the potential for accidental spillage and exposure of workers to these substances. KCCD has procedures in place for the transport, use, and storage of hazardous materials that comply with the Title 24, California Code of Regulations. Hazardous and non-hazardous wastes would likely be transported to and from the Project site during the construction phase of the proposed Project. The transport of such materials would use SR 14 or I-395 for transport of construction materials. Construction would involve the use of some hazardous materials, such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products, although these materials are commonly used during construction activities and would not be disposed of on the Project site. Any hazardous waste or debris that is generated during construction of the proposed Project would be collected and transported away from the site and disposed of at an approved off-site landfill or other such facility. In addition, sanitary waste generated during construction would be managed through the use of portable toilets, which would be located at reasonably accessible on-site locations.

Hazardous materials such as paint, bleach, water treatment chemicals, gasoline, oil, etc., may be used on campus. These materials are stored in appropriate storage locations and containers in the manner specified by the manufacturer and disposed of in accordance with local, federal, and State regulations. Additionally, and in accordance with applicable federal and State Health and Safety Codes and Kern County regulations, Mitigation Measure MM HAZ-1 requires the Project proponent to submit an updated Hazardous Materials Business Plan to include the changes to the campus to the California Environmental Reporting System (CERS) and a copy to the Kern County Environmental Health Services Division/Hazardous Materials Section. Therefore, with implementation of Mitigation Measure MM HAZ-1, no significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous waste during construction or operation of the renovated buildings on the school campus would occur.

MITIGATION MEASURE(S)

MM HAZ-1: Prior to operation of the Project, the Project proponent shall prepare a revised Hazardous Materials Business Plan that identifies the changes to the college campus and submit it to the California Environmental Reporting System (CERS). Once approved, a copy shall be submitted to the Kern County Environmental Health Services Division/Hazardous Materials Section. The Project proponent shall provide the hazardous materials business plan to all contractors working on the Project and shall ensure that one copy is available at the Project site at all times.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

Impact #3.4.9b – Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

See Impact #3.4.8a, above.

There are no active Geologic Energy Management Division (CalGEM) identified oil or gas fields in the Project vicinity and there are no known existing or historical oil wells on the Project site (CalGEM, 2020). As such, it is not expected that any wells would be impacted by the Project.

The completed Project will not create significant hazards to the public or the environment through a reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Therefore, the Project will have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.9c – Would the Project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The closest school is Balas Montessori School, which is approximately 3 miles north of the Project. Therefore, the proposed Project would have no impacts. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.9d – Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Available data for Cortese Act locations or other potentially hazardous sites on or near the Project site indicate that there are no hazardous or toxic sites in the vicinity (within one mile) of the Project site that would pose a safety (Department of Toxic Substance Control, 2020).

The Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. Additionally, the Project site is not within the immediate vicinity of a hazardous materials site and would not impact a listed site. There is no data identifying any facilities in the vicinity that might reasonably be anticipated to emit hazardous air emissions or handle hazardous materials, substances, or wastes that might affect the proposed residential development. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.9e – For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

The nearest public airport is the Inyokern Airport, located on East Bowman Road, approximately 14 miles northwest of the Project site. The proposed Project is not located within any Compatibility Zone of the Kern County Airport Land Use Compatibility Plan for this airport (County of Kern, 2012). There are no private airstrips located in the vicinity of the Project Site. Therefore, the Project would not result in a safety hazard as a result of proximity to a public or private use airport and would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***

Impact #3.4.9f – Would the Project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

The proposed Project would not inhibit the ability for local roadways to continue to accommodate emergency response and evacuation activities. The proposed Project would not impair implementation of or physically interfere with the Cerro Coso Community College Emergency Action Plan, the KCCD ALERT System, or the City of Ridgecrest Emergency Operations Plan (Kern Community College District, 2016; City of Ridgecrest, 2013). Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.9g – Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The proposed Project would be constructed within the footprint of the existing campus. According to CalFire's Fire Hazard Severity Zone Map for Kern County, the Project site is not located within a hazard zone classified as Very High, High or Moderate for wildland fires. The area surrounding the Project is mostly BLM owned federal lands that are within a Federal Responsibility Area (Cal Fire, 2007). Construction and operation of the Project is not expected to increase the risk of wildfires on and adjacent to the Project site. The Project will also be required to comply with all applicable standards as required by the City of Ridgecrest and the Kern County Fire Department.

The proposed Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.10 - Hydrology and Water Quality				
Would the Project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☒	☐	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
i. Result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☒	☐	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion

Impact #3.4.10a – Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction of the Project could involve excavation, soil stockpiling, mass and fine grading, the installation of supporting drainage facilities, and associated infrastructure. During site grading and construction activities, large areas of bare soil could be exposed to erosive forces for long periods of time. Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, and grading activities could result in increased erosion and sedimentation to surface waters.

Additionally, accidental spills or disposal of potentially harmful materials used during construction could possibly wash into and pollute surface water runoff. Materials that could potentially contaminate the construction area, or spill or leak, include lead-based paint flakes, diesel fuel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and other fluids. A SWPPP for construction-related activities would include, but not be limited to, the following types of BMPs to minimize the potential for pollution related to material spills:

- Vehicles and equipment will be cleaned;
- Vehicle and equipment fueling, and maintenance requirements will be established; and
- A spill containment and clean-up plan will be in place prior to and during construction activities.

In order to reduce potential impacts to water quality during construction activities, Mitigation Measure MM GEO-1 requires the Project proponent to file a Notice of Intent (NOI) to comply with the NPDES General Construction Permit and prepare a SWPPP. The Project SWPPP would include BMPs targeted at minimizing and controlling construction and post-construction runoff and erosion to the "maximum extent practicable." Mitigation Measure MM HYD-1 requires the District to limit grading to the minimum area necessary for construction and operation of the Project in order to reduce the potential for disturbed, bare soil to be washed off site during a rain event. Additionally, as noted in Section 3.4.9, *Hazards and Hazardous Materials*, Mitigation Measure MM HAZ-1 requires that all hazardous wastes be stored and properly managed in accordance with the approved updated Hazardous Materials Business Plan to CERS.

In order to reduce potential impacts to water quality during construction and operation activities, Mitigation Measures MM GEO-1 as well as MM HAZ-1 and MM HYD-1 would be required. With mitigation, the proposed Project would not violate any water quality standards or waste discharge requirements. Therefore, the Project would have a less-than-significant impact with incorporation of mitigation.

MITIGATION MEASURE(S)

MM HYD-1: The District shall limit grading to the minimum area necessary for construction and operation of the Project. Final grading plans shall include best management practices to limit on-site and off-site erosion.

Implementation of Mitigation Measures MM GEO-1 and MM HAZ-1.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

Impact #3.4.10b – Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

The water purveyor for the Project area is the Indian Wells Valley Water District (IWVWD), supplied by combination of surface water, groundwater, and imported water. The proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The Project will not increase the current student or staff population and therefore, water usage will remain the same. The Project would include the infrastructure that would connect with the City's water system; however, the Project will not increase population of staff or students and therefore would not significantly increase water usage demands. Therefore, there would be less-than-significant impacts.

MITIGATION MEASURE(S)

No mitigation required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.10c(i) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?

The rate and amount of surface runoff is determined by multiple factors, including the following: topography, the amount and intensity of precipitation, the amount of evaporation that occurs in the watershed and the amount of precipitation and water that infiltrates to the groundwater. The proposed Project would alter the existing drainage pattern of the site in areas where there will be a new building, which would have the potential to result in erosion, siltation, or flooding on- or off-site. The disturbance of soils on-site during construction could cause erosion, resulting in temporary construction impacts. In addition, the placement of permanent structures on-site could affect the long-term drainage of the site. Impacts from construction and operation are discussed below.

As discussed in Impact #3.4.10a above, potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary during construction. Construction-related erosion and sedimentation impacts as a result of soil disturbance would be less than significant after implementation of an SWPPP (see Mitigation Measure MM GEO-1) and BMPs required by the NPDES. No drainages or other water bodies are present on the Project site, and therefore, the proposed Project would not change the course of any such drainages; however, erosion may occur on-site during rain events or high winds. Mitigation Measure MM HYD-1 requires grading to be restricted to the minimum area necessary for construction of the Project. Additionally, as noted in Section 3.4.9, *Hazards and Hazardous Materials*, Mitigation Measure MM HAZ-1 requires that an approved updated Hazardous Materials Business Plan that would ensure hazardous materials were properly stored on site. Once operational, there would be no impact.

With mitigation, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site. Therefore, the Project would have a less-than-significant impact with incorporation of mitigation.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM GEO-1, MM HAZ-1 and MM HYD-1.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

Impact #3.4.10c(ii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in a substantial increase of the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

See Impact #3.4.10c, above.

The Project does not include a stream or river. The Project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion or siltation on- or off-site with the implementation of recommended Mitigation Measures MM GEO-1, which require an approved SWPPP and the use of BMP, and MM HYD-1, which minimizes the amount of disturbed dirt where feasible during construction. Once operational, there would be no impact. Therefore, the Project would have a less-than-significant impact with the incorporation of mitigation.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM GEO-1 and MM HYD-1.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

Impact #3.4.10c(iii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As noted in Impact #3.4.4a-c, there are no water features, including a river or stream, on or near the Project. Existing drainage pattern of the site and area would be affected by Project development during grading as well as the construction of impervious surfaces such as the proposed building and parking lot on the Project site. Therefore, the Project would have a less-than-significant impact.

With implementation recommended Mitigation Measures MM GEO-1, which require an approved SWPPP and the use of BMP, MM HYD-1, which minimizes the amount of disturbed dirt where feasible during construction, and MM HAZ-1. Which requires an approved updated Hazardous Materials Business Plan that would ensure hazardous materials were properly stored on site , the Project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site, contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, nor provide additional sources of polluted runoff during construction or operations. Therefore, with mitigation, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM GEO-1, MM HAZ-1 and MM HYD-1.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

Impact #3.4.10c(iv) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would impede or redirect flood flows?

As shown by flood maps provided by the Federal Emergency Management Agency (FEMA), the Project is located within an Area of Minimal Flood Hazard (see Figure 3.4.10-1) (FEMA, 2008).

As discussed above, the existing drainage pattern of the site and area would be affected by Project development. However, the Project will connect to the existing stormwater sewer system, and therefore potential impacts resulting from the impeding or redirection of flood flows would be less than significant.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

Impacts would be ***less than significant***.

Impact #3.4.10d – Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?

A seiche is a wave generated by the periodic oscillation of a body of water whose period is a function of the resonant characteristics of the containing basin as controlled by its physical dimensions. These periods generally range from a few minutes to an hour or more. The site is not near any large bodies of water, so seiches are not considered a significant hazard at the site.

Tsunamis are waves generated in oceans from seismic activity. Due to the inland location of the site, tsunamis are not considered a hazard for the site.

Mudflows occur when soils on a slope become partially or fully liquified by the addition of significant amounts of water to the source material. Since the Project site is located on relatively flat land with no nearby slopes, mudflows are not considered a hazard at the site.

The proposed Project would not expose people or structures to inundation by seiche, tsunami, or mudflow.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

Impacts would be ***less than significant***.

Impact #3.4.10e – Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As discussed in Impact #3.4.10b, the water demand from this Project would not result in a significant impact due to depleted groundwater resources or interference with groundwater recharge. The IWVWD Urban Water Management Plan accounts for the water usage of the campus (Indian Wells Water District, 2016). As noted, the Project would not increase student, faculty or staff population, and therefore would not increase water demand. The Project would not conflict with any water quality control plan or the implementation of the Urban Water Management Plan prepared for the service area and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

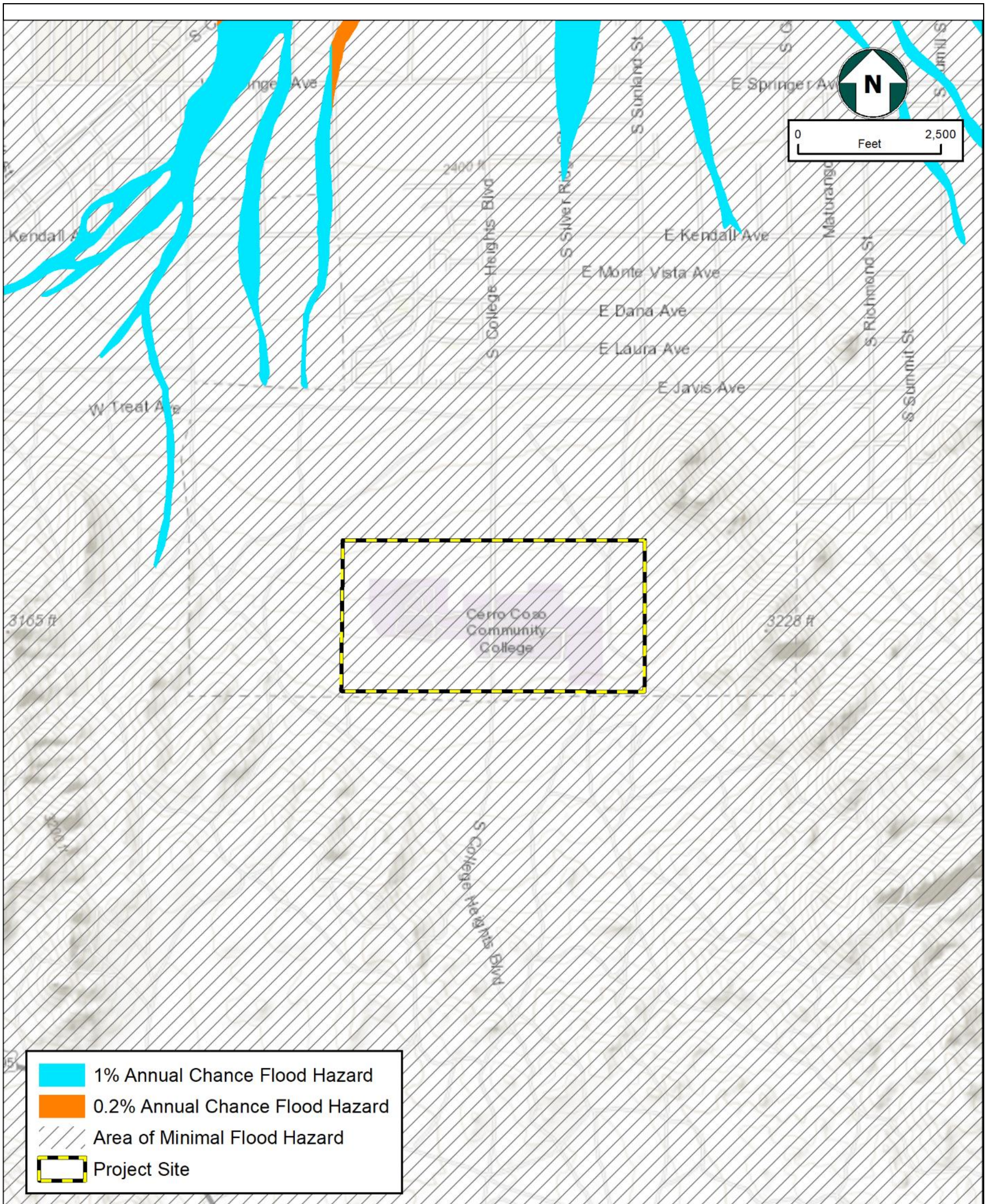

Figure 3.4.10-1
FEMA Floodplains

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.11 - Land Use and Planning

Would the Project:

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

Discussion

Impact #3.4.11a – Would the Project physically divide an established community?

The proposed Project site is an existing community college campus. The surrounding areas are federal lands with Open Space land use. The proposed Project will be implemented within the existing footprint of the campus, and would not physically divide an established community. Therefore, the Project would have no impact.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

There would be ***no impact***.

Impact #3.4.11b – Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The Project is within the Ridgecrest General Plan, which designates the Project site as Institutional (I). However, Government Code Section 53091 does not require a school district to comply with County land use designations or zoning requirements. The Project will renovate and upgrade existing facilities, replace outdated structures and construct new buildings within the existing campus footprint. The proposed Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the Project would have no impact.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

There would be ***no impact.***

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less–than-Significant Impact	No Impact
3.4.12 - MINERAL RESOURCES				
Would the Project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

Impact #3.4.12a – Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

No known mineral resources of value to the residents of the State have previously been identified on the Project site based on the Mineral Land Classification maps (California Department of Conservation, 1999). The Indian Wells Valley Land Use Management Plan DEIR, which includes the Project, states the area would not have an impact on mineral resources (Kern County Planning and Community Development Department, 2015). Therefore, development of the Project would have impact to mineral resources that would be of value to the region and the residents of the State.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.12b – Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

There are no identified areas of known mineral resources within the Project (City of Ridgecrest, 2009). The Project site is not located in a Geologic Energy Management Division (CalGEM) identified oilfield and there are no known wells located on the site (CalGEM, 2020).

Although there are known areas with minerals such as gold, silver and aggregate in the area, the proposed Project is not identified as having minerals, and would not result in the loss of availability of mineral resources as the Project does not propose the extraction of mineral resources. Additionally, the proposed Project would not restrict the ability of mineral rights' holders in the area to exercise their legal rights to access surrounding sites for the exploration and/or extraction of underlying oil research or other natural resources.

The proposed Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Therefore, the Project would have no impact.

Also, see response to #3.4.12a.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.13 - NOISE				
Would the Project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a Project located within the vicinity an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Impact #3.4.13a – Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

The Ridgecrest General Plan has noise policies within the Noise Element of the plan (City of Ridgecrest, 2009). The Noise Element establishes noise level criteria in terms of the Community Noise Equivalent Level (CNEL) metric. The CNEL is the time-weighted energy average noise level used to compare the noisiness of neighborhoods. CNEL is a single number result that is calculated for a complete 24-hour period and usually made up of results taken at shorter intervals such as five minutes or one hour and then averaged over the whole 24 hours. CNEL is the average sound level over a 24-hour period, with a penalty of 5 dB added between 7:00 p.m. and 10:00 p.m. and a penalty of 10 dB added for the nighttime hours of 10:00 p.m. to 7:00 a.m. Construction of the proposed Project would result in a temporary increase of ambient noise levels during the permitted hours of construction. The acceptable noise level for construction in schools would be up to 70 dB (City of Ridgecrest, 2009). Table 3.4.13-1 identifies noise levels for typical construction equipment.

When the Project is constructed, traffic on local roadways would be expected to increase. School-related activities could also result in an increase in ambient noise levels in the immediate Project vicinity.

Construction activities will temporarily increase noise levels. However, the Project would comply with 8.36.020 of the Kern County Municipal Code, which identifies the usage of construction equipment as potential sources of public nuisances outside of the hours between 6:00 a.m. and 9:00 p.m. (Kern County, 2020). However, there are no sensitive receptors within 3,500 feet of the Project boundaries. Noise levels from construction on Project site would be intermittent and mostly occur during periods when students and staff are arriving or leaving the campus, but noise levels would not exceed the City's 70 dB CNEL standard.

Once constructed, the Project would not significantly increase traffic on local roadways. Activities that would take place within the new facilities will increase noise levels, however, it would be similar to noise currently generated around the school site.

As indicated above, the Project's noise impacts are anticipated to generate noise levels below standards established and comply with local codes and regulations. Any permanent increase in ambient noise levels in the Project vicinity and temporary or periodic increases in ambient noise levels in the Project vicinity would not be considered significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.13b – Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction activities in general can have the potential to create groundborne vibrations. However, based on the soil types found in the general Project vicinity, it is unlikely that any blasting or pile-driving would be required in connection with construction of the Project.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations (Federal Highway Administration (FHWA), U.S. Department of Transportation, 2017). In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) appears to be conservative even for sustained pile driving. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The typical vibration produced by construction equipment is illustrated in Table 3.4.13-1.

Table 3.4.13-1
Vibration Generated by Construction Equipment

Equipment	Reference peak particle velocity at 25 feet (inches/second)[1]	Approximate peak particle velocity at 100 feet (inches/second)[2]
Large bulldozer	0.089	0.011
Loaded trucks	0.076	0.010
Small bulldozer	0.003	0.0004
Vibratory compactor/roller	0.210	0.026

Notes:
1 – Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006. Table 12-2.
2 – Calculated using the following formula:
$PPV_{equip} = PPVref \times (25/D)1.5$
where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA Transit Noise and Vibration Impact Assessment Guidelines
D = the distance from the equipment to the receiver

As indicated in Table 3.4.13-1, based on the FTA data, vibration velocities from typical heavy construction equipment that would be used during Project construction range from 0.003 to 0.210 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity.

Construction will be of short duration and not required jackhammers or pile driving. Therefore, the potential for groundborne vibrations impacts during the construction of the Project is considered less than significant. Once operational, the Project would not have any activities that would create groundborne vibrations. The proposed Project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.13c – For a Project located within the vicinity an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

The nearest public airport is the Inyokern Airport, located on East Bowman Road, approximately 14 miles northwest of the Project site. The proposed Project is not located within any Compatibility Zone of the Kern County Airport Land Use Compatibility Plan for this airport (County of Kern, 2012). There would be no impact associated with the Project relating to excessive noise at a public airport.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

There would be ***no impact***.

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

Discussion

Impact #3.4.14a – Would the Project Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed Project includes the renovation of existing buildings, demolition and construction of new buildings, and additional parking. The development of the Project is in response to goals outlined in the Cerro Coso Community College Facilities Master Plan to improve student and staff educational experience and opportunities on campus. There is no proposed increase in the student, faculty or staff population, and no new housing would be needed.

The proposed Project would not induce substantial population growth in an area, either directly by proposing new homes and businesses or indirectly through extension of roads or other infrastructure. The Project footprint remains within an existing campus and will no induce population growth. Therefore, impacts of the Project would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***.

Impact #3.4.14b – Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The proposed Project does not propose to displace any existing housing or people in the area nor would implementation of the Project require construction or replacement of housing.

In addition, it is anticipated that construction workers would come from the surrounding area and would not require new housing. The proposed Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.15 - PUBLIC SERVICES

Would the Project:

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☒	☐

Discussion

Impact #3.4.15a(i) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services - Fire Protection?

The existing Kern County Fire Department Station 77 would provide fire suppression and emergency medical services at the Project site. Station 77 is located about 4 miles north west of the Project at 815 West Dolphin Avenue, Ridgecrest, CA 93555.

The Project site is existing, and the fire department would continue to provide services. Project design features and adherence to California Fire Code Building Regulations and local and State development standards, which include fire sprinklers and ignition resistant materials, would reduce the potential for fire to spread out of control. The Project would not result in a change in campus population or create need for new or increased fire services.

Therefore, the Project would not increase the need for such services beyond the baseline condition.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.15a(ii) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Police Protection?

See Impact #3.4.15a (1).

Police service would continue to be served by the City of Ridgecrest Police Department located at 100 West California Avenue in Ridgecrest.

As discussed above, the Project site is existing. The campus employs security services, and the Ridgecrest police department would continue to provide police protection services. The Project would not result in a change in population or create need for new or increased police protection services. Therefore, the Project would not increase the need for such services beyond the baseline condition.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.15a(iii) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Schools?

The Project would renovate the existing buildings, demolish and construct new buildings, and create additional parking for the students and staff. The Project is not anticipated to result in the need for additional schools in the area. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.15a(iv) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Parks?

No parks are located within the vicinity of the Project site. The nearest park is located approximately 4 miles north of the Project site. There is no increase in the student, faculty or staff population that would impact park facilities. The Project is not anticipated to result in a significantly greater usage of the parks in the Project vicinity. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.15a(v) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Other Public Facilities?

The Project would not induce the appreciable use of other public facilities such as libraries, courts, and other Ridgecrest or Kern County services. As discussed above, the proposed Project would not result in an increase in the local population or substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause a significant environmental impact, in order to maintain acceptable service ratios for any of the public services. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less–than-Significant Impact	No Impact
3.4.16 - RECREATION				
Would the Project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion

Impact #3.4.16a – Would the Project Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

See Impact #3.4.15a(iv), above. The proposed Project would not result in an increase in the local population and the staff and student population would not increase.

The proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.16b – Would the Project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

See Impact #3.4.15a, above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.17 - TRANSPORTATION

Would the Project:

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☐	☒	☐

Discussion

Impact #3.4.17a – Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The construction of the proposed Project is intended to replace existing structures, modernize currently existing buildings, add additional parking, and relocate several buildings or athletic fields for current students and staff, and would not induce growth that would create unsafe or congested roadways. The Project is not anticipated to impact transportation systems, bike or pedestrian facilities. The existing roadways providing the main circulation in the vicinity of the Project include the following:

College Heights Boulevard is a north-south arterial (City of Ridgecrest, 2009). Construction traffic will be minimal and of a temporary nature. The implementation of the Project will be phased over time and will not generate a large number of vehicles. Once operational, vehicle miles traveled (VMT) will remain the same, given that the student and staff population are not expected to increase with the Project. Therefore, the impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***

Impact #3.4.17b – Would the Project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

See Impact #3.4.17a, above.

MITIGATION MEASURE(S)

No mitigation required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.17c – Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project would not introduce new curves and/or hazardous intersections into the Project vicinity. No new design or features would be introduced that would result in transportation-related hazards or safety concerns. During construction at the proposed Project site, construction-related delivery trucks would be present. However, these trucks would be traveling along the existing and proposed local roadways and would not interfere with access to the surrounding area. Once construction is completed, traffic will remain at baseline levels. The proposed Project would not result in an increase in hazards due to a design feature or incompatible use.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.17d – Would the Project result in inadequate emergency access?

The Project will comply with local and State requirements regarding access and egress to the site, specifically related to emergency first responders. The proposed Project will not impact any emergency accessways. The Project site has adequate internal circulation capacity including entrance and exit routes to provide adequate unobstructed space for fire trucks and other emergency vehicles to gain access and to turn around.

As described above, the minimal increase of Project-related traffic would not cause a significant increase in congestion, which could indirectly affect emergency access. The Project is not expected to require closures of public roads, which could inhibit access by emergency vehicles. The proposed Project would not result in inadequate emergency access.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.18 - Tribal Cultural Resources				
Would the Project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion

Impact #3.4.18a(i) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

These questions were addressed in the discussion presented in Section 3.4.5 - *Cultural Resources.*

See discussion for Impacts #3.4.5a and #3.4.5b.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1 and MM CUL-2.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

Impact #3.4.18a(ii) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

See discussion for Impacts #3.4.5a and #3.4.5b.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1 and MM CUL-2.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated.***

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
### 3.4.19 - Utilities and Service Systems				
Would the Project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider that serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

Impact #3.4.19a – Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?

The proposed Project will no increase water, wastewater and sewer treatment demands. The facilities operate according to the and comply with the requirements of the applicable RWQCB- Lohantan. Pacific Gas and Electric Company (PG&E) provides electricity to the City. The Project currently uses PG&E services, but also has a PV solar array on site to offset electrical demand. Utility demand is not expected to increase, therefore impacts would be *less than significant.*

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.19b – Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?

As discussed in Impacts #3.4.9b and #3.4.10b, the water demand for this Project would not increase because the Project is not expected to increase staff or student population and therefore would not significantly increase water demands.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.19c – Would the Project result in a determination by the wastewater treatment provider that serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

See #3.4.19a and b.

The proposed Project would not add any additional wastewater infrastructure to connect to the existing City services in the area. The proposed project will continue to serve the same populations and therefore would not increase the demand. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.19d – Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Implementation of the proposed Project would result in the generation of solid waste on the Project site, which would increase the demand for solid waste disposal. Solid waste removed from the site would be transported to the Ridgecrest Landfill located approximately eight miles northwest of the proposed Project site. The Ridgecrest landfill is permitted for a maximum tonnage of 701 tons per day disposal capacity with the remaining capacity of 5,037,428 cubic yards. The facility is designated as a Class III landfill and has the capacity to serve projected solid waste disposal needs through December 2045 (CalRecycle, 2020).

The Project, in compliance with federal, State, and local statutes and regulations related to solid waste, would dispose of all waste generated on-site at Ridgecrest Landfill. The proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs in compliance with federal, State, and local statutes and regulations related to solid waste. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.19e – Would the Project comply with federal, State, and local statutes and regulations related to solid waste?

See discussion for Impact #3.4.19d.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.20 - Wildfire				
If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentration from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Discussion

Impact #3.4.20a – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

See Impact #3.4.9f and g.

The proposed Project site is not located in or near State responsibility areas or lands classified as very high hazard severity zones. The construction of the Project would not impair implementation of the KCCD Emergency Action Plan, the City of Ridgecrest Emergency Operations Plan or other applicable emergency response plan or evacuation plan (Kern Community College District, 2016; City of Ridgecrest, 2013). Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation needed.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.20b – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentration from a wildfire or the uncontrolled spread of a wildfire?

As discussed above, and in Impact #4.3.9g, the proposed Project site is not located in or near State responsibility areas or lands classified as very high hazard severity zones. Additionally, the proposed Project site is flat and does not pose significant risk of exposure of Project occupants to wildfire. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation needed.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.20c – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

See Impact #3.4.9f-g, Impact 3.4.20a-b

As discussed above, the proposed Project site is not located in or near State responsibility areas or lands classified as very high hazard severity zones. Additionally, the Project would not require the installation or maintenance of infrastructure that would exacerbate fire risk or result in environmental impacts. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation needed.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.20d – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

See Impact #3.4.9f-g

MITIGATION MEASURE(S)

No mitigation needed.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.21 - Mandatory Findings of Significance				
a. Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)	☐	☒	☐	☐
c. Does the Project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

Impact #3.4.21a – Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

As evaluated in this IS/MND, the proposed Project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory. With mitigation, the proposed Project would not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Therefore, the Project would have a less-than-significant impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM BIO-1 through MM BIO-7 MM CUL-1 and MM CUL-2.

LEVEL OF SIGNIFICANCE

The Project would have a ***less-than-significant impact with mitigation incorporated***.

Impact #3.4.21b - Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)?

As described in the impact analyses in Sections 3.14.1 through 3.4.20 of this IS/MND, any potentially significant impacts of the proposed Project would be reduced to a less-than-significant level following incorporation of the mitigation measures listed in Section 6, *Mitigation and Reporting Plan*. Projects completed in the past have also implemented mitigation as necessary. Accordingly, the proposed Project would not otherwise combine with impacts of related development to add considerably to any cumulative impacts in the region. With mitigation, the proposed Project would not have impacts that are individually limited, but cumulatively considerable. Therefore, the Project would have a less than cumulatively considerable impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM BIO-1 through MM BIO-7, MM CUL-1 and MM CUL-2, MM GEO-1 through MM GEO-3, MM HAZ-1, and MM HYD-1.

LEVEL OF SIGNIFICANCE

The Project would have a ***less-than-significant impact with mitigation incorporated***.

Impact #3.4.21c - Does the Project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

All of the Project's impacts, both direct and indirect, that are attributable to the Project were identified and mitigated. As shown in Section 6, *Mitigation and Reporting Plan*, the District has agreed to implement mitigation substantially reducing or eliminating impacts from the Project. Therefore, the proposed Project would not either directly or indirectly cause substantial adverse effects on human beings because all potentially adverse direct impacts of the proposed Project are identified as having no impact, less-than-significant impact, or less-than-significant impact with mitigation.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM BIO-1 through MM BIO-7, MM CUL-1 and MM CUL-2, MM GEO-1 through MM GEO-3, MM HAZ-1, and MM HYD-1.

LEVEL OF SIGNIFICANCE

The Project would have a ***less-than-significant impact with mitigation incorporated***.

SECTION 4 - LIST OF PREPARERS

4.1 - Lead Agency

- Kern Community College District

4.2 - Consultant - QK

- Jaymie Brauer – Project Manager/author
- Karla Topete – Lead Author
- Dave Dayton – Technical Author (Biological)

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SECTION 6 - MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Mitigation Measure	Implementation	Monitoring
Biological Resources			
3.4.4	**MM BIO-1:** Prior to ground disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction. The clearance survey shall include walking transects to identify presence of Desert tortoise, Mohave ground squirrel, Swainson's hawk, burrowing owl, long eared owl, nesting birds_and other special-status species and their sign, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the Project and a 250-foot buffer, where feasible. If no evidence of special-status species is detected, no further action is required but measure BIO-3 shall be implemented.	KCCD/Project Contractor	Project Inspector
	MM BIO-2: If dens that could support American badger are discovered during the pre-activity surveys conducted under MM BIO-1, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity. • Potential Den – 50 feet • Known Den – 100 feet	KCCD/Project Contractor	Project Inspector
	MM BIO-3: If construction is planned outside the nesting period for raptors (other than burrowing owl) and migratory birds (February 15 to August 31), no mitigation shall be required. If construction is planned during the nesting season for migratory birds and raptors, a preconstruction survey to identify active bird nests shall be	KCCD/Project Contractor	Project Inspector

Impact No.	Mitigation Measure	Implementation	Monitoring
	conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500-foot buffer for raptors. If nesting birds are identified during the survey, active raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season. No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and may be removed, and monitoring may cease.		
	MM BIO-4: If construction is planned outside the nesting period for raptors (other than the western burrowing owl) and migratory birds (February 15 to August 31), no mitigation shall be required. If construction is planned during the nesting season for migratory birds and raptors, a preconstruction survey to identify active bird nests shall be conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500- foot buffer for raptors. If nesting birds are identified during the survey, active	KCCD/Project Contractor	Project Inspector

Impact No.	Mitigation Measure	Implementation	Monitoring
	raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season. No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and can be removed, and monitoring can cease.		
	MM BIO-5: If all Project activities are completed outside of the Swainson's hawk nesting season (February 15 through August 31), this mitigation measure shall need not be applied. If no Swainson's hawk nests are found, no further action is required. If construction is planned during the nesting season, a preconstruction survey shall be conducted by a qualified biologist to evaluate the site and a 0.5-mile buffer around the site for active Swainson's hawk nests. If potential Swainson's hawk nests or nesting substrates occur within 0.5 mile of the Project site, then those nests or substrates must be monitored for Swainson's hawk	KCCD/Project Contractor	Project Inspector

Impact No.	Mitigation Measure	Implementation	Monitoring
	nesting activity on a routine and repeating basis throughout the breeding season, or until Swainson's hawks or other raptor species are verified to be using them. Monitoring shall be conducted according to the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). The protocol recommends that ten visits be made to each nest or nesting site: one during January 1-March 20 to identify potential nest sites, three during March 20-April 5, three during April 5-April 20, and three during June 10-July 30. To meet the minimum level of protection for the species, surveys shall be completed for at least the two survey periods immediately prior to Project-related ground disturbance activities. During the nesting period, active Swainson's hawk nests shall be avoided by 0.5 mile unless this avoidance buffer is reduced through consultation with the CDFW and/or USFWS. If an active Swainson's hawk nest is located within 500 feet of the Project or within the Project site, the Project proponent shall contact CDFW for guidance.		
	MM BIO-6: A qualified biologist shall conduct a pre-construction survey on the Project site and within 500 feet of its perimeter, where feasible, to identify the presence of the western burrowing owl. The survey shall be conducted between 14 and 30 days prior to the start of construction activities. If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the CDFW staff report on burrowing owl mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 250 feet of proposed construction	KCCD/Project Contractor	Project Inspector

<table>
<tr><th>Impact No.</th><th>Mitigation Measure</th><th>Implementation</th><th>Monitoring</th></tr>
<tr><td></td><td>
activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Wildlife (2012). During the breeding season (February 1 through August 31), a 500-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.
In addition, impacts to occupied burrowing owl burrows shall be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.
<table>
<tr><th rowspan="2">Location</th><th rowspan="2">Time of Year</th><th colspan="3">Level of Disturbance</th></tr>
<tr><th>Low</th><th>Med</th><th>High</th></tr>
<tr><td>Nesting sites</td><td>April 1-Aug 15</td><td>200 m*</td><td>500 m</td><td>500 m</td></tr>
<tr><td>Nesting sites</td><td>Aug 16-Oct 15</td><td>200 m</td><td>200 m</td><td>500 m</td></tr>
<tr><td>Nesting sites</td><td>Oct 16-Mar 31</td><td>50 m</td><td>100 m</td><td>500 m</td></tr>
</table>
</td><td></td><td></td></tr>
<tr><td></td><td>MM BIO-7: Prior to ground disturbance activities, or within one week of being deployed at the Project site for newly hired workers, all construction workers at the Project site shall attend a</td><td>KCCD/Project Contractor</td><td>Project Inspector</td></tr>
</table>

Impact No.	Mitigation Measure	Implementation	Monitoring
	Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified biologist. The Construction Worker Environmental Awareness Training and Education Program shall be presented by the biologist and shall include information on the life history wildlife and plant species that may be encountered during construction activities, their legal protections, the definition of "take" under the Endangered Species Act, measures the Project operator is implementing to protect the species, reporting requirements, specific measures that each worker must employ to avoid take of the species, and penalties for violation of the Act. Identification and information regarding special-status or other sensitive species with the potential to occur on the Project site shall also be provided to construction personnel. The program shall include: • An acknowledgement form signed by each worker indicating that environmental training has been completed. • A copy of the training transcript and/or training video/CD, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be maintain on site for the duration of construction activities.		
Cultural Resources			
3.4.5	**MM CUL-1:** If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified	KCCD/Project Contractor	Project Inspector

Impact No.	Mitigation Measure	Implementation	Monitoring
	archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.		
	MM CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.	KCCD/Project Contractor	Project Inspector

Impact No.	Mitigation Measure	Implementation	Monitoring
Geology and Soils			
3.4.7	**MM GEO-1:** Prior to the ground disturbance activities, a qualified engineer shall be obtained. The Project engineer, structural engineer, civil engineer, general contractor, the earthwork contractor shall meet to discuss the grading plan and grading requirements as outlined in the final Geotechnical Report.	KCCD/Project Contractor	Project Inspector
	MM GEO-2: Prior to construction, the District shall submit an approved copy of: 1) the approved Storm Water Pollution Prevention Plan (SWPPP) and 2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following: • Stockpiling and disposing of demolition debris, concrete, and soil properly; • Protecting existing storm drain inlets and stabilizing disturbed areas; • Implementing erosion controls; • Properly managing construction materials; and • Managing waste, aggressively controlling litter, and implementing sediment controls The SWPPP shall describe the best management practices (BMPs) that will be incorporated to reduce the potential for soil erosion and	KCCD/Project Contractor	Project Inspector

Impact No.	Mitigation Measure	Implementation	Monitoring
	loss of topsoil. The BMPs could include soil stabilizers and silt fencing as well as other measures.		
	MM GEO-3: During any ground disturbance activities, if paleontological resources are encountered, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or other appropriate facility regarding any discoveries of paleontological resources. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil	KCCD/Project Contractor	Project Inspector

Impact No.	Mitigation Measure	Implementation	Monitoring
	shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.		
Hazards and Hazardous Materials			
	MM HAZ-1: Prior to operation of the Project, the Project proponent shall prepare a hazardous materials business plan that identifies the new location of the new community college campus and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval. The Project proponent shall provide the hazardous materials business plan to all contractors working on the Project and shall ensure that one copy is available at the Project site at all times.	KCCD/Project Contractor	Project Inspector
Hydrology and Water Quality			
3.4.10	**MM HYD-1:** The District shall limit grading to the minimum area necessary for construction and operation of the Project. Final grading plans shall include best management practices to limit on-site and off-site erosion.	KCCD/Project Contractor	Project Inspector

APPENDIX A
AIR QUALITY IMPACT ANALYSIS/GREENHOUSE GASES ANALYSIS

AIR QUALITY IMPACT ANALYSIS

Cerro Coso Community College
Ridgecrest, CA

Prepared For:

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Prepared By:

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July 2020

Project 200505.0121

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1. EXECUTIVE SUMMARY

Trinity Consultants (Trinity), has completed an Air Quality Impact Analysis (AQIA) for the Cerro Coso Community College District's (CCCCD) Master Plan Update at the Ridgecrest campus (Project). The Project would be located on the existing Cerro Coso - Ridgecrest campus in Eastern Kern County within the community of Indian Wells Valley/Ridgecrest and would consist of new building construction and remodeling of existing buildings and facilities. The Project construction activities include:

- **Buildings A, B, & C (Academic)**: Construction of 68,700 SF of new academic building space and renovation of 7,860 SF of the existing academic East Building.
- **Buildings D, F, & G (Recreation – Indoor)**: Construction of a 28,000 SF performing arts building, a 100,000 SF fieldhouse, and renovation of a 35,000 SF existing gymnasium.
- **Building E (Student Apartments)**: Construction of 33,200 SF of student apartments (assumed average of 882 SF/unit for emissions modeling).
- **Building M (Maintenance Building)**: Replacement and relocation of the existing 16,000 SF maintenance building.
- **Buildings H, I, J, S1, & S2 (Recreation – Open Space)**: Construction of a 30,000 SF baseball stadium, conversion of an existing 48,000 SF softball field to a 74,000 SF multipurpose field, construction of a new 30,000 SF softball field, and approximately 2.3 acres of landscape improvements for the existing amphitheater and sculpture garden extension.
- **Buildings AA, BB, CC, DD, & R2 (Parking)**: Construction of various parking lots totaling 682 stalls.
- **Buildings X, Y, & Z (Roadway)**: Construction of approximately 80,000 total SF of asphalt surfaces for a new roadway network and roundabout.
- **Buildings K, L, P, Q1, Q2, R1, R2, T, V, & W (Surfacing)**: Construction/surfacing of approximately 562,800 total SF of non-asphalt surfaces for track and tennis resurfacing, an academic and an athletic quad, various drop-off plazas, and new connector walkways/sidewalks.
- **Buildings N, O, & U (Non-Construction)**: Repairs/maintenance of the existing solar field, campus edge xeriscape improvements, and existing daycare playground improvements for fencing and shading.

The proposed Project's construction and operations would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Project operations would generate air pollutant emissions from energy sources (natural gas usage) and area sources (incidental activities related to architectural coating, consumer products, and landscape maintenance). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (California Air Pollution Control Officers Association (CAPCOA) 2017).

Table 4-3 presents the Project's construction emissions and provides substantial evidence to support a less than significant air quality impact on the Mojave Desert Air Basin (MDAB). **Table 4-4** presents the Project's operational emissions and provides substantial evidence to support a less than significant air quality impact on the MDAB.

Cumulative impacts were also evaluated. A list of development projects provided by the City of Ridgecrest Planning Department identified tentative projects within a six-mile radius of the proposed Project. A six-mile radius is established in practice as the geographical requirement for cumulative analyses in Kern County. To date, there are no established, or even suggested, thresholds of significance for cumulative projects. Therefore, evaluation of the cumulative emissions supports a finding that the Project's contribution would not be cumulatively considerable because the proposed Project's incremental increase in emissions would be less than significant. Additionally, compliance with the Eastern Kern Air Pollution Control District's (EKAPCD) existing air quality plans is presumably required by all projects located within the EKAPCD's jurisdiction. Because projects included in the cumulative analysis presumably comply with the requirements of these plans, the Project's incremental contribution to a cumulative effect is considered *less than cumulatively considerable* (CEQA Guidelines Section 15064(h)(3)).

2. INTRODUCTION

2.1 Purpose

This AQIA was prepared pursuant to the EKAPCD's Rule 210.1 New and Modified Stationary Source Review (NSR) (EKACPD 2000), EKAPCD's Guidelines for Implementation of the California Environmental Quality Act of 1970, EKAPCD Policy, "Addendum to CEQA Guidelines Addressing GHG Emission Impacts for Stationary Source Projects When Serving As Lead CEQA Agency" (EKAPCD 2012), the Kern County Planning and Natural Resources Department's (KCPD) Air Quality Preparation Guidelines (KCPD 2006), the California Environmental Quality Act (CEQA) (Public Resources Code 21000 to 21189), and CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).

2.2 General Project Description

The CCCCD Master Plan Update Project at the Ridgecrest campus includes the modernization, remodel, and expansion of the existing campus facilities. The Project would be located on College Heights Boulevard south of West Javis Avenue in Ridgecrest, California. **Figure 2-1** depicts the regional location and **Figure 2-2** depicts an aerial view of the Project location.

A prioritization-based phased development schedule has been estimated in the CCCCD's Master Plan Update:

- Phase 1 – Short-Term Development (0-5 Years): Buildings F-I, K-P, R1, R2, T, V, Y, Z, AA, & DD
- Phase 2 – Mid-Term Development (5-10 Years): Buildings A, S1, S2, W, & X
- Phase 3 – Long-Term Development (Future, 10+ Years): B-E, J, Q1, Q2, U, BB, & CC

The Project will allow expansion and upgrades of academic, residential, recreational, and ancillary support facilities to enhance campus life. No additional students or faculty are anticipated to be generated as a result of this Project.

There is no specific development or phasing start date, however a conservative start date of January 1, 2021 was estimated, and CalEEMod default construction schedules were used based on the development prioritization listed above. This resulted in a 46-month construction schedule for Phase 1, a 13-month construction schedule for Phase 2, and a 19-month construction schedule for Phase 3. No construction equipment usage estimates were provided, therefore, defaults in the CalEEMod emissions model were applied to estimate construction equipment usage.

Figure 2-1. Regional Location

Figure 2-2. Project Location

Figure 2-3 depicts the Project's Master Plan providing detailed location of the proposed structures, parking areas and Land Use Designations. **Figure 2-4** depicts building details and land use designations.

Figure 2-3. Project Master Plan

Figure 2-4. Campus Building Details

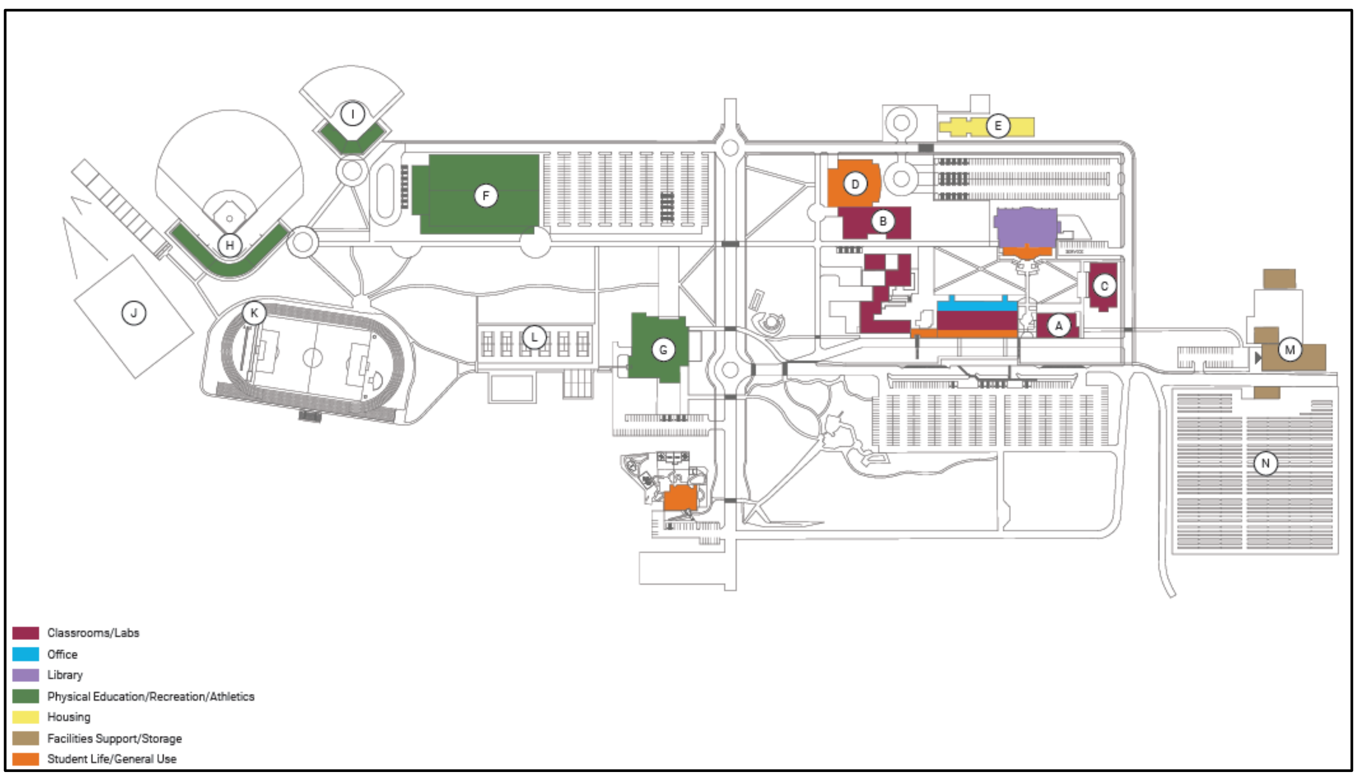
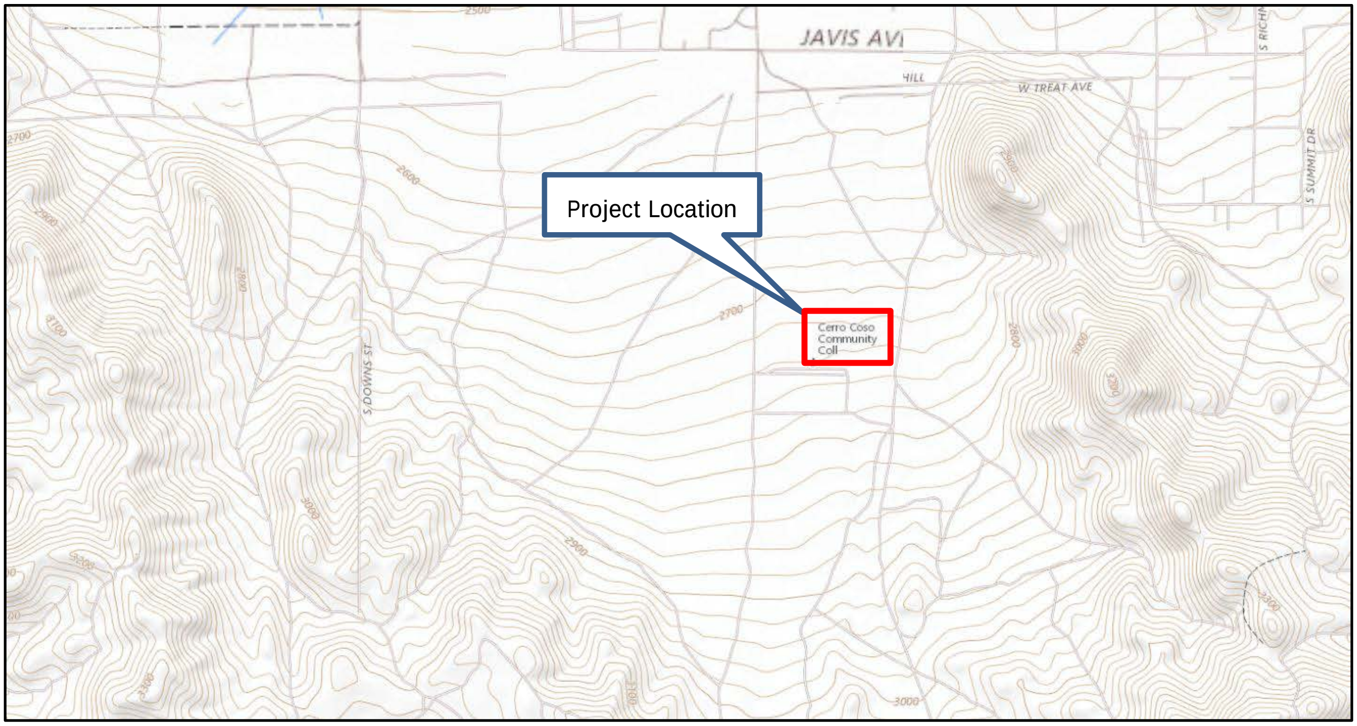


Figure 2-5 depicts the Project site's topography based on United States Geological Survey's (USGS) National Map (USGS 2020). The Project site is located at an elevation of approximately 2,740 feet above mean sea level and is surrounded by mostly undeveloped land with some residential land uses to the north and northeast.

Figure 2-5. Project Site Topography



3. SETTING

Protection of the public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone (O_3), CO, NO_2, SO_2, PM_{10} and $PM_{2.5}$, and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants. CAAQS are more stringent than the corresponding NAAQS and include standards for hydrogen sulfide (H_2S), vinyl chloride (chloroethene), and visibility reducing particles. The U.S. Clean Air Act Amendments of 1977 required each state to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIP's) containing strategies to bring these non-attainment areas into compliance. NAAQS and CAAQS designation/classification for Kern County are presented in **Section 3.1** below.

Responsibility for regulation of air quality in California lies with the California Air Resources Board (CARB), the 35 local air districts with oversight responsibility held by the EPA. CARB is responsible for regulating mobile source emissions, establishing CAAQS, conducting research, managing regulation development, and providing oversight and coordination of the activities of the 35 air districts. The air districts are primarily responsible for regulating stationary source emissions and monitoring ambient pollutant concentrations. CARB also determines whether air basins, or portions thereof, are “unclassified,” in “attainment,” or in “non-attainment” for the NAAQS and CAAQS relying on statewide air quality monitoring data.

3.1 Air Quality Standards

The Project area is located in the northwestern portion of the MDAB for which the EKAPCD has jurisdiction to regulate air pollutant emissions. **Table 3-1** provides the current NAAQS and CAAQS.

Table 3-1. Federal & California Air Quality Standards

Pollutant	Averaging Time	NAAQS	CAAQS
		Concentration	
O_3	8-hour	0.070 ppm (137 µg/m^3)[a]	0.070 ppm (137 µg/m^3)
	1-hour		0.09 ppm (180 µg/m^3)
CO	8-hour	9 ppm (10 µg/m^3)	9 ppm (10 µg/m^3)
	1-hour	35 ppm (40 µg/m^3)	20 ppm (23 µg/m^3)
NO_2	Annual Arithmetic Mean	53 ppb (100 µg/m^3)	0.030 ppm (57 µg/m^3)
	1-Hour	100 ppb (188.68 µg/m^3)	0.18 ppm (339 µg/m^3)
SO_2	3-Hour	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.14 ppm (365 µg/m^3)	0.04 ppm (105 µg/m^3)
	1-Hour	75 ppb (196 µg/m^3)	0.25 ppm (655 µg/m^3)
Particulate Matter (PM_{10})	Annual Arithmetic Mean		20 µg/m^3
	24-Hour	150 µg/m^3	50 µg/m^3
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12.0 µg/m^3	12 µg/m^3
	24-Hour	35 µg/m^3	
Sulfates	24-Hour		25 µg/m^3
Pb[d]	Rolling Three-Month Average	0.15 µg/m^3	
	30 Day Average		1.5 µg/m^3
H_2S	1-Hour		0.03 ppm (42 µg/m^3)
Vinyl Chloride (chloroethene)	24-Hour		0.010 ppm (26 µg/m^3)
Visibility Reducing Particles	8 Hour (1000 to 1800 PST)		b
ppm = parts per million ppb = parts per billion		mg/m^3 = milligrams per cubic meter	µg/m^3 = micrograms per cubic meter

Source: CARB 2016

a. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm

b. In 1989, CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Under the provisions of the U.S. Clean Air Act, the Kern County portion of the MDAB has been classified as non-attainment, attainment, unclassified/attainment or unclassified under the established NAAQS and CAAQS for various criteria pollutants. **Table 3-2** provides the EKAPCD's designation and classification based on the various criteria pollutants under both NAAQS and CAAQS.

Table 3-2. EKAPCD Attainment Status

Pollutant	Designation/Classification			
	National Ambient Air Quality Standards (NAAQS)			State Ambient Air Quality Standards (CAAQS)
	EKAPCD	Kern River / Cummings Valley[1,2]	Indian Wells Valley[3,4,5]	
Ozone – 1 Hour	Attainment[6,7]	Part of EKAPCD Area	Part of EKAPCD Area	Nonattainment
Ozone – 8 Hour[8]	Serious Nonattainment	Part of EKAPCD Area	Unclassifiable/ Attainment	Nonattainment
PM_{10}	Unclassifiable/ Attainment	Serious Nonattainment	Attainment Maintenance	Nonattainment
$PM_{2.5}$	Unclassifiable/ Attainment	Part of EKAPCD Area	Part of EKAPCD Area	Unclassified
Carbon Monoxide	Unclassifiable/ Attainment	Part of EKAPCD Area	Part of EKAPCD Area	Unclassified
Nitrogen Dioxide	Unclassified	Part of EKAPCD Area	Part of EKAPCD Area	Attainment
Sulfur Dioxide	Unclassified	Part of EKAPCD Area	Part of EKAPCD Area	Attainment
Lead Particulates	Unclassifiable/ Attainment	Part of EKAPCD Area	Part of EKAPCD Area	Attainment

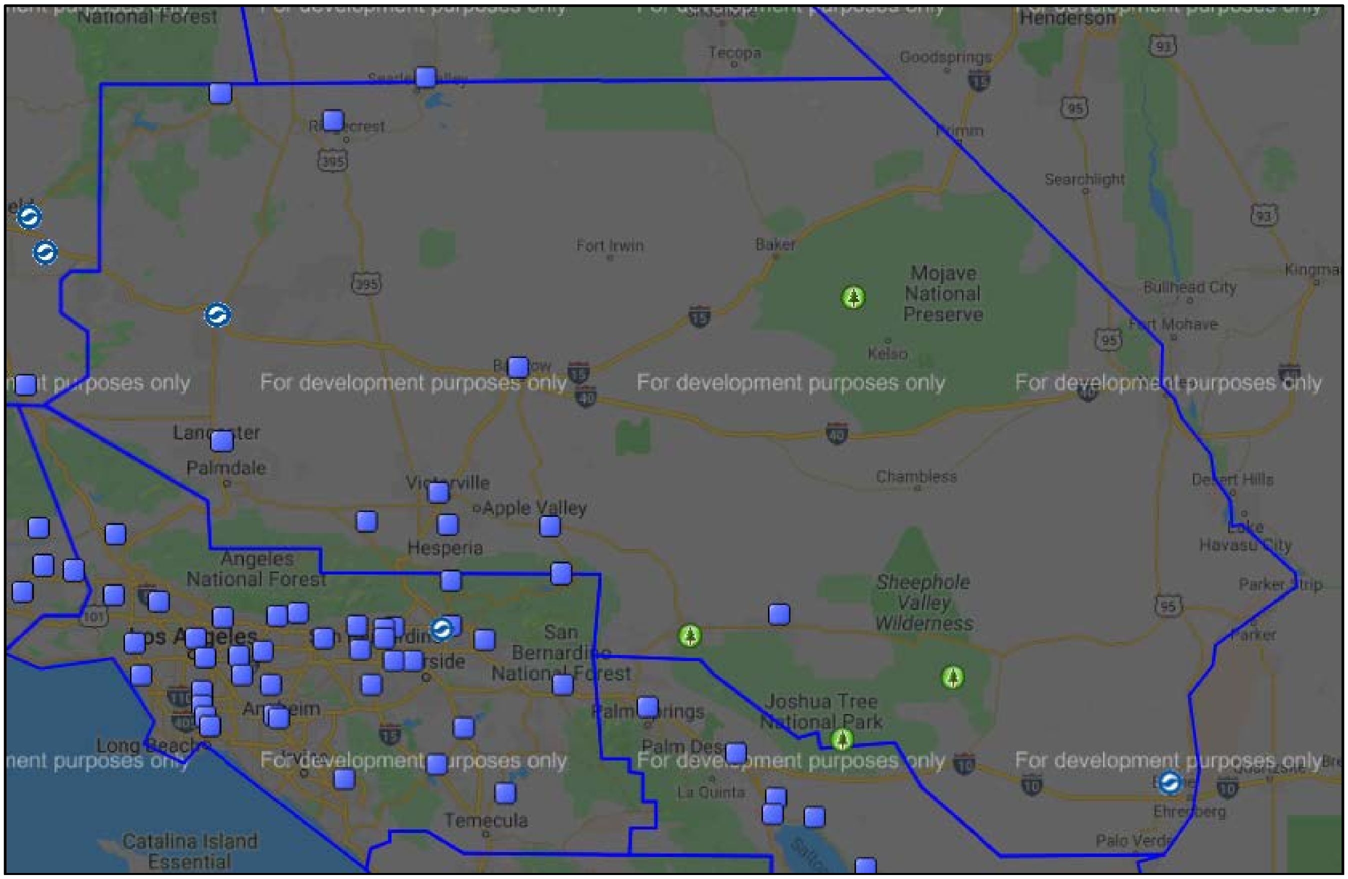
Source: EKAPCD 2018
Notes:
1 Kern River Valley, Bear Valley, and Cummings Valley were previously included in the federally designated San Joaquin Valley PM10 Serious Nonattainment Area but were made a separate Nonattainment area in 2008.
2 Kern River Valley, Bear Valley, and Cummings Valley are included in EKAPCD for all NAAQS other than PM10.
3 Indian Wells Valley is a separate planning area from the rest of EKAPCD for PM10 NAAQS.
4 Indian Wells Valley is a separate area for the 1997 and 2008 8-hour ozone NAAQS (0.08 & 0.075 ppm).
5 Indian Wells Valley is included in EKAPCD for all NAAQS other than PM10 and 8-hour ozone.
6 1-hour ozone NAAQS was revoked effective June 15, 2004.
7 EKAPCD was in attainment for 1-hour ozone NAAQS at time of revocation; the proposed Attainment Maintenance designation's effective date was June 21, 20004, therefore it did not become effective
8 Attainment for 1997 8-hour Ozone NAAQS (0.08 ppm), Serious Nonattainment for 2008 NAAQS (0.075 ppm), and Nonattainment State 8-hour standard (0.070 ppm)

As noted above in **Table 3-2**, the EKAPCD has been designated as unclassifiable/attainment for the NAAQS for CO, PM_{10}, $PM_{2.5}$, and Lead, serious nonattainment for the O_3 eight-hour average standard, attainment for the O_3 one-hour average standard and unclassified for NO_X and SO_X. A federal designation for hydrogen sulfide (H_2S) has not been made.

The EKAPCD has been designated as nonattainment for the state one-hour and eight-hour standards for O_3, and PM10, unclassified $PM_{2.5}$ and CO, and attainment for NO_X, SO_X, and Lead. A state designation for hydrogen sulfide (H2S) has not been made.

The EKAPCD, along with CARB, operates an air quality monitoring network that provides information on average concentrations of those pollutants for which state or federal agencies have established NAAQS and CAAQS. The monitoring stations in the MDAB are depicted in **Figure 3-1**.

Figure 3-1. MDAB Monitoring Network



Source: CARB 2020a

3.2 Existing Air Quality

For the purposes of background data and this air quality analysis, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the project site. **Table 3-3** provides the background concentrations for O_3, particulate matter of 10 microns (PM_{10}), particulate matter of less than 2.5 microns ($PM_{2.5}$), CO, NO_2, SO_2, and Pb. Information is provided for the Barstow, Canebrake, Coso Junction – Highway 395 Rest Area, Lancaster – 43301 Division Street, Mojave-923 Poole Street, Ridgecrest – Ward, and Trona – Athol and Telegraph monitoring stations for 2016 through 2018. No data is available for Sulfates, Vinyl Chloride, Lead, or Visibility Reducing Particles (see **Appendix A**).

Table 3-3. Existing Air Quality Monitoring Data in Project Area

Pollutant and Monitoring Station Location	Maximum Concentration			Days Exceeding Standard		
	2016	2017	2018	2016	2017	2018
O_3 – 1-hour CAAQS (0.09 ppm)						
Mojave – 923 Poole Street	0.104	0.097	0.111	2	1	8
Trona – Athol and Telegraph	0.100	0.084	0.107	1	0	3
O_3 – 8-hour CAAQS (0.070 ppm)						
Mojave – 923 Poole Street	0.093	0.086	0.095	60	37	56
Trona – Athol and Telegraph	0.077	0.077	0.090	11	6	21
O_3 – 8-hour NAAQS (0.070 ppm)						
Mojave – 923 Poole Street	0.093	0.085	0.094	52	35	53
Trona – Athol and Telegraph	0.077	0.077	0.090	10	6	19
PM_{10} – 24-hour CAAQS (50 µg/m^3)						
Canebrake	52.9	40.2	43.7	1	0	0
Mojave – 923 Poole Street	130.3	85.7	86.5	18	10	19
Ridgecrest – Ward	*	57.4	103.2	0	1	3
PM_{10} – 24-hour NAAQS (150 µg/m^3)						
Canebrake	58.9	45.5	52.3	0	0	0
Mojave – 923 Poole Street	139.2	93.4	93.1	0	0	0
Ridgecrest – Ward	*	60.2	107.4	0	0	0
$PM_{2.5}$ - 24-hour NAAQS (35 µg/m^3)						
Lancaster – 43301 Division Street	64.8	26.6	40.4	2	0	1
Mojave – 923 Poole Street	25.7	26.9	39.0	0	0	2
Ridgecrest – Ward	*	10.9	37.2	0	0	1
CO - 8-Hour CAAQS & NAAQS (9 ppm)						
No data collected	*	*	*	*	*	*
NO_2 - 1-Hour CAAQS (0.18 ppm)						
Barstow	0.066	0.061	0.059	0	0	0
Trona – Athol and Telegraph	0.223	0.046	0.043	2	0	0
NO_2 - 1-Hour NAAQS (0.10 ppm)						
Barstow	0.067	0.061	0.059	0	0	0
Trona – Athol and Telegraph	0.223	0.047	0.043	4	0	0
SO_2 – 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm)						
No data collected	*	*	*	*	*	*
Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m^3)						
No data collected	*	*	*	*	*	*

Source: CARB 2020b
Notes: ppm= parts per million
* There was insufficient (or no) data available to determine the value.

The following is a description of criteria air pollutants, typical sources, potential health effects, and the recently documented pollutant levels in the Project vicinity.

3.2.1 Ozone (O_3)

The MDAB has high concentrations of O_3 and these high levels are known to cause eye irritation and impair respiratory functions. High levels of O_3 can also affect plants and materials. Grapes, lettuce, spinach and many types of garden flowers and shrubs are particularly vulnerable to O_3 damage. O_3 is not directly emitted into the atmosphere; it is a secondary pollutant produced from a photochemical interaction between hydrocarbons and nitrogen oxides (NO_X). One to three hours of strong sunlight in a stable atmosphere creates O_3. The "O_3 season" therefore typically spans from April through October. O_3 is a regional pollutant; wind transports and diffuses the precursors while activating the photochemical reaction process. The Project area is classified as attainment for the 1-hour and 8-hour O_3 NAAQS and nonattainment for the 1-hour and 8-hour O_3 CAAQS.

The data contained in **Table 3-3** shows that the Mojave and Trona area monitoring stations generally exceeded the 1-hour average ambient O_3 CAAQS and the 8-hour average ambient O_3 NAAQS and CAAQS for the 2016 through 2018 period.

3.2.2 Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)

Both State and Federal particulate standards now apply to particulates under 10 microns (PM_{10}) rather than to total suspended particulate, which includes particulates up to 30 microns in diameter. Continuing studies have shown that the smaller-diameter fraction of TSP represents the greatest health hazard posed by the pollutant; therefore, EPA has recently established NAAQS for $PM_{2.5}$. The Project area is classified as attainment for the PM_{10} and $PM_{2.5}$ NAAQS and nonattainment for the PM_{10} CAAQS.

Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photochemical reactions. Natural activities also increase the level of particulates in the atmosphere; wind-raised dust and ocean spray are two sources of naturally occurring particulates. The largest sources of PM_{10} and $PM_{2.5}$ in Kern County are vehicle movement over paved and unpaved roads, demolition and construction activities, farming operations, and unplanned fires. PM_{10} and $PM_{2.5}$ are considered regional pollutants with elevated levels typically occurring over a wide geographic area. Concentrations tend to be highest in the winter, during periods of high atmospheric stability and low wind speed. In the respiratory tract, very small particles of certain substances may produce injury by themselves or may contain absorbed gases that are injurious. Particulates of aerosol size suspended in the air can both scatter and absorb sunlight, producing haze and reducing visibility. They can also cause a wide range of damage to materials.

Table 3-3 shows that PM_{10} levels regularly exceeded the CAAQS but not the NAAQS over the three-year period of 2016 through 2018. **Table 3-3** shows that the $PM_{2.5}$ NAAQS were rarely exceeded from 2016 through 2018. Similar levels can be expected to occur in the vicinity of the Project site.

3.2.3 Carbon Monoxide (CO)

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. Wind speed and atmospheric mixing also influence CO concentrations; however, under inversion conditions prevalent in the valley, CO concentrations may be more uniformly distributed over a broad area.

Internal combustion engines, principally in vehicles, produce CO due to incomplete fuel combustion. Various industrial processes also produce CO emissions through incomplete combustion. Gasoline-powered motor vehicles are typically the major source of this contaminant. CO does not irritate the respiratory tract, but passes through the lungs directly into the blood stream, and by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen, thereby aggravate cardiovascular disease, causing fatigue, headaches, and dizziness. CO is not known to have adverse effects on vegetation, visibility, or materials.

Table 3-3 reports no CO data is available at any of the monitoring stations for the three-year period from 2016 through 2018.

3.2.4 Nitrogen Dioxide (NO_2) and Hydrocarbons

Eastern Kern County has been designated as an unclassified area for the NAAQS and in attainment for the CAAQS for NO_2. NO_2 is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources account for nearly all of the county's NO_X emissions, most of which is emitted as NO_2. Combustion in motor vehicle engines, power plants, refineries and other industrial operations are the primary sources in the region. Railroads and aircraft are other potentially significant sources of combustion air contaminants. Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form NO_2 and O_3. NO_2, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. NO_X is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

Motor vehicles are the major source of reactive hydrocarbons in the basin. Other sources include evaporation of organic solvents and petroleum production and refining operations. Certain hydrocarbons can damage plants by inhibiting growth and by causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions, which produce photochemical oxidants.

Table 3-3 shows that the NO_2 NAAQS and CAAQS have not been exceeded at the Barstow monitoring station, and were rarely exceeded at the Trona station, over the three-year period of 2016 through 2018. Hydrocarbons are not currently monitored.

3.2.5 Sulfur Dioxide (SO_2)

Eastern Kern County has been designated as an unclassified area for the NAAQS and in attainment for the CAAQS for SO_2. SO_2 is the primary combustion product of sulfur, or sulfur containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur containing compounds than liquid fuels such as diesel or crude oil. SO_2 levels are generally higher in the winter months. Decreasing levels of SO_2 in the atmosphere reflect the use of natural gas in power plants and boilers.

At high concentrations, SO_2 irritates the upper respiratory tract. At lower concentrations, when respirated in combination with particulates, SO_2 can result in greater harm by injuring lung tissues. Sulfur oxides (SO_X), in combination with moisture and oxygen, results in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. SO_X can also react to produce sulfates that reduce visibility and sunlight.

Table 3-3 reports no SO_2 data is available at any of the monitoring stations for the three-year period from 2016 through 2018.

3.2.6 Lead (Pb) and Suspended Sulfate

Ambient Pb levels have dropped dramatically due to the increase in the percentage of motor vehicles that run exclusively on unleaded fuel. Ambient Pb levels are no longer monitored at most sites throughout California, however at the few that continue to do so, levels are well below the ambient standard and are expected to continue to decline.

The data reported in **Table 3-3** only shows the highest concentration as the number of days exceeding standards are not reported. Suspended sulfate levels have stabilized to the point where no excesses of the State standard are expected in any given year.

3.3 Climate

Climate of the Project area is a desert type, characterized by hot, dry summers and cold, dry winters. Temperatures during the summer drop to the mid to lower 60s and rise to the lower 100s. In winter, the average high temperatures reach into the lower 60s, and the average low temperatures drop into the mid-20s. The Ridgecrest area contains only modest variations in elevation.

Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the Project site is expected to be similar to the data recorded at the China Lake Naval Air Facility (NAF) monitoring station. This data is provided in **Table 3-4**, which contains average precipitation data recorded at the China Lake NAF monitoring station. Over the 72-year period from February of 1944 through June of 2016 (the most recent data available), the average annual precipitation was 4.27 inches.

Table 3-4. China Lake NAF Weather Data

Period of Record Monthly Climate Summary for the Period 01/01/1999 to 6/09/2016													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Maximum Temp (F)	61.3	63.7	74.4	76.1	85.9	98.2	101.8	101.9	94.3	81.2	64.3	58.5	80.1
Avg. Minimum Temp (F)	30.6	34.6	40.1	45.6	52.8	63.1	68.4	67.4	59.4	48.3	33.8	26.1	47.5
Average Total Precipitation (in.)	0.88	0.79	0.78	0.13	0.11	0.02	0.09	0.31	0.24	0.18	0.27	0.47	4.27
Average Snowfall (in.)	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.3
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent of possible observations for period of record: Max. Temp.: 1.2% Min. Temp.: 1.2% Precipitation: 95.7% Snowfall: 95.5% Snow Depth: 95.5%													
Source: Western Regional Climate Center, 2020.													

3.4 Climate Change and Greenhouse Gases

3.4.1 Global Climate Change

“Global climate change” refers to change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms, lasting for decades or longer. The term “global climate change” is often used interchangeably with the term “global warming,” but “global climate change” is preferred by some scientists and policy makers to “global warming” because it helps convey the notion that in addition to rising temperatures, other changes in global climate may occur. Climate change may result from the following influences:

- Natural factors, such as changes in the sun’s intensity or slow changes in the Earth’s orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); and/or
- Human activities that change the atmosphere’s composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, and desertification).

As determined from worldwide meteorological measurements between 1990 and 2005, the primary observed effect of global climate change has been a rise in the average global tropospheric temperature of 0.36 degree Fahrenheit (°F) per decade. Climate change modeling shows that further warming could occur, which could induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns or more energetic aspects of extreme weather (e.g., droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones). Specific effects from climate change in California may include a decline in the Sierra Nevada snowpack, erosion of California’s coastline, and seawater intrusion in the Sacramento-San Joaquin River Delta.

Human activities, including fossil fuel combustion and land use changes, release carbon dioxide (CO_2) and other compounds cumulatively termed greenhouse gases. GHGs are effective at trapping radiation that would otherwise escape the atmosphere. This trapped radiation warms the atmosphere, the oceans, and the earth’s surface (USGCRP 2014). Many scientists believe “most of the warming observed over the last 50 years is attributable to human activities” (IPCC 2014). The increased amount of CO_2 and other GHGs in the atmosphere is the alleged primary result of human-induced warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO_2, methane (CH_4), nitrous oxide (N_2O), and O_3. In the last 200 years, substantial quantities of GHGs have been released into the atmosphere, primarily from fossil fuel combustion. These human-induced emissions are increasing GHG concentrations in the atmosphere, therefore enhancing the natural greenhouse effect. The GHGs resulting from human activity are believed to be causing global climate change. While human-made GHGs include CO_2, CH_4, and N_2O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere. GHGs vary considerably in terms of Global Warming Potential (GWP), the comparative ability of each GHG to trap heat in the atmosphere. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of “CO_2 equivalents” (CO_2e).

Natural sources of CO_2 include the respiration (breathing) of humans and animals and evaporation from the oceans. Together, these natural sources release approximately 150 billion metric tons of CO_2 each year, far outweighing the 7 billion metric tons of GHG emissions from fossil fuel burning, waste incineration, deforestation, cement manufacturing, and other human activity. Nevertheless, natural GHG removal processes such as photosynthesis cannot keep pace with the additional output of CO_2 from human activities. Consequently, GHGs are building up in the atmosphere (Enviropedia 2020).

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 production include wetlands, termites, and oceans. Human activity accounts for the majority of the approximately 500 million metric tons of CH_4 emitted annually. These anthropogenic sources include the mining and burning of fossil fuels; digestive processes in ruminant livestock such as cattle; rice cultivation; and the decomposition of waste in landfills. The major removal process for atmospheric CH_4, the chemical breakdown in the atmosphere, cannot keep pace with source emissions; therefore, CH_4 concentrations in the atmosphere are rising.

Worldwide emissions of GHGs in 2008 were 30.1 billion metric tons of CO_2e and have increased considerably since that time (United Nations 2011). It is important to note that the global emissions inventory data are not all from the same year and may vary depending on the source of the data. Emissions from the top five emitting countries and the European Union accounted for approximately 70% of total global GHG emissions in 2014. The United States was the number two producer of GHG emissions behind China. The primary GHG emitted by human activities was CO_2, representing approximately 76% of total global GHG emissions (U.S. EPA 2020).

In 2018, the United States emitted approximately 6.7 million metric tons of CO_2e. Of the six major sectors nationwide (electric power industry, transportation, industry, agriculture, commercial, and residential), the electric power industry and transportation sectors combined account for approximately 55% of the GHG emissions; the majority of the electrical power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Between 1990 and 2018, total United States GHG emissions rose approximately 3.7% (U.S. EPA 2020).

Worldwide, energy-related CO_2 emissions are expected to increase at an average rate of 0.6% annually between 2018 and 2050, compared with the average growth rate of 1.8% per year from 1990 to 2018. Much of the increase in these emissions is expected to occur in the developing world where emerging economies, such as China and India, fuel economic development with fossil fuel energy. Developing countries' emissions are expected to grow above the world average at a rate of approximately 1% annually between 2018 and 2050 and surpass emissions of industrialized countries by 2025 (U.S. EIA 2019).

CARB is responsible for developing and maintaining the California GHG emissions inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within the state of California and supports the Assembly Bill (AB) 32 Climate Change Program. CARB's current GHG emission inventory covers the years 2000 through 2017 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

In 2017, emissions from statewide GHG emitting activities were 424 million metric tons of CO_2 equivalent (MMT CO_2e), which is 5 MMT CO_2e lower than 2016 levels. 2017 emissions have decreased by 14% since peak levels in 2004 and are 7 MMT CO_2e below the 1990 emissions level and the State's 2020 GHG limit of 431 MMT CO_2e. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 tonnes per person to 10.7 tonnes per person in 2017, a 24% decrease (CARB 2019).

CARB estimates that transportation was the source of approximately 40% of California's GHG emissions in 2017, followed by industrial sources at 21%. Other sources of GHG emissions were electricity generation at 15%, residential and commercial activities at 10%, and agriculture at 8% (CARB 2019).

CARB has projected the estimated statewide GHG emissions for the year 2020, which represent the emissions that would be expected to occur with reductions anticipated from Pavley I and the Renewables Electricity Standard (30 MMT CO_2e total), will be 509 MMT of CO_2e. GHG emissions from the transportation and electricity sectors as a whole are expected to increase at approximately 36% and 20% of total CO_2e emissions, respectively, as compared to 2009. The industrial sector consists of large stationary sources of GHG emissions and the percentage of the total 2020 emissions is projected to be 18% of total CO_2e emissions. The remaining sources of GHG emissions in 2020 are high global warming potential gases at 6%, residential and commercial activities at 10%, agriculture at 7%, and recycling and waste at 2% (CARB 2014).

3.4.2 Effects of Global Climate Change

Changes in the global climate are assessed using historical records of temperature changes that have occurred in the past. Climate change scientists use this temperature data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from past climate changes in rate and magnitude.

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fifth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100 could range from 1.1 degree Celsius (°C) to 6.4 °C (8 to 10.4 °Fahrenheit) (IPCC 2013). Global average temperatures and sea levels are expected to rise under all scenarios (IPCC 2014). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many of the aspects of climate change, the actual temperature changes during the 20th century, and contributions from human versus non-human activities.

Effects from global climate change may arise from temperature increases, climate sensitive diseases, extreme weather events, and degradation of air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke, drought, etc. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

According to the 2006 California Climate Action Team (CAT) Report, several climate change effects can be expected in California over the course of the next century (CalEPA 2006). These are based on trends established by the IPCC and are summarized below.

- A diminishing Sierra snowpack declining by 70% to 90%, threatening the state's water supply.
- A rise in sea levels, resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Sea level rises of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. (Note: This condition would not affect the Proposed Project area, as it is a significant distance away from coastal areas.)
- An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- Increased risk of large wildfires if rain increases as temperatures rise. Wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30% toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90% more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.

- Increasing temperatures from 8 to 10.4 °F under the higher emission scenarios, leading to a 25% to 35% increase in the number of days that ozone pollution levels are exceeded in most urban areas (see below).
- Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85% more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.
- Increased electricity demand, particularly in the hot summer months.
- Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

3.4.3 Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling GHG emissions, including methane. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete O_3 in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006 (the Act) was enacted by the State of California. The legislature stated, "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." The Act caps California's GHG emissions at 1990 levels by 2020. The Act defines GHG emissions as all of the following gases: carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB32 charges CARB with responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. CARB has adopted a list of discrete early action measures that can be implemented to reduce GHG emissions. CARB has defined the 1990 baseline emissions for California and has adopted that baseline as the 2020 statewide emissions cap. CARB is conducting rulemaking for reducing GHG emissions to achieve the emissions cap by 2020. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

Global warming and climate change have received substantial public attention for more than 20 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand, and predict global change, and to provide a sound scientific basis for national and international decision-making. Even so, the analytical tools have not been developed to determine the effect on worldwide global warming from a particular increase in GHG emissions, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific project may have on the environment are even farther in the future.

The California Supreme Court's most recent CEQA decision on the Newhall Ranch development case, Center for Biological v. California Department of Fish and Wildlife (November 30, 2015, Case No. 217763), determined that the project's Environmental Impact Report (EIR) did not substantiate the conclusion that the GHG cumulative impacts would be less than significant. The EIR determined that the Newhall Ranch development project would reduce GHG emissions by 31 percent from business as usual (BAU). This reduction was compared to the California's target of reducing GHG emissions statewide by 29 percent from business as usual. The Court determined that "the EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas reduction effort required by the state as a whole, and attempting to use that method, without adjustments, for a purpose very different from its original design." In the Court's final ruling it offered suggestions that were deemed appropriate use of the BAU methodology:

1. Lead agencies can use the comparison to BAU methodology if they determine what reduction a particular project must achieve in order to comply with statewide goals,
2. Project design features that comply with regulations to reduce emissions may demonstrate that those components of emissions are less that significant, and
3. Lead agencies could also demonstrate compliance with locally adopted climate plans or could apply specific numerical thresholds developed by some local agencies.

As discussed in **Section 4.1**, the EKAPCD, a CEQA Trustee Agency for this Project, has developed a specific numerical threshold to determine GHG significance of a proposed project. This threshold is applied to the subject Project in order to determine significance. Therefore, the GHG analysis for this Project follows the suggestions from the Court's ruling on the Newhall Ranch development project in order to determine significance using the project design features.

4.1 Significance Criteria

To determine whether a proposed Project could create a potential CEQA impact, local, state, and federal agencies have developed various means by which a project's impacts may be measured and evaluated. Such means can generally be categorized as follows:

- Thresholds of significance adopted by air quality agencies to guide lead agencies in their evaluation of air quality impacts under the CEQA.
- Regulations established by air districts, CARB and EPA for the evaluation of stationary sources when applying for Authorities to Construct, Permits to Operate and other permit program requirements (e.g., New Source Review).
- Thresholds utilized to determine if a project would cause or contribute significantly to violations of the ambient air quality standards or other concentration-based limits.
- Regulations applied in areas where severe air quality problems exist.

Summary tables of these emission-based and concentration-based thresholds of significance for each pollutant are provided below along with a discussion of their applicability.

4.1.1 Thresholds Adopted for the Evaluation of Air Quality Impacts under CEQA

In order to maintain consistency with CEQA, the EKACPD adopted guidelines to assist applicants in complying with the various requirements. According to the EKAPCD's Guidelines (EKAPCD 1999), a proposed project does not have significant air quality impacts on the environment, if operation of the project will:

- Emit (from all projects sources subject to EKAPCD Rule 201) less than offsets trigger levels set forth in Subsection III.B.3 of EKAPCD's Rule 210.1 (New and Modified Source Review Rule);
- Emit less than 137 pounds per day (25 tons per year) of NOx or Reactive Organic Compounds from motor vehicle trips (indirect sources only);
- Not cause or contribute to exceeding any California or National Ambient Air Quality Standard;
- Not exceed the District health risk public notification thresholds adopted by the EKAPCD Board; or
- Be consistent with adopted Federal and State Air Quality Attainment Plans.

The guideline thresholds are designed to implement the general criteria for air quality emissions as required in the State CEQA Guidelines, Appendix G, Paragraph III and CEQA (State of California CEQA Guidelines, §15064.7). As such, EKAPCD thresholds provide a means by which the general standards set forth by Appendix G may be used to quantitatively measure the air quality impacts of a specific project. According to the EKAPCD Guidelines and Thresholds of Significance, which apply to a project located within the proposed project area would result in a significant impact if it exceeds any of the thresholds are presented in **Table 4-1**.

Table 4-1. EKAPCD CEQA Thresholds of Significance

Criteria Pollutant	Significance Level	
	Daily (Indirect/Mobile Only)	Annual
NOx	137 lbs/day	25 tons/yr
ROG	137 lbs/day	25 tons/yr
SOx	-	27 tons/yr
PM_{10}	-	15 tons/yr
$PM_{2.5}$	-	15 tons/yr
Source: EKAPCD 1999 and EKAPCD 2000.		

4.1.2 Thresholds for Ambient Air Quality Impacts

CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would "violate any air quality standard or contribute substantially to an existing or projected air quality violation" would be considered to create significant impacts on air quality. Therefore, an AQIA should determine whether the emissions from a project would cause or contribute significantly to violations of the NAAQS or CAAQS (presented above in **Table 3-1**) when added to existing ambient concentrations.

The EPA has established the federal Prevention of Significant Deterioration (PSD) program to determine what comprises "significant impact levels" (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. As the Project would not include modification to the stationary source under New Source Review (NSR), it would not be subject to either PSD or NSR review. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the Project would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation*." Ambient air quality emissions estimates below the PSD SIL thresholds would result in less than significant ambient air quality impacts on both a project and cumulative CEQA impact analysis. The MDAB is classified as non-attainment/marginal for the 8-hour O3 NAAQS and, as such, is subject to non-attainment NSR. PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance.

4.1.3 Thresholds for Hazardous Air Pollutants

The EKAPCD's Guidelines state that a project will result in a significant impact if it exceeds that District's health risk notification thresholds presented in **Table 4-2**.

Table 4-2. Measures of Significance - Toxic Air Contaminants

Agency	Level	Description
Significance Thresholds Adopted for the Evaluation of Impacts Under CEQA		
EKAPCD	Carcinogens	Maximally Exposed Individual risk **equals or exceeds** 1 in one million.
	Non-Carcinogens	**Acute**: Hazard Index **equals or exceeds** 0.2 for the Maximally Exposed Individual.
		Chronic: Hazard Index **equals or exceeds** 0.2 for the Maximally Exposed Individual.
Source: EKAPCD 1996		

4.1.4 Global Climate Change Thresholds of Significance

On March 8, 2012, the EKAPCD adopted the Addendum to CEQA Guidelines Addressing GHG Emission Impacts for Stationary Source Projects When Serving as Lead CEQA Agency, which outlined the EKAPCD's project-Specific CEQA significance thresholds for GHG emissions (EKAPCD 2012):

- If project is exempt from CEQA due to either a statutory or categorical exemption, no further analysis under CEQA is required.
- Project-Specific GHG Emissions must be quantified if the project is not exempt from CEQA.
- Project is considered to have a less than significant impact or not have a cumulatively considerable impact on GHG emissions if it meets one of the following conditions:
  - Project-Specific GHG emissions are less than 25,000 tons per year (tpy);
  - Project demonstrates to EKAPCD that it is in compliance with state GHG reduction plan such as AB 32 or future federal GHG reduction plan if it is more stringent than state plan;

- Project GHG emissions will be mitigated to a less than significant impact if GHGs can be reduced by at least 20% below Business-As-Usual (BAU) through implementation of one or more of the following strategies:
  - Compliance with a Best Performance Standard (BPS) as set forth in Section VI of this Policy;
  - Compliance with GHG Offset as detailed in Section VI of this Policy;
  - Compliance with an Alternative GHG Reduction Strategy as discussed in Section VII of this Policy.
- If none of the above is met the project will be deemed significant and an Environmental Impact Report (EIR) will be required.

4.2 Project Related Emissions

This document was prepared pursuant to the EKAPCD's *Guidelines for Implementation of the California Environmental Quality Act, July 1, 1999 Revision*. The guidelines do not necessarily require a quantification of construction emissions for all projects. Construction emissions quantification is typically required only at the request of the lead agency. The EKAPCD generally assumes that implementation of any construction-related mitigation measures will result in construction emissions impacts that are *less than significant*.

Project emissions were estimated separately for each emission source. EMFAC model version 2014 and California Emissions Estimator Model (CalEEMod) were used to estimate emissions for both short-term, construction-related, sources as well as long-term, operations-related, sources.

Project emissions were estimated for the following development stages:

- <u>Short-term (Construction and Demolition)</u> – Construction emissions of the proposed Project were estimated in CalEEMod using a phased construction schedule and Project default estimated construction equipment for the development and renovation of the CCCCD Ridgecrest campus. Demolition activities emissions were also estimated in the Phases which they occur.
- <u>Long-term (Operations)</u> – Long term emissions were also estimated in CalEEMod using model defaults and Project estimates for operations of the upgraded facilities. There are no anticipated increases in mobile activities associated with this Project.

4.2.1 Short-Term Emissions

The Project applicant did not provide a list of specific construction equipment; the construction emissions were therefore based on the default CalEEMod equipment list accordingly for the proposed Project's land use type and development intensity. Applying model defaults as well as a conservative analysis approach, construction emissions were estimated as if construction started in January of 2021. Based on estimates from the CCCCD, the Project is estimated to be developed in 3 phases, with Phase 1 occurring over the next immediate 5 years, Phase 2 occurring over the next 5-10 years, and Phase 3 occurring in the future, which was assumed to begin, at the earliest, in 10 years. The dates entered into the CalEEMod program may not represent the actual dates the equipment will operate; however, the total construction time is based on model defaults for the specific land use types and intensities proposed, and therefore, all estimated emission totals are conservative and reflect a reasonable and legally sufficient estimate of potential impacts. All construction equipment activity levels were assumed based on the specified CalEEMod default values for type and number of equipment, operating hours per day, and horsepower.

EKAPCD's required measures for all projects were also applied:

- Water exposed areas 2 times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Table 4-3 presents the Project's short-term emissions based on the anticipated construction period. The output from the CalEEMod runs are available in **Appendix B**.

Table 4-3. Short-Term Project Emissions

Emissions Source		Pollutant (tons/year)					
		ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Unmitigated							
Phase 1 Construction	2021	0.55	5.15	3.95	0.01	1.18	0.57
	2022	0.56	4.52	4.39	0.02	0.99	0.34
	2023	0.51	3.81	4.15	0.02	0.98	0.33
	2024	2.95	1.91	2.28	0.01	0.47	0.16
Phase 2 Construction	2025	0.21	1.85	2.28	0.00	0.25	0.13
	2026	0.11	0.01	0.02	0.00	0.00	0.00
Phase 3 Construction	2030	0.28	1.66	2.63	0.01	0.53	0.21
	2031	1.81	0.70	1.16	0.00	0.14	0.05
Maximum Annual Emission		**2.95**	**5.15**	**4.39**	**0.02**	**1.18**	**0.57**
Mitigated							
Phase 1 Construction	2021	0.55	5.15	3.95	0.01	0.85	0.41
	2022	0.56	4.52	4.39	0.02	0.99	0.34
	2023	0.51	3.81	4.15	0.02	0.98	0.33
	2024	2.95	1.91	2.28	0.01	0.47	0.16
Phase 2 Construction	2025	0.21	1.85	2.28	0.00	0.21	0.11
	2026	0.11	0.01	0.02	0.00	0.00	0.00
Phase 3 Construction	2030	0.28	1.66	2.63	0.01	0.40	0.15
	2031	1.81	0.70	1.16	0.00	0.14	0.05
Maximum Annual Emission		**2.95**	**5.15**	**4.39**	**0.02**	**0.99**	**0.41**
EKAPCD Significance Threshold		25	25	N/A	27	15	15
Is Threshold Exceeded for a Single Year After Mitigation?		No	No	No	No	No	No
Source: Insight Environmental Consultants 2020							

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed EKAPCD significance threshold levels during any given year and would therefore be *less than significant*.

4.2.2 Long-Term Operations Emissions

Long-term emissions for the Project are caused by area and energy sources. The Project will have no increase in operational mobile activities as no increase in student or faculty population is anticipated to result from this Project.

The proposed Project is expected to have long-term air quality impacts as shown in **Table 4-4**. The output from the CalEEMod runs are available in **Appendix B**. Mitigation measures were not implemented within the CalEEMod analyses as none are proposed for this Project at this time.

Table 4-4. Post-Project (Operational) Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Phase 1 Operations – 2022	0.55	0.08	0.07	0.00	0.01	0.01
Phase 2 Operations – 2026	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 Operations – 2031	0.72	0.23	0.46	0.00	0.02	0.02
Total Max. Emissions at Full Build-Out	**1.27**	**0.31**	**0.54**	**0.00**	**0.03**	**0.03**
EKAPCD Significance Threshold	25	25	N/A	27	15	15
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No
Source: Insight Environmental Consultants 2020						

As shown in **Table 4-4**, operation-related emissions, as calculated by CalEEMod, would be less than the EKAPCD significant threshold levels. Therefore, the proposed Project would have a *less than significant impact* during Project operations.

4.3 Potential Impact on Sensitive Receptors

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, and daycare centers. The nearest residential sensitive receptor to the proposed Project site is 0.65 miles north of the Project. The only known non-residential sensitive receptor within 2 miles of the Project site is listed below in **Table 4-5**.

Table 4-5. Sensitive Receptors Located < 2 Miles from Project

Receptor	Type of Facility	Distance from Project in Miles	Direction from Project
Miss Laura's Daycare	Daycare	1.0	NE

4.4 Potential Impacts to Visibility to Nearby Areas

Visibility impact analyses are intended for stationary sources of emissions which are subject to the PSD requirements in 40 CFR Part 60; they are not usually conducted for area sources. Because the Project's PM_{10} emissions increase are predicted to be less than the PSD threshold levels, an impact at any Class 1 area or military/airspace operation within 100 kilometers of the Project (including Edwards Air Force Base, China Lake Naval Weapons Station and the entire R-2508 Airspace Complex, and Death Valley National Monument) is extremely unlikely. Therefore, based on the Project's predicted less-than significant PM_{10} emissions, the Project would be expected to have a *less than significant impact* to visibility at any Class 1 area or military/airspace operation.

4.5 Potential Impacts from Carbon Monoxide

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing. CO concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions, CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots" even though concentrations at the closest air quality monitoring station may be below NAAQS and CAAQS.

The localized Project impacts depend on whether ambient CO levels in the Project vicinity would be above or below NAAQS. If ambient levels are below the standards, a project is considered to have significant impacts if a project's emissions would exceed of one or more of these standards. If ambient levels already exceed a state standard, a project's emissions are considered significant if they would increase one-hour CO concentrations by 10 ppm or more or eight-hour CO concentrations by 0.45 ppm or more.

According to the Project proponent, at the time of this analysis no traffic generation assessment impact study was prepared for this Project. However, due to the location and traffic increase anticipated from this Project, impacted intersections and roadway segments are anticipated to operate at a LOS of C or better. Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

4.6 Predicted Health Risk Impacts

Projects are considered for potential health risks wherein a new or modified source of Hazardous Air Pollutants (HAPs) is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. The proposed Project would not result in an increase of operational emissions of Hazardous Air Pollutants (HAPs); however, the Project would result in construction emissions of HAPs and would be located near existing residents. Therefore, an assessment of the potential risk to the population attributable to construction emissions of hazardous air pollutants from the proposed Project is required.

To predict the potential health risk to the population attributable to construction emissions of HAPs from the proposed Project, ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over the construction timeframe for each phase. Similarly, predicted concentrations were used to calculate non-cancer chronic and acute hazard indices (HIs), which are the ratio of expected exposure to acceptable exposure. The basis for evaluating potential health risk is the identification of sources with increased HAPs. HAP emissions from anticipated on-site construction equipment were evaluated.

Health risk is determined using the Hotspots Analysis and Reporting Program (HARP2) software distributed by the CARB; HARP2 requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. Assumptions used to calculate the emission rates for the proposed Project are outlined below.

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD (recompiled for the Lakes ISC-AERMOD View 9.6.5 interface) was used to predict the dispersion of emissions from the proposed Project. The analysis employed all the regulatory default AERMOD model keyword parameters, including elevated terrain options.

Diesel combustion emissions from diesel construction equipment were modeled as area sources for on-site operation in the location where construction activities will occur. Diesel particulate matter was calculated using CalEEMod program. A unit emission rate of 1 grams/second (g/sec) was input to AERMOD for each source.

Gridded discrete receptors were placed on residential communities within close proximity to the north and northeast of the Project site. A total of 250 discrete off-site receptors were analyzed. Elevated terrain options were employed due to the complex terrain in the Project area.

EKAPCD approved, AERMET processed meteorological datasets for the China Lake monitoring station, calendar years 2009 through 2013 was input to AERMOD (CARB 2020d). This was the most recent available dataset available at the time the modeling was conducted. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility is considered "rural" under the Auer land use classification method (Auer 1978).

Plot files generated by AERMOD were uploaded to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT) program in the Hotspots Analysis and Reporting Program Version 2 (HARP 2) (CARB 2015). ADMRT post-processing was used to assess the potential for excess cancer risk and chronic and acute non-cancer effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA). HARP2 site parameters were set for the mandatory minimum pathways of inhalation, soil ingestion, dermal, and mother's milk. Risk reports were generated using the derived OEHHA analysis method for carcinogenic risk and non-carcinogenic chronic and acute risk. Site parameters are included in the HARP2 output files. Total cancer risk was predicted for the inhalation pathway at each receptor. A hazard index was computed for chronic and acute non-cancer health effects for each applicable endpoint and each receptor. There was no reported acute risk since the only HAP analyzed was diesel particulate matter (DPM) which does not have an acute risk exposure level.

EKAPCD has set the level of significance for carcinogenic risk at one in one million, which is understood as the possibility of causing one additional cancer case in a population of one million people. The level of significance for chronic non-cancer risk is a hazard index of 0.2. All receptors were modeled as residential receptors with a 4-year exposure for Phase 1 and a 2-year exposure for Phases 2 and 3 each.

The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of one in one million (1 x 10-6) and 0.2, respectively for the proposed Project. The PMIs are identified by receptor location and risk, and are provided in **Table 4-6**. The electronic AERMOD and HARP2 output files are provided in Appendix E.

Table 4-6. Potential Maximum Impacts Predicted by HARP

	Value	UTM East	UTM North
Excess Cancer Risk	5.87E-07	439341.82	3937434.55
Chronic Hazard Index	3.72E-04	439485.54	3937434.55

As shown above in **Table 4-6**, the maximum predicted cancer risk for the proposed Project is 5.87E-07. The maximum chronic non-cancer hazard index for the proposed Project is 3.72E-04. Since the PMI remained below the significance threshold for cancer and chronic risk, this Project would not have an adverse effect to any of the surrounding communities.

The potential health risk attributable to the proposed Project is determined to be *less than significant* based on the following conclusions:

1. Potential carcinogenic risk from the proposed Project is below the significance level of one in a million at each of the modeled receptors; and
2. The hazard index for the potential chronic non-cancer risk from the proposed Project is below the significance level of 0.2 at each of the modeled receptors.
3. The hazard index for the potential acute non-cancer risk was not calculated since there is no acute risk associated with DPM emission; therefore, the proposed Project is considered below the significance level.

Therefore, potential risk to the population attributable to emissions of HAPs from the proposed Project would be less than significant.

4.7 Odor Impacts and Mitigation

An odor evaluation is typically conducted for both of the following situations: 1) a potential source of objectionable odors is proposed for a location near existing sensitive receptors, and 2) sensitive receptors are proposed to be located near an existing source of objectionable odors. The criteria for this evaluation are based on the Lead Agency's determination of the proximity to one another of the proposed project and the sensitive receptors. A sensitive receptor is a location where human populations, especially children, senior citizens, and sick persons, are present, and where there is a reasonable expectation of continuous human exposure to pollutants, according to the averaging period for ambient air quality standards, i.e. the 24-hour, 8-hour or 1-hour standards. Commercial and industrial sources are not considered sensitive receptors. **Table 4-5** lists seven known sensitive receptors that are in relatively close proximity (within a two-mile radius) to the Project area.

The proposed Project is not considered a source of objectionable odors or odorous compounds. Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the Project site when it is in operation. As such, the proposed Project will not be a source of any odorous compounds nor will it likely be impacted by any odorous source.

4.8 Impacts to Ambient Air Quality

An ambient air quality analysis was performed to determine if the proposed Project has the potential to impact ambient air quality through a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard because the Project is below all thresholds of significance. The basis for the analysis is dispersion modeling and the Project's long-term air quality impacts shown in **Table 4-4**.

The maximum off-site ground level concentration of each pollutant for the 1-hour, 3-hour, 8-hour, 24-hour, and annual periods was predicted using the most recent version of EPA's AMS/EPA Regulatory Model (AERMOD) dispersion software under the Lakes Environmental ISC-AERMOD View interface. CARB-approved, AERMET-processed meteorological datasets for calendar years 2009 through 2013 was input to AERMOD (CARB 2020d). This was the most recent available dataset available at the time the modeling runs were conducted. All the regulatory default AERMOD model keyword parameters were employed. Rural dispersion parameters were used for this project, which differs from the urban setting used in the CalEEMod model. The CalEEMod selection criteria is based on trip distances to the project site while the AERMOD selection criteria is based on the majority of the land use surrounding the facility. The majority of the land surrounding the project site is considered "rural" under the Auer land use classification method (Auer 1978).

Emissions were evaluated for each pollutant on a short-term (correlating to pollutant averaging period) and long-term (annual) basis, with the exception of CO that was evaluated only for short-term exposures since there are no long term significance thresholds for CO.

A fence-line coordinate grid of receptor points was constructed. The grid consisted of a 25-meter fence-line spacing and two receptor tiers. The first tier had 25-meter tier spacing extending a distance of 100 meters with initial receptors starting 25 meters from the facility boundary. The second tier had 50-meter tier spacing extending a distance of 150 meters. Elevated terrain options were employed due to the complex terrain in the Project area.

For each pollutant and averaging period modeled, a "total" concentration was estimated by adding the maximum measured background air concentration to the maximum predicted Project impacts. The maximum measured background air concentrations used in this analysis were calculated from measured concentrations at the nearest monitoring stations.

The results of the air dispersion modeling, presented in **Table 4-7**, demonstrate that the maximum impacts attributable to the Project, when considered in addition to the existing background concentrations, are below the applicable ambient air quality standard for NO_X, SO_X, CO, PM_{10} and $PM_{2.5}$. The electronic AERMOD output files are provided in Appendix E. Therefore, the Project's contribution to potential violations of ambient air quality standards would be *less-than-significant*.

Table 4-7. Predicted Ambient Air Quality Impacts

Pollutant	Averaging Period	Background ($\mu g/m^3$)	Project ($\mu g/m^3$)	Project + Background ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	CAAQS ($\mu g/m^3$)
NO_2	1-hour	124.49	2.49	126.98	188.68	338
	Annual	26.95	0.15	27.10	100	56
SO_2	1-hour	26.52	0.02	26.5	196	655
	3-hour	23.86	0.01	23.9	1,300	---
	24-hour	10.20	0.00	10.21	365	105
CO	1-hour	744.33	4.33	749	40,000	23,000
	8-hour	494.67	1.67	496	10,000	10,000
PM_{10}	24-hour	47.15	0.05	47.21	150	50
	Annual	15.41	0.01	15.43	---	20
$PM_{2.5}$	24-hour	34.15	0.05	34.21	35	---
	Annual	4.11	0.01	4.13	12	12

4.9 Impacts to Greenhouse Gases and Climate Change

The proposed Project's construction and operational GHG emissions were estimated using the CalEEMod program (version 2016.3.2). These emissions are summarized in **Table 4-9**.

Table 4-8. Estimated Annual GHG Emissions (MT/Year)

Source		CO_2	CH_4	N_2O	CO_2e
Construction Emissions					
Phase 1	2021	982.29	0.16	0.00	986.34
	2022	1503.53	0.13	0.00	1506.81
	2023	1465.77	0.11	0.00	1468.64
	2024	721.36	0.07	0.00	723.07
Phase 2	2025	435.47	0.08	0.00	437.43
	2026	3.27	0.00	0.00	3.28
Phase 3	2030	713.63	0.03	0.00	714.34
	2031	296.74	0.01	0.00	297.04
Mitigated Operational Emissions					
Area		0.48	0.00	0.00	0.49
Energy		850.73	0.03	0.01	854.57
Mobile		0.00	0.00	0.00	0.00
Waste		137.59	8.13	0.00	340.87
Water		158.36	0.78	0.02	183.76
Total Project Operational Emissions		1,147.15	8.94	0.03	1,379.69
Annualized Construction Emissions[1]		204.07	0.02	0.00	204.57
Project Emissions		1,351.22	8.96	0.03	1,584.26
EKAPCD GHG Significance Threshold					25,000
Significance Threshold Exceeded?					No
*Note: 0.000 could represent <0.000 Per South Coast AQMD's Methodology					

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF_6), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. The Project's GHG emissions are below the threshold established by the EKAPCD; therefore, the Project would have *less than significant* GHG impacts.

4.9.1 Feasible and Reasonable Mitigation Relative to Global Warming

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce the impacts from construction and operations on air quality. The SJVAPCD's "Non-Residential On-Site Mitigation Checklist" was utilized in preparing the mitigation measures and evaluating the projects features as a proxy for EKAPCD. These measures include using controls that limit the exhaust from construction equipment and using alternatives to diesel when possible. Additional reductions would be achieved through the regulatory process of the air district and CARB as required changes to diesel engines are implemented which would affect the product delivery trucks and limits on idling.

While it is not possible to determine whether the Project individually would have a significant impact on global warming or climate change, the Project would potentially contribute to cumulative GHG emissions in California as well as related health effects. The Project emissions would only be a very small fraction of the statewide GHG emissions. However, without the necessary science and analytical tools, it is not possible to assess, with certainty, whether the Project's contribution would be cumulatively considerable, within the meaning of CEQA Guidelines Sections 15065(a)(3) and 15130. CEQA, however, does note that the more severe environmental problems the lower the thresholds for treating a project's contribution to cumulative impacts as significant. Given the position of the legislature in AB32 which states that global warming poses serious detrimental effects, and the requirements of CEQA for the lead agency to determine that a project not have a cumulatively considerable contribution, the effect of the Project's CO_2 contribution may be considered cumulatively considerable. This determination is "speculative," given the lack of clear scientific evidence or other criteria for determining the significance of the Project's contribution of GHG to the air quality in the MDAB.

The strategies currently being implemented by CARB may help in reducing the Project's GHG emissions and are summarized in the table below.

Table 4-9. Select CARB GHG Emission Reduction Strategies

Strategy	Description of Strategy
Vehicle Climate Change Standards	AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in Sept. 2004.
Diesel Anti-Idling	In July 2004, CARB adopted a measure to limit diesel-fueled retail motor vehicle idling.
Other Light-Duty Vehicle Technology	New standards would be adopted to phase in beginning in the 2017 model year.
Alternative Fuels: Biodiesel Blends	CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel.
Alternative Fuels: Ethanol	Increased use of ethanol fuel.
Heavy-Duty Vehicle Emission Reduction Measures	Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector.

Not all of these measures are currently appropriate or applicable to the proposed Project. While future legislation could further reduce the Project's GHG footprint, the analysis of this is speculative and in accordance with CEQA Guidelines Section 15145, will not be further evaluated in this AQIA.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the Project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB32. The Project will result in GHG emissions below the EKAPCD's GHG threshold, as demonstrated in **Table 4-9**. Therefore, the Project's contribution to cumulative global climate change impacts would *not be cumulatively considerable*.

5. CUMULATIVE IMPACTS

CEQA defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The EKAPCD Guidelines for Implementation of CEQA also states that "*Unless otherwise specified in published/adopted thresholds of significance and guidelines, a project's potential contribution to cumulative impacts shall be assessed utilizing the same significance criteria as those for project specific impacts.*"[1] Based on the analysis conducted for this Project, it is individually less than significant. This AQIA, however, also considered impacts of the proposed Project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- Cumulative O_3 Impacts (ROG and NO_X) from numerous sources within the region including transport from outside the region. O_3 is formed through chemical reactions of ROG and NO_X in the presence of sunlight.
- Cumulative CO Impacts produced primarily by vehicular emissions.
- Cumulative PM_{10} Impacts from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of PM_{10} if several projects conduct grading or earthmoving activities at the same time; and
- Hazardous Air Pollutant (HAP) Impacts on sensitive receptors from within the recommended screening radius of one mile.

The cumulative analysis is based on a quantitative cumulative analysis of projects located within a six-mile radius of the proposed Project within the City of Ridgecrest. A six-mile radius for cumulative project analysis is required within Kern County by the KCPD.

The cumulative analysis quantifies operational and area impacts proposed by the project as well as all identified projects within close proximity of the project site. The analysis quantifies operational emissions from these other projects to determine the impacts to the air basin posed by these sources with the increases proposed by the subject project. These emissions are then compared to the proposed growth and anticipated emissions increases included in the various regional growth forecasts to determine 1) if they were included in the forecast; 2) if their inclusion can be considered consistent with the attainment plan for air emissions within the air basin; and 3) if these emissions are in conformance with the State Implementation Plan emission budget or baseline emissions for ROG, NO_X, CO and PM_{10}.

5.1 Cumulative Regional Air Quality Impacts

The most recent, certified MDAB Emission Inventory data available from the EKAPCD is based on data gathered for the 2020 annual inventory (see **Appendix C**).[2] This data will be used to assist the EKAPCD in demonstrating attainment of Federal 1-hour O_3 Standards. **Table 5-1** provides a comparative look at the impacts proposed by the proposed Project to the MDAB Emissions Inventory.

[1] EKAPCD Guidelines for Implementation of CEQA , Page 22

[2] EKAPCD Emissions for Aggregated Stationary, Area-Wide, Mobile and Natural Sources

Table 5-1. Comparative Analysis Based on MDAB 2020 Inventory - Tons per Year

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Kern County – 2020	3,577	11,315	19,345	3139	5,913	2,811
MDAB – 2020	20,842	51,246	71,102	4,709	52,378	14,491
Proposed Project	1.275	0.312	0.537	0.002	0.025	0.025
Proposed Project's % of Kern	0.036%	0.003%	0.003%	0.000%	0.000%	0.001%
Proposed Project's % of MDAB	0.006%	0.001%	0.001%	0.000%	0.000%	0.000%
Note: This is the latest inventory available as of April 2020 Source: CARB 2020c						

As shown in **Table 5-1** the proposed Project does not pose a substantial increase to basin emissions, as such basin emissions would be essentially the same if the Project is approved.

Tables 5-2 through **Table 5-4** provide CARB Emissions Inventory projections for the year 2025 for both the MDAB and the Kern County portion of the air basin (see **Appendix C**). Looking at the MDAB emissions predicted by the CARB year 2025 emissions inventory, the Kern County portion of the air basin is a moderate source of the emissions. The proposed Project produces a small portion of the total emissions in both Kern County and the entire MDAB.

Table 5-2. Emission Inventory MDAB 2025 Projection - Tons per Year

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Total Emissions	20,915	46,282	65,737	5,037	56,429	15,440
Percent Stationary Sources	38.05%	65.85%	18.71%	93.48%	42.95%	51.77%
Percent Area-Wide Sources	29.14%	1.58%	13.83%	0.72%	52.59%	36.64%
Percent Mobile Sources	32.98%	32.65%	67.41%	5.80%	4.46%	11.82%
Total Stationary Source Emissions	7,957	30,478	12,301	4,709	24,236	7,994
Total Area-Wide Source Emissions	6,096	730	9,089	37	29,675	5658
Total Mobile Source Emissions	6,899	15,111	44,311	292	2,519	1825
Source: CARB 2020c Note: Total may not add due to rounding						

Table 5-3. Emission Inventory MDAB - Kern County Portion 2025 Projection - Tons per Year

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Total Emissions	3,541	10,841	19,017	3,358	5,986	2,847
Percent Stationary Sources	14.43%	74.75%	22.65%	95.65%	21.34%	28.21%
Percent Area-Wide Sources	27.84%	2.02%	21.31%	0.00%	59.15%	33.33%
Percent Mobile Sources	57.73%	23.23%	56.05%	3.26%	19.51%	38.46%
Total Stationary Source Emissions	511	8,103	4,307	3,212	1,278	803
Total Area-Wide Source Emissions	986	219	4051.5	0	3,541	949
Total Mobile Source Emissions	2,044	2,519	10,658	110	1168	1,095
Source: CARB 2020c Note: Total may not add due to rounding						

Table 5-4. 2025 Emissions Projections - Proposed Project, Kern County, and MDAB

	ROG	NO_X	PM_{10}
Proposed Project	1.275	0.312	0.025
Kern County	3,541	10,841	5,986
MDAB	20,915	46,282	56,429
Proposed Project Percent of Kern County	0.036%	0.003%	0.000%
Proposed Project Percent of MDAB	0.006%	0.001%	0.000%
Kern County Percent of MDAB	16.93%	23.42%	10.61%
Source: CARB 2020c			

As shown above, the proposed Project would pose an inconsequential impact on regional O_3 and PM_{10} formation. Because the regional contribution to these cumulative impacts would be negligible, the Project would not be considered cumulatively considerable in its contribution to regional O_3 and PM_{10} impacts.

5.2 Cumulative Local Air Quality Impacts

A cumulative projects list was provided by the City of Ridgecrest for all planned developments within a six-mile radius of the Project site within the City of Ridgecrest. No data was provided by Kern County to account for areas within the six-mile radius but outside of the City of Ridgecrest; however, these areas are undeveloped and no other cities are encompassed within the radius. As such, any tentative projects within the six-mile radius but outside of the City of Ridgecrest are not able to be identified and, therefore, are not included in this analysis.

The cumulative data provided below in **Table 5-5** and **Table 5-6** is only a geographical reference to demonstrate the construction activity in the Project vicinity. The number or size of these projects is of no particular significance since no "cumulative" emissions thresholds have been established by the EKAPCD or the City of Ridgecrest Planning Department.

Table 5-5. Cumulative Construction Projects

Six-Mile Radius Projects	Pollutant (tons/year)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Cumulative Six-Mile Projects	28.03	17.03	17.92	0.05	4.28	1.69
This Project	6.97	19.61	20.87	0.07	4.04	1.56
Total Cumulative Projects	**35.01**	**36.64**	**38.79**	**0.12**	**8.33**	**3.25**
1. These Cumulative Project emissions are overestimated and include all years of construction, not just a single year, as they are discretionary projects that are subject to various mitigation measures that have not yet been determined nor their impacts reduced herein.						

Table 5-6. Cumulative Operational Projects

Six-Mile Radius Projects	Pollutant (tons/year)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Cumulative Six-Mile Projects	84.56	52.65	137.06	0.41	26.53	16.40
This Project	1.27	0.31	0.54	0.00	0.03	0.03
Total Cumulative Projects	**85.83**	**52.96**	**137.59**	**0.41**	**26.56**	**16.42**
1. These Cumulative Project emissions are overestimated, as they are discretionary projects that are subject to various mitigation measures that have not yet been determined nor their impacts reduced herein.						

As details regarding the potential emissions from the various cumulative projects were not readily available through the City of Ridgecrest Planning Department, the emissions estimates presented were modeled using the CalEEMod computer model to predict cumulative impacts (see **Appendix B** for output results) unless otherwise noted. Emissions for the construction and operational phases of each project were based on total number of lots or square footage for maximum project build-out as noted by the City of Ridgecrest. No mitigation measures were applied to any of the projects as it is not known which, if any, would be required or which may be voluntarily proposed by each developer or required by code or regulation. Additionally, no cumulative significance thresholds are shown since no cumulative thresholds have been established by the EKAPCD, CARB, or other regulatory authority. These projects represent all known and reasonably foreseeable projects in the area. As these projects either are currently under construction or, at a minimum, approved by the City of Ridgecrest Planning Department for consistency with applicable regulation, for the purposes of this analysis, it is assumed that they are in conformance with the regional AQAP. Because the proposed Project would generate less than significant Project-related operational impacts to criteria air pollutants, the Project's contribution to cumulative air quality impacts would not be considered cumulatively significant.

5.3 Cumulative Hazardous Air Pollutants (HAPs)

Combined HAP emission impacts from the Project and other existing and planned projects are considered cumulatively significant when air quality standards are exceeded. Because the Project would not be a significant source of HAPS, the proposed Project would also not be expected to pose a significant cumulative HAPs impact.

5.4 Cumulative Carbon Monoxide (CO) – Mobile Sources

Traffic increases and added congestion caused by a project can combine to cause a CO "Hotspot." There was no traffic study available for this Project at the time this analysis was completed. However, according to the Project proponent, there will not be an increase in traffic due to the campus upgrades, therefore impacted intersections and roadway segments are anticipated to continue to operate at their current LOS. Therefore, cumulative CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

6. CONSISTENCY WITH THE AIR QUALITY ATTAINMENT PLAN

Air quality impacts from proposed projects within the eastern Kern County are controlled through policies and provisions of the EKAPCD and the Kern County General Plan (Kern County 2004). In order to demonstrate that a proposed project would not cause further air quality degradation in either of the EKAPCD's plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the EKAPCD's adopted AQAP. The EKAPCD is required to submit a "Rate of Progress" document to the CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires the local air districts with severe or extreme air quality problems to provide for a 5 percent reduction in non-attainment emissions per year. The Attainment Plans prepared for Eastern Kern County by the EKAPCD complies with this requirement. CARB reviews, approves, or amends the document and forwards the plan to the U.S. Environmental Protection Agency (U.S. EPA) for final review and approval within the State Implementation Plan (SIP).

Air pollution sources associated with stationary sources are regulated through the EKAPCD permitting authority under the New and Modified Stationary Source Review Rule (EKAPCD Rule 210.1). Owners of any new or modified equipment that emits, reduces, or controls air contaminants, except those specifically exempted by the EKAPCD, are required to apply for an Authority to Construct and Permit to Operate (EKAPCD Rule 201). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (EKAPCD Rule 210.1, III.B.). Through this mechanism, the EKAPCD would ensure that all stationary sources within a project area would be subject to the standards of the EKAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

6.1 Required Evaluation Guidelines

State CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistencies between the proposed project and the applicable AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. *Determination that an AQAP is being implemented in the area where the project is being proposed*. <u>The EKAPCD has implemented the current AQAP as approved by CARB.</u>
2. *The proposed project must be consistent with the growth assumptions of the applicable AQAP*. <u>The proposed Project land use type was anticipated in the current growth assumptions. Therefore, growth assumptions in the Kern County General Plan will not be modified with the approval of the proposed Project.</u>
3. *The project must contain in its design all reasonably available and feasible air quality control measures*. <u>The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.</u>

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As the growth represented by the proposed Project will not be required to be updated in the Kern County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. That, by definition, the proposed emissions from the Project are below the EKAPCD's established emissions impact thresholds; and
2. The Project proposes no growth to residences, employment, and households.

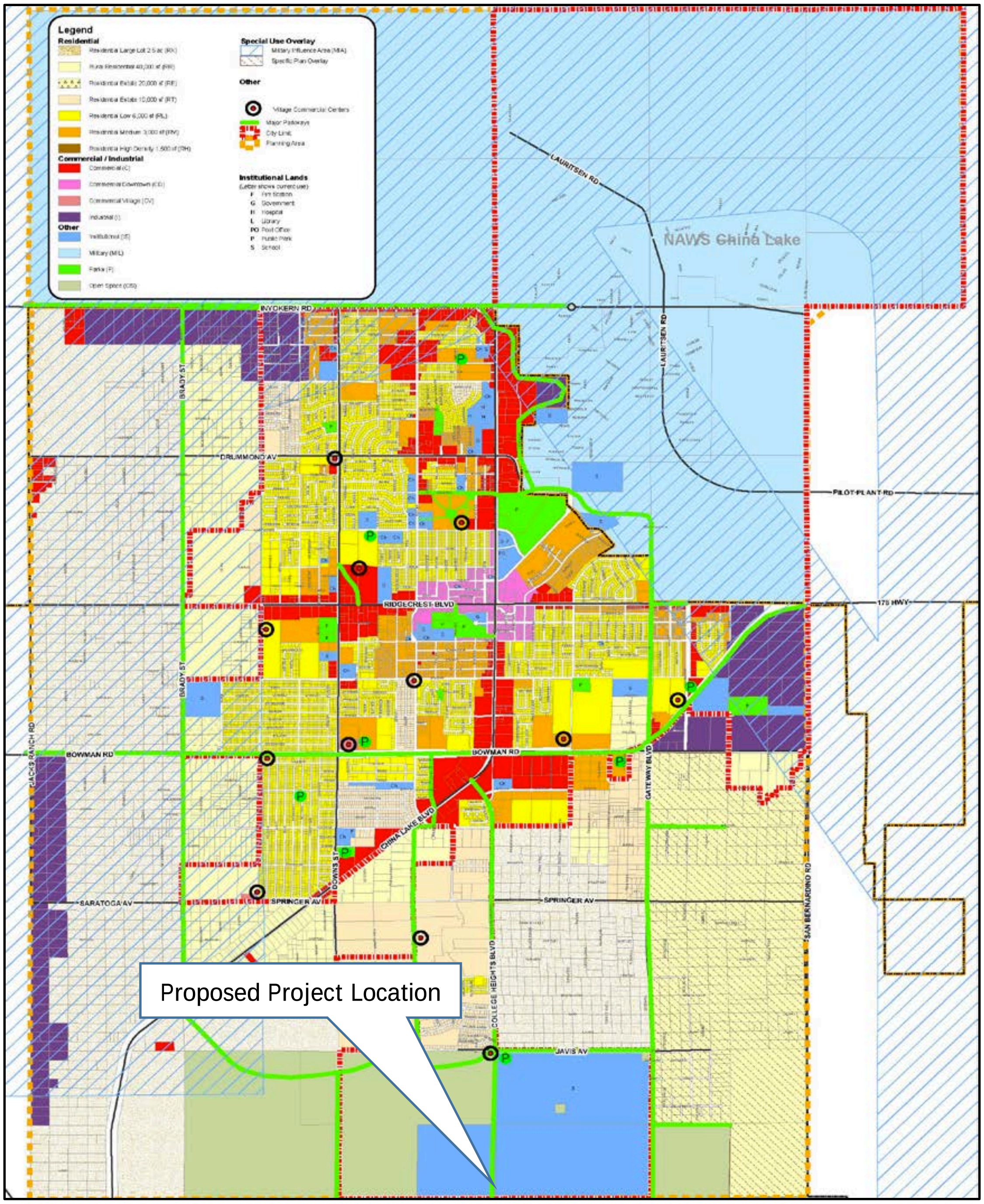
Based on these factors, the Project appears to be *consistent with the AQAP*.

6.2 Consistency with the Kern County Council of Government's Regional Conformity Analysis

The Kern Council of Governments (Kern COG) Regional Conformity Analysis (Kern COG 2018) Determination demonstrates that the regional transportation expenditure plans (Destination 2042 Regional Transportation Plan and Federal Transportation Improvement Program) in the Kern County portion of the Mojave Desert air quality attainment areas would not hinder the efforts set out in CARB's SIP for each area's non-attainment pollutants (CO, O_3, and PM_{10}). The analysis uses an adopted regional growth forecast, governed by both the adopted Kern COG Policy and Procedure Manual and a Memorandum of Understanding between the County of Kern and Kern COG (representing itself and outlying municipal member agencies).

The Kern COG Regional Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kern County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Regional Conformity Analysis were not incorporated into the Kern COG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Under the current City of Ridgecrest Zoning Plan, the Project site is designated as "IS: Institutional" (see **Figure 6-1**).

Figure 6-1. City of Ridgecrest Zoning



Item 2 under Section 3 – Model Maintenance Procedure, of the Kern COG Regional Transportation Modeling Policy and Procedure Manual states "*Land Use Data – General Plan land capacity data or "Build -out capacity" is used to distribute the forecasted County totals, and may be updated as new information becomes available, and is revised in regular consultation with local planning departments.*"

Under current policies, only after a General Plan Amendment (GPA) is approved, can housing and employment assumptions be updated to reflect the capacity changes. Since the proposed development does not require a

GPA and zone change, the existing growth forecast will not be modified to reflect these changes. Since the Project will not increase population, employment, or households, an analysis based on Kern COG regional forecast was not conducted. Therefore, the Project is considered to be “consistent” and in conformance with the AQAP.

7. MITIGATION AND OTHER RECOMMENDED MEASURES

As the estimated construction and operational emissions from the proposed Project would be less than significant, no specific mitigation measures would be required. However, to ensure that Project is in compliance with all applicable EKAPCD rules and regulations and emissions are further reduced, it is anticipated that the Project would implement and comply with a number of measures that are either recommended as a "good operating practice" for environmental stewardship or they are required by regulation. Some of the listed measures are regulatory requirements or construction requirements that would result in further emission reductions through their inclusion in Project construction and long-term design. The following measures either have been applied to the Project through the CalEEMod model and would be incorporated into the Project by design or would be implemented in conjunction with EKAPCD rules as conditions of approval.

7.1 Suggested PM_{10} Reduction Measures

As the Project would be completed in compliance with EKAPCD Rules and Regulation, dust control measures would be taken to ensure compliance specifically during grading and the construction phase.

<u>Land Preparation, Excavation and/or Demolition</u> - The following dust control measures should be implemented:

- All soil excavated or graded should be sufficiently watered to prevent excessive dust. Watering should occur as needed with complete coverage of disturbed soil areas. Watering should be a minimum of twice daily on unpaved/untreated roads and on disturbed soil areas with active operations.
- All clearing, grading, earth moving, and excavation activities should cease:
  - during periods of winds greater than 20 mph (averaged over one hour), if disturbed material is easily windblown, or
  - when dust plumes of 20% or greater opacity impact public roads, occupied structures, or neighboring property.
- All fine material transported offsite should be either sufficiently watered or securely covered to prevent excessive dust.
- If more than 5,000 cubic yards of fill material will be imported or exported from the site, then all haul trucks should be required to exit the site via an access point where a gravel pad or grizzly has been installed.
- Areas disturbed by clearing, earth moving, or excavation activities should be minimized at all times.
- Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.
- Where acceptable to the fire department, weed control should be accomplished by mowing instead of discing, thereby, leaving the ground undisturbed and with a mulch covering.

<u>Building (structure) Construction</u> - After clearing, grading, earth moving and/or excavating, the following dust control practices should be implemented:

- Once initial leveling has ceased all inactive soil areas within the construction site should either be seeded and watered until plant growth is evident, treated with a dust palliative, or watered twice daily until soil has sufficiently crusted to prevent fugitive dust emission.
- All active disturbed soil areas should be sufficiently watered to prevent excessive dust, but no less than twice per day.

Vehicular Activities - During all phases of construction, the following vehicular control measures should be implemented:

- Dust:
  - Onsite vehicle speed should be limited to 15 mph.
  - All areas with vehicle traffic should be paved, treated with dust palliatives, or watered a minimum of twice daily.
  - Streets adjacent to the project site should be kept clean and accumulated silt removed.
  - Access to the site should be by means of an apron into the project from adjoining surfaced roadways. The apron should be surfaced or treated with dust palliatives. If operating on soils that cling to the wheels of the vehicles, a grizzly or other such device should be used on the road exiting the project, immediately prior to the pavement, in order to remove most of the soil material from the vehicle's tires.
- Tailpipe Emissions:
  - Properly maintain and tune all internal combustion engine powered equipment.
  - Require employees and subcontractors to comply with California's idling restrictions for compression ignition engines. Use low sulfur (CARB) diesel fuel.

7.2 Recommended Measures to Reduce Equipment Exhaust

The following measures are recommended to reduce exhaust emissions:

- Maintain all construction equipment as recommended by manufacturer manuals.
- Shut down equipment when not in use for extended periods.
- Construction equipment shall operate no longer than eight (8) cumulative hours per day.
- Use electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment.
- Curtail use of high-emitting construction equipment during periods of high or excessive ambient pollutant concentrations.
- All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO_X emissions.
- On-Road and Off-Road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.
- On-Road and Off-Road diesel equipment shall use cooled exhaust gas recirculation (EGR) if permitted under manufacturer's guidelines.
- All construction workers shall be encouraged to shuttle (car-pool) to retail establishments or to remain on-site during lunch breaks.
- All construction activities within the project area shall be discontinued during the first stage smog alerts.
- Construction and grading activities shall not be allowed during first stage O_3 alerts. First stage O_3 alerts are declared when the O_3 level exceeds 0.20 ppm (1-hour average).

8. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed Project would have short-term air quality impacts due to facility construction activities as well as vehicular emissions. Construction-related short-term emissions would be reduced by implementation of measures required of all projects by EKACPD and were found to be *less than significant* with no mitigation required.

The proposed Project would result in long-term air quality impacts due to operational and related area and energy source emissions. These operational-related long term emissions would be reduced by implementation of measures required of all projects by EKACPD and were found to be *less than significant* with no mitigation required.

The proposed Project's incremental contribution to cumulative impacts would be reduced by implementation of measures required of all projects by EKACPD and be below thresholds of significance. Therefore, the Project would not be considered cumulatively considerable because of presumed conformance with the AQAP and/or the Kern County's General Plan. Therefore, the Project's contribution to cumulative impacts were found to be *less than significant*.

The proposed Project, in conjunction with other past, present, and foreseeable future projects, would result in cumulative long-term impacts to global climate change. The proposed Project's incremental contribution to these impacts are considered *less than significant*.

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APPENDIX A. EXISTING AIR QUALITY MONITORING DATA

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Mojave-923 Poole Street

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jul 28	0.104	Jul 14	0.097	Aug 9	0.111
Second High:	Jul 29	0.097	Jul 1	0.089	Aug 1	0.103
Third High:	Jul 26	0.093	Jul 8	0.089	Aug 7	0.103
Fourth High:	Jul 27	0.093	Jun 24	0.088	Jul 30	0.102
California:						
# Days Above the Standard:		2		1		8
California Designation Value:		0.10		0.09		0.10
Expected Peak Day Concentration:		0.099		0.092		0.097
National:						
# Days Above the Standard:		*0*		*0*		*0*
3-Year Estimated Expected Number of Exceedance Days:		*0.0*		*0.0*		*0.0*
1-Year Estimated Expected Number of Exceedance Days:		*0.0*		*0.0*		*0.0*
Nat'l Standard Design Value:		*0.103*		*0.097*		*0.103*
Year Coverage:		95		99		99

Notes:

Hourly ozone measurements and related statistics are available at Mojave-923 Poole Street between 1993 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Trona-Athol and Telegraph

iADAM

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jul 23	0.100	Jul 10	0.084	Aug 7	0.107
Second High:	Jun 24	0.089	Jul 11	0.083	Aug 9	0.100
Third High:	Aug 20	0.084	Jul 1	0.078	Jul 28	0.097
Fourth High:	Jun 26	0.082	Jul 3	0.078	Jun 23	0.089
California:						
# Days Above the Standard:		1		0		3
California Designation Value:		0.08		0.08		0.09
Expected Peak Day Concentration:		0.081		0.083		0.088
National:						
# Days Above the Standard:		*0*		*0*		*0*
3-Year Estimated Expected Number of Exceedance Days:		*0.0*		*0.0*		*0.0*
1-Year Estimated Expected Number of Exceedance Days:		*0.0*		*0.0*		*0.0*
Nat'l Standard Design Value:		*0.082*		*0.084*		*0.097*
Year Coverage:		97		92		78

Notes:

Hourly ozone measurements and related statistics are available at Trona-Athol and Telegraph between 1997 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Mojave-923 Poole Street

	2016		2017		2018	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Jul 28	0.093	Jul 14	0.085	Aug 7	0.094
Second High:	Jul 29	0.086	Jul 1	0.081	Aug 9	0.093
Third High:	Jul 27	0.085	Jun 23	0.080	Aug 4	0.092
Fourth High:	Jun 20	0.084	Jul 15	0.080	Jul 29	0.091
California Std (0.070 ppm):						
First High:	Jul 28	0.093	Jul 14	0.086	Aug 7	0.095
Second High:	Jul 29	0.086	Jul 1	0.082	Aug 4	0.093
Third High:	Jul 27	0.085	Jul 15	0.081	Aug 9	0.093
Fourth High:	Aug 13	0.085	Jun 23	0.080	Jul 29	0.091
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		52		35		53
Nat'l Standard Design Value:		0.084		0.081		0.085
National Year Coverage:		96		99		99
California Std (0.070 ppm):						
# Days Above the Standard:		60		37		56
California Designation Value:		0.093		0.086		0.091
Expected Peak Day Concentration:		0.094		0.088		0.092
California Year Coverage:		92		99		99

Notes:

- Eight-hour ozone averages and related statistics are available at Mojave-923 Poole Street between 1993 and 2018. Some years in this range may not be represented.
- All averages expressed in parts per million.
- An exceedance of a standard is not necessarily related to a violation of the standard.
- State and national statistics may differ for the following reasons:
  - National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.
  - State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

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Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

iADAM

at Trona-Athol and Telegraph

	2016		2017		2018	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Jul 15	0.077	Jul 11	0.077	Aug 7	0.090
Second High:	Jul 23	0.075	Jul 3	0.076	Jul 28	0.083
Third High:	Jun 26	0.074	Jul 2	0.075	Aug 10	0.083
Fourth High:	Jul 16	0.073	Jul 10	0.075	Jun 23	0.080
California Std (0.070 ppm):						
First High:	Jul 15	0.077	Jul 11	0.077	Aug 7	0.090
Second High:	Jun 26	0.075	Jul 3	0.076	Jul 28	0.083
Third High:	Jul 23	0.075	Jul 10	0.076	Aug 10	0.083
Fourth High:	Jul 16	0.074	Jul 2	0.075	Jun 23	0.080
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		10		6		19
Nat'l Standard Design Value:		0.069		0.072		0.076
National Year Coverage:		96		92		80
California Std (0.070 ppm):						
# Days Above the Standard:		11		6		21
California Designation Value:		0.077		0.077		0.080
Expected Peak Day Concentration:		0.078		0.078		0.082
California Year Coverage:		94		90		76

Notes:

Eight-hour ozone averages and related statistics are available at Trona-Athol and Telegraph between 1997 and 2018. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

- National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.
- State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Canebrake

	2016 Date	2016 24-Hr Average	2017 Date	2017 24-Hr Average	2018 Date	2018 24-Hr Average
National:						
First High:	Aug 22	58.9	Jul 6	45.5	Jul 31	52.3
Second High:	Aug 28	47.3	Jun 18	45.2	Aug 24	46.6
Third High:	Jul 23	46.5	Jun 30	36.6	Sep 11	40.6
Fourth High:	Jun 5	41.1	Oct 4	36.6	Aug 6	39.4
California:						
First High:	Aug 22	52.9	Jul 6	40.2	Jul 31	43.7
Second High:	Aug 28	42.1	Jun 18	39.5	Aug 24	41.8
Third High:	Jul 23	41.0	Oct 4	34.2	Aug 6	35.1
Fourth High:	Jun 5	36.1	Jun 30	32.5	Sep 11	34.5
National:						
Estimated # Days > 24-Hour Std:		*		0.0		0.0
Measured # Days > 24-Hour Std:		0		0		0
3-Yr Avg Est # Days > 24-Hr Std:		*		*		*
Annual Average:		*16.1*		*16.4*		*18.0*
3-Year Average:		*16*		*16*		*17*
California:						
Estimated # Days > 24-Hour Std:		*		0.0		*
Measured # Days > 24-Hour Std:		1		0		0
Annual Average:		*		14.8		*
3-Year Maximum Annual Average:		15		15		15
Year Coverage:		86		99		99

Notes:

Daily PM10 averages and related statistics are available at Canebrake between 2009 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

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Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

iADAM

at Mojave-923 Poole Street

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Sep 22	139.2	Sep 19	93.4	Oct 29	93.1
Second High:	Jul 30	98.5	Oct 11	76.5	Aug 31	89.4
Third High:	Jun 22	96.3	Oct 12	73.4	Jul 10	78.5
Fourth High:	Nov 16	95.5	Oct 19	62.0	Feb 11	77.9
California:						
First High:	Sep 22	130.3	Sep 19	85.7	Oct 29	86.5
Second High:	Nov 16	91.3	Oct 11	70.8	Aug 31	77.5
Third High:	Oct 5	86.7	Oct 12	68.2	Feb 11	74.1
Fourth High:	Jul 30	86.5	Oct 2	56.5	Sep 19	70.3
National:						
Estimated # Days > 24-Hour Std:		0.0		*		0.0
Measured # Days > 24-Hour Std:		0		0		0
3-Yr Avg Est # Days > 24-Hr Std:		0.0		*		*
Annual Average:		*26.2*		*25.3*		*26.7*
3-Year Average:		*25*		*24*		*26*
California:						
Estimated # Days > 24-Hour Std:		18.9		*		*
Measured # Days > 24-Hour Std:		18		10		19
Annual Average:		23.8		*		*
3-Year Maximum Annual Average:		24		24		24
Year Coverage:		0		0		0

Notes:

Daily PM10 averages and related statistics are available at Mojave-923 Poole Street between 1994 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Ridgecrest-Ward

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:		*	Dec 20	60.2	Feb 11	107.4
Second High:		*	Nov 27	52.4	Feb 10	74.3
Third High:		*	Nov 25	44.0	Jul 10	57.5
Fourth High:		*	Nov 18	43.0	Aug 4	53.3
California:						
First High:		*	Dec 20	57.4	Feb 11	103.2
Second High:		*	Nov 27	49.7	Feb 10	70.4
Third High:		*	Nov 18	42.2	Jul 10	51.1
Fourth High:		*	Nov 25	41.9	Aug 4	47.5
National:						
Estimated # Days > 24-Hour Std:		*		*		0.0
Measured # Days > 24-Hour Std:		0		0		0
3-Yr Avg Est # Days > 24-Hr Std:		*		*		*
Annual Average:		*		*23.3*		*19.7*
3-Year Average:		*		*		*
California:						
Estimated # Days > 24-Hour Std:		*		*		*
Measured # Days > 24-Hour Std:		0		1		3
Annual Average:		*		*		*
3-Year Maximum Annual Average:		*		*		*
Year Coverage:		*		0		0

Notes:

Daily PM10 averages and related statistics are available at Ridgecrest-Ward between 2017 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

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State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

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Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Lancaster-43301 Division Street

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Jul 24	64.8	Oct 12	26.6	Aug 9	40.4
Second High:	Jul 25	49.1	Dec 16	23.9	Aug 4	30.8
Third High:	Jun 28	33.3	Jul 15	19.5	Aug 7	25.5
Fourth High:	Jul 30	30.1	Sep 2	19.3	Jul 27	20.2
California:						
First High:	Jul 24	64.8	Oct 12	26.6	Aug 9	40.4
Second High:	Jun 28	33.3	Dec 16	23.9	Aug 4	30.8
Third High:	Jul 30	30.1	Jul 15	19.5	Aug 7	25.5
Fourth High:	May 14	23.9	Sep 2	19.3	Jul 27	20.2
National:						
Estimated # Days > 24-Hour Std:		2.0		0.0		1.0
Measured # Days > 24-Hour Std:		2		0		1
24-Hour Standard Design Value:		*		*		18
24-Hour Standard 98th Percentile:		20.5		15.7		16.4
2006 Annual Std Design Value:		*		*		7.4
2013 Annual Std Design Value:		*		*		7.4
Annual Average:		7.6		7.2		7.2
California:						
Annual Std Designation Value:		*		7		7
Annual Average:		*		7.3		7.2
Year Coverage:		98		97		99

Notes:

Daily PM2.5 averages and related statistics are available at Lancaster-43301 Division Street between 2001 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

iADAM

at Mojave-923 Poole Street

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Jul 28	25.7	Jul 14	26.9	Aug 4	39.0
Second High:	Jul 30	23.8	Jul 11	20.1	Aug 7	37.3
Third High:	Nov 16	23.0	Oct 19	18.5	Aug 10	32.1
Fourth High:	Aug 22	22.8	Dec 16	18.0	Aug 9	31.5
California:						
First High:	Jul 28	25.7	Jul 14	26.9	Aug 4	39.0
Second High:	Jul 30	23.8	Jul 11	20.1	Aug 7	37.3
Third High:	Nov 16	23.0	Oct 19	18.5	Aug 10	32.1
Fourth High:	Aug 22	22.8	Dec 16	18.0	Aug 9	31.5
National:						
Estimated # Days > 24-Hour Std:		0.0		0.0		2.1
Measured # Days > 24-Hour Std:		0		0		2
24-Hour Standard Design Value:		20		17		21
24-Hour Standard 98th Percentile:		20.6		16.6		25.9
2006 Annual Std Design Value:		6.1		6.0		6.7
2013 Annual Std Design Value:		6.1		6.0		6.7
Annual Average:		7.4		5.5		7.1
California:						
Annual Std Designation Value:		6		*		*
Annual Average:		*		*		*
Year Coverage:		96		95		94

Notes:

Daily PM2.5 averages and related statistics are available at Mojave-923 Poole Street between 1999 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.

CALIFORNIA AIR RESOURCES BOARD

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Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

iADAM

at Ridgecrest-Ward

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:		*	Nov 2	10.9	Aug 4	37.2
Second High:		*	Dec 31	10.9	Jul 30	28.2
Third High:		*	Dec 20	10.7	Aug 7	28.0
Fourth High:		*	Dec 18	10.1	Jul 18	27.1
California:						
First High:		*	Nov 2	10.9	Aug 4	37.2
Second High:		*	Dec 31	10.9	Jul 30	28.2
Third High:		*	Dec 20	10.7	Aug 7	28.0
Fourth High:		*	Dec 18	10.1	Jul 18	27.1
National:						
Estimated # Days > 24-Hour Std:		*		*		1.0
Measured # Days > 24-Hour Std:		0		0		1
24-Hour Standard Design Value:		*		*		*
24-Hour Standard 98th Percentile:		*		*		26.0
2006 Annual Std Design Value:		*		*		*
2013 Annual Std Design Value:		*		*		*
Annual Average:		*		*		7.2
California:						
Annual Std Designation Value:		*		*		*
Annual Average:		*		*		*
Year Coverage:		*		17		98

Notes:

Daily PM2.5 averages and related statistics are available at Ridgecrest-Ward between 2017 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

iADAM

at Barstow

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Sep 27	66.7	Aug 18	61.3	Sep 21	59.2
Second High:	Nov 26	64.3	Sep 30	60.6	Dec 13	59.0
Third High:	Nov 8	59.4	Oct 12	60.1	Sep 8	58.5
Fourth High:	Oct 13	59.1	Oct 5	58.3	Apr 26	58.3
California:						
First High:	Sep 27	66	Aug 18	61	Sep 21	59
Second High:	Nov 26	64	Sep 30	60	Dec 13	59
Third High:	Oct 13	59	Oct 12	60	Apr 26	58
Fourth High:	Nov 8	59	Jul 3	58	Sep 8	58
National:						
1-Hour Standard Design Value:		56		56		56
1-Hour Standard 98th Percentile:		55.7		56.3		55.1
# Days Above the Standard:		0		0		0
Annual Standard Design Value:		14		15		15
California:						
1-Hour Std Designation Value:		60		60		60
Expected Peak Day Concentration:		64		64		63
# Days Above the Standard:		0		0		0
Annual Std Designation Value:		16		15		14
Annual Average:		14		14		14
Year Coverage:		98		97		95

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Barstow between 1973 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

iADAM

at Trona-Athol and Telegraph

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Sep 15	223.1	Jun 20	46.5	Aug 12	43.3
Second High:	Sep 14	213.4	Apr 7	37.9	Jun 27	38.1
Third High:	Sep 13	174.4	Jun 4	35.1	Apr 18	37.4
Fourth High:	Sep 12	140.2	Mar 4	34.9	Apr 15	36.5
California:						
First High:	Sep 15	223	Jun 20	46	Aug 12	43
Second High:	Sep 14	213	Apr 7	37	Jun 27	38
Third High:	Sep 13	174	Jun 4	35	Apr 18	37
Fourth High:	Sep 12	140	Mar 4	34	Apr 15	36
National:						
1-Hour Standard Design Value:		*		*		35
1-Hour Standard 98th Percentile:		38.7		33.6		33.4
# Days Above the Standard:		4		0		0
Annual Standard Design Value:		4		3		4
California:						
1-Hour Std Designation Value:		60		60		50
Expected Peak Day Concentration:		56		57		50
# Days Above the Standard:		2		0		0
Annual Std Designation Value:		4		4		4
Annual Average:		4		*		3
Year Coverage:		97		82		85

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Trona-Athol and Telegraph between 1997 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

APPENDIX B. PROJECT EMISSION CALCULATIONS

Cerro Coso - Phase 1 (0-5 years) Construction

Kern-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	16.00	1000sqft	0.37	16,000.00	0
Other Asphalt Surfaces	50.00	1000sqft	1.15	50,000.00	0
Other Non-Asphalt Surfaces	487.00	1000sqft	11.18	487,000.00	0
Parking Lot	436.00	Space	3.92	174,400.00	0
Arena	35.00	1000sqft	11.25	35,000.00	0
City Park	5.00	Acre	5.00	217,800.00	0
Health Club	100.00	1000sqft	2.30	100,000.00	0

1.2 Other Project Characteristics

Urbanization Rural **Wind Speed (m/s)** 2.7 **Precipitation Freq (Days)** 32

Climate Zone 7 **Operational Year** 2022

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Phase 1 Buildings: F (fieldhouse) = Health Club. G (gym) = Arena. H,I (stadiums) = City Park. M (maintenance) = Light Industrial. K,L,P,R1,R2,T,V (track, tennis, quads, plazas, walkway) = Non-Asphalt. Y,Z (roadway) = Asphalt. AA,DD,R2 = Parking Lot.

Construction Phase - Default construction timeline. Assumes 1/1/21 start date and aligns with Master Plan estimate of completion within 5 years.

Off-road Equipment - Default construction equipment

Trips and VMT - Default construction trips

Demolition - Per Master Plan, building M (maintenance) construction includes demo of existing maintenance building (assume same size).

Vehicle Trips - Construction-only run

Construction Off-road Equipment Mitigation - Per EKAPCD required construction mitigation (3-14-12)

Mobile Land Use Mitigation -

Road Dust - Construction-only run

Consumer Products - Construction-only run

Area Coating - Construction-only run

Landscape Equipment - Construction-only run

Energy Use - Construction-only run

Water And Wastewater - Construction-only run

Solid Waste - Construction-only run

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	105500	0
tblAreaCoating	Area_Nonresidential_Interior	316500	0
tblAreaCoating	Area_Parking	42684	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	LightingElect	0.65	0.00
tblEnergyUse	LightingElect	0.65	0.00
tblEnergyUse	LightingElect	0.65	0.00
tblEnergyUse	LightingElect	0.35	0.00

tblEnergyUse	NT24E	1.31	0.00
tblEnergyUse	NT24E	1.31	0.00
tblEnergyUse	NT24E	1.31	0.00
tblEnergyUse	NT24NG	0.12	0.00
tblEnergyUse	NT24NG	0.12	0.00
tblEnergyUse	NT24NG	0.12	0.00
tblEnergyUse	T24E	0.40	0.00
tblEnergyUse	T24E	0.40	0.00
tblEnergyUse	T24E	0.40	0.00
tblEnergyUse	T24NG	16.68	0.00
tblEnergyUse	T24NG	16.68	0.00
tblEnergyUse	T24NG	16.68	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblSolidWaste	SolidWasteGenerationRate	0.96	0.00
tblSolidWaste	SolidWasteGenerationRate	0.43	0.00
tblSolidWaste	SolidWasteGenerationRate	19.84	0.00
tblSolidWaste	SolidWasteGenerationRate	570.00	0.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	SU_TR	10.71	0.00

tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	32.93	0.00
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tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
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tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
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tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00

tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
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tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
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tblWater	IndoorWaterUseRate	5,914,314.40	0.00
tblWater	OutdoorWaterUseRate	962,358.77	0.00
tblWater	OutdoorWaterUseRate	5,957,406.75	0.00
tblWater	OutdoorWaterUseRate	3,624,902.38	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5513	5.1496	3.9511	0.0109	0.9805	0.1994	1.1798	0.3863	0.1849	0.5712	0.0000	982.2890	982.2890	0.1619	0.0000	986.3366
2022	0.5609	4.5241	4.3947	0.0165	0.8784	0.1153	0.9937	0.2365	0.1084	0.3449	0.0000	1,503.5266	1,503.5266	0.1313	0.0000	1,506.8090
2023	0.5057	3.8133	4.1540	0.0161	0.8784	0.0972	0.9756	0.2365	0.0914	0.3279	0.0000	1,465.7710	1,465.7710	0.1149	0.0000	1,468.6433
2024	2.9514	1.9076	2.2836	7.9400e-003	0.4217	0.0524	0.4741	0.1134	0.0491	0.1625	0.0000	721.3559	721.3559	0.0686	0.0000	723.0714
Maximum	**2.9514**	**5.1496**	**4.3947**	**0.0165**	**0.9805**	**0.1994**	**1.1798**	**0.3863**	**0.1849**	**0.5712**	**0.0000**	**1,503.5266**	**1,503.5266**	**0.1619**	**0.0000**	**1,506.8090**

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	0.5513	5.1496	3.9511	0.0109	0.6481	0.1994	0.8475	0.2295	0.1849	0.4144	0.0000	982.2885	982.2885	0.1619	0.0000	986.3361
2022	0.5609	4.5241	4.3947	0.0165	0.8784	0.1153	0.9937	0.2365	0.1084	0.3449	0.0000	1,503.526 3	1,503.526 3	0.1313	0.0000	1,506.808 6
2023	0.5057	3.8133	4.1540	0.0161	0.8784	0.0972	0.9756	0.2365	0.0914	0.3279	0.0000	1,465.770 7	1,465.770 7	0.1149	0.0000	1,468.642 9
2024	2.9514	1.9076	2.2836	7.9400e-003	0.4217	0.0524	0.4741	0.1134	0.0491	0.1625	0.0000	721.3556	721.3556	0.0686	0.0000	723.0711
Maximum	**2.9514**	**5.1496**	**4.3947**	**0.0165**	**0.8784**	**0.1994**	**0.9937**	**0.2365**	**0.1849**	**0.4144**	**0.0000**	**1,503.526 3**	**1,503.526 3**	**0.1619**	**0.0000**	**1,506.808 6**

	ROG	NOx	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**	**10.52**	**0.00**	**9.17**	**16.12**	**0.00**	**11.15**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	1.1963	1.1963
2	**4-1-2021**	**6-30-2021**	1.6010	1.6010
3	**7-1-2021**	**9-30-2021**	1.5008	1.5008
4	**10-1-2021**	**12-31-2021**	1.4028	1.4028
5	**1-1-2022**	**3-31-2022**	1.2633	1.2633
6	**4-1-2022**	**6-30-2022**	1.2693	1.2693
7	**7-1-2022**	**9-30-2022**	1.2833	1.2833
8	**10-1-2022**	**12-31-2022**	1.2914	1.2914

9	**1-1-2023**	**3-31-2023**	1.0740	1.0740
10	**4-1-2023**	**6-30-2023**	1.0803	1.0803
11	**7-1-2023**	**9-30-2023**	1.0922	1.0922
12	**10-1-2023**	**12-31-2023**	1.0978	1.0978
13	**1-1-2024**	**3-31-2024**	1.0397	1.0397
14	**4-1-2024**	**6-30-2024**	0.8547	0.8547
15	**7-1-2024**	**9-30-2024**	1.5972	1.5972
		Highest	1.6010	1.6010

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**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	Demolition	Demolition	1/1/2021	3/11/2021	5	50	
2	Site Preparation	Site Preparation	3/12/2021	4/22/2021	5	30	
3	Grading	Grading	4/23/2021	8/5/2021	5	75	
4	Building Construction	Building Construction	8/6/2021	6/6/2024	5	740	
5	Paving	Paving	6/7/2024	8/22/2024	5	55	
6	Architectural Coating	Architectural Coating	8/23/2024	11/7/2024	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 16.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 316,500; Non-Residential Outdoor: 105,500; Striped Parking Area: 42,684 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	73.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	454.00	177.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	91.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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					8.0000e-003	0.0000	8.0000e-003	1.2100e-003	0.0000	1.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0791	0.7860	0.5391	9.7000e-004		0.0388	0.0388		0.0360	0.0360	0.0000	85.0020	85.0020	0.0239	0.0000	85.6001
Total	**0.0791**	**0.7860**	**0.5391**	**9.7000e-004**	**8.0000e-003**	**0.0388**	**0.0468**	**1.2100e-003**	**0.0360**	**0.0372**	**0.0000**	**85.0020**	**85.0020**	**0.0239**	**0.0000**	**85.6001**

3.2 Demolition - 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	2.7000e-004	9.2500e-003	1.3900e-003	3.0000e-005	6.3000e-004	3.0000e-005	6.6000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.7632	2.7632	1.5000e-004	0.0000	2.7669
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	1.8600e-003	1.2900e-003	0.0128	5.0000e-005	4.7000e-003	3.0000e-005	4.7300e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	4.1187	4.1187	9.0000e-005	0.0000	4.1211
Total	**2.1300e-003**	**0.0105**	**0.0142**	**8.0000e-005**	**5.3300e-003**	**6.0000e-005**	**5.3900e-003**	**1.4200e-003**	**6.0000e-005**	**1.4800e-003**	**0.0000**	**6.8819**	**6.8819**	**2.4000e-004**	**0.0000**	**6.8880**

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					3.6000e-003	0.0000	3.6000e-003	5.4000e-004	0.0000	5.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0791	0.7860	0.5391	9.7000e-004		0.0388	0.0388		0.0360	0.0360	0.0000	85.0019	85.0019	0.0239	0.0000	85.6000
Total	**0.0791**	**0.7860**	**0.5391**	**9.7000e-004**	**3.6000e-003**	**0.0388**	**0.0424**	**5.4000e-004**	**0.0360**	**0.0366**	**0.0000**	**85.0019**	**85.0019**	**0.0239**	**0.0000**	**85.6000**

3.2 Demolition - 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	2.7000e-004	9.2500e-003	1.3900e-003	3.0000e-005	6.3000e-004	3.0000e-005	6.6000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.7632	2.7632	1.5000e-004	0.0000	2.7669
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	1.8600e-003	1.2900e-003	0.0128	5.0000e-005	4.7000e-003	3.0000e-005	4.7300e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	4.1187	4.1187	9.0000e-005	0.0000	4.1211
Total	**2.1300e-003**	**0.0105**	**0.0142**	**8.0000e-005**	**5.3300e-003**	**6.0000e-005**	**5.3900e-003**	**1.4200e-003**	**6.0000e-005**	**1.4800e-003**	**0.0000**	**6.8819**	**6.8819**	**2.4000e-004**	**0.0000**	**6.8880**

3.3 Site Preparation - 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					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.6075	0.3173	5.7000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591
Total	**0.0583**	**0.6075**	**0.3173**	**5.7000e-004**	**0.2710**	**0.0307**	**0.3017**	**0.1490**	**0.0282**	**0.1772**	**0.0000**	**50.1536**	**50.1536**	**0.0162**	**0.0000**	**50.5591**

3.3 Site Preparation - 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	0.0000	0.0000	0.0000	0.0000	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	1.3400e-003	9.3000e-004	9.2300e-003	3.0000e-005	3.3800e-003	2.0000e-005	3.4100e-003	9.0000e-004	2.0000e-005	9.2000e-004	0.0000	2.9655	2.9655	7.0000e-005	0.0000	2.9672
Total	**1.3400e-003**	**9.3000e-004**	**9.2300e-003**	**3.0000e-005**	**3.3800e-003**	**2.0000e-005**	**3.4100e-003**	**9.0000e-004**	**2.0000e-005**	**9.2000e-004**	**0.0000**	**2.9655**	**2.9655**	**7.0000e-005**	**0.0000**	**2.9672**

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					0.1220	0.0000	0.1220	0.0670	0.0000	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.6075	0.3173	5.7000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590
Total	**0.0583**	**0.6075**	**0.3173**	**5.7000e-004**	**0.1220**	**0.0307**	**0.1526**	**0.0670**	**0.0282**	**0.0952**	**0.0000**	**50.1535**	**50.1535**	**0.0162**	**0.0000**	**50.5590**

3.3 Site Preparation - 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	0.0000	0.0000	0.0000	0.0000	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	1.3400e-003	9.3000e-004	9.2300e-003	3.0000e-005	3.3800e-003	2.0000e-005	3.4100e-003	9.0000e-004	2.0000e-005	9.2000e-004	0.0000	2.9655	2.9655	7.0000e-005	0.0000	2.9672
Total	**1.3400e-003**	**9.3000e-004**	**9.2300e-003**	**3.0000e-005**	**3.3800e-003**	**2.0000e-005**	**3.4100e-003**	**9.0000e-004**	**2.0000e-005**	**9.2000e-004**	**0.0000**	**2.9655**	**2.9655**	**7.0000e-005**	**0.0000**	**2.9672**

3.4 Grading - 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					0.3253	0.0000	0.3253	0.1349	0.0000	0.1349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1572	1.7400	1.1579	2.3300e-003		0.0745	0.0745		0.0685	0.0685	0.0000	204.3562	204.3562	0.0661	0.0000	206.0085
Total	**0.1572**	**1.7400**	**1.1579**	**2.3300e-003**	**0.3253**	**0.0745**	**0.3997**	**0.1349**	**0.0685**	**0.2034**	**0.0000**	**204.3562**	**204.3562**	**0.0661**	**0.0000**	**206.0085**

3.4 Grading - 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	0.0000	0.0000	0.0000	0.0000	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	3.7300e-003	2.5700e-003	0.0257	9.0000e-005	9.4000e-003	6.0000e-005	9.4600e-003	2.5000e-003	6.0000e-005	2.5500e-003	0.0000	8.2375	8.2375	1.9000e-004	0.0000	8.2422
Total	**3.7300e-003**	**2.5700e-003**	**0.0257**	**9.0000e-005**	**9.4000e-003**	**6.0000e-005**	**9.4600e-003**	**2.5000e-003**	**6.0000e-005**	**2.5500e-003**	**0.0000**	**8.2375**	**8.2375**	**1.9000e-004**	**0.0000**	**8.2422**

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					0.1464	0.0000	0.1464	0.0607	0.0000	0.0607	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1572	1.7400	1.1579	2.3300e-003		0.0745	0.0745		0.0685	0.0685	0.0000	204.3559	204.3559	0.0661	0.0000	206.0083
Total	**0.1572**	**1.7400**	**1.1579**	**2.3300e-003**	**0.1464**	**0.0745**	**0.2208**	**0.0607**	**0.0685**	**0.1292**	**0.0000**	**204.3559**	**204.3559**	**0.0661**	**0.0000**	**206.0083**

3.4 Grading - 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	0.0000	0.0000	0.0000	0.0000	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	3.7300e-003	2.5700e-003	0.0257	9.0000e-005	9.4000e-003	6.0000e-005	9.4600e-003	2.5000e-003	6.0000e-005	2.5500e-003	0.0000	8.2375	8.2375	1.9000e-004	0.0000	8.2422
Total	**3.7300e-003**	**2.5700e-003**	**0.0257**	**9.0000e-005**	**9.4000e-003**	**6.0000e-005**	**9.4600e-003**	**2.5000e-003**	**6.0000e-005**	**2.5500e-003**	**0.0000**	**8.2375**	**8.2375**	**1.9000e-004**	**0.0000**	**8.2422**

3.5 Building 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					
Off-Road	0.1008	0.9239	0.8785	1.4300e-003		0.0508	0.0508		0.0478	0.0478	0.0000	122.7678	122.7678	0.0296	0.0000	123.5082
Total	**0.1008**	**0.9239**	**0.8785**	**1.4300e-003**		**0.0508**	**0.0508**		**0.0478**	**0.0478**	**0.0000**	**122.7678**	**122.7678**	**0.0296**	**0.0000**	**123.5082**

3.5 Building 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	0.0000	0.0000	0.0000	0.0000	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	0.0292	0.9956	0.1863	2.5000e-003	0.0566	2.5300e-003	0.0592	0.0164	2.4200e-003	0.0188	0.0000	237.6455	237.6455	0.0195	0.0000	238.1321
Worker	0.1195	0.0826	0.8229	2.9200e-003	0.3015	1.9800e-003	0.3035	0.0801	1.8300e-003	0.0819	0.0000	264.2793	264.2793	6.0800e-003	0.0000	264.4312
Total	**0.1488**	**1.0782**	**1.0092**	**5.4200e-003**	**0.3581**	**4.5100e-003**	**0.3626**	**0.0964**	**4.2500e-003**	**0.1007**	**0.0000**	**501.9247**	**501.9247**	**0.0256**	**0.0000**	**502.5633**

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	0.1008	0.9239	0.8785	1.4300e-003		0.0508	0.0508		0.0478	0.0478	0.0000	122.7676	122.7676	0.0296	0.0000	123.5081
Total	**0.1008**	**0.9239**	**0.8785**	**1.4300e-003**		**0.0508**	**0.0508**		**0.0478**	**0.0478**	**0.0000**	**122.7676**	**122.7676**	**0.0296**	**0.0000**	**123.5081**

3.5 Building 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	0.0000	0.0000	0.0000	0.0000	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	0.0292	0.9956	0.1863	2.5000e-003	0.0566	2.5300e-003	0.0592	0.0164	2.4200e-003	0.0188	0.0000	237.6455	237.6455	0.0195	0.0000	238.1321
Worker	0.1195	0.0826	0.8229	2.9200e-003	0.3015	1.9800e-003	0.3035	0.0801	1.8300e-003	0.0819	0.0000	264.2793	264.2793	6.0800e-003	0.0000	264.4312
Total	**0.1488**	**1.0782**	**1.0092**	**5.4200e-003**	**0.3581**	**4.5100e-003**	**0.3626**	**0.0964**	**4.2500e-003**	**0.1007**	**0.0000**	**501.9247**	**501.9247**	**0.0256**	**0.0000**	**502.5633**

3.5 Building Construction - 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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

3.5 Building Construction - 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	0.0669	2.3131	0.4234	6.0800e-003	0.1389	5.3700e-003	0.1443	0.0401	5.1300e-003	0.0452	0.0000	577.6194	577.6194	0.0458	0.0000	578.7653
Worker	0.2722	0.1809	1.8440	6.9000e-003	0.7395	4.7300e-003	0.7442	0.1964	4.3500e-003	0.2007	0.0000	624.6645	624.6645	0.0133	0.0000	624.9967
Total	**0.3391**	**2.4940**	**2.2674**	**0.0130**	**0.8784**	**0.0101**	**0.8885**	**0.2365**	**9.4800e-003**	**0.2460**	**0.0000**	**1,202.2838**	**1,202.2838**	**0.0591**	**0.0000**	**1,203.7619**

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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

3.5 Building Construction - 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	0.0669	2.3131	0.4234	6.0800e-003	0.1389	5.3700e-003	0.1443	0.0401	5.1300e-003	0.0452	0.0000	577.6194	577.6194	0.0458	0.0000	578.7653
Worker	0.2722	0.1809	1.8440	6.9000e-003	0.7395	4.7300e-003	0.7442	0.1964	4.3500e-003	0.2007	0.0000	624.6645	624.6645	0.0133	0.0000	624.9967
Total	**0.3391**	**2.4940**	**2.2674**	**0.0130**	**0.8784**	**0.0101**	**0.8885**	**0.2365**	**9.4800e-003**	**0.2460**	**0.0000**	**1,202.2838**	**1,202.2838**	**0.0591**	**0.0000**	**1,203.7619**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3462**	**301.3462**	**0.0717**	**0.0000**	**303.1383**

3.5 Building Construction - 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	0.0473	1.7811	0.3533	5.9300e-003	0.1389	1.6300e-003	0.1406	0.0401	1.5600e-003	0.0417	0.0000	563.2727	563.2727	0.0313	0.0000	564.0561
Worker	0.2539	0.1621	1.6890	6.6400e-003	0.7395	4.6100e-003	0.7441	0.1964	4.2400e-003	0.2006	0.0000	601.1522	601.1522	0.0119	0.0000	601.4488
Total	**0.3012**	**1.9432**	**2.0423**	**0.0126**	**0.8784**	**6.2400e-003**	**0.8847**	**0.2365**	**5.8000e-003**	**0.2423**	**0.0000**	**1,164.4249**	**1,164.4249**	**0.0432**	**0.0000**	**1,165.5050**

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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3458**	**301.3458**	**0.0717**	**0.0000**	**303.1380**

3.5 Building Construction - 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	0.0473	1.7811	0.3533	5.9300e-003	0.1389	1.6300e-003	0.1406	0.0401	1.5600e-003	0.0417	0.0000	563.2727	563.2727	0.0313	0.0000	564.0561
Worker	0.2539	0.1621	1.6890	6.6400e-003	0.7395	4.6100e-003	0.7441	0.1964	4.2400e-003	0.2006	0.0000	601.1522	601.1522	0.0119	0.0000	601.4488
Total	**0.3012**	**1.9432**	**2.0423**	**0.0126**	**0.8784**	**6.2400e-003**	**0.8847**	**0.2365**	**5.8000e-003**	**0.2423**	**0.0000**	**1,164.4249**	**1,164.4249**	**0.0432**	**0.0000**	**1,165.5050**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0839	0.7663	0.9215	1.5400e-003		0.0350	0.0350		0.0329	0.0329	0.0000	132.1540	132.1540	0.0313	0.0000	132.9353
Total	**0.0839**	**0.7663**	**0.9215**	**1.5400e-003**		**0.0350**	**0.0350**		**0.0329**	**0.0329**	**0.0000**	**132.1540**	**132.1540**	**0.0313**	**0.0000**	**132.9353**

3.5 Building Construction - 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	0.0202	0.7746	0.1467	2.5800e-003	0.0609	7.1000e-004	0.0616	0.0176	6.8000e-004	0.0183	0.0000	245.0164	245.0164	0.0140	0.0000	245.3651
Worker	0.1045	0.0641	0.6862	2.8000e-003	0.3242	1.9800e-003	0.3262	0.0861	1.8200e-003	0.0879	0.0000	253.5322	253.5322	4.6900e-003	0.0000	253.6494
Total	**0.1247**	**0.8386**	**0.8328**	**5.3800e-003**	**0.3852**	**2.6900e-003**	**0.3878**	**0.1037**	**2.5000e-003**	**0.1062**	**0.0000**	**498.5486**	**498.5486**	**0.0186**	**0.0000**	**499.0145**

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	0.0839	0.7663	0.9215	1.5400e-003		0.0350	0.0350		0.0329	0.0329	0.0000	132.1538	132.1538	0.0313	0.0000	132.9351
Total	**0.0839**	**0.7663**	**0.9215**	**1.5400e-003**		**0.0350**	**0.0350**		**0.0329**	**0.0329**	**0.0000**	**132.1538**	**132.1538**	**0.0313**	**0.0000**	**132.9351**

3.5 Building Construction - 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	0.0202	0.7746	0.1467	2.5800e-003	0.0609	7.1000e-004	0.0616	0.0176	6.8000e-004	0.0183	0.0000	245.0164	245.0164	0.0140	0.0000	245.3651
Worker	0.1045	0.0641	0.6862	2.8000e-003	0.3242	1.9800e-003	0.3262	0.0861	1.8200e-003	0.0879	0.0000	253.5322	253.5322	4.6900e-003	0.0000	253.6494
Total	**0.1247**	**0.8386**	**0.8328**	**5.3800e-003**	**0.3852**	**2.6900e-003**	**0.3878**	**0.1037**	**2.5000e-003**	**0.1062**	**0.0000**	**498.5486**	**498.5486**	**0.0186**	**0.0000**	**499.0145**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0272	0.2619	0.4022	6.3000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	55.0730	55.0730	0.0178	0.0000	55.5183
Paving	6.6400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0338**	**0.2619**	**0.4022**	**6.3000e-004**		**0.0129**	**0.0129**		**0.0119**	**0.0119**	**0.0000**	**55.0730**	**55.0730**	**0.0178**	**0.0000**	**55.5183**

3.6 Paving - 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	1.6700e-003	1.0200e-003	0.0109	4.0000e-005	5.1700e-003	3.0000e-005	5.2000e-003	1.3700e-003	3.0000e-005	1.4000e-003	0.0000	4.0414	4.0414	7.0000e-005	0.0000	4.0432
Total	**1.6700e-003**	**1.0200e-003**	**0.0109**	**4.0000e-005**	**5.1700e-003**	**3.0000e-005**	**5.2000e-003**	**1.3700e-003**	**3.0000e-005**	**1.4000e-003**	**0.0000**	**4.0414**	**4.0414**	**7.0000e-005**	**0.0000**	**4.0432**

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	0.0272	0.2619	0.4022	6.3000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	55.0729	55.0729	0.0178	0.0000	55.5182
Paving	6.6400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0338**	**0.2619**	**0.4022**	**6.3000e-004**		**0.0129**	**0.0129**		**0.0119**	**0.0119**	**0.0000**	**55.0729**	**55.0729**	**0.0178**	**0.0000**	**55.5182**

3.6 Paving - 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	1.6700e-003	1.0200e-003	0.0109	4.0000e-005	5.1700e-003	3.0000e-005	5.2000e-003	1.3700e-003	3.0000e-005	1.4000e-003	0.0000	4.0414	4.0414	7.0000e-005	0.0000	4.0432
Total	**1.6700e-003**	**1.0200e-003**	**0.0109**	**4.0000e-005**	**5.1700e-003**	**3.0000e-005**	**5.2000e-003**	**1.3700e-003**	**3.0000e-005**	**1.4000e-003**	**0.0000**	**4.0414**	**4.0414**	**7.0000e-005**	**0.0000**	**4.0432**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6923					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9700e-003	0.0335	0.0498	8.0000e-005		1.6800e-003	1.6800e-003		1.6800e-003	1.6800e-003	0.0000	7.0215	7.0215	4.0000e-004	0.0000	7.0313
Total	**2.6972**	**0.0335**	**0.0498**	**8.0000e-005**		**1.6800e-003**	**1.6800e-003**		**1.6800e-003**	**1.6800e-003**	**0.0000**	**7.0215**	**7.0215**	**4.0000e-004**	**0.0000**	**7.0313**

3.7 Architectural Coating - 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	0.0101	6.2000e-003	0.0664	2.7000e-004	0.0314	1.9000e-004	0.0316	8.3300e-003	1.8000e-004	8.5000e-003	0.0000	24.5175	24.5175	4.5000e-004	0.0000	24.5289
Total	**0.0101**	**6.2000e-003**	**0.0664**	**2.7000e-004**	**0.0314**	**1.9000e-004**	**0.0316**	**8.3300e-003**	**1.8000e-004**	**8.5000e-003**	**0.0000**	**24.5175**	**24.5175**	**4.5000e-004**	**0.0000**	**24.5289**

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	2.6923					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9700e-003	0.0335	0.0498	8.0000e-005		1.6800e-003	1.6800e-003		1.6800e-003	1.6800e-003	0.0000	7.0214	7.0214	4.0000e-004	0.0000	7.0313
Total	**2.6972**	**0.0335**	**0.0498**	**8.0000e-005**		**1.6800e-003**	**1.6800e-003**		**1.6800e-003**	**1.6800e-003**	**0.0000**	**7.0214**	**7.0214**	**4.0000e-004**	**0.0000**	**7.0313**

3.7 Architectural Coating - 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	0.0101	6.2000e-003	0.0664	2.7000e-004	0.0314	1.9000e-004	0.0316	8.3300e-003	1.8000e-004	8.5000e-003	0.0000	24.5175	24.5175	4.5000e-004	0.0000	24.5289
Total	**0.0101**	**6.2000e-003**	**0.0664**	**2.7000e-004**	**0.0314**	**1.9000e-004**	**0.0316**	**8.3300e-003**	**1.8000e-004**	**8.5000e-003**	**0.0000**	**24.5175**	**24.5175**	**4.5000e-004**	**0.0000**	**24.5289**

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 Light Industry	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
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	14.70	6.60	6.60	0.00	81.00	19.00	66	28	6
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
Health Club	14.70	6.60	6.60	16.90	64.10	19.00	52	39	9
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
City Park	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
General Light Industry	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
Health Club	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
Other Asphalt Surfaces	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
Other Non-Asphalt Surfaces	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
Parking Lot	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816

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					
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
General Light Industry	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
Health Club	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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		**0.0000**	**0.0000**	**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					
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
General Light Industry	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
Health Club	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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		**0.0000**	**0.0000**	**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			
Arena	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
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			
Arena	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
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	0.0000					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

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	0.0000					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**

6.2 Area by SubCategory

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	0.0000					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**

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			
Arena	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Health Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
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			
Arena	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Health Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
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			
Arena	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
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 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Cerro Coso - Phase 1 (0-5 years) Operation

Kern-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	50.00	1000sqft	1.15	50,000.00	0
Other Non-Asphalt Surfaces	258.00	1000sqft	5.92	258,000.00	0
Parking Lot	44.00	Space	0.40	17,600.00	0
Health Club	100.00	1000sqft	2.30	100,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	7			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Phase 1 Buildings: F (new fieldhouse) = Health Club. P,R1,R2,T,V (new quads, plazas, walkway) = Non-Asphalt. Y,Z (new roadways) = Asphalt. DD,R2 = Parking Lot (new). Renovated or reloacted space not included in new operational emissions.

Construction Phase - Operation-only run

Off-road Equipment - Default construction equipment

Trips and VMT - Operation-only run

Demolition -

Vehicle Trips - Per client, no new mobile trips will be generated from this project. Operational emissions will only be generated from area & energy sources.

Construction Off-road Equipment Mitigation - Operation-only run

Mobile Land Use Mitigation - No operational mitigation proposed/provided at time of analysis

Off-road Equipment - Operation-only run

On-road Fugitive Dust - Operation-only run

Architectural Coating - Operation-only run

Road Dust - Per client, no new mobile trips will be generated from this project. Operational emissions will only be generated from area & energy sources.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	50,000.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	150,000.00	0.00
tblArchitecturalCoating	ConstArea_Parking	19,536.00	0.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	PhaseEndDate	3/24/2022	1/1/2021
tblConstructionPhase	PhaseStartDate	2/25/2022	1/1/2021
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOnRoadDust	AverageVehicleWeight	2.40	0.00
tblOnRoadDust	MeanVehicleSpeed	40.00	0.00
tblOnRoadDust	RoadSiltLoading	0.10	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblTripsAndVMT	WorkerTripNumber	36.00	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	WD_TR	32.93	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.5392	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0800e-003	8.0800e-003	2.0000e-005	0.0000	8.6100e-003
Energy	9.0600e-003	0.0824	0.0692	4.9000e-004		6.2600e-003	6.2600e-003		6.2600e-003	6.2600e-003	0.0000	166.8086	166.8086	4.9000e-003	2.3000e-003	167.6174
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	115.7049	0.0000	115.7049	6.8380	0.0000	286.6539
Water						0.0000	0.0000		0.0000	0.0000	1.8763	37.3689	39.2452	0.1943	4.8700e-003	45.5529
Total	**0.5482**	**0.0824**	**0.0733**	**4.9000e-004**	**0.0000**	**6.2700e-003**	**6.2700e-003**	**0.0000**	**6.2700e-003**	**6.2700e-003**	**117.5812**	**204.1855**	**321.7667**	**7.0371**	**7.1700e-003**	**499.8327**

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	0.5392	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0800e-003	8.0800e-003	2.0000e-005	0.0000	8.6100e-003
Energy	9.0600e-003	0.0824	0.0692	4.9000e-004		6.2600e-003	6.2600e-003		6.2600e-003	6.2600e-003	0.0000	166.8086	166.8086	4.9000e-003	2.3000e-003	167.6174
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	115.7049	0.0000	115.7049	6.8380	0.0000	286.6539
Water						0.0000	0.0000		0.0000	0.0000	1.8763	37.3689	39.2452	0.1943	4.8700e-003	45.5529
Total	**0.5482**	**0.0824**	**0.0733**	**4.9000e-004**	**0.0000**	**6.2700e-003**	**6.2700e-003**	**0.0000**	**6.2700e-003**	**6.2700e-003**	**117.5812**	**204.1855**	**321.7667**	**7.0371**	**7.1700e-003**	**499.8327**

	ROG	NOx	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	Architectural Coating	Architectural Coating	1/1/2021	1/1/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 7.47

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	0.00	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
Architectural Coating	0	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 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					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2021

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	0.0000					0.0000	0.0000		0.0000	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**	**0.0000**

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
Health Club	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
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
Health Club	14.70	6.60	6.60	16.90	64.10	19.00	52	39	9
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Health Club	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
Other Asphalt Surfaces	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
Other Non-Asphalt Surfaces	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
Parking Lot	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816

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	77.1574	77.1574	3.1900e-003	6.6000e-004	77.4334
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	77.1574	77.1574	3.1900e-003	6.6000e-004	77.4334
NaturalGas Mitigated	9.0600e-003	0.0824	0.0692	4.9000e-004		6.2600e-003	6.2600e-003		6.2600e-003	6.2600e-003	0.0000	89.6512	89.6512	1.7200e-003	1.6400e-003	90.1840
NaturalGas Unmitigated	9.0600e-003	0.0824	0.0692	4.9000e-004		6.2600e-003	6.2600e-003		6.2600e-003	6.2600e-003	0.0000	89.6512	89.6512	1.7200e-003	1.6400e-003	90.1840

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					
Health Club	1.68e+006	9.0600e-003	0.0824	0.0692	4.9000e-004		6.2600e-003	6.2600e-003		6.2600e-003	6.2600e-003	0.0000	89.6512	89.6512	1.7200e-003	1.6400e-003	90.1840
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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		**9.0600e-003**	**0.0824**	**0.0692**	**4.9000e-004**		**6.2600e-003**	**6.2600e-003**		**6.2600e-003**	**6.2600e-003**	**0.0000**	**89.6512**	**89.6512**	**1.7200e-003**	**1.6400e-003**	**90.1840**

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					
Health Club	1.68e +006	9.0600e-003	0.0824	0.0692	4.9000e-004		6.2600e-003	6.2600e-003		6.2600e-003	6.2600e-003	0.0000	89.6512	89.6512	1.7200e-003	1.6400e-003	90.1840
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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		**9.0600e-003**	**0.0824**	**0.0692**	**4.9000e-004**		**6.2600e-003**	**6.2600e-003**		**6.2600e-003**	**6.2600e-003**	**0.0000**	**89.6512**	**89.6512**	**1.7200e-003**	**1.6400e-003**	**90.1840**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	236000	75.1947	3.1000e-003	6.4000e-004	75.4637
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	6160	1.9627	8.0000e-005	2.0000e-005	1.9697
Total		**77.1574**	**3.1800e-003**	**6.6000e-004**	**77.4334**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	236000	75.1947	3.1000e-003	6.4000e-004	75.4637
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	6160	1.9627	8.0000e-005	2.0000e-005	1.9697
Total		**77.1574**	**3.1800e-003**	**6.6000e-004**	**77.4334**

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	0.5392	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0800e-003	8.0800e-003	2.0000e-005	0.0000	8.6100e-003
Unmitigated	0.5392	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0800e-003	8.0800e-003	2.0000e-005	0.0000	8.6100e-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	0.1272					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.9000e-004	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0800e-003	8.0800e-003	2.0000e-005	0.0000	8.6100e-003
Total	**0.5392**	**4.0000e-005**	**4.1600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**8.0800e-003**	**8.0800e-003**	**2.0000e-005**	**0.0000**	**8.6100e-003**

6.2 Area by SubCategory

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	0.1272					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.9000e-004	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0800e-003	8.0800e-003	2.0000e-005	0.0000	8.6100e-003
Total	**0.5392**	**4.0000e-005**	**4.1600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**8.0800e-003**	**8.0800e-003**	**2.0000e-005**	**0.0000**	**8.6100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	39.2452	0.1943	4.8700e-003	45.5529
Unmitigated	39.2452	0.1943	4.8700e-003	45.5529

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	5.91431 / 3.6249	39.2452	0.1943	4.8700e-003	45.5529
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**39.2452**	**0.1943**	**4.8700e-003**	**45.5529**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	5.91431 / 3.6249	39.2452	0.1943	4.8700e-003	45.5529
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**39.2452**	**0.1943**	**4.8700e-003**	**45.5529**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	115.7049	6.8380	0.0000	286.6539
Unmitigated	115.7049	6.8380	0.0000	286.6539

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	570	115.7049	6.8380	0.0000	286.6539
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**115.7049**	**6.8380**	**0.0000**	**286.6539**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	570	115.7049	6.8380	0.0000	286.6539
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**115.7049**	**6.8380**	**0.0000**	**286.6539**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Cerro Coso - Phase 2 (5-10 years) Construction

Kern-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	7.86	1000sqft	0.18	7,860.00	0
Other Asphalt Surfaces	30.00	1000sqft	0.69	30,000.00	0
Other Non-Asphalt Surfaces	6.00	1000sqft	0.14	6,000.00	0
City Park	2.30	Acre	2.30	100,188.00	0

1.2 Other Project Characteristics

Urbanization Rural **Wind Speed (m/s)** 2.7 **Precipitation Freq (Days)** 32

Climate Zone 7 **Operational Year** 2026

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Cerro Coso - Phase 2 (5-10 years) Construction - Kern-Mojave Desert County, Annual

Project Characteristics -

Land Use - Phase 2 Buildings: A (East academic building 1st floor infill) = Junior College. S1,S2 (garden extension, amphitheatre xeriscape) = City Park w/ no buildings. W (new sidewalks) = Other Non-Asphalt. X (roadway network) = Other Asphalt.

Construction Phase - Default construction timeline. Assumes highly conservative start date of 1/1/25 for Phase 2 completion within 5-10 years (per Facilities Master Plan estimate).

Off-road Equipment - Default construction equipment.

Trips and VMT - Default construction trips.

Vehicle Trips - Construction-only run

Road Dust - Construction-only run

Consumer Products - Construction-only run

Area Coating - Construction-only run

Landscape Equipment - Construction-only run

Energy Use - Construction-only run

Water And Wastewater - Construction-only run

Solid Waste - Construction-only run

Construction Off-road Equipment Mitigation - Per EKAPCD required construction mitigation (3-14-12)

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	3930	0
tblAreaCoating	Area_Nonresidential_Interior	11790	0
tblAreaCoating	Area_Parking	2160	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	LightingElect	5.83	0.00
tblEnergyUse	NT24E	6.44	0.00
tblEnergyUse	NT24NG	0.34	0.00
tblEnergyUse	T24E	3.63	0.00
tblEnergyUse	T24NG	51.82	0.00

tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblSolidWaste	SolidWasteGenerationRate	0.20	0.00
tblSolidWaste	SolidWasteGenerationRate	10.22	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	11.23	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.21	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	27.49	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00

tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	385,525.40	0.00
tblWater	OutdoorWaterUseRate	2,740,407.10	0.00
tblWater	OutdoorWaterUseRate	603,001.26	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.2110	1.8526	2.2796	4.9400e-003	0.1795	0.0698	0.2493	0.0674	0.0655	0.1329	0.0000	435.4720	435.4720	0.0785	0.0000	437.4340
2026	0.1055	0.0105	0.0188	4.0000e-005	1.3500e-003	4.7000e-004	1.8200e-003	3.6000e-004	4.7000e-004	8.3000e-004	0.0000	3.2742	3.2742	1.4000e-004	0.0000	3.2777
Maximum	**0.2110**	**1.8526**	**2.2796**	**4.9400e-003**	**0.1795**	**0.0698**	**0.2493**	**0.0674**	**0.0655**	**0.1329**	**0.0000**	**435.4720**	**435.4720**	**0.0785**	**0.0000**	**437.4340**

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					
2025	0.2110	1.8526	2.2796	4.9400e-003	0.1403	0.0698	0.2100	0.0463	0.0655	0.1118	0.0000	435.4717	435.4717	0.0785	0.0000	437.4337
2026	0.1055	0.0105	0.0188	4.0000e-005	1.3500e-003	4.7000e-004	1.8200e-003	3.6000e-004	4.7000e-004	8.3000e-004	0.0000	3.2742	3.2742	1.4000e-004	0.0000	3.2777
Maximum	**0.2110**	**1.8526**	**2.2796**	**4.9400e-003**	**0.1403**	**0.0698**	**0.2100**	**0.0463**	**0.0655**	**0.1118**	**0.0000**	**435.4717**	**435.4717**	**0.0785**	**0.0000**	**437.4337**

	ROG	**NOx**	**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**	**21.71**	**0.00**	**15.63**	**31.08**	**0.00**	**15.75**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2025	3-31-2025	0.5498	0.5498
2	4-1-2025	6-30-2025	0.5226	0.5226
3	7-1-2025	9-30-2025	0.5284	0.5284
4	10-1-2025	12-31-2025	0.4592	0.4592
5	1-1-2026	3-31-2026	0.1198	0.1198
		Highest	0.5498	0.5498

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	0.0340	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.2000e-004	8.2000e-004	0.0000	0.0000	8.8000e-004
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	**0.0340**	**0.0000**	**4.2000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.2000e-004**	**8.2000e-004**	**0.0000**	**0.0000**	**8.8000e-004**

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	0.0340	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.2000e-004	8.2000e-004	0.0000	0.0000	8.8000e-004
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	**0.0340**	**0.0000**	**4.2000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.2000e-004**	**8.2000e-004**	**0.0000**	**0.0000**	**8.8000e-004**

	ROG	**NOx**	**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	1/1/2025	1/7/2025	5	5	
2	Grading	Grading	1/8/2025	1/17/2025	5	8	
3	Building Construction	Building Construction	1/18/2025	12/5/2025	5	230	
4	Paving	Paving	12/6/2025	12/31/2025	5	18	
5	Architectural Coating	Architectural Coating	1/1/2026	1/26/2026	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.83

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 11,790; Non-Residential Outdoor: 3,930; Striped Parking Area: 2,160 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	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	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	61.00	24.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1800e-003	0.0631	0.0448	1.0000e-004		2.7200e-003	2.7200e-003		2.5000e-003	2.5000e-003	0.0000	8.3668	8.3668	2.7100e-003	0.0000	8.4344
Total	**6.1800e-003**	**0.0631**	**0.0448**	**1.0000e-004**	**0.0452**	**2.7200e-003**	**0.0479**	**0.0248**	**2.5000e-003**	**0.0273**	**0.0000**	**8.3668**	**8.3668**	**2.7100e-003**	**0.0000**	**8.4344**

3.2 Site Preparation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.0000e-004	1.1000e-003	0.0000	5.6000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4235	0.4235	1.0000e-005	0.0000	0.4236
Total	**1.7000e-004**	**1.0000e-004**	**1.1000e-003**	**0.0000**	**5.6000e-004**	**0.0000**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4235**	**0.4235**	**1.0000e-005**	**0.0000**	**0.4236**

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					0.0203	0.0000	0.0203	0.0112	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1800e-003	0.0631	0.0448	1.0000e-004		2.7200e-003	2.7200e-003		2.5000e-003	2.5000e-003	0.0000	8.3667	8.3667	2.7100e-003	0.0000	8.4344
Total	**6.1800e-003**	**0.0631**	**0.0448**	**1.0000e-004**	**0.0203**	**2.7200e-003**	**0.0230**	**0.0112**	**2.5000e-003**	**0.0137**	**0.0000**	**8.3667**	**8.3667**	**2.7100e-003**	**0.0000**	**8.4344**

3.2 Site Preparation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.0000e-004	1.1000e-003	0.0000	5.6000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4235	0.4235	1.0000e-005	0.0000	0.4236
Total	**1.7000e-004**	**1.0000e-004**	**1.1000e-003**	**0.0000**	**5.6000e-004**	**0.0000**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4235**	**0.4235**	**1.0000e-005**	**0.0000**	**0.4236**

3.3 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0613	0.0582	1.2000e-004		2.4900e-003	2.4900e-003		2.2900e-003	2.2900e-003	0.0000	10.4279	10.4279	3.3700e-003	0.0000	10.5122
Total	**6.0900e-003**	**0.0613**	**0.0582**	**1.2000e-004**	**0.0262**	**2.4900e-003**	**0.0287**	**0.0135**	**2.2900e-003**	**0.0158**	**0.0000**	**10.4279**	**10.4279**	**3.3700e-003**	**0.0000**	**10.5122**

3.3 Grading - 2025

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	2.3000e-004	1.3000e-004	1.4700e-003	1.0000e-005	7.5000e-004	0.0000	7.6000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.5646	0.5646	1.0000e-005	0.0000	0.5648
Total	**2.3000e-004**	**1.3000e-004**	**1.4700e-003**	**1.0000e-005**	**7.5000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5646**	**0.5646**	**1.0000e-005**	**0.0000**	**0.5648**

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					0.0118	0.0000	0.0118	6.0600e-003	0.0000	6.0600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0613	0.0582	1.2000e-004		2.4900e-003	2.4900e-003		2.2900e-003	2.2900e-003	0.0000	10.4279	10.4279	3.3700e-003	0.0000	10.5122
Total	**6.0900e-003**	**0.0613**	**0.0582**	**1.2000e-004**	**0.0118**	**2.4900e-003**	**0.0143**	**6.0600e-003**	**2.2900e-003**	**8.3500e-003**	**0.0000**	**10.4279**	**10.4279**	**3.3700e-003**	**0.0000**	**10.5122**

3.3 Grading - 2025

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	2.3000e-004	1.3000e-004	1.4700e-003	1.0000e-005	7.5000e-004	0.0000	7.6000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.5646	0.5646	1.0000e-005	0.0000	0.5648
Total	**2.3000e-004**	**1.3000e-004**	**1.4700e-003**	**1.0000e-005**	**7.5000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5646**	**0.5646**	**1.0000e-005**	**0.0000**	**0.5648**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1573	1.4340	1.8497	3.1000e-003		0.0607	0.0607		0.0571	0.0571	0.0000	266.7074	266.7074	0.0627	0.0000	268.2747
Total	**0.1573**	**1.4340**	**1.8497**	**3.1000e-003**		**0.0607**	**0.0607**		**0.0571**	**0.0571**	**0.0000**	**266.7074**	**266.7074**	**0.0627**	**0.0000**	**268.2747**

3.4 Building Construction - 2025

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	5.3700e-003	0.2101	0.0382	7.0000e-004	0.0167	1.9000e-004	0.0169	4.8100e-003	1.8000e-004	4.9900e-003	0.0000	66.5372	66.5372	3.8800e-003	0.0000	66.6342
Worker	0.0267	0.0158	0.1721	7.3000e-004	0.0879	5.3000e-004	0.0884	0.0233	4.8000e-004	0.0238	0.0000	66.0105	66.0105	1.1500e-003	0.0000	66.0392
Total	**0.0321**	**0.2258**	**0.2103**	**1.4300e-003**	**0.1046**	**7.2000e-004**	**0.1053**	**0.0282**	**6.6000e-004**	**0.0288**	**0.0000**	**132.5477**	**132.5477**	**5.0300e-003**	**0.0000**	**132.6734**

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	0.1573	1.4340	1.8497	3.1000e-003		0.0607	0.0607		0.0571	0.0571	0.0000	266.7071	266.7071	0.0627	0.0000	268.2744
Total	**0.1573**	**1.4340**	**1.8497**	**3.1000e-003**		**0.0607**	**0.0607**		**0.0571**	**0.0571**	**0.0000**	**266.7071**	**266.7071**	**0.0627**	**0.0000**	**268.2744**

3.4 Building Construction - 2025

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	5.3700e-003	0.2101	0.0382	7.0000e-004	0.0167	1.9000e-004	0.0169	4.8100e-003	1.8000e-004	4.9900e-003	0.0000	66.5372	66.5372	3.8800e-003	0.0000	66.6342
Worker	0.0267	0.0158	0.1721	7.3000e-004	0.0879	5.3000e-004	0.0884	0.0233	4.8000e-004	0.0238	0.0000	66.0105	66.0105	1.1500e-003	0.0000	66.0392
Total	**0.0321**	**0.2258**	**0.2103**	**1.4300e-003**	**0.1046**	**7.2000e-004**	**0.1053**	**0.0282**	**6.6000e-004**	**0.0288**	**0.0000**	**132.5477**	**132.5477**	**5.0300e-003**	**0.0000**	**132.6734**

3.5 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.3800e-003	0.0678	0.1096	1.7000e-004		3.1700e-003	3.1700e-003		2.9300e-003	2.9300e-003	0.0000	14.7404	14.7404	4.6300e-003	0.0000	14.8562
Paving	9.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.2800e-003**	**0.0678**	**0.1096**	**1.7000e-004**		**3.1700e-003**	**3.1700e-003**		**2.9300e-003**	**2.9300e-003**	**0.0000**	**14.7404**	**14.7404**	**4.6300e-003**	**0.0000**	**14.8562**

3.5 Paving - 2025

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	6.9000e-004	4.0000e-004	4.4200e-003	2.0000e-005	2.2600e-003	1.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.6938	1.6938	3.0000e-005	0.0000	1.6945
Total	**6.9000e-004**	**4.0000e-004**	**4.4200e-003**	**2.0000e-005**	**2.2600e-003**	**1.0000e-005**	**2.2700e-003**	**6.0000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.6938**	**1.6938**	**3.0000e-005**	**0.0000**	**1.6945**

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	7.3800e-003	0.0678	0.1096	1.7000e-004		3.1700e-003	3.1700e-003		2.9300e-003	2.9300e-003	0.0000	14.7404	14.7404	4.6300e-003	0.0000	14.8562
Paving	9.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.2800e-003**	**0.0678**	**0.1096**	**1.7000e-004**		**3.1700e-003**	**3.1700e-003**		**2.9300e-003**	**2.9300e-003**	**0.0000**	**14.7404**	**14.7404**	**4.6300e-003**	**0.0000**	**14.8562**

3.5 Paving - 2025

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	6.9000e-004	4.0000e-004	4.4200e-003	2.0000e-005	2.2600e-003	1.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.6938	1.6938	3.0000e-005	0.0000	1.6945
Total	**6.9000e-004**	**4.0000e-004**	**4.4200e-003**	**2.0000e-005**	**2.2600e-003**	**1.0000e-005**	**2.2700e-003**	**6.0000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.6938**	**1.6938**	**3.0000e-005**	**0.0000**	**1.6945**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1036					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0103	0.0163	3.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3011
Total	**0.1051**	**0.0103**	**0.0163**	**3.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3011**

3.6 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	3.9000e-004	2.2000e-004	2.4700e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3600e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	0.9762	0.9762	2.0000e-005	0.0000	0.9766
Total	**3.9000e-004**	**2.2000e-004**	**2.4700e-003**	**1.0000e-005**	**1.3500e-003**	**1.0000e-005**	**1.3600e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**0.9762**	**0.9762**	**2.0000e-005**	**0.0000**	**0.9766**

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	0.1036					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0103	0.0163	3.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3011
Total	**0.1051**	**0.0103**	**0.0163**	**3.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3011**

3.6 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	3.9000e-004	2.2000e-004	2.4700e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3600e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	0.9762	0.9762	2.0000e-005	0.0000	0.9766
Total	**3.9000e-004**	**2.2000e-004**	**2.4700e-003**	**1.0000e-005**	**1.3500e-003**	**1.0000e-005**	**1.3600e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**0.9762**	**0.9762**	**2.0000e-005**	**0.0000**	**0.9766**

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		
Junior College (2Yr)	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	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	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6
Junior College (2Yr)	14.70	6.60	6.60	6.40	88.60	5.00	92	7	1
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.500102	0.029623	0.175508	0.103510	0.013470	0.004750	0.017947	0.144899	0.001583	0.001497	0.005607	0.000870	0.000635
Junior College (2Yr)	0.500102	0.029623	0.175508	0.103510	0.013470	0.004750	0.017947	0.144899	0.001583	0.001497	0.005607	0.000870	0.000635
Other Asphalt Surfaces	0.500102	0.029623	0.175508	0.103510	0.013470	0.004750	0.017947	0.144899	0.001583	0.001497	0.005607	0.000870	0.000635
Other Non-Asphalt Surfaces	0.500102	0.029623	0.175508	0.103510	0.013470	0.004750	0.017947	0.144899	0.001583	0.001497	0.005607	0.000870	0.000635

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					
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
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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					
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
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
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			
City Park	0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
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	0.0340	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.2000e-004	8.2000e-004	0.0000	0.0000	8.8000e-004
Unmitigated	0.0340	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.2000e-004	8.2000e-004	0.0000	0.0000	8.8000e-004

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0340					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.2000e-004	8.2000e-004	0.0000	0.0000	8.8000e-004
Total	**0.0340**	**0.0000**	**4.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**8.2000e-004**	**8.2000e-004**	**0.0000**	**0.0000**	**8.8000e-004**

6.2 Area by SubCategory

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0340					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.2000e-004	8.2000e-004	0.0000	0.0000	8.8000e-004
Total	**0.0340**	**0.0000**	**4.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**8.2000e-004**	**8.2000e-004**	**0.0000**	**0.0000**	**8.8000e-004**

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/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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			
City Park	0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
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 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Cerro Coso - Phase 2 (5-10 years) Operation

Kern-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.00	1000sqft	0.69	30,000.00	0
Other Non-Asphalt Surfaces	6.00	1000sqft	0.14	6,000.00	0
City Park	2.30	Acre	2.30	100,188.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	7			**Operational Year**	2026
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Phase 2 Buildings: S1,S2 (garden extension, amphitheatre xeriscape) = City Park w/ no buildings. W (new sidewalks) = Other Non-Asphalt. X (roadway network) = Other Asphalt.

Construction Phase - Operation-only run

Off-road Equipment - Default construction equipment.

Trips and VMT - Operation-only run

Vehicle Trips - Per client, no new mobile trips will be generated from this project. Operational emissions will only be generated from area & energy sources.

Construction Off-road Equipment Mitigation -

Off-road Equipment - Operation-only run

On-road Fugitive Dust - Operation-only run

Architectural Coating - Operation-only run

Road Dust - Per client, no new mobile trips will be generated from this project. Operational emissions will only be generated from area & energy sources.

Mobile Land Use Mitigation - No operational mitigation proposed/provided at time of analysis.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	2,160.00	0.00
tblConstructionPhase	NumDays	18.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOnRoadDust	AverageVehicleWeight	2.40	0.00
tblOnRoadDust	MeanVehicleSpeed	40.00	0.00
tblOnRoadDust	RoadSiltLoading	0.10	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblTripsAndVMT	WorkerTripNumber	11.00	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	1.89	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated 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					
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	4.5500e-003	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.8000e-004	6.8000e-004	0.0000	0.0000	7.3000e-004
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	0.0406	0.0000	0.0406	2.4000e-003	0.0000	0.1006
Water						0.0000	0.0000		0.0000	0.0000	0.0000	9.7007	9.7007	4.0000e-004	8.0000e-005	9.7354
Total	**4.5500e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0406**	**9.7014**	**9.7420**	**2.8000e-003**	**8.0000e-005**	**9.8367**

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	4.5500e-003	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.8000e-004	6.8000e-004	0.0000	0.0000	7.3000e-004
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	0.0406	0.0000	0.0406	2.4000e-003	0.0000	0.1006
Water						0.0000	0.0000		0.0000	0.0000	0.0000	9.7007	9.7007	4.0000e-004	8.0000e-005	9.7354
Total	**4.5500e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0406**	**9.7014**	**9.7420**	**2.8000e-003**	**8.0000e-005**	**9.8367**

	ROG	NOx	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	Architectural Coating	Architectural Coating	1/1/2025	1/1/2025	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.83

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	0.00	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
Architectural Coating	0	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2025

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	0.0000					0.0000	0.0000		0.0000	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	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		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	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	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.500102	0.029623	0.175508	0.103510	0.013470	0.004750	0.017947	0.144899	0.001583	0.001497	0.005607	0.000870	0.000635
Other Asphalt Surfaces	0.500102	0.029623	0.175508	0.103510	0.013470	0.004750	0.017947	0.144899	0.001583	0.001497	0.005607	0.000870	0.000635
Other Non-Asphalt Surfaces	0.500102	0.029623	0.175508	0.103510	0.013470	0.004750	0.017947	0.144899	0.001583	0.001497	0.005607	0.000870	0.000635

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					
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
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
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
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
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	4.5500e-003	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.8000e-004	6.8000e-004	0.0000	0.0000	7.3000e-004
Unmitigated	4.5500e-003	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.8000e-004	6.8000e-004	0.0000	0.0000	7.3000e-004

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	1.2500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.8000e-004	6.8000e-004	0.0000	0.0000	7.3000e-004
Total	**4.5500e-003**	**0.0000**	**3.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**6.8000e-004**	**6.8000e-004**	**0.0000**	**0.0000**	**7.3000e-004**

6.2 Area by SubCategory

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	1.2500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.8000e-004	6.8000e-004	0.0000	0.0000	7.3000e-004
Total	**4.5500e-003**	**0.0000**	**3.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**6.8000e-004**	**6.8000e-004**	**0.0000**	**0.0000**	**7.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	9.7007	4.0000e-004	8.0000e-005	9.7354
Unmitigated	9.7007	4.0000e-004	8.0000e-005	9.7354

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 2.74041	9.7007	4.0000e-004	8.0000e-005	9.7354
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**9.7007**	**4.0000e-004**	**8.0000e-005**	**9.7354**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 2.74041	9.7007	4.0000e-004	8.0000e-005	9.7354
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**9.7007**	**4.0000e-004**	**8.0000e-005**	**9.7354**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0406	2.4000e-003	0.0000	0.1006
Unmitigated	0.0406	2.4000e-003	0.0000	0.1006

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.2	0.0406	2.4000e-003	0.0000	0.1006
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0406**	**2.4000e-003**	**0.0000**	**0.1006**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.2	0.0406	2.4000e-003	0.0000	0.1006
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0406**	**2.4000e-003**	**0.0000**	**0.1006**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Cerro Coso - Phase 3 (10+ years) Construction

Kern-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	68.70	1000sqft	1.58	68,700.00	0
Other Non-Asphalt Surfaces	69.80	1000sqft	1.60	69,800.00	0
Parking Lot	246.00	Space	2.21	98,400.00	0
Arena	28.00	1000sqft	9.00	28,000.00	0
City Park	1.70	Acre	1.70	74,000.00	0
Apartments Mid Rise	38.00	Dwelling Unit	1.00	33,200.00	109

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	7			**Operational Year**	2031
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Cerro Coso - Phase 3 (10+ years) Construction - Kern-Mojave Desert County, Annual

Project Characteristics -

Land Use - Phase 3 Buildings: B,C (academic) = Junior College. D (performing arts) = Arena. E = Student Apartments (33.2 ksf, assume avg 882 sf/unit). J (multipurpose field) = City Park. Q1,Q2 (drop off) = Non-Asphalt. BB,CC = Parking Lot.

Construction Phase - Default construction timeline. Assume conservative start date of 1/1/30 for Phase 3 Future/Long-Term projects (per Facilities Master Plan).

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default construction equipment.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Default construction trips.

Demolition - Demo accounts for "Building J" which converts existing softball field (48 ksf) to a multipurpose field.

Vehicle Trips - Construction-only run

Construction Off-road Equipment Mitigation - Per EKAPCD required construction mitigation (3-14-12)

Road Dust - Construction-only run

Woodstoves - Construction-only run

Consumer Products - Construction-only run

Area Coating - Construction-only run

Landscape Equipment - Construction-only run

Energy Use - Construction-only run

Water And Wastewater - Construction-only run

Solid Waste - Construction-only run

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	48350	0
tblAreaCoating	Area_Nonresidential_Interior	145050	0
tblAreaCoating	Area_Parking	10092	0
tblAreaCoating	Area_Residential_Exterior	22410	0

tblAreaCoating	Area_Residential_Interior	67230	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	0.65	0.00
tblEnergyUse	LightingElect	5.83	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	1.31	0.00
tblEnergyUse	NT24E	6.44	0.00
tblEnergyUse	NT24NG	4,769.00	0.00
tblEnergyUse	NT24NG	0.12	0.00
tblEnergyUse	NT24NG	0.34	0.00
tblEnergyUse	T24E	817.48	0.00
tblEnergyUse	T24E	0.40	0.00
tblEnergyUse	T24E	3.63	0.00
tblEnergyUse	T24NG	10,849.99	0.00
tblEnergyUse	T24NG	16.68	0.00
tblEnergyUse	T24NG	51.82	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	20.90	0.00
tblFireplaces	NumberNoFireplace	3.80	38.00
tblFireplaces	NumberWood	13.30	0.00
tblLandUse	LandUseSquareFeet	74,052.00	74,000.00
tblLandUse	LandUseSquareFeet	38,000.00	33,200.00

Cerro Coso - Phase 3 (10+ years) Construction - Kern-Mojave Desert County, Annual

tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblSolidWaste	SolidWasteGenerationRate	17.48	0.00
tblSolidWaste	SolidWasteGenerationRate	0.77	0.00
tblSolidWaste	SolidWasteGenerationRate	0.15	0.00
tblSolidWaste	SolidWasteGenerationRate	89.31	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	11.23	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.21	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	27.49	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00

tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	2,475,852.97	0.00
tblWater	IndoorWaterUseRate	12,061,563.29	0.00
tblWater	IndoorWaterUseRate	3,369,668.53	0.00
tblWater	OutdoorWaterUseRate	1,560,863.83	0.00
tblWater	OutdoorWaterUseRate	769,887.02	0.00
tblWater	OutdoorWaterUseRate	2,025,518.29	0.00
tblWater	OutdoorWaterUseRate	5,270,507.19	0.00

tblWoodstoves	NumberCatalytic	1.90	0.00
tblWoodstoves	NumberNoncatalytic	1.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2030	0.2750	1.6555	2.6277	8.0000e-003	0.5036	0.0293	0.5329	0.1769	0.0292	0.2061	0.0000	713.6299	713.6299	0.0286	0.0000	714.3446
2031	1.8099	0.7017	1.1601	3.3500e-003	0.1295	0.0115	0.1410	0.0348	0.0115	0.0463	0.0000	296.7400	296.7400	0.0119	0.0000	297.0374
Maximum	**1.8099**	**1.6555**	**2.6277**	**8.0000e-003**	**0.5036**	**0.0293**	**0.5329**	**0.1769**	**0.0292**	**0.2061**	**0.0000**	**713.6299**	**713.6299**	**0.0286**	**0.0000**	**714.3446**

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					
2030	0.2750	1.6555	2.6277	8.0000e-003	0.3691	0.0293	0.3984	0.1179	0.0292	0.1471	0.0000	713.6294	713.6294	0.0286	0.0000	714.3441
2031	1.8099	0.7017	1.1601	3.3500e-003	0.1295	0.0115	0.1410	0.0348	0.0115	0.0463	0.0000	296.7398	296.7398	0.0119	0.0000	297.0372
Maximum	**1.8099**	**1.6555**	**2.6277**	**8.0000e-003**	**0.3691**	**0.0293**	**0.3984**	**0.1179**	**0.0292**	**0.1471**	**0.0000**	**713.6294**	**713.6294**	**0.0286**	**0.0000**	**714.3441**

	ROG	**NOx**	**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**	**21.23**	**0.00**	**19.95**	**27.86**	**0.00**	**23.37**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2030	3-31-2030	0.5055	0.5055
2	4-1-2030	6-30-2030	0.4710	0.4710
3	7-1-2030	9-30-2030	0.4761	0.4761
4	10-1-2030	12-31-2030	0.4775	0.4775
5	1-1-2031	3-31-2031	0.4644	0.4644
6	4-1-2031	6-30-2031	1.1956	1.1956
7	7-1-2031	9-30-2031	0.8548	0.8548
		Highest	1.1956	1.1956

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**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	Demolition	Demolition	1/1/2030	1/28/2030	5	20	
2	Site Preparation	Site Preparation	1/29/2030	2/11/2030	5	10	
3	Grading	Grading	2/12/2030	3/25/2030	5	30	
4	Building Construction	Building Construction	3/26/2030	5/19/2031	5	300	
5	Paving	Paving	5/20/2031	6/16/2031	5	20	
6	Architectural Coating	Architectural Coating	6/17/2031	7/14/2031	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 3.81

Residential Indoor: 67,230; Residential Outdoor: 22,410; Non-Residential Indoor: 145,050; Non-Residential Outdoor: 48,350; Striped Parking Area: 10,092 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	218.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	170.00	60.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	34.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2030

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					0.0240	0.0000	0.0240	3.6300e-003	0.0000	3.6300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0208	0.0978	0.1892	4.6000e-004		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	39.7218	39.7218	1.6800e-003	0.0000	39.7637
Total	**0.0208**	**0.0978**	**0.1892**	**4.6000e-004**	**0.0240**	**3.5100e-003**	**0.0275**	**3.6300e-003**	**3.5100e-003**	**7.1400e-003**	**0.0000**	**39.7218**	**39.7218**	**1.6800e-003**	**0.0000**	**39.7637**

3.2 Demolition - 2030

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	4.9000e-004	0.0154	3.0400e-003	8.0000e-005	1.8800e-003	3.0000e-005	1.9100e-003	5.2000e-004	3.0000e-005	5.4000e-004	0.0000	7.5955	7.5955	3.4000e-004	0.0000	7.6039
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	2.2000e-004	2.6600e-003	1.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.2082	1.2082	2.0000e-005	0.0000	1.2086
Total	**9.2000e-004**	**0.0156**	**5.7000e-003**	**9.0000e-005**	**3.7600e-003**	**4.0000e-005**	**3.8000e-003**	**1.0200e-003**	**4.0000e-005**	**1.0500e-003**	**0.0000**	**8.8037**	**8.8037**	**3.6000e-004**	**0.0000**	**8.8125**

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					0.0108	0.0000	0.0108	1.6300e-003	0.0000	1.6300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0208	0.0978	0.1892	4.6000e-004		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	39.7218	39.7218	1.6800e-003	0.0000	39.7637
Total	**0.0208**	**0.0978**	**0.1892**	**4.6000e-004**	**0.0108**	**3.5100e-003**	**0.0143**	**1.6300e-003**	**3.5100e-003**	**5.1400e-003**	**0.0000**	**39.7218**	**39.7218**	**1.6800e-003**	**0.0000**	**39.7637**

3.2 Demolition - 2030

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	4.9000e-004	0.0154	3.0400e-003	8.0000e-005	1.8800e-003	3.0000e-005	1.9100e-003	5.2000e-004	3.0000e-005	5.4000e-004	0.0000	7.5955	7.5955	3.4000e-004	0.0000	7.6039
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	2.2000e-004	2.6600e-003	1.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.2082	1.2082	2.0000e-005	0.0000	1.2086
Total	**9.2000e-004**	**0.0156**	**5.7000e-003**	**9.0000e-005**	**3.7600e-003**	**4.0000e-005**	**3.8000e-003**	**1.0200e-003**	**4.0000e-005**	**1.0500e-003**	**0.0000**	**8.8037**	**8.8037**	**3.6000e-004**	**0.0000**	**8.8125**

3.3 Site Preparation - 2030

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0122	0.0683	0.0815	2.3000e-004		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	20.0023	20.0023	9.9000e-004	0.0000	20.0270
Total	**0.0122**	**0.0683**	**0.0815**	**2.3000e-004**	**0.0903**	**2.1800e-003**	**0.0925**	**0.0497**	**2.1800e-003**	**0.0518**	**0.0000**	**20.0023**	**20.0023**	**9.9000e-004**	**0.0000**	**20.0270**

3.3 Site Preparation - 2030

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	2.6000e-004	1.3000e-004	1.6000e-003	1.0000e-005	1.1300e-003	0.0000	1.1300e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.7249	0.7249	1.0000e-005	0.0000	0.7252
Total	**2.6000e-004**	**1.3000e-004**	**1.6000e-003**	**1.0000e-005**	**1.1300e-003**	**0.0000**	**1.1300e-003**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**0.7249**	**0.7249**	**1.0000e-005**	**0.0000**	**0.7252**

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					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0122	0.0683	0.0815	2.3000e-004		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	20.0023	20.0023	9.9000e-004	0.0000	20.0270
Total	**0.0122**	**0.0683**	**0.0815**	**2.3000e-004**	**0.0407**	**2.1800e-003**	**0.0428**	**0.0223**	**2.1800e-003**	**0.0245**	**0.0000**	**20.0023**	**20.0023**	**9.9000e-004**	**0.0000**	**20.0270**

3.3 Site Preparation - 2030

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	2.6000e-004	1.3000e-004	1.6000e-003	1.0000e-005	1.1300e-003	0.0000	1.1300e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.7249	0.7249	1.0000e-005	0.0000	0.7252
Total	**2.6000e-004**	**1.3000e-004**	**1.6000e-003**	**1.0000e-005**	**1.1300e-003**	**0.0000**	**1.1300e-003**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**0.7249**	**0.7249**	**1.0000e-005**	**0.0000**	**0.7252**

3.4 Grading - 2030

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0492	0.2077	0.3454	1.0500e-003		7.3200e-003	7.3200e-003		7.3200e-003	7.3200e-003	0.0000	98.1543	98.1543	3.9700e-003	0.0000	98.2535
Total	**0.0492**	**0.2077**	**0.3454**	**1.0500e-003**	**0.1301**	**7.3200e-003**	**0.1374**	**0.0540**	**7.3200e-003**	**0.0613**	**0.0000**	**98.1543**	**98.1543**	**3.9700e-003**	**0.0000**	**98.2535**

3.4 Grading - 2030

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	8.5000e-004	4.4000e-004	5.3300e-003	3.0000e-005	3.7600e-003	2.0000e-005	3.7800e-003	1.0000e-003	2.0000e-005	1.0100e-003	0.0000	2.4164	2.4164	3.0000e-005	0.0000	2.4172
Total	**8.5000e-004**	**4.4000e-004**	**5.3300e-003**	**3.0000e-005**	**3.7600e-003**	**2.0000e-005**	**3.7800e-003**	**1.0000e-003**	**2.0000e-005**	**1.0100e-003**	**0.0000**	**2.4164**	**2.4164**	**3.0000e-005**	**0.0000**	**2.4172**

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					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0492	0.2077	0.3454	1.0500e-003		7.3200e-003	7.3200e-003		7.3200e-003	7.3200e-003	0.0000	98.1542	98.1542	3.9700e-003	0.0000	98.2534
Total	**0.0492**	**0.2077**	**0.3454**	**1.0500e-003**	**0.0586**	**7.3200e-003**	**0.0659**	**0.0243**	**7.3200e-003**	**0.0316**	**0.0000**	**98.1542**	**98.1542**	**3.9700e-003**	**0.0000**	**98.2534**

3.4 Grading - 2030

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	8.5000e-004	4.4000e-004	5.3300e-003	3.0000e-005	3.7600e-003	2.0000e-005	3.7800e-003	1.0000e-003	2.0000e-005	1.0100e-003	0.0000	2.4164	2.4164	3.0000e-005	0.0000	2.4172
Total	**8.5000e-004**	**4.4000e-004**	**5.3300e-003**	**3.0000e-005**	**3.7600e-003**	**2.0000e-005**	**3.7800e-003**	**1.0000e-003**	**2.0000e-005**	**1.0100e-003**	**0.0000**	**2.4164**	**2.4164**	**3.0000e-005**	**0.0000**	**2.4172**

3.5 Building Construction - 2030

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	0.1316	0.7974	1.6238	3.1100e-003		0.0149	0.0149		0.0149	0.0149	0.0000	264.1753	264.1753	0.0106	0.0000	264.4403
Total	**0.1316**	**0.7974**	**1.6238**	**3.1100e-003**		**0.0149**	**0.0149**		**0.0149**	**0.0149**	**0.0000**	**264.1753**	**264.1753**	**0.0106**	**0.0000**	**264.4403**

3.5 Building Construction - 2030

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	0.0108	0.4430	0.0719	1.5000e-003	0.0364	4.0000e-004	0.0368	0.0105	3.8000e-004	0.0109	0.0000	142.0188	142.0188	9.1800e-003	0.0000	142.2484
Worker	0.0485	0.0250	0.3035	1.5200e-003	0.2141	9.4000e-004	0.2150	0.0569	8.6000e-004	0.0577	0.0000	137.6123	137.6123	1.7800e-003	0.0000	137.6569
Total	**0.0593**	**0.4680**	**0.3753**	**3.0200e-003**	**0.2505**	**1.3400e-003**	**0.2518**	**0.0674**	**1.2400e-003**	**0.0686**	**0.0000**	**279.6311**	**279.6311**	**0.0110**	**0.0000**	**279.9053**

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	0.1316	0.7974	1.6238	3.1100e-003		0.0149	0.0149		0.0149	0.0149	0.0000	264.1750	264.1750	0.0106	0.0000	264.4400
Total	**0.1316**	**0.7974**	**1.6238**	**3.1100e-003**		**0.0149**	**0.0149**		**0.0149**	**0.0149**	**0.0000**	**264.1750**	**264.1750**	**0.0106**	**0.0000**	**264.4400**

3.5 Building Construction - 2030

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	0.0108	0.4430	0.0719	1.5000e-003	0.0364	4.0000e-004	0.0368	0.0105	3.8000e-004	0.0109	0.0000	142.0188	142.0188	9.1800e-003	0.0000	142.2484
Worker	0.0485	0.0250	0.3035	1.5200e-003	0.2141	9.4000e-004	0.2150	0.0569	8.6000e-004	0.0577	0.0000	137.6123	137.6123	1.7800e-003	0.0000	137.6569
Total	**0.0593**	**0.4680**	**0.3753**	**3.0200e-003**	**0.2505**	**1.3400e-003**	**0.2518**	**0.0674**	**1.2400e-003**	**0.0686**	**0.0000**	**279.6311**	**279.6311**	**0.0110**	**0.0000**	**279.9053**

3.5 Building Construction - 2031

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	0.0648	0.3928	0.7998	1.5300e-003		7.3300e-003	7.3300e-003		7.3300e-003	7.3300e-003	0.0000	130.1162	130.1162	5.2200e-003	0.0000	130.2467
Total	**0.0648**	**0.3928**	**0.7998**	**1.5300e-003**		**7.3300e-003**	**7.3300e-003**		**7.3300e-003**	**7.3300e-003**	**0.0000**	**130.1162**	**130.1162**	**5.2200e-003**	**0.0000**	**130.2467**

3.5 Building Construction - 2031

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	5.2700e-003	0.2172	0.0348	7.4000e-004	0.0179	1.9000e-004	0.0181	5.1800e-003	1.9000e-004	5.3600e-003	0.0000	69.8039	69.8039	4.5900e-003	0.0000	69.9185
Worker	0.0221	0.0113	0.1408	7.3000e-004	0.1054	4.3000e-004	0.1059	0.0280	4.0000e-004	0.0284	0.0000	66.3062	66.3062	8.1000e-004	0.0000	66.3264
Total	**0.0274**	**0.2285**	**0.1756**	**1.4700e-003**	**0.1234**	**6.2000e-004**	**0.1240**	**0.0332**	**5.9000e-004**	**0.0338**	**0.0000**	**136.1101**	**136.1101**	**5.4000e-003**	**0.0000**	**136.2449**

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	0.0648	0.3928	0.7998	1.5300e-003		7.3300e-003	7.3300e-003		7.3300e-003	7.3300e-003	0.0000	130.1161	130.1161	5.2200e-003	0.0000	130.2466
Total	**0.0648**	**0.3928**	**0.7998**	**1.5300e-003**		**7.3300e-003**	**7.3300e-003**		**7.3300e-003**	**7.3300e-003**	**0.0000**	**130.1161**	**130.1161**	**5.2200e-003**	**0.0000**	**130.2466**

3.5 Building Construction - 2031

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	5.2700e-003	0.2172	0.0348	7.4000e-004	0.0179	1.9000e-004	0.0181	5.1800e-003	1.9000e-004	5.3600e-003	0.0000	69.8039	69.8039	4.5900e-003	0.0000	69.9185
Worker	0.0221	0.0113	0.1408	7.3000e-004	0.1054	4.3000e-004	0.1059	0.0280	4.0000e-004	0.0284	0.0000	66.3062	66.3062	8.1000e-004	0.0000	66.3264
Total	**0.0274**	**0.2285**	**0.1756**	**1.4700e-003**	**0.1234**	**6.2000e-004**	**0.1240**	**0.0332**	**5.9000e-004**	**0.0338**	**0.0000**	**136.1101**	**136.1101**	**5.4000e-003**	**0.0000**	**136.2449**

3.6 Paving - 2031

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	0.0139	0.0712	0.1585	2.8000e-004		3.3100e-003	3.3100e-003		3.3100e-003	3.3100e-003	0.0000	24.0995	24.0995	1.1300e-003	0.0000	24.1278
Paving	2.9000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0168**	**0.0712**	**0.1585**	**2.8000e-004**		**3.3100e-003**	**3.3100e-003**		**3.3100e-003**	**3.3100e-003**	**0.0000**	**24.0995**	**24.0995**	**1.1300e-003**	**0.0000**	**24.1278**

3.6 Paving - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.0000e-004	2.5100e-003	1.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.1819	1.1819	1.0000e-005	0.0000	1.1823
Total	**3.9000e-004**	**2.0000e-004**	**2.5100e-003**	**1.0000e-005**	**1.8800e-003**	**1.0000e-005**	**1.8900e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.1819**	**1.1819**	**1.0000e-005**	**0.0000**	**1.1823**

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	0.0139	0.0712	0.1585	2.8000e-004		3.3100e-003	3.3100e-003		3.3100e-003	3.3100e-003	0.0000	24.0995	24.0995	1.1300e-003	0.0000	24.1277
Paving	2.9000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0168**	**0.0712**	**0.1585**	**2.8000e-004**		**3.3100e-003**	**3.3100e-003**		**3.3100e-003**	**3.3100e-003**	**0.0000**	**24.0995**	**24.0995**	**1.1300e-003**	**0.0000**	**24.1277**

3.6 Paving - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.0000e-004	2.5100e-003	1.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.1819	1.1819	1.0000e-005	0.0000	1.1823
Total	**3.9000e-004**	**2.0000e-004**	**2.5100e-003**	**1.0000e-005**	**1.8800e-003**	**1.0000e-005**	**1.8900e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.1819**	**1.1819**	**1.0000e-005**	**0.0000**	**1.1823**

3.7 Architectural Coating - 2031

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	1.6983					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	8.5600e-003	0.0180	3.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.5533	2.5533	1.0000e-004	0.0000	2.5558
Total	**1.6996**	**8.5600e-003**	**0.0180**	**3.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.0000e-004**	**0.0000**	**2.5558**

3.7 Architectural Coating - 2031

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	8.9000e-004	4.6000e-004	5.6900e-003	3.0000e-005	4.2600e-003	2.0000e-005	4.2800e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	2.6790	2.6790	3.0000e-005	0.0000	2.6799
Total	**8.9000e-004**	**4.6000e-004**	**5.6900e-003**	**3.0000e-005**	**4.2600e-003**	**2.0000e-005**	**4.2800e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**0.0000**	**2.6790**	**2.6790**	**3.0000e-005**	**0.0000**	**2.6799**

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	1.6983					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	8.5600e-003	0.0180	3.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.5533	2.5533	1.0000e-004	0.0000	2.5558
Total	**1.6996**	**8.5600e-003**	**0.0180**	**3.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.0000e-004**	**0.0000**	**2.5558**

3.7 Architectural Coating - 2031

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	8.9000e-004	4.6000e-004	5.6900e-003	3.0000e-005	4.2600e-003	2.0000e-005	4.2800e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	2.6790	2.6790	3.0000e-005	0.0000	2.6799
Total	**8.9000e-004**	**4.6000e-004**	**5.6900e-003**	**3.0000e-005**	**4.2600e-003**	**2.0000e-005**	**4.2800e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**0.0000**	**2.6790**	**2.6790**	**3.0000e-005**	**0.0000**	**2.6799**

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
Apartments Mid Rise	0.00	0.00	0.00		
Arena	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Junior College (2Yr)	0.00	0.00	0.00		
Other Non-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
Apartments Mid Rise	16.80	7.10	7.90	46.40	16.40	37.20	86	11	3
Arena	14.70	6.60	6.60	0.00	81.00	19.00	66	28	6
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6
Junior College (2Yr)	14.70	6.60	6.60	6.40	88.60	5.00	92	7	1
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515
Arena	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515
City Park	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515
Junior College (2Yr)	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515
Other Non-Asphalt Surfaces	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515
Parking Lot	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515

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					
Apartments Mid Rise	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
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
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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		**0.0000**	**0.0000**	**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					
Apartments Mid Rise	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
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
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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		**0.0000**	**0.0000**	**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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Arena	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Arena	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000	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

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	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**

6.2 Area by SubCategory

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	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**

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			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
Arena	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
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			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
Arena	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Arena	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Arena	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
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 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Cerro Coso - Phase 3 (10+ years) Operation

Kern-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	68.70	1000sqft	1.58	68,700.00	0
Other Non-Asphalt Surfaces	69.80	1000sqft	1.60	69,800.00	0
Parking Lot	246.00	Space	2.21	98,400.00	0
Arena	28.00	1000sqft	9.00	28,000.00	0
City Park	0.60	Acre	0.60	26,000.00	0
Apartments Mid Rise	38.00	Dwelling Unit	1.00	33,200.00	109

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	7			**Operational Year**	2031
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Phase 3 Buildings: B,C (academic) = Junior College. D (performing arts) = Arena. E = Student Apartments (33.2 ksf, assume avg 882 sf/unit). J (multipurpose field increase) = City Park. Q1,Q2 (plazas) = Non-Asphalt. BB,CC = Parking Lot.

Construction Phase - Operation-only run

Off-road Equipment - Operation-only run

Off-road Equipment -

Trips and VMT - Operation-only run

Demolition -

Vehicle Trips - Per client, no new mobile trips will be generated from this project. Operational emissions will only be generated from area & energy sources.

Construction Off-road Equipment Mitigation -

On-road Fugitive Dust - Operation-only run

Architectural Coating - Operation-only run

Road Dust - Per client, no new mobile trips will be generated from this project. Operational emissions will only be generated from area & energy sources.

Woodstoves - No fireplaces or woodstoves in student apartments

Mobile Land Use Mitigation - No operational mitigation proposed/provided at time of analysis

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	48,350.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	145,050.00	0.00
tblArchitecturalCoating	ConstArea_Parking	10,092.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	22,410.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	67,230.00	0.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	PhaseEndDate	7/14/2031	1/1/2030
tblConstructionPhase	PhaseStartDate	6/17/2031	1/1/2030
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00

tblFireplaces	NumberGas	20.90	0.00
tblFireplaces	NumberNoFireplace	3.80	38.00
tblFireplaces	NumberWood	13.30	0.00
tblLandUse	LandUseSquareFeet	26,136.00	26,000.00
tblLandUse	LandUseSquareFeet	38,000.00	33,200.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOnRoadDust	AverageVehicleWeight	2.40	0.00
tblOnRoadDust	MeanVehicleSpeed	40.00	0.00
tblOnRoadDust	RoadSiltLoading	0.10	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblTripsAndVMT	WorkerTripNumber	30.00	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	11.23	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.21	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	27.49	0.00

tblWoodstoves	NumberCatalytic	1.90	0.00
tblWoodstoves	NumberNoncatalytic	1.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated 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					
2030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.6970	3.2800e-003	0.2852	2.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	0.4683	0.4683	4.6000e-004	0.0000	0.4797
Energy	0.0251	0.2261	0.1786	1.3700e-003		0.0173	0.0173		0.0173	0.0173	0.0000	683.9186	683.9186	0.0228	8.2700e-003	686.9518
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	21.8439	0.0000	21.8439	1.2909	0.0000	54.1172
Water						0.0000	0.0000		0.0000	0.0000	5.6811	103.7306	109.4117	0.5878	0.0147	128.4761
Total	**0.7221**	**0.2293**	**0.4638**	**1.3900e-003**	**0.0000**	**0.0189**	**0.0189**	**0.0000**	**0.0189**	**0.0189**	**27.5250**	**788.1174**	**815.6424**	**1.9019**	**0.0229**	**870.0249**

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	0.6970	3.2800e-003	0.2852	2.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	0.4683	0.4683	4.6000e-004	0.0000	0.4797
Energy	0.0251	0.2261	0.1786	1.3700e-003		0.0173	0.0173		0.0173	0.0173	0.0000	683.9186	683.9186	0.0228	8.2700e-003	686.9518
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	21.8439	0.0000	21.8439	1.2909	0.0000	54.1172
Water						0.0000	0.0000		0.0000	0.0000	5.6811	103.7306	109.4117	0.5878	0.0147	128.4761
Total	**0.7221**	**0.2293**	**0.4638**	**1.3900e-003**	**0.0000**	**0.0189**	**0.0189**	**0.0000**	**0.0189**	**0.0189**	**27.5250**	**788.1174**	**815.6424**	**1.9019**	**0.0229**	**870.0249**

	ROG	NOx	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	Architectural Coating	Architectural Coating	1/1/2030	1/1/2030	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.81

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	0.00	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
Architectural Coating	0	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2030

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	0.0000					0.0000	0.0000		0.0000	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2030

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	0.0000					0.0000	0.0000		0.0000	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**	**0.0000**

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
Apartments Mid Rise	0.00	0.00	0.00		
Arena	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Junior College (2Yr)	0.00	0.00	0.00		
Other Non-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
Apartments Mid Rise	16.80	7.10	7.90	46.40	16.40	37.20	86	11	3
Arena	14.70	6.60	6.60	0.00	81.00	19.00	66	28	6
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6
Junior College (2Yr)	14.70	6.60	6.60	6.40	88.60	5.00	92	7	1
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515
Arena	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515
City Park	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515
Junior College (2Yr)	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515
Other Non-Asphalt Surfaces	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515
Parking Lot	0.511582	0.029503	0.180312	0.096495	0.010353	0.003970	0.016485	0.141574	0.001556	0.001374	0.005469	0.000812	0.000515

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	435.9202	435.9202	0.0180	3.7200e-003	437.4798
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	435.9202	435.9202	0.0180	3.7200e-003	437.4798
NaturalGas Mitigated	0.0251	0.2261	0.1786	1.3700e-003		0.0173	0.0173		0.0173	0.0173	0.0000	247.9984	247.9984	4.7500e-003	4.5500e-003	249.4721
NaturalGas Unmitigated	0.0251	0.2261	0.1786	1.3700e-003		0.0173	0.0173		0.0173	0.0173	0.0000	247.9984	247.9984	4.7500e-003	4.5500e-003	249.4721

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					
Apartments Mid Rise	593522	3.2000e-003	0.0274	0.0116	1.7000e-004		2.2100e-003	2.2100e-003		2.2100e-003	2.2100e-003	0.0000	31.6726	31.6726	6.1000e-004	5.8000e-004	31.8608
Arena	470400	2.5400e-003	0.0231	0.0194	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	25.1023	25.1023	4.8000e-004	4.6000e-004	25.2515
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
Junior College (2Yr)	3.58339e+006	0.0193	0.1757	0.1476	1.0500e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.2234	191.2234	3.6700e-003	3.5100e-003	192.3598
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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		**0.0251**	**0.2261**	**0.1786**	**1.3600e-003**		**0.0173**	**0.0173**		**0.0173**	**0.0173**	**0.0000**	**247.9984**	**247.9984**	**4.7600e-003**	**4.5500e-003**	**249.4721**

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					
Apartments Mid Rise	593522	3.2000e-003	0.0274	0.0116	1.7000e-004		2.2100e-003	2.2100e-003		2.2100e-003	2.2100e-003	0.0000	31.6726	31.6726	6.1000e-004	5.8000e-004	31.8608
Arena	470400	2.5400e-003	0.0231	0.0194	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	25.1023	25.1023	4.8000e-004	4.6000e-004	25.2515
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
Junior College (2Yr)	3.58339e+006	0.0193	0.1757	0.1476	1.0500e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.2234	191.2234	3.6700e-003	3.5100e-003	192.3598
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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		**0.0251**	**0.2261**	**0.1786**	**1.3600e-003**		**0.0173**	**0.0173**		**0.0173**	**0.0173**	**0.0000**	**247.9984**	**247.9984**	**4.7600e-003**	**4.5500e-003**	**249.4721**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	175295	55.8527	2.3100e-003	4.8000e-004	56.0525
Arena	66080	21.0545	8.7000e-004	1.8000e-004	21.1298
City Park	0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	1.09233e+006	348.0397	0.0144	2.9700e-003	349.2849
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	34440	10.9733	4.5000e-004	9.0000e-005	11.0126
Total		**435.9202**	**0.0180**	**3.7200e-003**	**437.4798**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	175295	55.8527	2.3100e-003	4.8000e-004	56.0525
Arena	66080	21.0545	8.7000e-004	1.8000e-004	21.1298
City Park	0	0.0000	0.0000	0.0000	0.0000
Junior College (2Yr)	1.09233e+006	348.0397	0.0144	2.9700e-003	349.2849
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	34440	10.9733	4.5000e-004	9.0000e-005	11.0126
Total		**435.9202**	**0.0180**	**3.7200e-003**	**437.4798**

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	0.6970	3.2800e-003	0.2852	2.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	0.4683	0.4683	4.6000e-004	0.0000	0.4797
Unmitigated	0.6970	3.2800e-003	0.2852	2.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	0.4683	0.4683	4.6000e-004	0.0000	0.4797

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	0.1698					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5184					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.7600e-003	3.2800e-003	0.2852	2.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	0.4683	0.4683	4.6000e-004	0.0000	0.4797
Total	**0.6970**	**3.2800e-003**	**0.2852**	**2.0000e-005**		**1.5800e-003**	**1.5800e-003**		**1.5800e-003**	**1.5800e-003**	**0.0000**	**0.4683**	**0.4683**	**4.6000e-004**	**0.0000**	**0.4797**

6.2 Area by SubCategory

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	0.1698					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5184					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.7600e-003	3.2800e-003	0.2852	2.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	0.4683	0.4683	4.6000e-004	0.0000	0.4797
Total	**0.6970**	**3.2800e-003**	**0.2852**	**2.0000e-005**		**1.5800e-003**	**1.5800e-003**		**1.5800e-003**	**1.5800e-003**	**0.0000**	**0.4683**	**0.4683**	**4.6000e-004**	**0.0000**	**0.4797**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	109.4117	0.5878	0.0147	128.4761
Unmitigated	109.4117	0.5878	0.0147	128.4761

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.47585 / 1.56086	16.5825	0.0813	2.0400e-003	19.2236
Arena	12.0616 / 0.769887	56.5925	0.3952	9.7300e-003	69.3725
City Park	0 / 0.714889	2.5306	1.0000e-004	2.0000e-005	2.5397
Junior College (2Yr)	3.36967 / 5.27051	33.7060	0.1112	2.8700e-003	37.3404
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**109.4117**	**0.5878**	**0.0147**	**128.4761**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.47585 / 1.56086	16.5825	0.0813	2.0400e-003	19.2236
Arena	12.0616 / 0.769887	56.5925	0.3952	9.7300e-003	69.3725
City Park	0 / 0.714889	2.5306	1.0000e-004	2.0000e-005	2.5397
Junior College (2Yr)	3.36967 / 5.27051	33.7060	0.1112	2.8700e-003	37.3404
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**109.4117**	**0.5878**	**0.0147**	**128.4761**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.8439	1.2909	0.0000	54.1172
Unmitigated	21.8439	1.2909	0.0000	54.1172

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	17.48	3.5483	0.2097	0.0000	8.7907
Arena	0.77	0.1563	9.2400e-003	0.0000	0.3872
City Park	0.05	0.0102	6.0000e-004	0.0000	0.0252
Junior College (2Yr)	89.31	18.1291	1.0714	0.0000	44.9141
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**21.8439**	**1.2909**	**0.0000**	**54.1172**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	17.48	3.5483	0.2097	0.0000	8.7907
Arena	0.77	0.1563	9.2400e-003	0.0000	0.3872
City Park	0.05	0.0102	6.0000e-004	0.0000	0.0252
Junior College (2Yr)	89.31	18.1291	1.0714	0.0000	44.9141
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**21.8439**	**1.2909**	**0.0000**	**54.1172**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C. CARB 2020 AND 2025 ESTIMATED EMISSION INVENTORIES

2016 SIP EMISSION PROJECTION DATA

2020 Estimated Annual Average Emissions

KERN COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

KERN COUNTY COUNTY - MOJAVE DESERT AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	0.5	0.1	0.8	2.4	0.2	0.4	0.4	0.4	0.0
WASTE DISPOSAL	8.4	0.1	0.0	-	0.0	0.0	0.0	0.0	0.1
CLEANING AND SURFACE COATINGS	0.9	0.8	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	0.1	0.1	-	-	-	-	-	-	-
INDUSTRIAL PROCESSES	0.1	0.1	10.2	18.4	8.1	3.7	2.9	1.7	0.1
*** TOTAL STATIONARY SOURCES**	**10.2**	**1.3**	**11.0**	**20.8**	**8.3**	**4.1**	**3.3**	**2.1**	**0.1**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	1.6	1.4	-	-	-	-	-	-	1.3
MISCELLANEOUS PROCESSES	3.5	1.2	11.0	0.6	0.0	18.6	9.7	2.6	0.7
*** TOTAL AREAWIDE SOURCES**	**5.0**	**2.6**	**11.0**	**0.6**	**0.0**	**18.6**	**9.7**	**2.6**	**2.0**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	1.1	1.1	7.2	4.1	0.0	0.3	0.3	0.1	0.1
OTHER MOBILE SOURCES	5.0	4.9	23.8	5.5	0.3	3.0	2.9	2.9	0.0
*** TOTAL MOBILE SOURCES**	**6.2**	**5.9**	**31.0**	**9.6**	**0.3**	**3.3**	**3.2**	**3.0**	**0.1**
TOTAL KERN COUNTY IN MOJAVE DESERT	**21.4**	**9.8**	**53.0**	**31.0**	**8.6**	**26.0**	**16.2**	**7.7**	**2.3**

KERN COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	12.6	1.8	9.9	7.6	0.7	2.7	2.6	2.5	1.6
WASTE DISPOSAL	224.6	12.2	0.2	0.1	0.0	0.1	0.0	0.0	5.4
CLEANING AND SURFACE COATINGS	3.0	2.7	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	46.2	11.8	0.9	0.3	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	2.4	2.3	0.1	0.1	0.1	3.7	1.6	0.6	0.2
*** TOTAL STATIONARY SOURCES**	**288.8**	**30.7**	**11.1**	**8.0**	**1.1**	**6.7**	**4.4**	**3.3**	**7.2**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	10.9	10.0	-	-	-	-	-	-	26.5

MISCELLANEOUS PROCESSES	63.6	9.9	5.2	1.2	0.0	61.8	30.9	5.7	17.1
*** TOTAL AREAWIDE SOURCES**	**74.5**	**19.9**	**5.2**	**1.2**	**0.0**	**61.8**	**30.9**	**5.7**	**43.6**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	5.4	4.9	31.4	23.5	0.1	1.7	1.6	0.7	0.8
OTHER MOBILE SOURCES	4.0	3.5	27.2	10.8	0.0	0.6	0.5	0.5	0.0
*** TOTAL MOBILE SOURCES**	**9.4**	**8.4**	**58.6**	**34.2**	**0.2**	**2.2**	**2.2**	**1.2**	**0.8**
TOTAL KERN COUNTY IN SAN JOAQUIN VALLEY	**372.7**	**59.0**	**74.9**	**43.5**	**1.4**	**70.7**	**37.4**	**10.2**	**51.7**
GRAND TOTAL FOR KERN COUNTY	**394.0**	**68.8**	**127.9**	**74.4**	**10.0**	**96.7**	**53.6**	**17.9**	**54.0**

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2016 SIP Emission Projection Data

2020 Estimated Annual Average Emissions

MOJAVE DESERT AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	9.7	1.4	12.0	27.8	1.3	9.9	4.7	2.6	0.2
WASTE DISPOSAL	36.3	0.5	0.1	0.1	0.0	61.6	17.9	1.8	1.8
CLEANING AND SURFACE COATINGS	14.2	9.8	0.0	0.0	-	0.8	0.8	0.8	-
PETROLEUM PRODUCTION AND MARKETING	17.7	6.2	0.0	0.0	-	0.0	0.0	0.0	-
INDUSTRIAL PROCESSES	2.3	2.0	18.3	47.7	10.7	71.5	36.8	14.8	0.1
*** TOTAL STATIONARY SOURCES**	**80.2**	**19.9**	**30.5**	**75.6**	**12.0**	**143.9**	**60.3**	**19.9**	**2.1**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	11.1	9.6	-	-	-	-	-	-	2.3
MISCELLANEOUS PROCESSES	38.8	5.8	24.7	2.0	0.1	142.5	76.3	14.6	13.4
*** TOTAL AREAWIDE SOURCES**	**49.8**	**15.4**	**24.7**	**2.0**	**0.1**	**142.5**	**76.3**	**14.6**	**15.7**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	10.6	9.6	70.7	31.3	0.2	3.0	2.9	1.3	1.4
OTHER MOBILE SOURCES	13.3	12.3	68.9	31.5	0.5	4.1	4.0	3.8	0.0
*** TOTAL MOBILE SOURCES**	**23.9**	**21.8**	**139.6**	**62.8**	**0.8**	**7.1**	**6.9**	**5.1**	**1.4**
GRAND TOTAL FOR MOJAVE DESERT AIR BASIN	**153.9**	**57.1**	**194.8**	**140.4**	**12.9**	**293.5**	**143.5**	**39.7**	**19.3**

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2016 SIP Emission Projection Data

2025 Estimated Annual Average Emissions

KERN COUNTY

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See detailed information.

Start a new query.

KERN COUNTY COUNTY - MOJAVE DESERT AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	0.5	0.1	0.8	2.5	0.2	0.4	0.4	0.4	0.0
WASTE DISPOSAL	9.3	0.1	0.0	-	0.0	0.0	0.0	0.0	0.1
CLEANING AND SURFACE COATINGS	1.0	0.9	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	0.1	0.1	-	-	-	-	-	-	-
INDUSTRIAL PROCESSES	0.1	0.1	11.0	19.7	8.6	3.9	3.2	1.9	0.1
*** TOTAL STATIONARY SOURCES**	**11.1**	**1.4**	**11.8**	**22.2**	**8.8**	**4.4**	**3.5**	**2.2**	**0.1**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	1.7	1.5	-	-	-	-	-	-	1.3
MISCELLANEOUS PROCESSES	3.5	1.2	11.1	0.6	0.0	18.5	9.7	2.6	0.7
*** TOTAL AREAWIDE SOURCES**	**5.2**	**2.7**	**11.1**	**0.6**	**0.0**	**18.5**	**9.7**	**2.6**	**2.0**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	0.9	0.8	5.0	2.3	0.0	0.3	0.3	0.1	0.1
OTHER MOBILE SOURCES	5.0	4.8	24.2	4.6	0.3	3.0	2.9	2.9	0.0
*** TOTAL MOBILE SOURCES**	**5.8**	**5.6**	**29.2**	**6.9**	**0.3**	**3.3**	**3.2**	**3.0**	**0.1**
TOTAL KERN COUNTY IN MOJAVE DESERT	**22.1**	**9.7**	**52.1**	**29.7**	**9.2**	**26.1**	**16.4**	**7.8**	**2.3**

KERN COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	12.4	1.7	9.6	7.2	0.6	2.6	2.5	2.4	1.7
WASTE DISPOSAL	247.0	13.4	0.2	0.1	0.0	0.1	0.0	0.0	6.0
CLEANING AND SURFACE COATINGS	3.3	3.0	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	45.0	10.8	0.8	0.3	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	2.6	2.4	0.1	0.1	0.1	4.0	1.7	0.6	0.2
*** TOTAL STATIONARY SOURCES**	**310.3**	**31.3**	**10.7**	**7.6**	**1.1**	**6.9**	**4.4**	**3.2**	**7.8**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	11.4	10.3	-	-	-	-	-	-	25.1

MISCELLANEOUS PROCESSES	63.7	9.9	5.2	1.2	0.0	61.8	30.9	5.7	17.2
*** TOTAL AREAWIDE SOURCES**	**75.0**	**20.3**	**5.2**	**1.2**	**0.0**	**61.8**	**30.9**	**5.7**	**42.3**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	4.3	3.9	23.7	12.7	0.1	1.7	1.7	0.7	0.8
OTHER MOBILE SOURCES	3.5	3.1	28.0	8.1	0.0	0.4	0.4	0.4	0.0
*** TOTAL MOBILE SOURCES**	**7.8**	**7.0**	**51.6**	**20.8**	**0.2**	**2.1**	**2.1**	**1.1**	**0.8**
TOTAL KERN COUNTY IN SAN JOAQUIN VALLEY	**393.1**	**58.5**	**67.6**	**29.6**	**1.3**	**70.8**	**37.4**	**10.1**	**51.0**
GRAND TOTAL FOR KERN COUNTY	**415.2**	**68.2**	**119.7**	**59.3**	**10.5**	**97.0**	**53.8**	**17.8**	**53.2**

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2016 SIP Emission Projection Data

2025 Estimated Annual Average Emissions

MOJAVE DESERT AIR BASIN

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See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	11.8	1.6	13.8	31.6	1.4	10.8	5.1	2.7	0.2
WASTE DISPOSAL	39.9	0.5	0.1	0.1	0.1	70.8	20.6	2.1	2.0
CLEANING AND SURFACE COATINGS	17.0	11.7	0.0	0.0	-	1.0	1.0	0.9	-
PETROLEUM PRODUCTION AND MARKETING	17.3	5.9	0.0	0.0	-	0.0	0.0	0.0	-
INDUSTRIAL PROCESSES	2.5	2.1	19.8	51.7	11.5	77.0	39.7	16.1	0.2
*** TOTAL STATIONARY SOURCES**	**88.4**	**21.8**	**33.7**	**83.5**	**12.9**	**159.6**	**66.4**	**21.9**	**2.3**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	12.5	10.8	-	-	-	-	-	-	2.2
MISCELLANEOUS PROCESSES	39.0	5.9	24.9	2.0	0.1	152.4	81.3	15.5	13.7
*** TOTAL AREAWIDE SOURCES**	**51.5**	**16.7**	**24.9**	**2.0**	**0.1**	**152.4**	**81.3**	**15.5**	**15.9**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	8.1	7.4	49.4	17.4	0.2	3.2	3.1	1.3	1.3
OTHER MOBILE SOURCES	12.4	11.5	72.0	24.0	0.5	4.0	3.8	3.7	0.0
*** TOTAL MOBILE SOURCES**	**20.5**	**18.9**	**121.4**	**41.4**	**0.8**	**7.1**	**6.9**	**5.0**	**1.4**
GRAND TOTAL FOR MOJAVE DESERT AIR BASIN	**160.4**	**57.3**	**180.1**	**126.8**	**13.8**	**319.1**	**154.6**	**42.3**	**19.6**

Start a new query.

CONTACT US

(800) 242-4450 | helpline@arb.ca.gov
1001 I Street, Sacramento, CA 95814
P.O. Box 2815, Sacramento, CA 95812

Chair, California Air Resources Board
Mary D. Nichols
Visit her Website

The California Air Resources Board is one of six boards, departments, and offices under the California Environmental Protection Agency.

CalEPA | CalRecycle | DPR | DTSC | OEHHA | SWRCB

APPENDIX D. HEALTH RISK ASSESSMENT MODELING FILES

(Electric Files)

APPENDIX E. AMBIENT AIR QUALITY ASSESSMENT MODELING FILES

(Electric Files)

APPENDIX B
CULTURAL MEMO AND NAHC REQUEST

TECHNICAL MEMORANDUM

Date: March 20, 2020

Project: Cultural resources records search- Cerro Coso Community College, Kern County, CA

To: Jaymie Brauer, Principal Planner

From: Robert Parr, MS, RPA, Senior Archaeologist

Subject: Cultural Resources Records Search Results (RS#20-120)

Background

This cultural resource records search (RS #20-120) was conducted at the Southern San Joaquin Valley Information Center, CSU Bakersfield for the above referenced Project in the City of Ridgecrest, Kern County to determine whether the proposed project would impact cultural resources.

Location

The site is within Assessor's Parcel Numbers (APN) 511-010-05 and 343-120-49. The Project site is located on College Heights Boulevard. It is within the southeast ¼ of Section 21 and the southwest ¼ of Section 22, T.27S, R.40E (SBB&M). (Figures 1-4).

Project Description

The Project includes new construction, upgrades to existing buildings, and additional parking. No new construction would occur outside of the existing campus footprint. The Project will include construction of a new 7,500 square foot Physical Education Outdoor Complex (PE Complex) and Fieldhouse, the demolition of the existing Maintenance and Operations (M&O) building and the construction of a new 2,800 square foot M&O building is also proposed. The Project is not expected to increase capacity of students or staff. The Project components were initially proposed in the 2018 Cerro Coso Community College Facilities Master Plan in order to better serve existing students and faculty members.

Results

The records search covered an area within one-half mile of the Project and included a review of the *National Register of Historic Places, California Points of Historical Interest, California Registry of Historic Resources, California Historical Landmarks, California State Historic Resources Inventory*, and a review of cultural resource reports on file.

The records search indicated that, except for a survey of a ½-mile linear segment of College Heights Boulevard running North /South through the center of the project (Romani 2013), the subject property had never been surveyed for cultural resources. No cultural resources have been recorded on the project and it is not known if any exist there. One additional cultural resource study was conducted within a half mile of the property which consisted of spot inspections of several abandoned mine sites (Bray 2011).

Fifteen cultural resources have been recorded within a half mile of the project all of which are historic remains of mines and mining activities associated with the Rademacher Mining District. These resources are outside of the project footprint and would not be impacted by construction or operational activities.

A Sacred Lands File request was also submitted to the Native American Heritage Commission. A response dated March 18, 2020 indicates negative results (see Attachment B).

Conclusions

Based on the results of cultural records search findings and the lack of archaeological resources previously identified within a half mile radius of the proposed Project, the potential to encounter subsurface cultural resources is minimal. Additionally, the Project construction would be conducted within the partially developed and previously disturbed parcel. The potential to uncover subsurface historical or archaeological deposits is would be considered unlikely.

However, there is still a possibility that historical or archaeological materials may be exposed during construction. Grading and trenching, as well as other ground-disturbing actions have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the project area, including historical or archaeological resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact. To reduce the potential impacts of the Project on cultural resources, the following measures are recommended to be included on the final site plans and all construction plans and specs. With implementation of CUL-1 and CUL-2, the Project would have a less than significant impact.

CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.

CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.

(s) Robert E. Parr, MS, RPA
Senior Archaeologist

Attachment A- Figures
Attachment B- Sacred Lands File Response by the Native American Heritage Commission

References

(all reports on file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield)

Bray, Madeleine

2011 BLM Abandoned Mine Lands Cultural Resource Evaluation: Spangler, Rademacher Hills, and Randsburg South Locales (Ridgecrest Field Office Report No. CA-650-2010-31). (KE-04073)

Romani, Gwen

2013 Archaeological Survey Report Improvements to College Heights Boulevard from Dolphin Avenue to Cerro Coso Community College (approximately 2.2 miles), Ridgecrest, Kern County, California. (KE-04513)

ATTACHMENT A
PROJECT FIGURES

Figure - 1
Regional Location

Figure - 2
Project Area

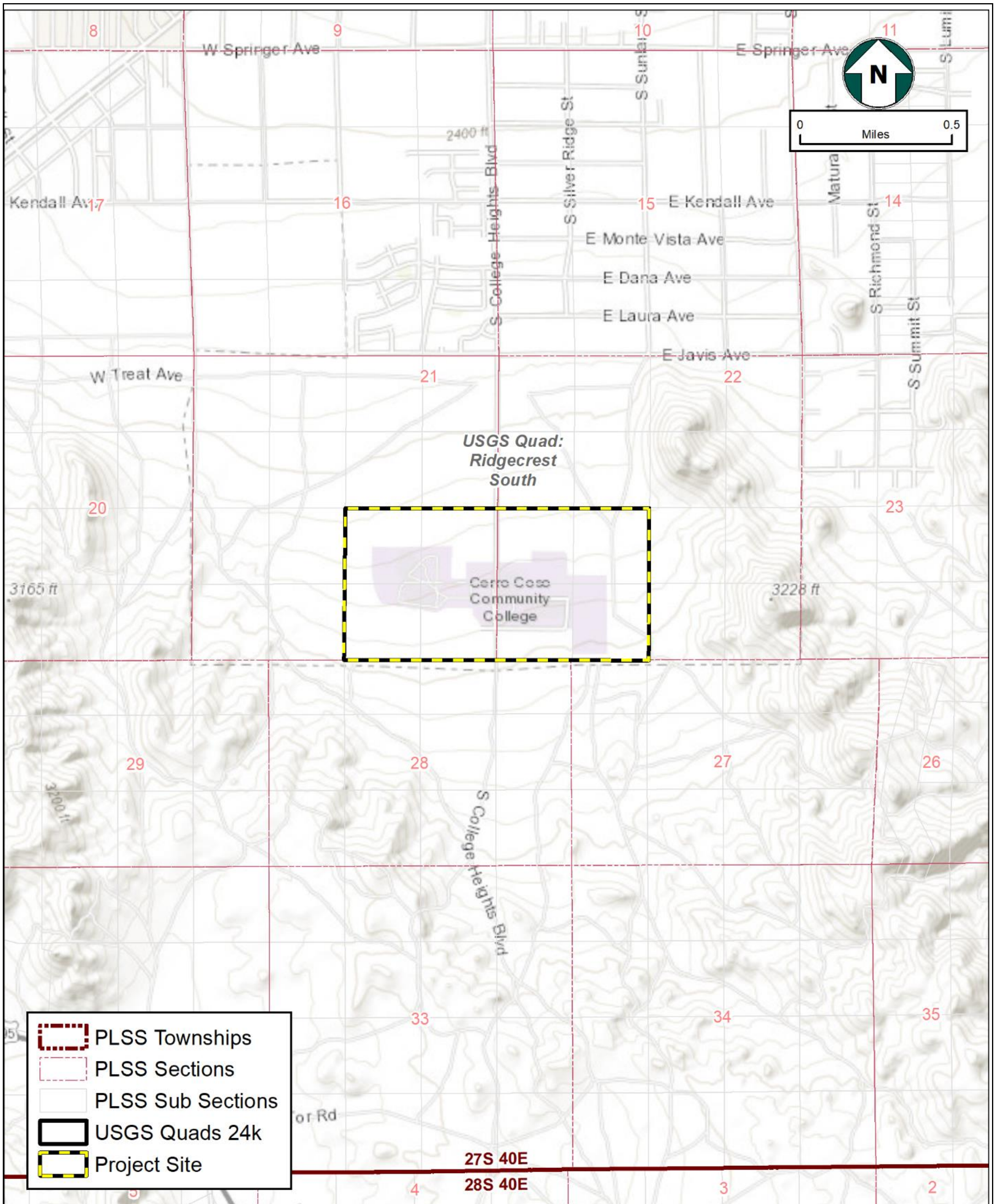


Figure - 3
PLSS/USGS Quad

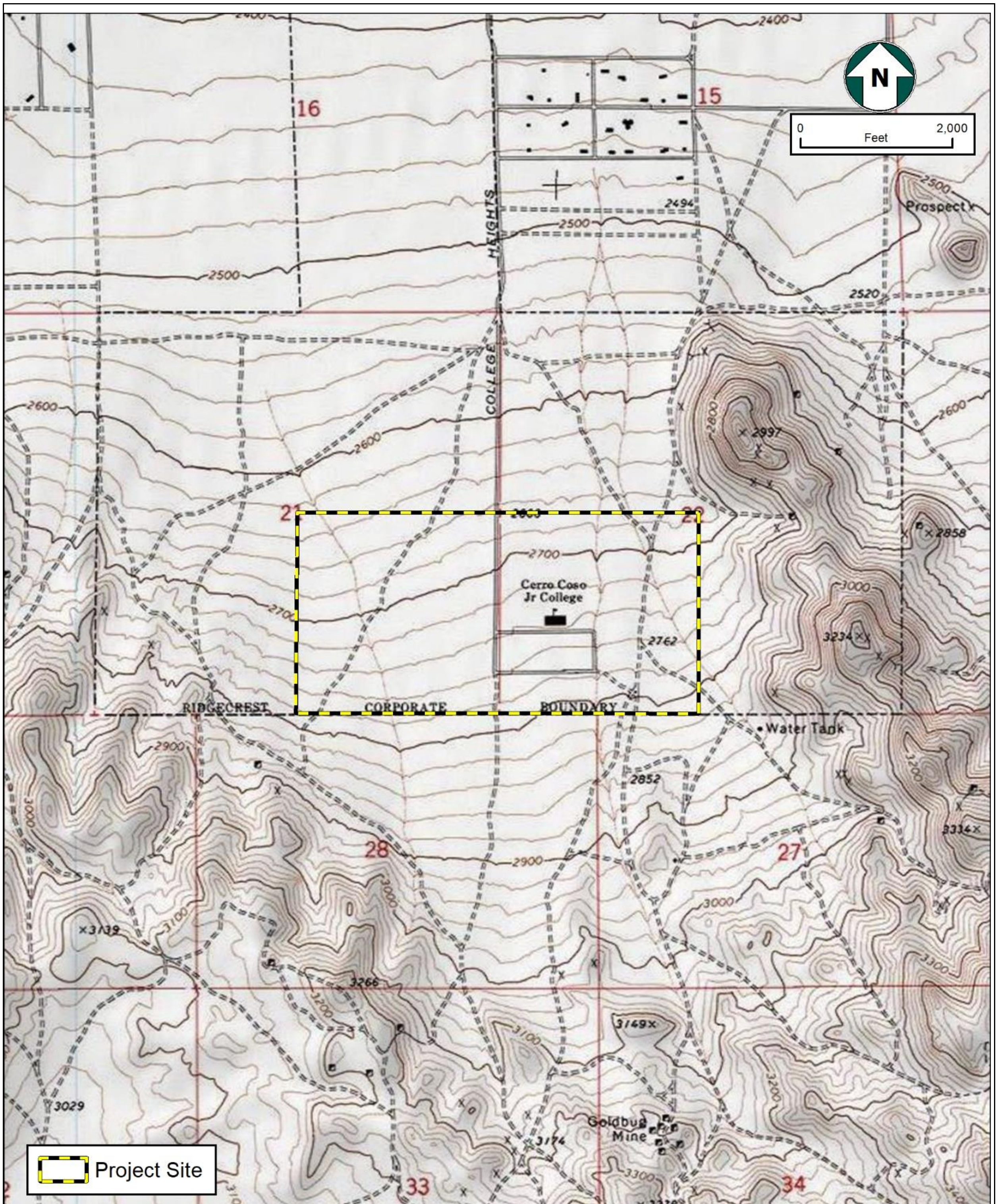


Figure - 4
Topo

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

March 18, 2020

Jaymie Brauer
Quad Knopf, Inc.
Via Email to: Jaymie.Brauer@qkinc.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Cerro Coso Community College Construction Project, Kern County

Dear Mr. Brauer:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measures.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

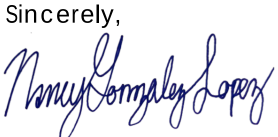
Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

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

Sincerely,



Nancy Gonzalez-Lopez
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contacts List
March 18, 2020

Big Pine Paiute Tribe of the Owens Valley
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Chumash Council of Bakersfield
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Kern Valley Indian Community
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Kern Valley Indian Community
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Santa Rosa Rancheria Tachi Yokut Tribe
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(559) 924-3583 Fax

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed:
Cerro Coso Community College Construction Project, Kern County.

Native American Heritage Commission
Native American Contacts List
March 18, 2020

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Tejon Indian Tribe
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(559) 781-4610 Fax

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct. Foothill Yokuts
Salinas ,CA 93906 Mono
kwood8934@aol.com Wuksache
(831) 443-9702

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

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This list is only applicable for contacting local Native Americans Tribes for the proposed:
Cerro Coso Community College Construction Project, Kern County.

APPENDIX C
GEOTECHNICAL ENGINEERING INVESTIGATIONS

UPDATED GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED OUTDOOR PHYSICAL EDUCATION COMPLEX
3000 COLLEGE HEIGHTS BOULEVARD
RIDGECREST, CALIFORNIA

PROJECT NO. 112-20028
APRIL 28, 2020

Prepared for:

MR. DANIEL W. REED
CONSTRUCTION PROJECT MANAGER
KERN COMMUNITY COLLEGE DISTRICT
2100 CHESTER AVENUE
BAKERSFIELD, CA 93301

Prepared by:

KRAZAN & ASSOCIATES, INC.
GEOTECHNICAL ENGINEERING DIVISION
1100 OLYMPIC DRIVE, SUITE 103
CORONA, CALIFORNIA 92881
(951) 273-1011

TABLE OF CONTENTS

April 28, 2020 KA Project 112-20028

**GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED OUTDOOR PHYSICAL EDUCATION COMPLEX
3000 COLLEGE HEIGHTS BOULEVARD
RIDGECREST, CALIFORNIA**

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the Proposed Outdoor Physical Education Complex to be located at the western end of the Cerro Coso Community College, in the city of Ridgecrest, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, soil cement reactivity, and pavement design.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs, and the boring log legend are presented in Appendix A. Appendix A contains a description of the laboratory-testing phase of this study, along with the laboratory test results. Appendices B and C contain guides to earthwork and pavement specifications. When conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the subject site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated March 9, 2020 (KA Proposal No. G20036CAC) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.

- A field investigation consisting of drilling a total of ten (10) borings to depths ranging from approximately ten (10) to fifty (50) feet for evaluation of the subsurface conditions at the project site.

- Review of selected published geologic maps, reports and literature pertinent to the site and surrounding area.

- Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.

- Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

Environmental services, such as chemical analyses of soil and groundwater for possible environmental contaminates, is beyond our scope of services.

PROPOSED CONSTRUCTION

We understand that design of the proposed development is currently underway and as such structural load information and other final details pertaining to the structures are unavailable. On a preliminary basis, it is understood the proposed development will consist construction of a new sports facility with an approximate footprint of 20,000 square feet with associated parking to be located at the eastern end of the project site. The proposed building will be a one or two story metal-framed, wood-framed, or reinforced concrete structure supported on a shallow foundation system. Foundation loads are anticipated to be relative moderate. In addition, as part of this proposed project, the western most baseball field is anticipated to be relocated to the northern portion of the project site. Furthermore, the existing track would be rehabilitated in order to address localized distressed areas. There may be also some flatwork and landscaped areas proposed as part of this planned construction. It is assumed that the proposed development will be entirely above-grade and no subterranean structures will be proposed.

In the event, these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION AND SITE DESCRIPTION

The site is an irregular shaped parcel and encompasses approximately 17 acres. The site is located at the western end of the existing Cerro Coso Community College institution, in the city of Ridgecrest, California. The site is bound by the existing community college and vacant land.

Presently, the site is occupied by a track and field to the south, 2 baseball fields to the west and the rest of the site is vacant and free from any above grade structure. The site is covered with lawn and localized landscaping and a synthetic track by the track and field, the rest of the groundcover consist of localized weed and tree growth and exposed soil. Several access roads and paths trend across the project site. Buried water lines are anticipated to be located along the edges of the site. The site topography consists of relatively flat to very gentle slopes that generally trend down to the north.

FAULT RUPTURE HAZARD ZONES

The Alquist-Priolo Geologic Hazards Zones Act went into effect in March, 1973. Since that time, the Act has been amended 11 times (Hart, 2007). The purpose of the Act, as provided in California Geologic Survey (CGS) Special Publication 42 (SP 42), is to prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby the hazard of fault-rupture." The Act was renamed the Alquist-Priolo Earthquake Fault Zoning Act in 1994, and at that time, the originally designated "Special Studies Zones" was renamed the "Earthquake Fault Zones."

The subject site is located on the State of California, Special Studies Zones Map, Ridgecrest South Quadrangle, dated January 1, 1990. The area of the subject is not located in an area designated as a Rupture Hazard Zone.

SEISMIC HAZARDS ZONES

In 1990, the California State Legislature passed the Seismic Hazard Mapping Act to protect public safety from the effects of strong shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The Act requires that the State Geologist delineate various seismic hazards zones on Seismic Hazard Zones Maps. Specifically, the maps identify areas where soil liquefaction and earthquake-induced landslides are most likely to occur. A site-specific geotechnical evaluation is required prior to permitting most urban developments within the mapped zones. The Act also requires sellers of real property within the zones to disclose this fact to potential buyers. A Liquefaction Hazard Map has not been prepared for the subject site.

OTHER HAZARDS

Rockfall, Landslide, Slope Instability, and Debris Flow: The subject site is relatively flat and level. It is our understanding that there are no significant slopes proposed as part of the proposed development. Provided the recommendations presented in this report are implemented into the design and construction of the anticipated development, rockfalls, landslides, slope instability, and debris flows are not anticipated to pose a hazard to the subject site.

Seiches: Seiches are large waves generated within enclosed bodies of water. The site is not located in close proximity to any lakes or reservoirs. As such, seiches are not anticipated to pose a hazard to the subject site.

Tsunamis: Tsunamis are tidal waves generated by fault displacement or major ground movement. The site is several miles from the ocean. As such, tsunamis are not anticipated to pose a hazard to the subject site.

Hydroconsolidation: The near surface soils encountered at the subject site were found to be medium dense to dense. The underlying native soils were found to be dense to very dense. Provided the recommendations in this report are incorporated into the design and construction of the proposed development, hydroconsolidation is not anticipated to be a significant concern for the subject site.

EXPANSIVE SOIL

The near-surface sand soils encountered at the site have been identified through laboratory testing as having a low expansion potential. Expansive soils have the potential to undergo volume change, or shrinkage and swelling, with changes in soil moisture. As expansive soils dry, the soil shrinks; when moisture is reintroduced into the soil, the soil swells.

SOIL CORROSIVITY

Corrosion tests were performed to evaluate the soil corrosivity to the buried structures. The tests consisted of sulfate content and chloride content, and the results of the tests are included as follows:

Parameter	Results	Test Method
Sulfate	201 ppm	CA 417
Min Resistivity	1,750 ohm-cm	CA 643
Chloride	88 ppm	CA 422
pH Value	7.4	EPA 9045C

GEOLOGIC SETTING

The Antelope Valley, which includes the subject site, is within the northeast portion of the Mojave Desert Geometamorphic Providence. Antelope Valley is bounded by the Tehachapi Mountains of the Sierra Nevada Providence to the northwest and the San Gabriel of the Traverse Ranges to the southwest. A major portion of the Mojave Desert Providence is underlain by Mesozoic granitic rocks. Quaternary alluvium covers a majority of the Antelope Valley floor.

Both the Tehachapi and San Gabriel mountain ranges are geologically young mountain ranges and possess active and potentially active fault zones. The subject site is approximately 75 miles away from the San Andreas Fault zone in the Antelope Valley. Although the San Andreas Fault is classified by the State of California as an active fault, there has not been any record of recent fault activity in the general area. The project area is not located within an earthquake fault zone (Special Studies Zone).

Other faults that are located within the vicinity of the subject site are the Little Lake, Garlock, and So Sierra Nevada Zone Faults. These faults are located approximately 2.8, 7.8, and 13.8 miles from the subject site, respectively. Recent activity along these faults have caused two major earthquakes in the area. The first earthquake was felt on July 4th, 2019 with a 6.4 magnitude and a second earthquake was felt the following day, July 5th, 2019, with a 7.1 magnitude. Since then, there have been several aftershocks occurring within the area. Therefore, the proposed project should be designed in accordance with the seismic parameters and recommendation presented in this Geotechnical Engineering Investigation report.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling a total of ten (10) borings to depths ranging from approximately ten (10) to fifty (50) feet below existing site grade, using a truck-mounted drill rig. In addition, 6 bulk subgrade soil samples were obtained from the proposed paved areas for laboratory R-Value testing. The approximate boring and bulk sample locations are shown on the site plan. During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsoils. Soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory-testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, shear strength, consolidation potential, expansion potential, and moisture-density relationships of the materials encountered. In addition, chemical tests were performed to evaluate the corrosivity of the soils to buried concrete and metal. Details of the laboratory test program and results of the laboratory tests are summarized in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. In general, groundcover at the track area consisted of approximately 0.25 inch of synthetic track supported by approximately 6 to 7 inches of discernable base material. Below the base material, dense to very dense silty sand was encountered up to the maximum depth explored at these location, 10 feet below site grades.

The subsurface encountered at the other boring locations consisted of medium dense to very dense up to a depth of approximately 24 feet below site grades. Below the silty sand, dense to very dense poorly-graded sand was encountered from a depth of approximately 24 feet below site grades to the maximum depth explored, 50 feet below site grades.

Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Penetration resistance ranged from 31 blows per foot to over 50 blows per six inches. Dry densities ranged from approximately 105 to 123 pcf. Representative soil samples consolidated approximately 0.5 to 1.3 percent under a 2 ksf load when saturated. Representative soil samples had angles of internal friction of 31 and 33 degrees.

For additional information about the soils encountered, please refer to the logs of borings in Appendix A.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Free groundwater was not encountered in any of the borings drilled as part of this investigation.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site and soil conditions, with the exception of the upper moisture sensitive soils and the existing development, appear to be conducive to the development of the project. Of primary importance in the development of this site is the removal of the upper moisture sensitive soils from several areas of the proposed development. These soils are slightly too moderately compressible and/or collapsible under saturated conditions. Structures within the general vicinity have experienced excessive post-construction settlement when the foundation soils become near-saturated. Accordingly, mitigation measures are recommended to reduce the potential of excessive soil settlement.

Following stripping operations, it is recommended that the upper 5 feet of native soil within the area of the proposed structures be excavated for recompaction. Over-excavation should extend to a minimum of 5 feet beyond structural elements. In addition, it is recommended the proposed foundations be supported by a minimum of 3 feet of Engineered Fill. The on-site, native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum size. Also, based on the testing conducted on the stockpiled soil located at the northern end of the existing college, these soils will be suitable for reuse as Engineered Fill, provided they are cleaned of excessive organics and fragments larger than 4 inches in maximum size. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan & Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. Fill material should be compacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557.

It is anticipated that the structural elements within the paved areas may settle if the subgrade soils become saturated. The settlement of the paved areas is related to the subsurface soil conditions. Therefore, it is anticipated that the paved areas may require annual maintenance. Utilities placed within the site should incorporate flexible connectors.

Existing buried utilities are located along the edges and may extend into the project site. Any buried structures or utilities encountered within the site during construction should be properly removed and the resulting excavations backfilled. Disturbed areas caused by demolition activities should be removed or recompacted.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy soils.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed utilizing an allowable bearing pressure of 2,600 psf for dead-plus-live loads. Footings should have a minimum embedment of 18 inches.

Groundwater Influence on Structures/Construction

Based on our findings and historical records, it is not anticipated that groundwater will rise within the zone of structural influence or affect the construction of foundations and pavements for the project. However, if earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated, "pump," or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

Seismic Considerations

Ground Shaking

Although ground rupture is not considered to be a major concern at the subject site, the site will likely be subject to at least one moderate to severe earthquake and associated seismic shaking during its lifetime, as well as periodic slight to moderate earthquakes. Some degree of structural damage due to stronger seismic shaking should be expected at the site, but the risk can be reduced through adherence to seismic design codes.

Soil Liquefaction

Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. However, liquefaction has occurred in soils other than clean sand. Liquefaction usually occurs under vibratory conditions such as those induced by seismic events. To evaluate the liquefaction potential of the site, the following items were evaluated:

1) Soil type
2) Groundwater depth
3) Relative density
4) Initial confining pressure
5) Intensity and duration of ground shaking

Based on our findings, it is our opinion that the potential for seismic-induced soil liquefaction within the project site is low due to absence of shallow groundwater as well as the very dense soil conditions. Therefore, measures to mitigate liquefaction potential are not considered warranted.

Seismic Induced Settlement

One of the most common phenomena during seismic shaking accompanying any earthquake is the induced settlement of loose unconsolidated soils. Based on site subsurface conditions and the moderate to high seismicity of the region, any loose fill materials at the site could be vulnerable to this potential hazard. However, this hazard can be mitigated by following the design and construction recommendations of our Geotechnical Engineering Investigation (over-excavation and rework of the loose soils and/or fill). Based on the moderate to strong penetration resistance measured, the native deposits underlying the surface materials do not appear to be subject to significant seismic settlement.

SITE COEFFICIENT

The site class, per Table 1613.5.2, 2019 CBC, is based upon the site soil conditions. It is our opinion that a Site Class D and Risk Category III is appropriate for building design at this site. For seismic design of the structures, in accordance with the seismic provisions of the 2019 CBC, we recommend the following parameters:

Seismic Item	Value	CBC Reference
Site Class	D	Table 1613.5.2
F_a	1.000	Table 1613.5.3 (1)
S_S	1.333	Figure 1613.5 (3)
S_{MS}	1.333	Section 1613.5.3
S_{DS}	0.888	Section 1613.5.4
F_v	1.835	Table 1613.5.3 (2)
S_1	0.465	Figure 1613.5 (4)
S_{M1}	0.853	Section 1613.5.3
S_{D1}	0.569	Section 1613.5.4
Peak Horizontal Acceleration	0.650g	Figure 22.7
T_S	0.641	

Site Preparation

General site clearing should include removal of vegetation; existing utilities; structures including foundations; basement walls and floors; existing stockpiled soil; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum depth of 2 to 4 inches, or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for use as Engineered Fill. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas.

Following stripping operations, it is recommended that the upper 5 feet of native soil within proposed building areas be excavated for recompaction. In addition, it is recommended the proposed foundations be supported by a minimum of 3 feet of Engineered Fill. Over-excavation should extend to a minimum of 5 feet beyond structural elements. The on-site, native sandy soils that do not contain clay will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in diameter. Also, based on the testing conducted on the stockpiled soil located at the northern end of the existing college, these soils will be suitable for reuse as Engineered Fill, provided they are cleaned of excessive organics and fragments larger than 4 inches in maximum size. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan & Associates, Inc. to verify the stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. Fill material should be compacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557. Prior to fill placement, the bottom of the excavation should be observed by Krazan & Associates, Inc. to verify that no additional excavation will be required.

Within proposed pavement and exterior flatwork areas, following stripping operations, it is recommended that at a minimum, the upper 12 inches of subgrade soils be excavated, moisture-conditioned to a minimum of 2 percent above optimum moisture content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557.

It is anticipated that the structural elements within the paved areas may settle if the subgrade soils become saturated. The settlement of the paved areas is related to the subsurface soil conditions. Therefore, it is anticipated that the paved areas may require annual maintenance. Utilities placed within the paved areas should incorporate flexible connectors.

Existing buried utilities are located along the edges of the site and may extend into the project site. Any buried structures or utilities encountered within the site during construction should be properly removed and the resulting excavations backfilled. Disturbed areas caused by demolition activities should be removed or recompacted. Excavations, depressions, or soft and pliant areas extending below plan finish subgrade level should be cleaned to firm undisturbed soil and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill compacted to at least 95 percent of maximum density based on ASTM Test Method D1557.

The upper soils, during wet winter months, become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Subgrade Preparation Below Track

Based on the very dense soils encountered below the track area, remedial grading is not considered warranted below the existing track location. It is recommended that following removal of the synthetic track material, the upper discernable base material be recompacted to at least 95 percent of maximum density based on ASTM Test Method D1557 to remedy any disturbed base material.

Engineered Fill

The organic-free, on-site soils are predominately silty sand. The sandy soils that do not contain clay will be suitable for reuse as Engineered Fill provided they are cleansed of excessive organics, debris and fragments greater than 4 inches in maximum size. Clayey soils are not suitable for reuse as Engineered Fill within the upper 18 inches of slab-on-grade areas. However, the clayey soils may be used as General Engineered Fill within pavement areas and below 18 inches from finished pad grade in building and exterior flatwork areas provided they are cleansed of excessive organics and debris, and are moisture conditioned to a minimum of 2 percent above optimum moisture content. Furthermore, based on the testing conducted on the stockpiled soil located at the northern end of the existing college, these soils will be suitable for reuse as Engineered Fill, provided they are cleaned of excessive organics and fragments larger than 4 inches in maximum size.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill material should be predominately non-expansive granular material with a plasticity index less than 10 and a UBC Expansion Index less than 15. Imported Fill should be free from rocks and lumps greater than 4 inches in diameter. All Imported Fill material should be submitted for approval to the Soils Engineer at least 48 hours prior to delivery to the site.

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned as necessary, and compacted to achieve at least 95 percent of the maximum dry density based on ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required density or if soil conditions are not stable.

Drainage and Landscaping

The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. It is recommended that adjacent exterior grades be sloped a minimum of 2 percent for a minimum distance of 10 feet away from structures. Subgrade soils in pavement areas should be sloped a minimum of 2 percent and drainage gradients maintained to carry all surface water to collection facilities and off-site. These grades should be maintained for the life of the project.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practices following OSHA (Occupational Safety and Health Administration) standards by a Contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the Contractor. Traffic and vibration adjacent to trench walls should be minimized; cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy soils.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 95 percent of maximum density based on ASTM Test Method D1557. The utility trench backfill placed in pavement areas should be compacted to at least 95 percent of the maximum dry density based on ASTM Test Method D1557. Pipe bedding should be in accordance with pipe manufacturer's recommendations.

The Contractor is responsible for removing all water-sensitive soils from the trench regardless of the backfill location and compaction requirements. The Contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations

The proposed structures, including buildings, walls, or other structures utilizing shallow foundations may be supported on a shallow foundation system bearing on a minimum of 2 feet of Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	2,000 psf
Dead-Plus-Live Load	2,600 psf
Total Load, including wind or seismic loads	3,500 psf

The footings should have a minimum embedment depth of 18 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Footings should have a minimum width of 15 inches, regardless of load.

The total settlement is not expected to exceed 1 inch. Differential settlement should be less than ½ inch. Most of the settlement is expected to occur during construction as the loads are applied. However, additional post-construction settlement may occur if the foundation soils are flooded or saturated.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.35 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 325 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A 1/3 increase in the above value may be used for short duration, wind, or seismic loads.

Floor Slabs and Exterior Flatwork

Concrete slab-on-grade floor should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with ASTM Specification E 1643-98. According to ASTM Guidelines, the water vapor retarder should consist of a vapor retarder sheeting underlain by a minimum of 3 inches of compacted, clean, gravel of ¾-inch maximum size. To aid in concrete curing an optional 2 to 4 inches of granular fill may be placed on top of the vapor retarder. The granular fill should consist of damp clean sand with at least 10 to 30 percent of the sand passing the 100 sieve. The sand should be free of clay, silt, or organic material. Rock dust which is manufactured sand from rock crushing operations is typically suitable for the granular fill. This granular fill material should be compacted.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. All fills required to bring the building pads to grade should be Engineered Fills.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To minimize moisture vapor intrusion, it is recommended that a vapor retarder be installed in accordance with ASTM guidelines. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to minimize the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

Lateral Earth Pressures and Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 40 pounds per square foot per foot of depth. Walls that are incapable of this deflection or walls that are fully constrained against deflection may be designed for an equivalent fluid at-rest pressure of 60 pounds per square foot per foot per depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations, or roadways.

During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand-operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

R-Value Test Results and Pavement Design

Four subgrade soil samples were obtained from the project site for R-Value testing at the location shown on the attached site plan. The samples were tested in accordance with the State of California Materials Manual Test Designation 301. Results of the tests are as follows:

Sample	Depth	Description	R-Value at Equilibrium
1	0-36"	Silty Sand (SM)	50

These test results are moderate and indicate good subgrade support characteristics under dynamic traffic loads. The following table shows the recommended pavement sections for various traffic indices based on R-value of 50.

Traffic Index	Asphaltic Concrete	Class II Aggregate Base*	Compacted Subgrade**
4.0	2.0"	4.0"	12.0"
4.5	2.5"	4.0"	12.0"
5.0	2.5"	4.0"	12.0"
5.5	3.0"	4.0"	12.0"
6.0	3.0"	4.0"	12.0"
6.5	3.5"	4.0"	12.0"
7.0	4.0"	4.5"	12.0"
7.5	4.0"	5.5"	12.0"

*** 95% compaction based on ASTM Test Method D1557 or CAL 216***
***** 95% compaction based on ASTM Test Method D1557 or CAL 216***

If traffic indices are not available, an estimated (typical value) index of 4.5 may be used for light automobile traffic and an index of 7.0 may be used for light truck traffic.

The following recommendations are for light-duty and heavy-duty Portland Cement Concrete pavement sections.

PORTLAND CEMENT PAVEMENT
LIGHT DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
4.5	5.0"	4.0”	12.0"

HEAVY DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
7.0	6.5"	4.0”	12.0"

**** 95% compaction based on ASTM Test Method D1557 or CAL 216***
***** 95% compaction based on ASTM Test Method D1557 or CAL 216***
******Minimum compressive strength of 3000 psi***

Soil Corrosivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and UBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected in these soil samples were found to be moderately reactive to concrete based on values established by HUD/FHA and UBC. As such, it is recommended that concrete in contact with soil utilize Type V cement and have a minimum compressive strength of 4,000 psi in order to compensate for sulfate reactivity with the cement.

Electrical resistivity testing of the soils indicates that the onsite soils may have a severe potential for metal loss from electrochemical corrosion process. A qualified corrosion engineer may be consulted regarding mitigation of the corrosion effects of the onsite soils on underground metal utilities.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill material passing the required percent compaction is a fill which has been compacted with an in situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

ADDITIONAL SERVICES

Krazan & Associates should be retained to review your final foundation and grading plans, and specifications. It has been our experience that this review provides an opportunity to detect misinterpretation or misunderstandings with respect to the recommendations presented in this report prior to the start of construction.

Variations in soil types and conditions are possible and may be encountered during construction. In order to permit correlation between the soil data obtained during this investigation and the actual soil conditions encountered during construction, a representative of Krazan & Associates, Inc. should be present at the site during the earthwork and foundation construction activities to confirm that actual subsurface conditions are consistent with those contemplated in our development of this report. This will allow us the opportunity to compare actual conditions exposed during construction with those encountered in our investigation and to expedite supplemental recommendations if warranted by the exposed conditions. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

All earthworks should be performed in accordance with the recommendations presented in this report, or as recommended by Krazan & Associates during construction. Krazan & Associates should be notified at least five working days prior to the start of construction and at least two days prior to when observation and testing services are needed. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

The review of plans and specifications, and the observation and testing of earthwork related construction activities by Krazan & Associates are important elements of our services if we are to remain in the role of Geotechnical Engineer-Of-Record. If Krazan & Associates is not retained for these services, the client and the consultants providing these services will be assuming our responsibility for any potential claims that may arise during or after construction.

LIMITATIONS

Geotechnical Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using appropriate and current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Geotechnical Engineering, physical changes in the site due to site clearing or grading activities, new agency regulations, or possible changes in the proposed structure or development after issuance of this report will result in the need for professional review of this report. Updating or revisions to the recommendations in the report, and possibly additional study of the site may be required at that time. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that two years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. The logs of the exploratory borings do not provide a warranty as to the conditions that may exist beneath the entire site. The extent and nature of subsurface soil and groundwater variations may not become evident until construction begins. It is possible that variations in soil conditions and depth to groundwater could exist beyond the points of exploration that may require additional studies, consultation, and possible design revisions.

If conditions are encountered in the field during construction, which differ from those described in this report, our firm should be contacted immediately to provide any necessary revisions to these recommendations.

This report presents the results of our Geotechnical Engineering Investigation, which was conducted for the purpose of evaluating the soil conditions in terms of foundation and retaining wall design, and grading and paving of the site. This report does not include reporting of any services related to environmental studies conducted to assess the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere, or the presence of wetlands. No analytical testing was performed for evaluation of environmental constituents. Any statements in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey professional judgment regarding the presence of potentially hazardous or toxic substances. Conversely, the absence of statements in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, does not constitute our rendering professional judgment regarding the absence of potentially hazardous or toxic substances.

The conclusions of this report are based on the information provided regarding the proposed construction. We emphasize that this report is valid for the project as described in the text of this report and it should not be used for any other sites or projects. The geotechnical engineering information presented herein is based upon our understanding of the proposed project and professional interpretation of the data obtained in our studies of the site. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. The Geotechnical Engineer should be notified of any changes to the proposed project so the recommendations may be reviewed and re-evaluated. The work conducted through the course of this investigation, including the preparation of this report, has been performed in accordance with the generally accepted standards of geotechnical engineering practice, which existed in geographic area of the project at the time the report was written. No other warranty, express or implied, is made. This report is issued with the understanding that the owner chooses the risk they wish to bear by the expenditures involved with the construction alternatives and scheduling that are chosen.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (951) 273-1011.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

James M. Kellogg, PE, GE
Managing Engineer
RCE No. 65092, GE No. 2902

Jorge A. Pelayo, PE
Project Engineer
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Figures

Appendix A

Log of Borings & Laboratory Testing

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

The field investigation consisted of a surface reconnaissance and a subsurface exploratory program. Ten 8½-inch exploratory borings were advanced. The boring locations are shown on the site plan.

The soils encountered were logged in the field during the exploration and, with supplementary laboratory test data, are described in accordance with the Unified Soil Classification System.

Modified standard penetration tests and standard penetration tests were performed at selected depths. This test represents the resistance to driving a 2½-inch and 1½-inch diameter core barrel, respectively. The driving energy was provided by a hammer weighing 140 pounds falling 30 inches. Relatively undisturbed soil samples were obtained while performing this test. Bag samples of the disturbed soil were obtained from the auger cuttings. The modified standard penetration tests are identified in the sample type on the boring logs with a full shaded in block. The standard penetration tests are identified in the sample type on the boring logs with the central portion of the block shaded. All samples were returned to our Clovis laboratory for evaluation.

Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the foundation soil underlying the site. Test results were used as criteria for determining the engineering suitability of the surface and subsurface materials encountered.

In situ moisture content, dry density, consolidation, direct shear, and sieve analysis tests were determined for the undisturbed samples representative of the subsurface material. These tests, supplemented by visual observation, comprised the basis for our evaluation of the site material.

The logs of the exploratory borings and laboratory determinations are presented in this Appendix.

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)		
	Clean Gravels (Less than 5% fines)	
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
	GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	
	GM	Silty gravels, gravel-sand-silt mixtures
	GC	Clayey gravels, gravel-sand-clay mixtures
	Clean Sands (Less than 5% fines)	
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	SW	Well-graded sands, gravelly sands, little or no fines
	SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	
	SM	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)		
SILTS AND CLAYS Liquid limit less than 50%	ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils

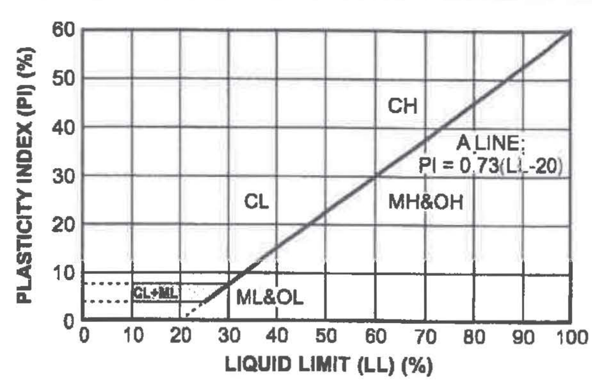
CONSISTENCY CLASSIFICATION

Description	Blows per Foot
Granular Soils	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
Cohesive Soils	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION

Grain Type	*Standard Sieve Size*	*Grain Size in Millimeters*
Boulders	Above 12 inches	Above 305
Cobbles	12 to 13 inches	305 to 76.2
Gravel	3 inches to No. 4	76.2 to 4.76
Coarse-grained	3 to ¾ inches	76.2 to 19.1
Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074
Coarse-grained	No. 4 to No. 10	4.76 to 2.00
Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074
Silt and Clay	Below No. 200	Below 0.074

PLASTICITY CHART



Standard Penetration Split Spoon Sampler

California Modified Split Spoon Sampler

Log of Boring B1

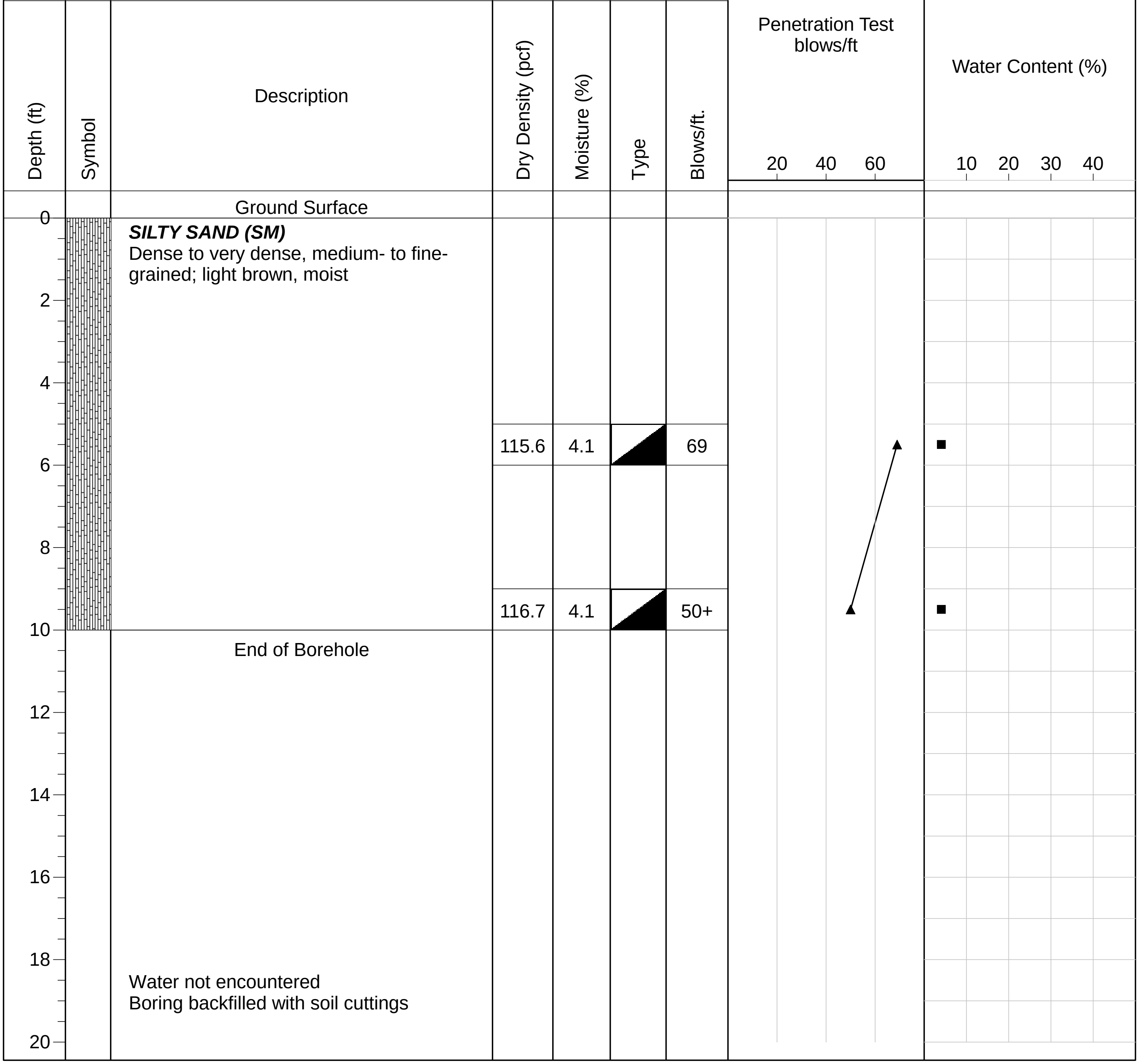
Project: PE Outdoor Complex
Project No: 112-20028

Client: Kern Community College District
Figure No.: A-1

Location: 3000 College Heights Boulevard, Ridgecrest, California
Logged By: Jorge Pelayo

Depth to Water> Not Encountered
Initial: N/A
At Completion: N/A

SUBSURFACE PROFILE			SAMPLE					
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft	Water Content (%)
		Ground Surface						
0–10		***SILTY SAND (SM)*** Dense to very dense, medium- to fine-grained; light brown, moist						
~5.5			115.6	4.1		69		
~9.5			116.7	4.1		50+		
10		End of Borehole						
		Water not encountered Boring backfilled with soil cuttings						



Drill Method: Hollow Stem
Drill Date: 4-9-20

Drill Rig: CME 75
Krazan and Associates
Hole Size: 5½ Inches

Driller: Advanced Drilling
Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B2

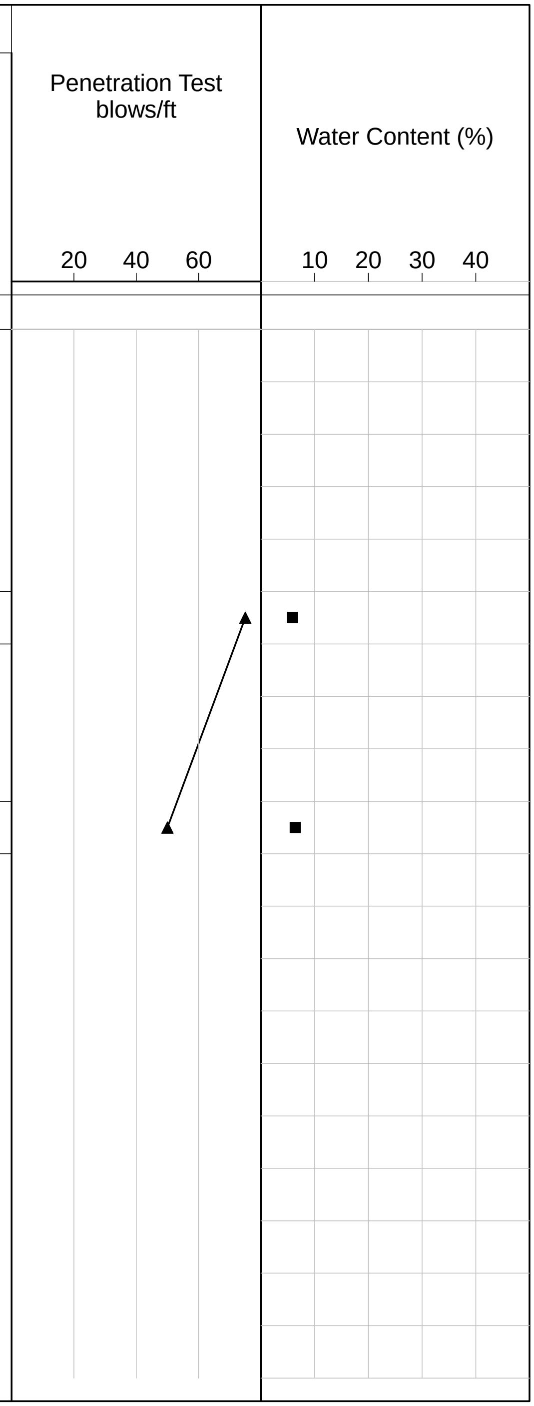
Project: PE Outdoor Complex
Project No: 112-20028

Client: Kern Community College District
Figure No.: A-2

Location: 3000 College Heights Boulevard, Ridgecrest, California
Logged By: Jorge Pelayo

Depth to Water> Not Encountered
Initial: N/A
At Completion: N/A

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		Ground Surface				
0		***SILTY SAND (SM)*** Dense to very dense, medium- to fine-grained; light brown, damp				
6			105.7	5.9	◩	75
10			123.4	6.4	◩	50+
10		End of Borehole				
20		Water not encountered Boring backfilled with soil cuttings				



Drill Method: Hollow Stem
Drill Date: 4-9-20

Drill Rig: CME 75
Krazan and Associates
Hole Size: 5½ Inches

Driller: Advanced Drilling
Elevation: 10 Feet

Log of Boring B3

Project: PE Outdoor Complex | **Project No:** 112-20028

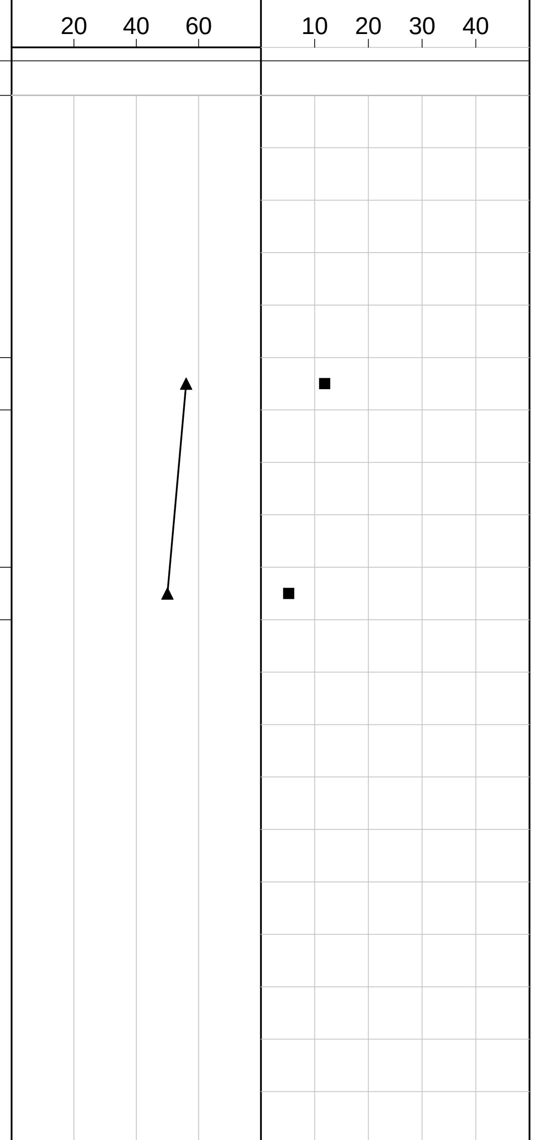
Client: Kern Community College District | **Figure No.:** A-3

Location: 3000 College Heights Boulevard, Ridgecrest, California | **Logged By:** Jorge Pelayo

Depth to Water> Not Encountered | **Initial:** N/A | **At Completion:** N/A

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		Ground Surface				
0		TRACK LAYER = 0.25 inches BASE = 7.0 inches				
2		***SILTY SAND (SM)*** Dense to very dense, medium- to fine-grained; light brown, moist to damp				
4						
6			113.2	11.9		56
8						
10			117.0	5.2		50+
		End of Borehole				
12						
14						
16						
18		Water not encountered Boring backfilled with soil cuttings				
20						

Penetration Test blows/ft | Water Content (%)



Drill Method: Hollow Stem | **Drill Date:** 4-9-20

Drill Rig: CME 75 | **Krazan and Associates** | **Hole Size:** 5½ Inches

Driller: Advanced Drilling | **Elevation:** 10 Feet

Sheet: 1 of 1

Log of Boring B4

Project: PE Outdoor Complex | **Project No:** 112-20028

Client: Kern Community College District | **Figure No.:** A-4

Location: 3000 College Heights Boulevard, Ridgecrest, California | **Logged By:** Jorge Pelayo

Depth to Water> Not Encountered | **Initial:** N/A | **At Completion:** N/A

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
		Ground Surface						
0		TRACK LAYER = 0.25 inches BASE = 6.0 inches						
2		***SILTY SAND (SM)*** Very dense, medium- to fine-grained; light brown, moist						
6			120.4	7.2		50+		
10			121.2	9.0		50+		
10		End of Borehole						
18		Water not encountered Boring backfilled with soil cuttings						
20								

Drill Method: Hollow Stem | **Drill Date:** 4-9-20

Drill Rig: CME 75 | **Krazan and Associates** | **Hole Size:** 5½ Inches

Driller: Advanced Drilling | **Elevation:** 10 Feet

Sheet: 1 of 1

Log of Boring B5

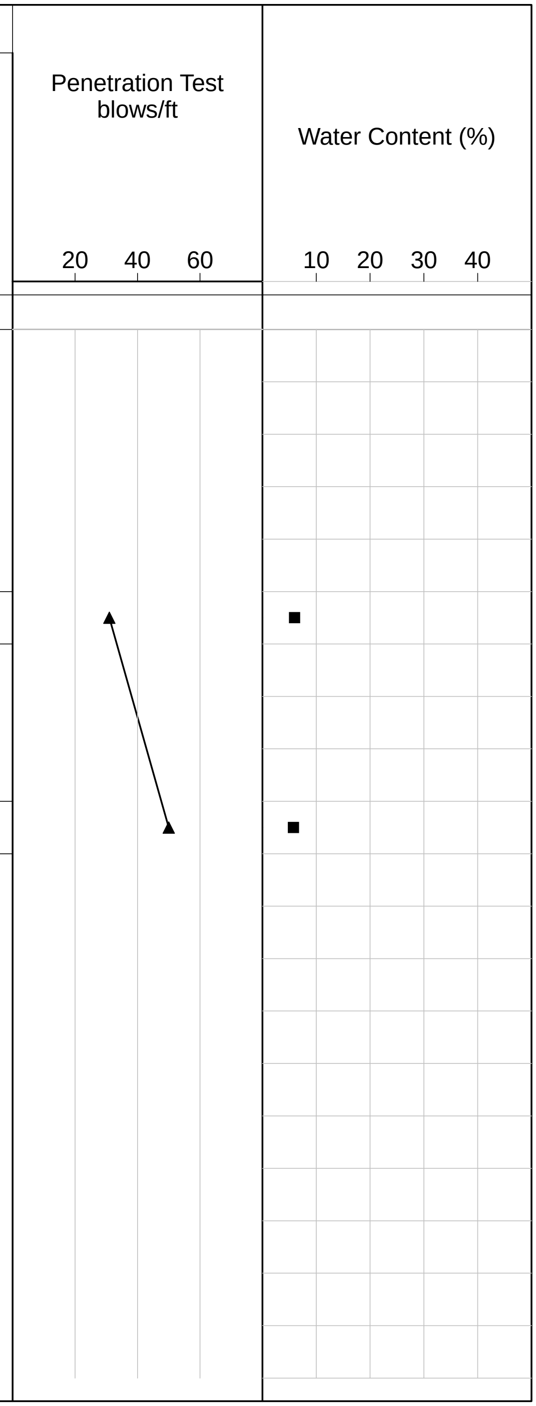
Project: PE Outdoor Complex
Project No: 112-20028

Client: Kern Community College District
Figure No.: A-5

Location: 3000 College Heights Boulevard, Ridgecrest, California
Logged By: Jorge Pelayo

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		Ground Surface				
0	SM	***SILTY SAND (SM)*** Medium dense to very dense, medium- to fine-grained; light brown, damp				
5–6			121.0	6.0	◩	31
9–10			122.6	5.8	◩	50+
10		End of Borehole				
19.5		Water not encountered Boring backfilled with soil cuttings				



Drill Method: Hollow Stem
Drill Date: 4-9-20

Drill Rig: CME 75
Krazan and Associates
Hole Size: 5½ Inches

Driller: Advanced Drilling
Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B6

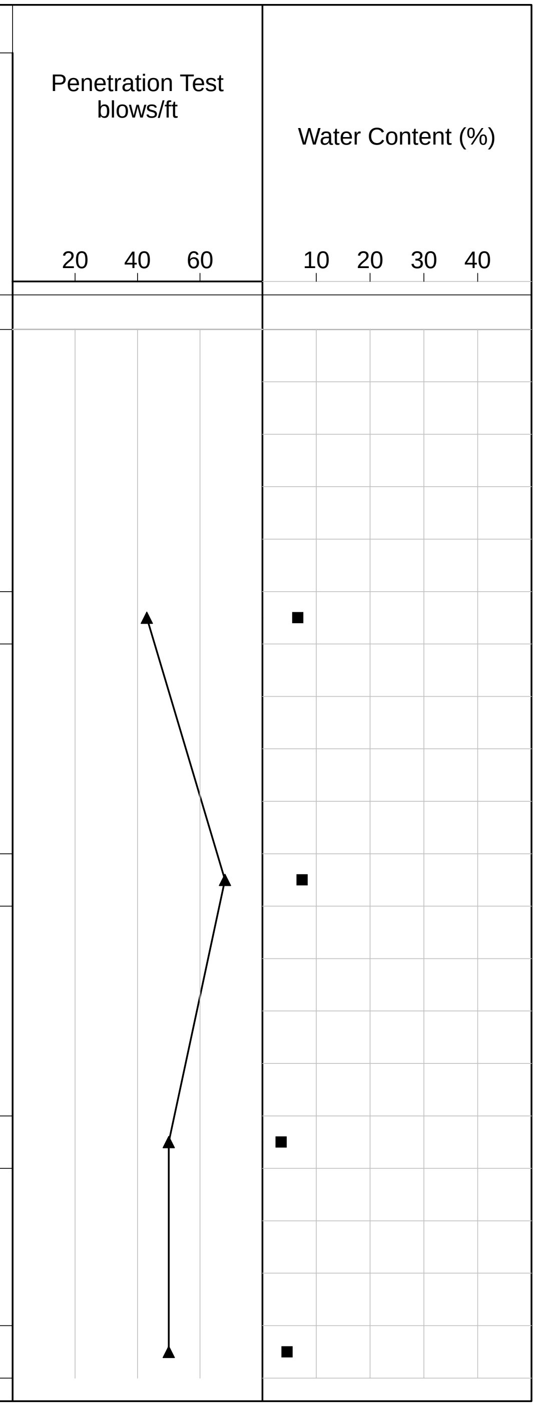
Project: PE Outdoor Complex | **Project No:** 112-20028

Client: Kern Community College District | **Figure No.:** A-6

Location: 3000 College Heights Boulevard, Ridgecrest, California | **Logged By:** Jorge Pelayo

Depth to Water> Not Encountered | **Initial:** N/A | **At Completion:** N/A

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		Ground Surface				
0		***SILTY SAND (SM)*** Medium dense to very dense, medium- to fine-grained; light brown, damp to moist				
2						
4						
5			110.6	6.6		43
6						
8						
10			112.7	7.4		68
12						
14						
15				3.5		50+
16						
18						
19		Water not encountered Boring backfilled with soil cuttings		4.6		50+
20						



Drill Method: Hollow Stem | **Drill Date:** 4-9-20

Drill Rig: CME 75 | **Hole Size:** 5½ Inches

Krazan and Associates

Driller: Advanced Drilling | **Elevation:** 20 Feet

Sheet: 1 of 1

Log of Boring B7

Project: PE Outdoor Complex

Project No: 112-20028

Client: Kern Community College District

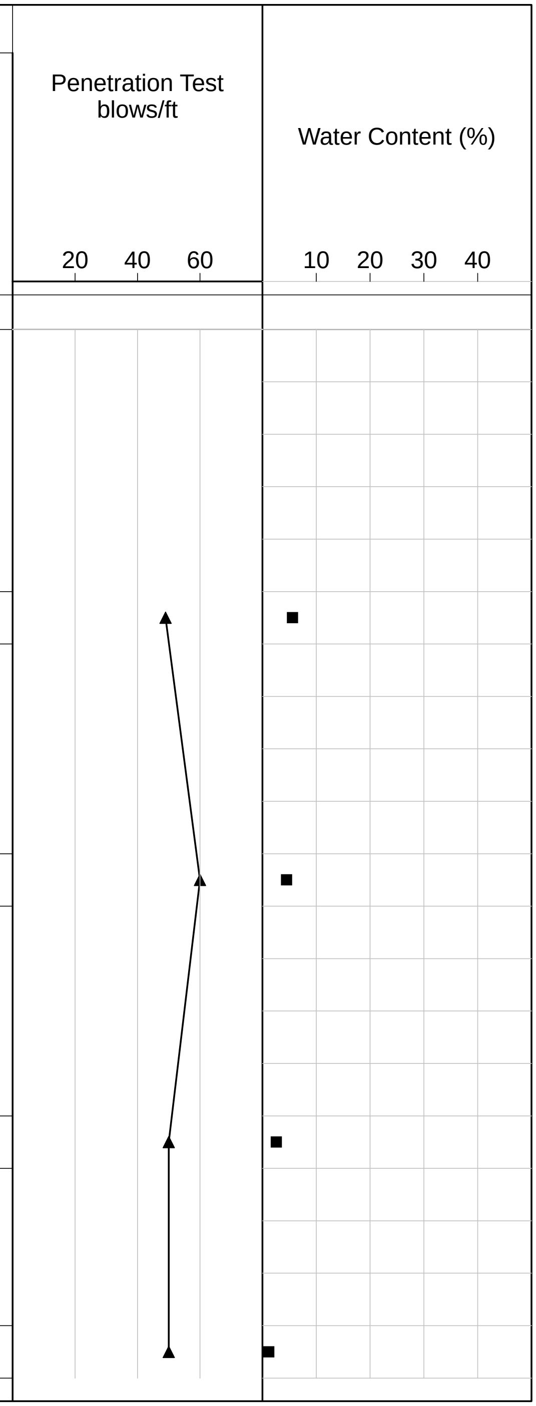
Figure No.: A-7

Location: 3000 College Heights Boulevard, Ridgecrest, California

Logged By: Jorge Pelayo

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

SUBSURFACE PROFILE		SAMPLE			
Depth (ft)	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
	Ground Surface				
0	***SILTY SAND (SM)*** Dense to very dense, medium- to fine-grained; light brown, dry to damp				
5		109.6	5.6		49
10		117.4	4.5		60
15			2.6		50+
19	Water not encountered Boring backfilled with soil cuttings		1.2		50+
20					



Drill Method: Hollow Stem

Drill Date: 4-9-20

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Advanced Drilling

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B8

Project: PE Outdoor Complex

Project No: 112-20028

Client: Kern Community College District

Figure No.: A-8

Location: 3000 College Heights Boulevard, Ridgecrest, California

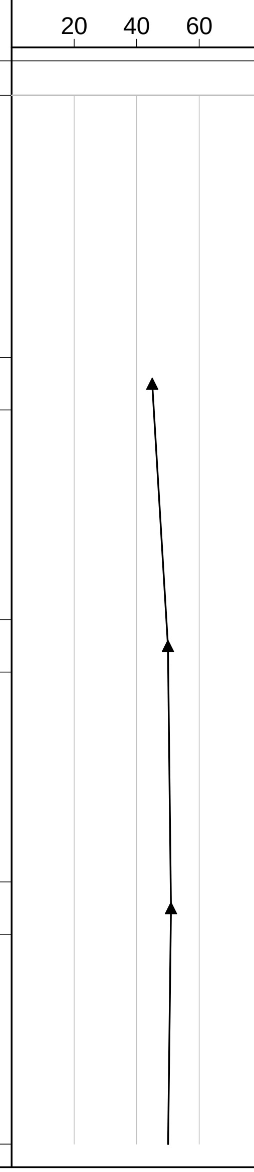
Logged By: Jorge Pelayo

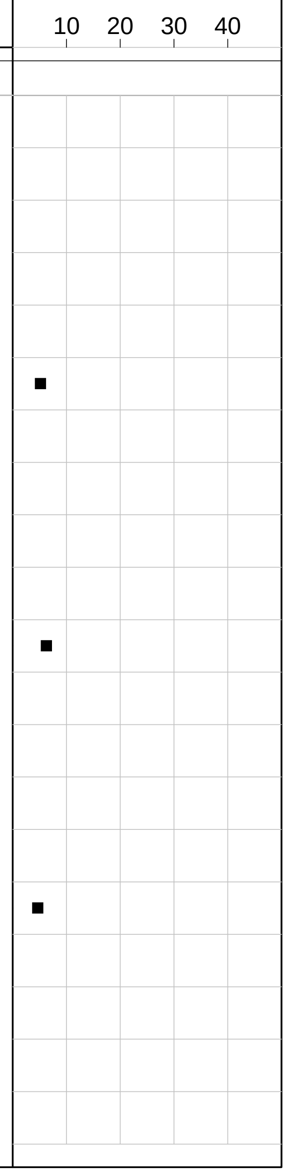
Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
		Ground Surface						
0		***SILTY SAND (SM)*** Medium dense to very dense, medium- to fine-grained; light brown, dry to damp						
5			115.0	5.2		45		
10			119.0	6.3		50+		
15				4.7		51		
20						50		





Drill Method: Hollow Stem

Drill Date: 4-9-20

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Advanced Drilling

Elevation: 50 Feet

Log of Boring B8

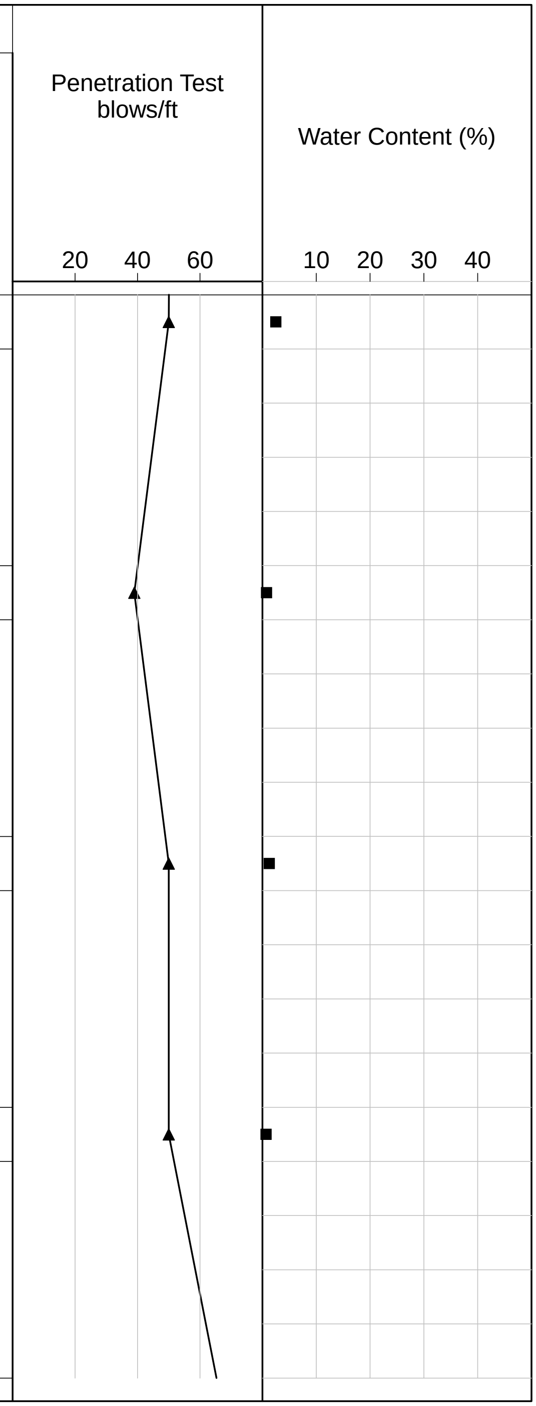
Project: PE Outdoor Complex
Project No: 112-20028

Client: Kern Community College District
Figure No.: A-8

Location: 3000 College Heights Boulevard, Ridgecrest, California
Logged By: Jorge Pelayo

Depth to Water> Not Encountered
Initial: N/A
At Completion: N/A

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
20–24				2.5		50+
24		***POORLY GRADED SAND (SP)*** Dense to very dense, fine-grained; light brown, dry				
25.5				0.8		39
30.5				1.3		50+
35.5				0.7		50+
40						



Drill Method: Hollow Stem
Drill Date: 4-9-20

Drill Rig: CME 75
Krazan and Associates
Hole Size: 5½ Inches

Driller: Advanced Drilling
Elevation: 50 Feet

Sheet: 2 of 3

Log of Boring B8

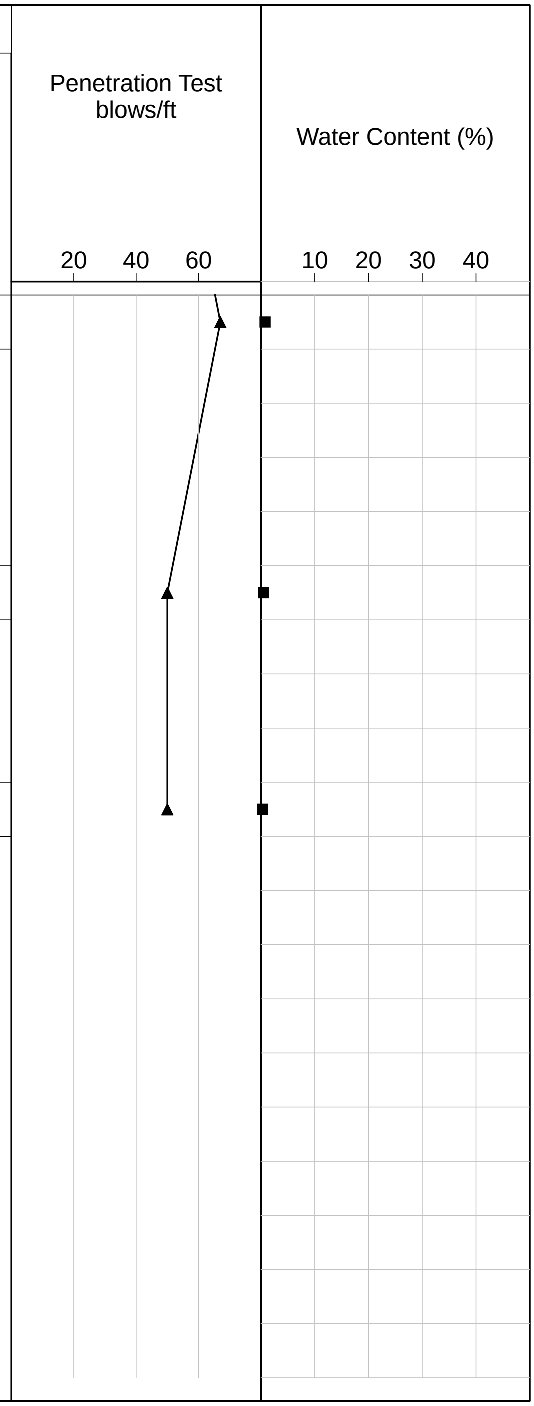
Project: PE Outdoor Complex
Project No: 112-20028

Client: Kern Community College District
Figure No.: A-8

Location: 3000 College Heights Boulevard, Ridgecrest, California
Logged By: Jorge Pelayo

Depth to Water> Not Encountered
Initial: N/A
At Completion: N/A

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
40–41				0.8	■	67
42						
44						
45–46				0.5	■	50+
48						
49–50				0.3	■	50+
50		End of Borehole				
52						
54						
56		Water not encountered Boring backfilled with soil cuttings				
58						
60						



Drill Method: Hollow Stem
Drill Date: 4-9-20

Drill Rig: CME 75
Krazan and Associates
Hole Size: 5½ Inches

Driller: Advanced Drilling
Elevation: 50 Feet

Log of Boring B9

Project: PE Outdoor Complex
Project No: 112-20028

Client: Kern Community College District
Figure No.: A-9

Location: 3000 College Heights Boulevard, Ridgecrest, California
Logged By: Jorge Pelayo

Depth to Water> Not Encountered
Initial: N/A
At Completion: N/A

SUBSURFACE PROFILE — Depth (ft), Symbol, Description

Ground Surface

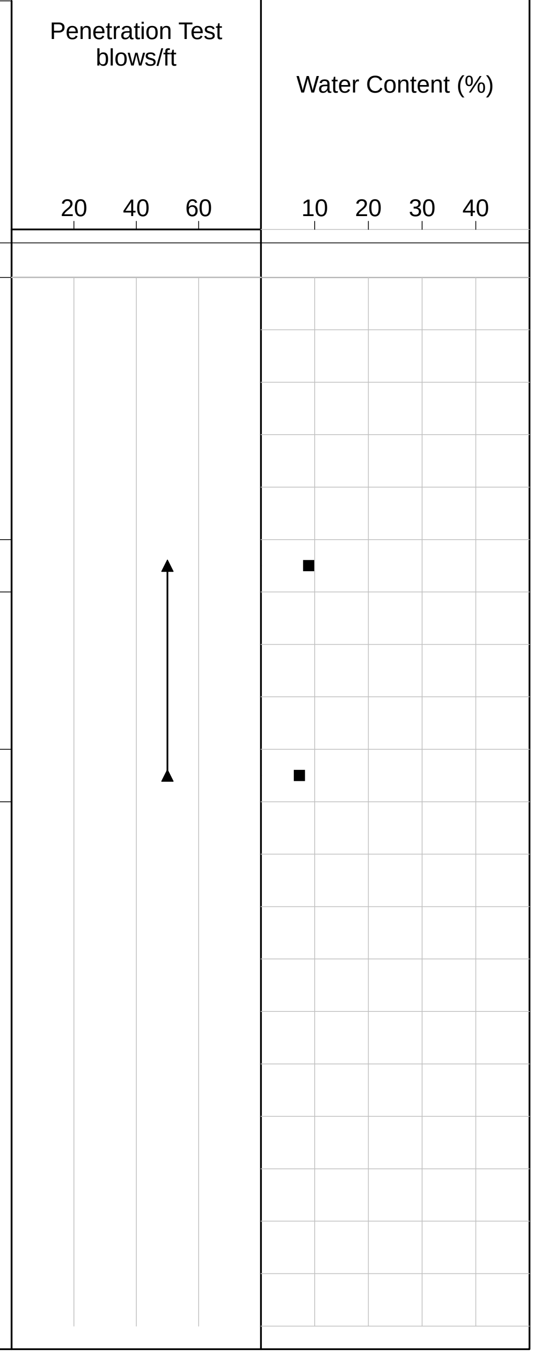
0–10 ft: ***SILTY SAND (SM)***
Very dense, medium- to fine-grained; light brown, moist

10 ft: End of Borehole

Water not encountered
Boring backfilled with soil cuttings

SAMPLE

Depth (ft)	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
5–6	118.4	8.9		50+
9–10	121.6	7.2		50+



Drill Method: Hollow Stem
Drill Date: 4-9-20

Drill Rig: CME 75
Hole Size: 5½ Inches

Krazan and Associates

Driller: Advanced Drilling
Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B10

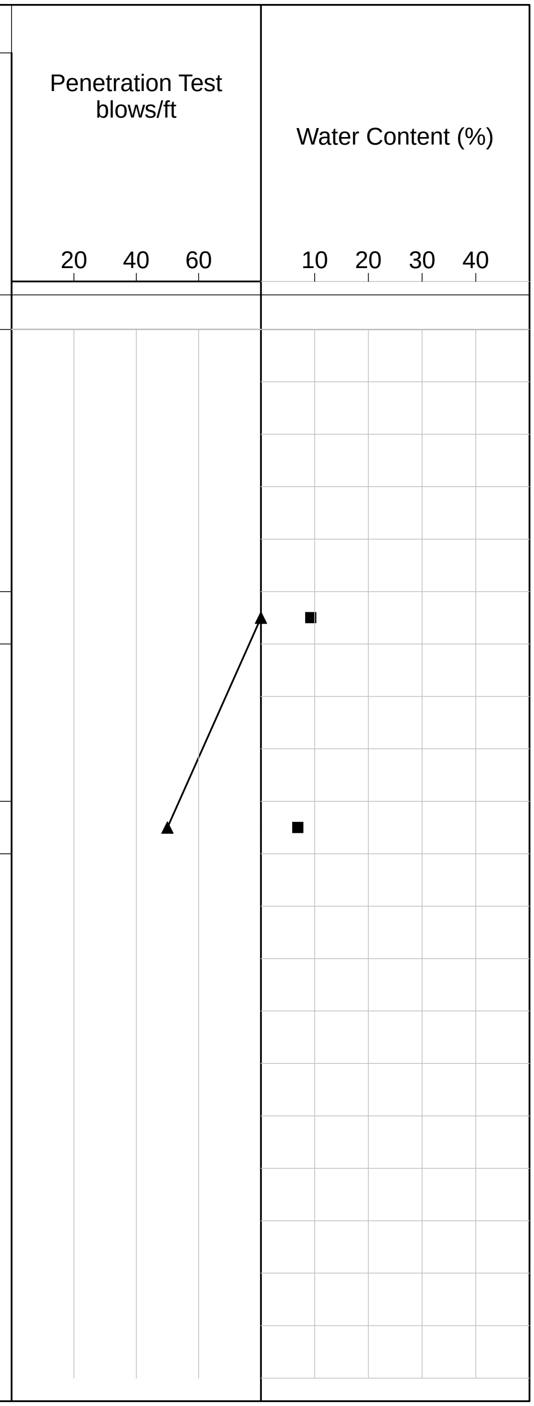
Project: PE Outdoor Complex
Project No: 112-20028

Client: Kern Community College District
Figure No.: A-10

Location: 3000 College Heights Boulevard, Ridgecrest, California
Logged By: Jorge Pelayo

Depth to Water> Not Encountered
Initial: N/A
At Completion: N/A

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		Ground Surface				
0		***SILTY SAND (SM)*** Very dense, medium- to fine-grained; light brown, moist				
5.5			113.2	9.3		80
9.5			121.6	6.9		50+
10		End of Borehole				
19		Water not encountered Boring backfilled with soil cuttings				



Drill Method: Hollow Stem
Drill Date: 4-9-20

Drill Rig: CME 75
Hole Size: 5½ Inches

Krazan and Associates

Driller: Advanced Drilling
Elevation: 10 Feet

Sheet: 1 of 1

Sieve Analysis

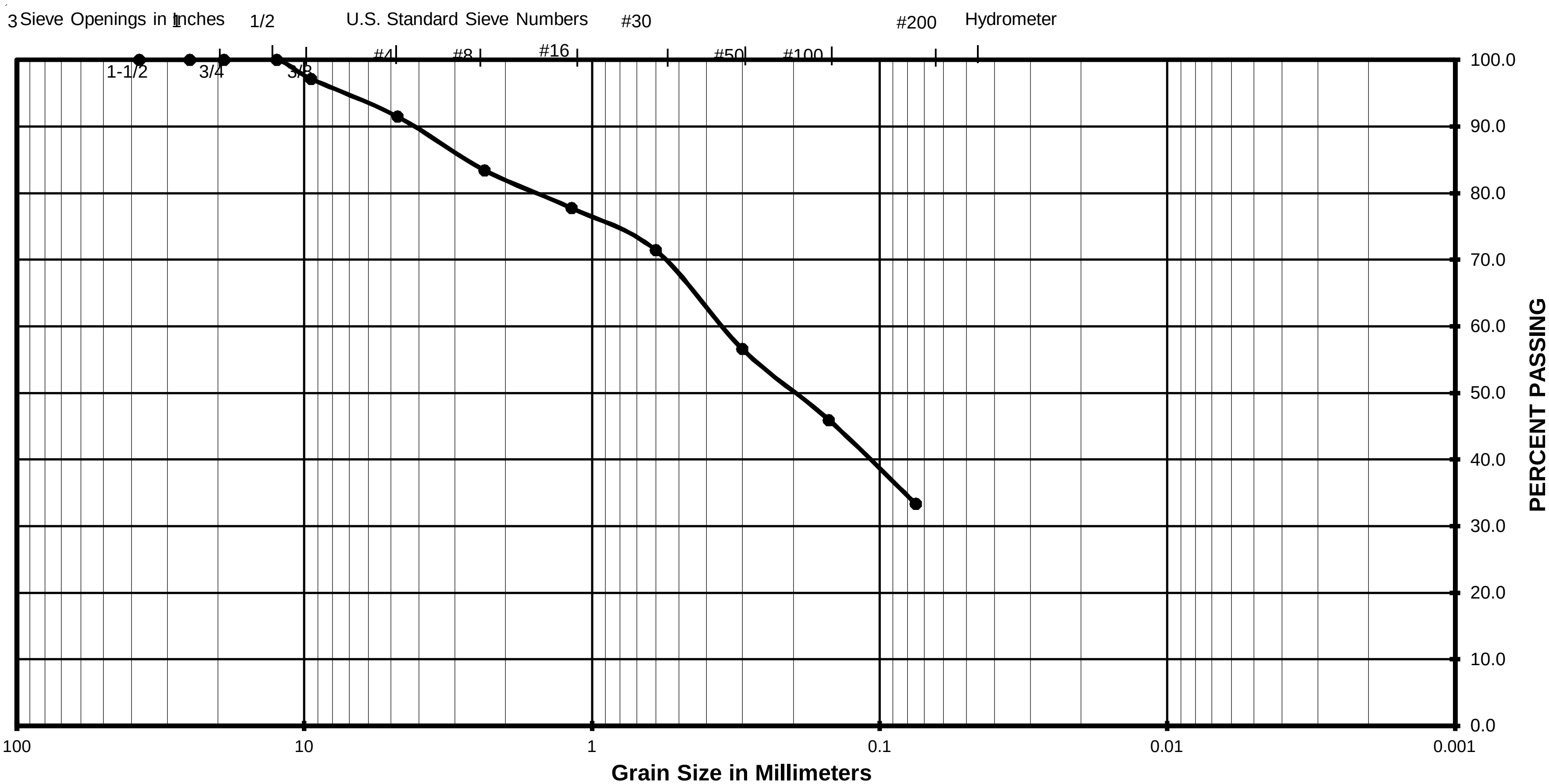
Project Number	: 11220028
Project Name	: PE Outdoor Complex
Date	: 4/28/2020
Sample Location	: Stockpiled
Soil Classification	: SM

Wet Weight	:	434.50
Dry Weight	:	434.50
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	12.4	2.9	2.9	97.1
#4	4.75	24.6	5.7	8.5	91.5
#8	2.36	35.1	8.1	16.6	83.4
#16	1.18	24.6	5.7	22.3	77.7
#30	0.60	27.6	6.4	28.6	71.4
#50	0.30	64.5	14.8	43.5	56.5
#100	0.15	46.2	10.6	54.1	45.9
#200	0.08	54.6	12.6	66.7	33.3

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	PE Outdoor Complex
Project Number	11220028
Soil Classification	SM
Sample Number	Stockpiled

Krazan Testing Laboratory

Sieve Analysis

Project Number : 11220028
Project Name : PE Outdoor Complex
Date : 4/28/2020
Sample Location : B-8 @ 5'
Soil Classification : SM

Wet Weight	:	466.50
Dry Weight	:	466.50
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50				100.0
#4	4.75	5.3	1.1	1.1	98.9
#8	2.36	22.8	4.9	6.0	94.0
#16	1.18	52.6	11.3	17.3	82.7
#30	0.60	57.5	12.3	29.6	70.4
#50	0.30	77.4	16.6	46.2	53.8
#100	0.15	63.7	13.7	59.9	40.1
#200	0.08	100.8	21.6	81.5	18.5

Krazan Testing Laboratory

Grain Size Analysis

Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	PE Outdoor Complex
Project Number	11220028
Soil Classification	SM
Sample Number	B-8 @ 5'

Krazan Testing Laboratory

Sieve Analysis

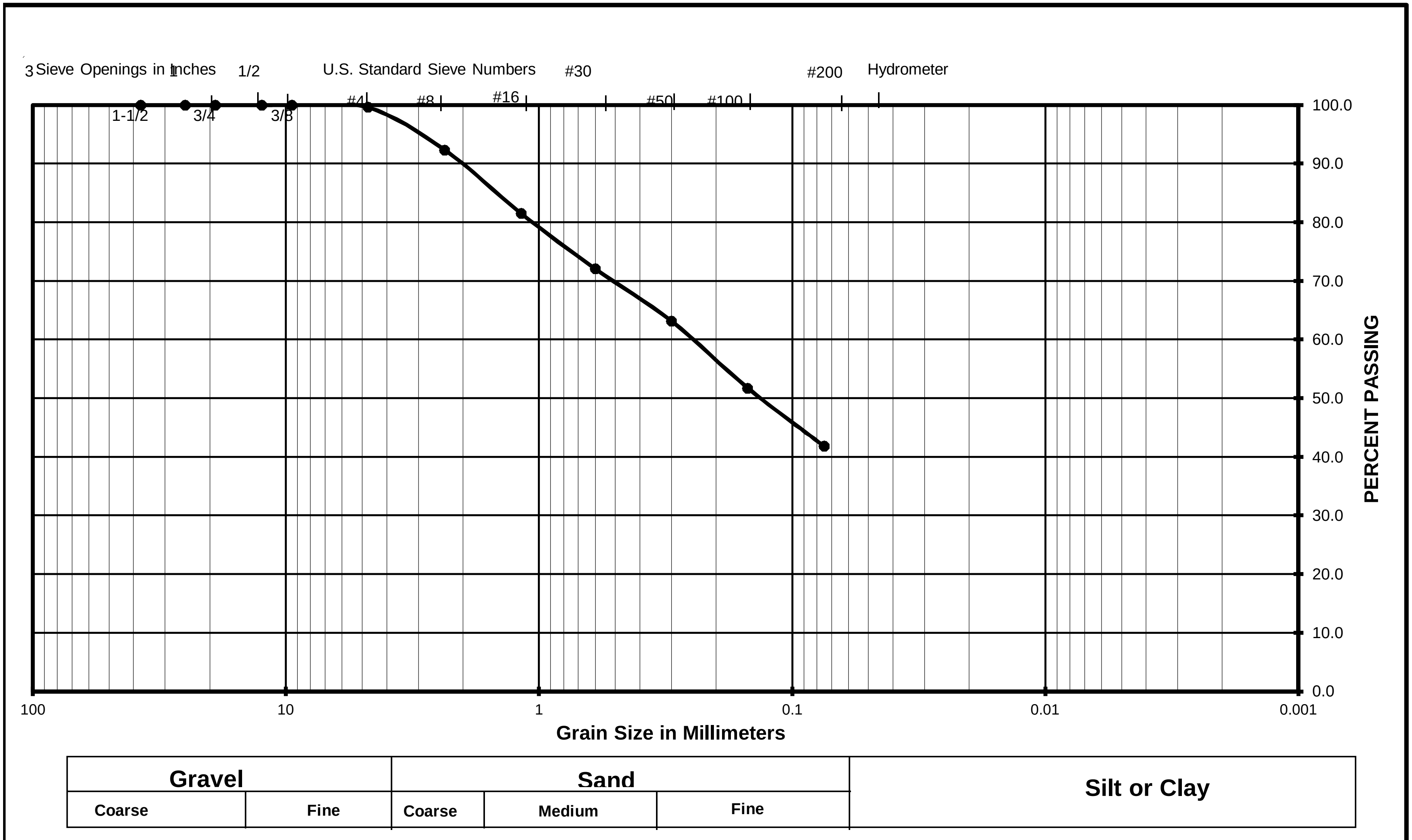
Project Number : 11220028
Project Name : PE Outdoor Complex
Date : 4/28/2020
Sample Location : B-8 @ 10'
Soil Classification : SM

Wet Weight	:	475.50
Dry Weight	:	475.50
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50				100.0
#4	4.75	1.9	0.4	0.4	99.6
#8	2.36	34.6	7.3	7.7	92.3
#16	1.18	51.3	10.8	18.5	81.5
#30	0.60	45.1	9.5	27.9	72.1
#50	0.30	42.3	8.9	36.8	63.2
#100	0.15	54.3	11.4	48.3	51.7
#200	0.08	47.0	9.9	58.1	41.9

Krazan Testing Laboratory

Grain Size Analysis



(Unified Soils Classification)

Project Name	PE Outdoor Complex
Project Number	11220028
Soil Classification	SM
Sample Number	B-8 @ 10'

Krazan Testing Laboratory

Sieve Analysis

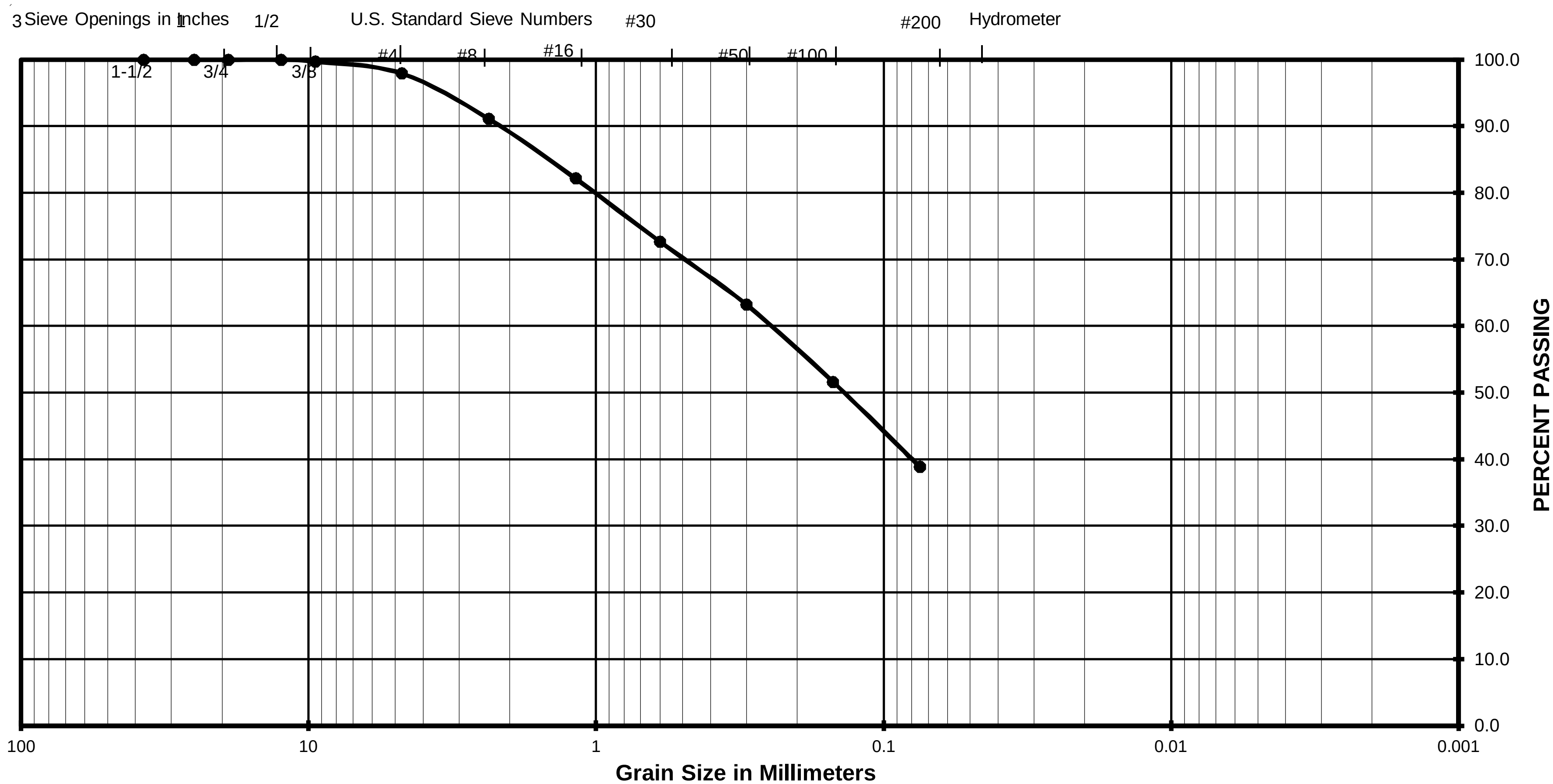
Project Number : 11220028
Project Name : PE Outdoor Complex
Date : 4/28/2020
Sample Location : B-8 @ 15'
Soil Classification : SM

Wet Weight	:	506.20
Dry Weight	:	506.20
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	1.6	0.3	0.3	99.7
#4	4.75	8.9	1.8	2.1	97.9
#8	2.36	34.6	6.8	8.9	91.1
#16	1.18	45.2	8.9	17.8	82.2
#30	0.60	48.1	9.5	27.3	72.7
#50	0.30	47.9	9.5	36.8	63.2
#100	0.15	58.7	11.6	48.4	51.6
#200	0.08	64.3	12.7	61.1	38.9

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	PE Outdoor Complex
Project Number	11220028
Soil Classification	SM
Sample Number	B-8 @ 15'

Krazan Testing Laboratory

Sieve Analysis

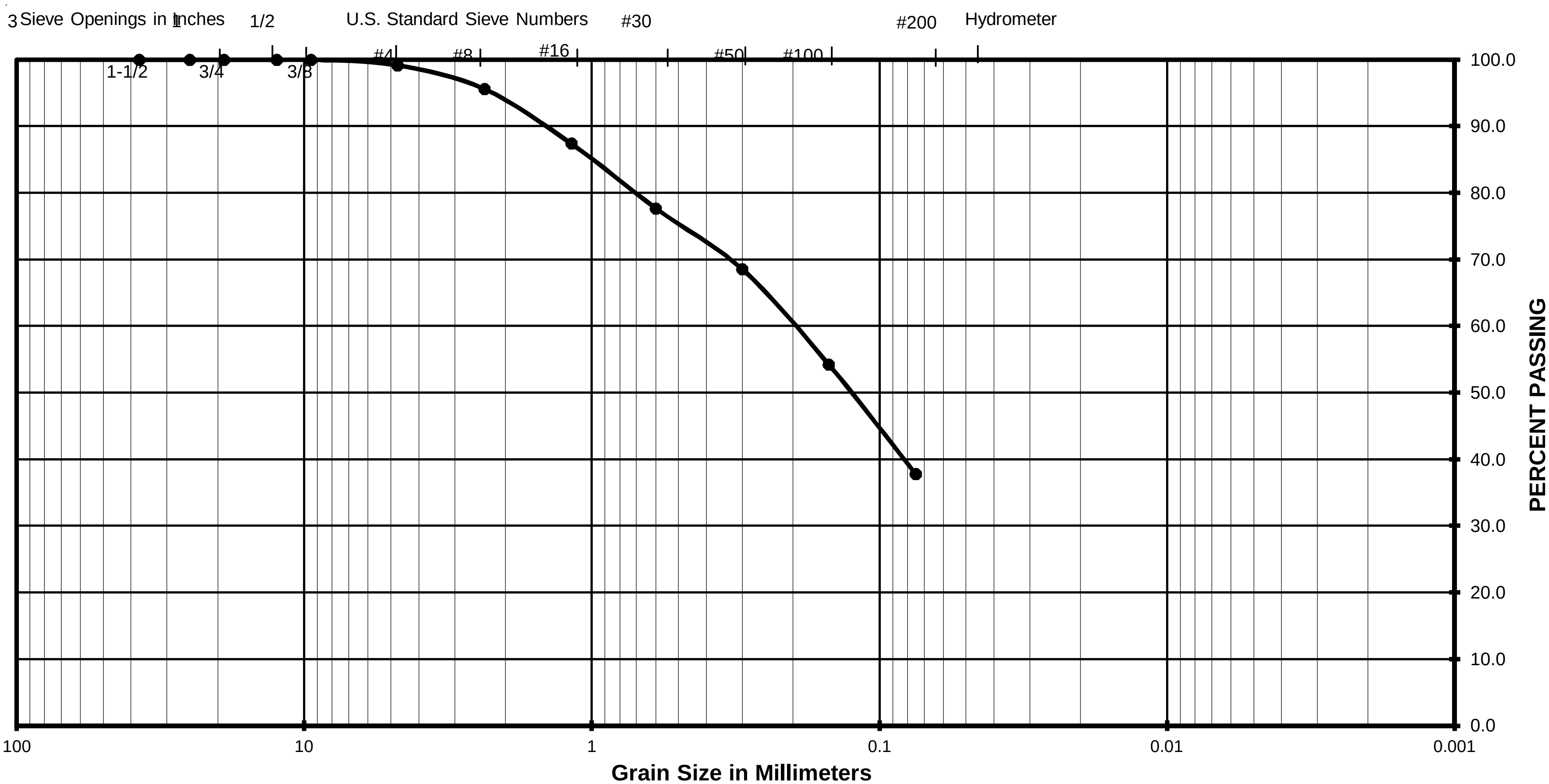
Project Number	:	11220028
Project Name	:	PE Outdoor Complex
Date	:	4/28/2020
Sample Location	:	B-8 @ 20'
Soil Classification	:	SM

Wet Weight	:	520.90
Dry Weight	:	520.90
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50				100.0
#4	4.75	4.5	0.9	0.9	99.1
#8	2.36	18.6	3.6	4.4	95.6
#16	1.18	42.6	8.2	12.6	87.4
#30	0.60	50.6	9.7	22.3	77.7
#50	0.30	47.6	9.1	31.5	68.5
#100	0.15	74.6	14.3	45.8	54.2
#200	0.08	85.4	16.4	62.2	37.8

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	PE Outdoor Complex
Project Number	11220028
Soil Classification	SM
Sample Number	B-8 @ 20'

Krazan Testing Laboratory

Sieve Analysis

Project Number	: 1120028
Project Name	: PE Outdoor Complex
Date	: 4/28/2020
Sample Location	: B-8 @ 25'
Soil Classification	: SM

Wet Weight	:	518.70
Dry Weight	:	518.70
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	13.4	2.6	2.6	97.4
#4	4.75	10.7	2.1	4.6	95.4
#8	2.36	42.8	8.3	12.9	87.1
#16	1.18	41.6	8.0	20.9	79.1
#30	0.60	60.3	11.6	32.5	67.5
#50	0.30	50.0	9.6	42.2	57.8
#100	0.15	38.5	7.4	49.6	50.4
#200	0.08	50.7	9.8	59.4	40.6

Krazan Testing Laboratory

Grain Size Analysis

Project Name	PE Outdoor Complex
Project Number	1120028
Soil Classification	SM
Sample Number	B-8 @ 25'

Krazan Testing Laboratory

Sieve Analysis

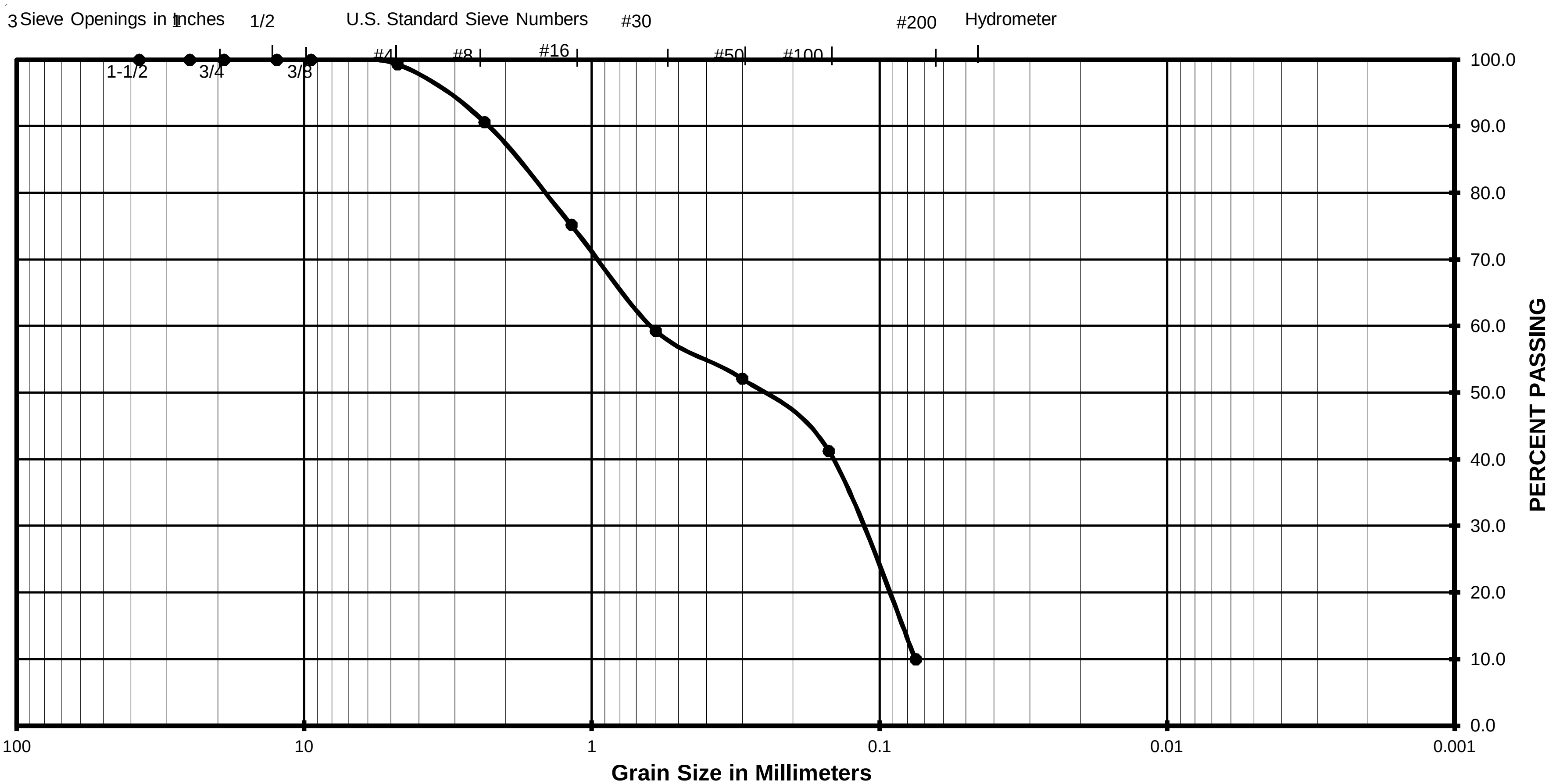
Project Number : 11220028
Project Name : PE Outdoor Complex
Date : 4/28/2020
Sample Location : B-8 @ 30'
Soil Classification : SP

Wet Weight	:	480.60
Dry Weight	:	480.60
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50				100.0
#4	4.75	3.4	0.7	0.7	99.3
#8	2.36	41.6	8.7	9.4	90.6
#16	1.18	74.3	15.5	24.8	75.2
#30	0.60	76.4	15.9	40.7	59.3
#50	0.30	34.6	7.2	47.9	52.1
#100	0.15	52.1	10.8	58.8	41.2
#200	0.08	150.0	31.2	90.0	10.0

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	PE Outdoor Complex
Project Number	11220028
Soil Classification	SP
Sample Number	B-8 @ 30'

Krazan Testing Laboratory

Sieve Analysis

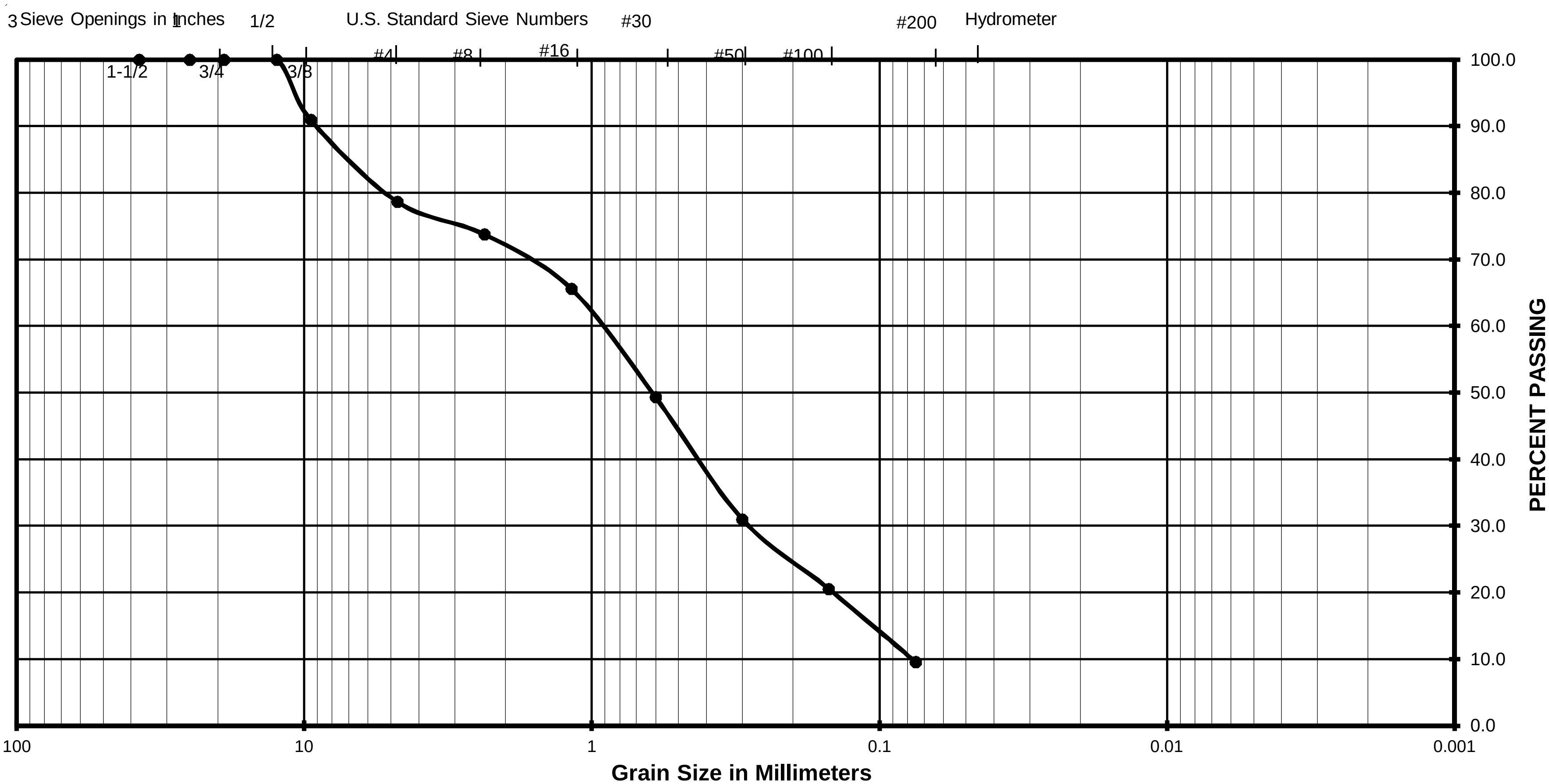
Project Number : 11220028
Project Name : PE Outdoor Complex
Date : 4/28/2020
Sample Location : B-8 @ 35'
Soil Classification : SP

Wet Weight	:	498.40
Dry Weight	:	498.40
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	45.1	9.0	9.0	91.0
#4	4.75	61.3	12.3	21.3	78.7
#8	2.36	24.5	4.9	26.3	73.7
#16	1.18	40.6	8.1	34.4	65.6
#30	0.60	81.2	16.3	50.7	49.3
#50	0.30	91.2	18.3	69.0	31.0
#100	0.15	52.1	10.5	79.5	20.5
#200	0.08	54.6	11.0	90.4	9.6

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	PE Outdoor Complex
Project Number	11220028
Soil Classification	SP
Sample Number	B-8 @ 35'

Krazan Testing Laboratory

Sieve Analysis

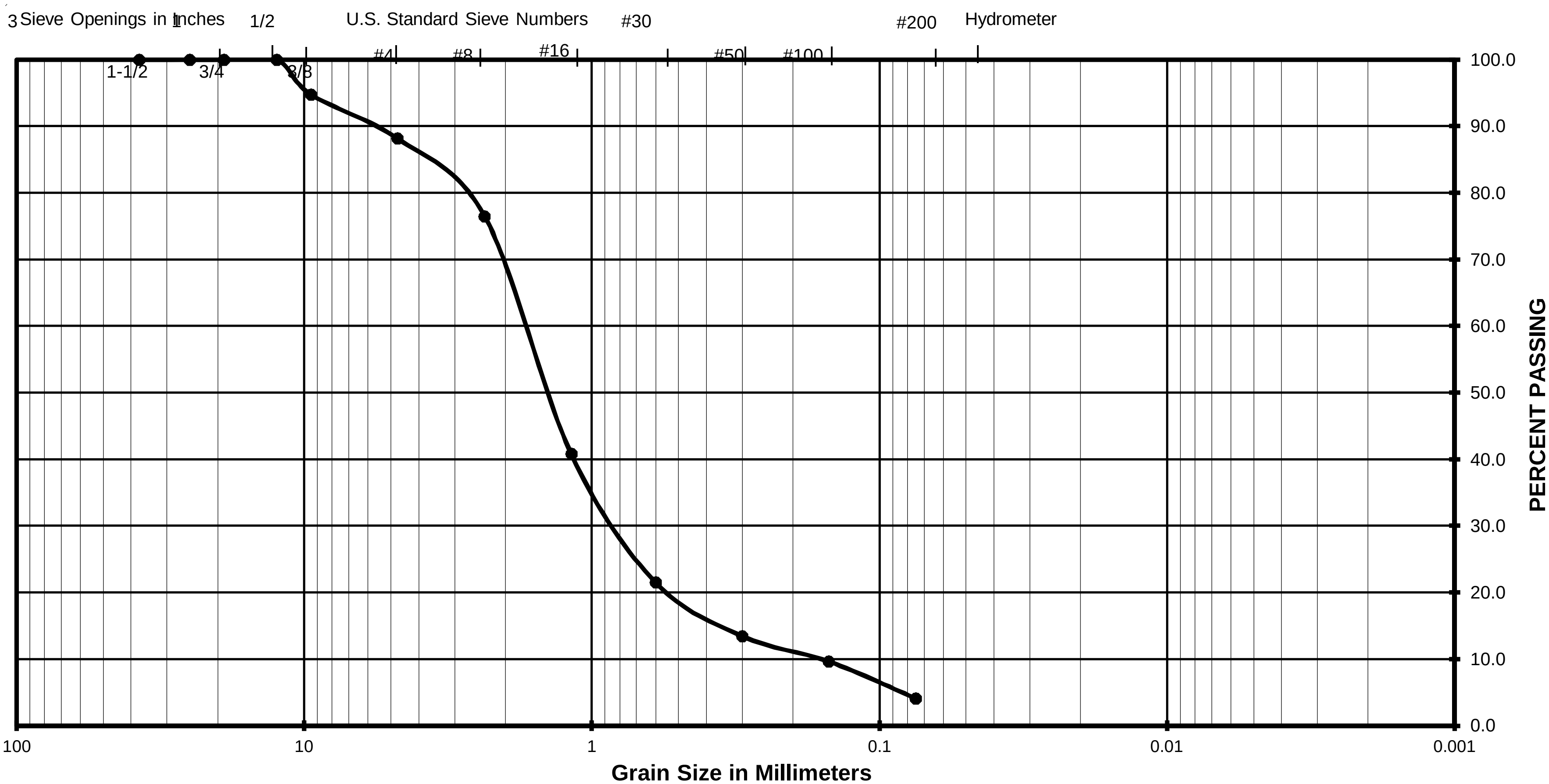
Project Number	: 11220028
Project Name	: PE Outdoor Complex
Date	: 4/28/2020
Sample Location	: B-8 @ 40'
Soil Classification	: SP

Wet Weight	:	491.50
Dry Weight	:	491.50
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	25.7	5.2	5.2	94.8
#4	4.75	32.5	6.6	11.8	88.2
#8	2.36	57.3	11.7	23.5	76.5
#16	1.18	175.5	35.7	59.2	40.8
#30	0.60	94.8	19.3	78.5	21.5
#50	0.30	39.6	8.1	86.6	13.4
#100	0.15	18.7	3.8	90.4	9.6
#200	0.08	27.1	5.5	95.9	4.1

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	PE Outdoor Complex
Project Number	11220028
Soil Classification	SP
Sample Number	B-8 @ 40'

Krazan Testing Laboratory

Sieve Analysis

Project Number : 11220028
Project Name : PE Outdoor Complex
Date : 4/28/2020
Sample Location : B-8 @ 45'
Soil Classification : SP

Wet Weight	:	529.00
Dry Weight	:	529.00
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	14.3	2.7	2.7	97.3
#4	4.75	31.5	6.0	8.7	91.3
#8	2.36	45.1	8.5	17.2	82.8
#16	1.18	74.6	14.1	31.3	68.7
#30	0.60	65.1	12.3	43.6	56.4
#50	0.30	58.4	11.0	54.6	45.4
#100	0.15	64.5	12.2	66.8	33.2
#200	0.08	124.6	23.6	90.4	9.6

Krazan Testing Laboratory

Grain Size Analysis

Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	PE Outdoor Complex
Project Number	11220028
Soil Classification	SP
Sample Number	B-8 @ 45'

Krazan Testing Laboratory

Sieve Analysis

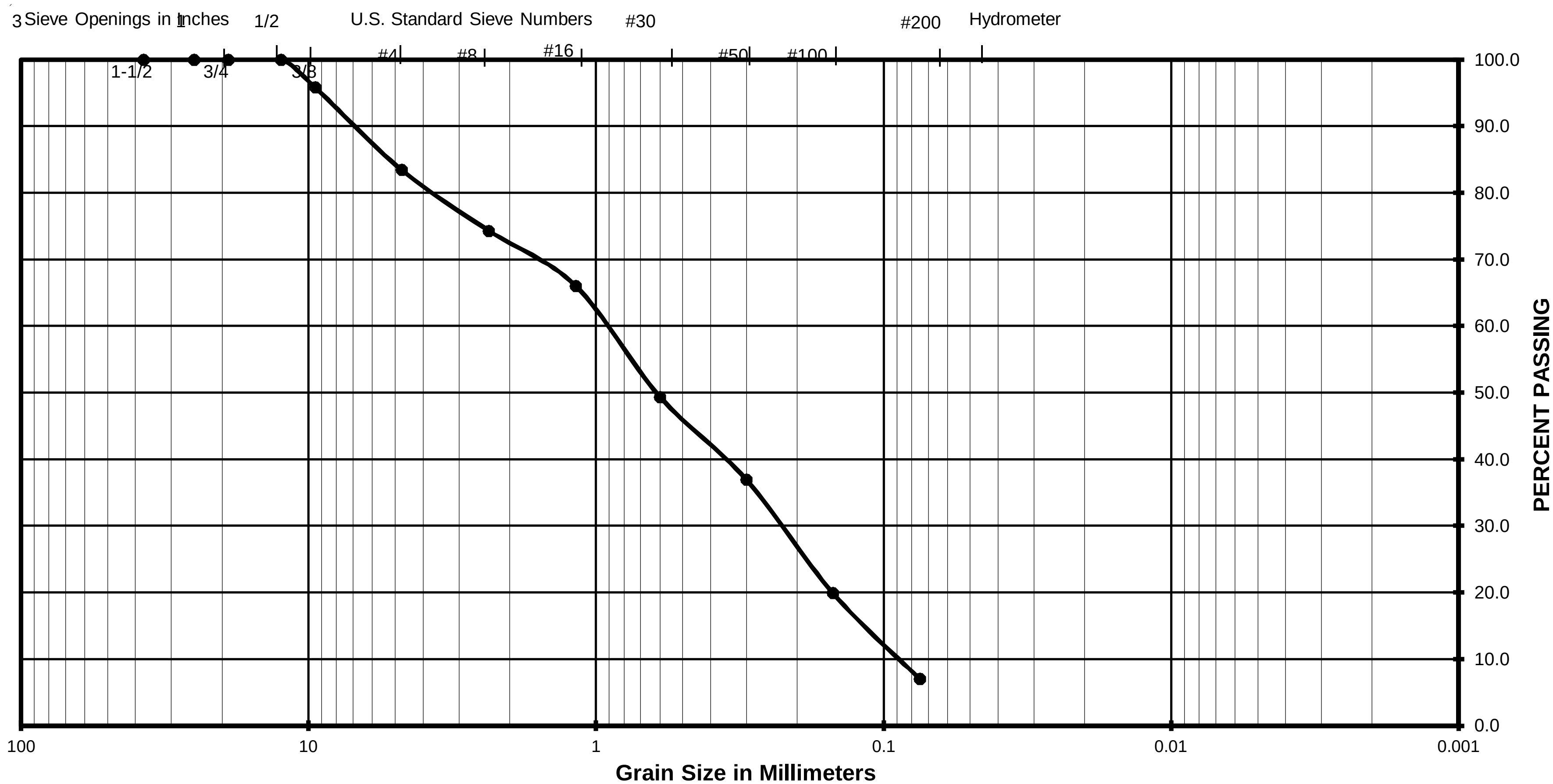
Project Number	: 11220028
Project Name	: PE Outdoor Complex
Date	: 4/28/2020
Sample Location	: B-8 @ 50'
Soil Classification	: SP

Wet Weight	:	519.90
Dry Weight	:	519.90
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	21.6	4.2	4.2	95.8
#4	4.75	64.5	12.4	16.6	83.4
#8	2.36	47.5	9.1	25.7	74.3
#16	1.18	42.9	8.3	33.9	66.1
#30	0.60	86.7	16.7	50.6	49.4
#50	0.30	64.8	12.5	63.1	36.9
#100	0.15	88.5	17.0	80.1	19.9
#200	0.08	66.8	12.8	93.0	7.0

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	PE Outdoor Complex
Project Number	11220028
Soil Classification	SP
Sample Number	B-8 @ 50'

Krazan Testing Laboratory

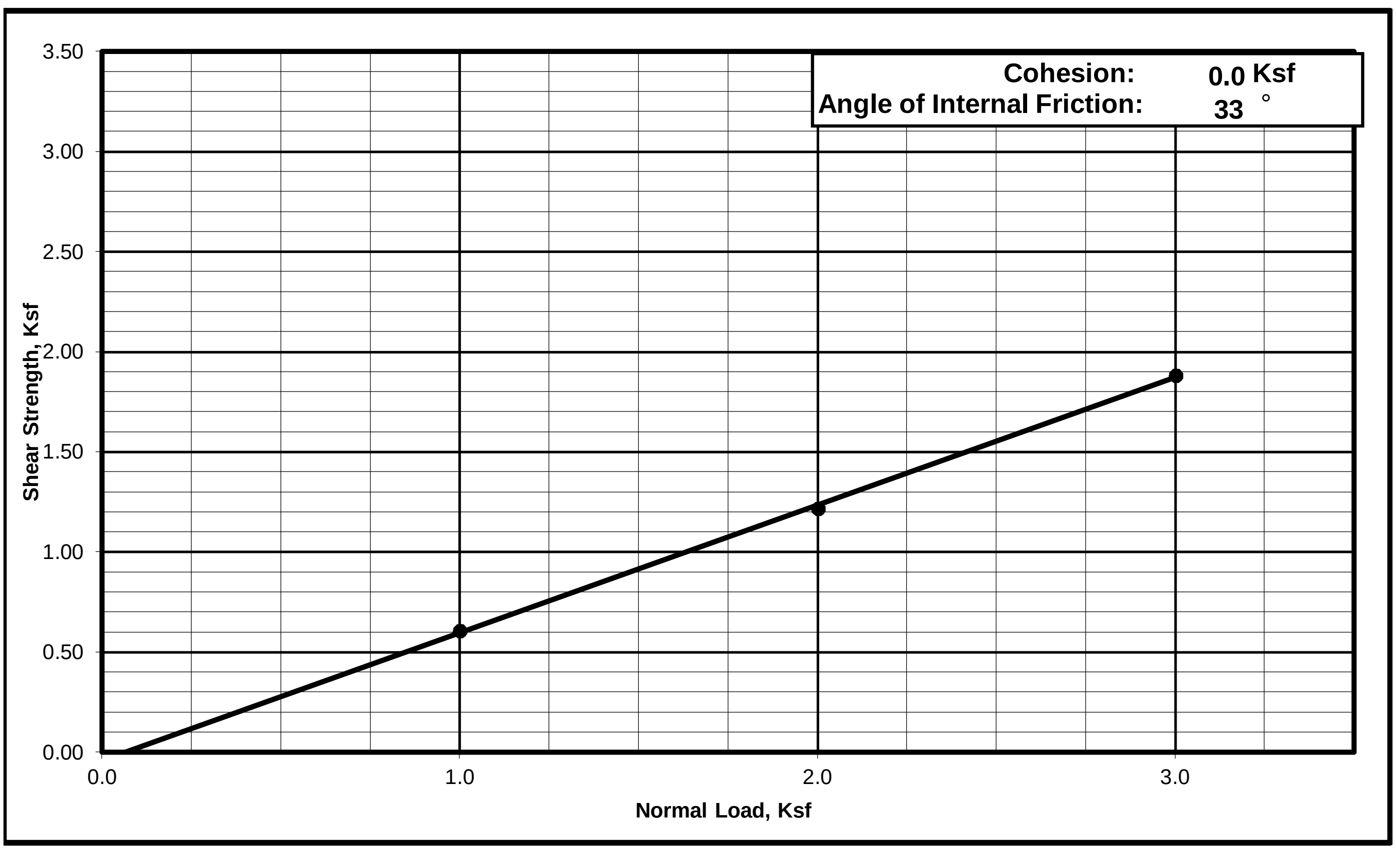
Direct Shear of Consolidated, Drained Soils
ASTM D - 3080 / AASHTO T - 236

Project Number : 11220028
Project Name : PE Outdoor Complex
Date : 4/28/2020
Sample Location : B-6 @ 5'
Soil Classification : SM
Sample Surface Area : 0.0289

STRESS DISPLACEMENT DATA

Lat. Disp. (in.)	Normal Load 1000	Normal Load 2000	Normal Load 3000
0	0	0	0
0.030	26.2	54.2	58
0.060	35.2	73	69.8
0.090	40.8	84	79.8
0.120	44.8	90.6	88.8
0.150	46.8	95.8	98.9
0.180	48.2	99.8	111.2
0.210	49.2	103	121.8
0.240	50.8	105	132.8
0.270	51.8	105.8	142
0.300	52	106	150
0.330	51.6	107	165.8
0.360		108	169

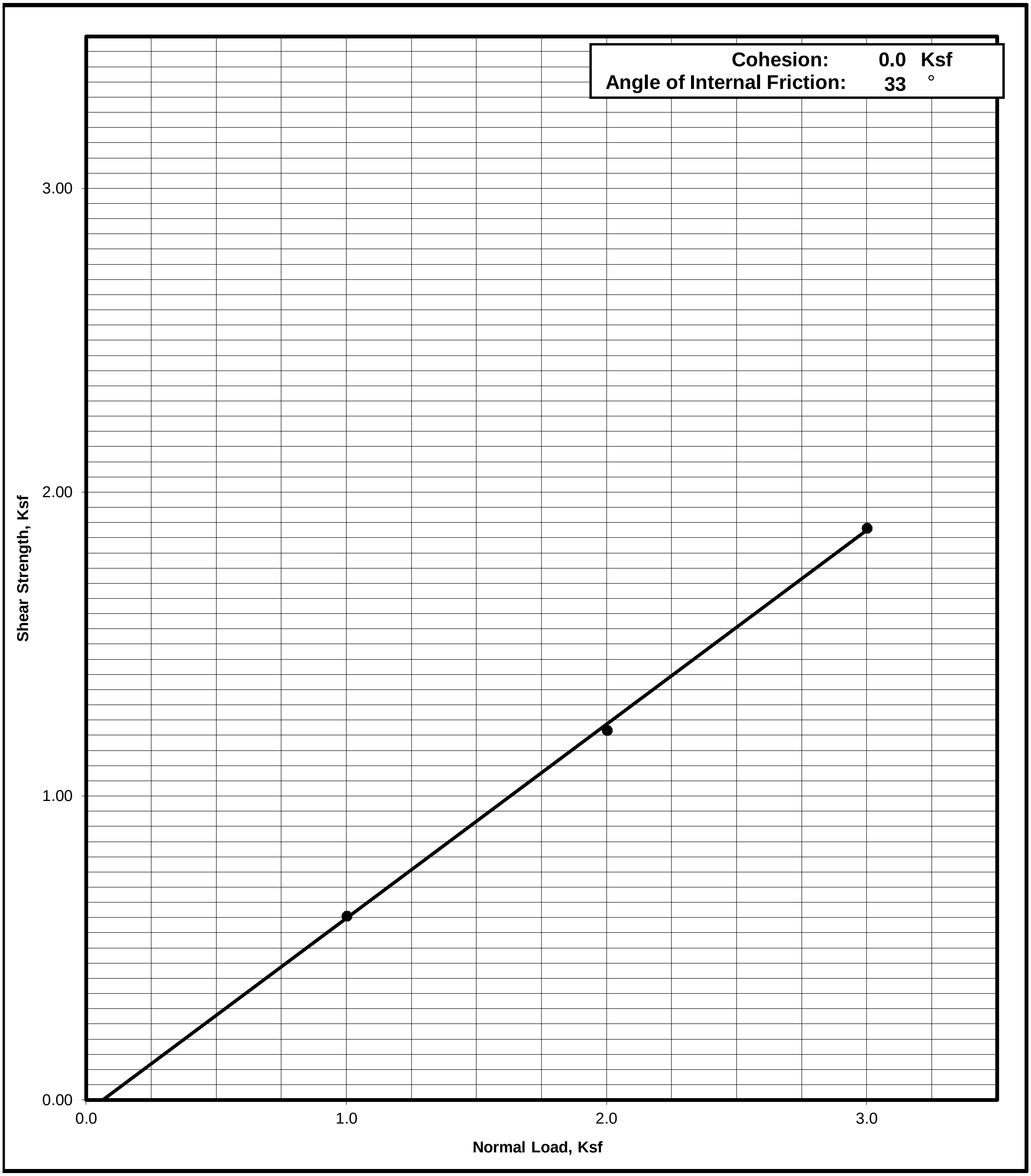
Normal Load psf	Shear force lbs	Shear Stress psf
1000	17.5	607
2000	35.2	1218
3000	54.4	1884



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
11220028	B-6 @ 5'	SM	4/28/2020



Krazan Testing Laboratory

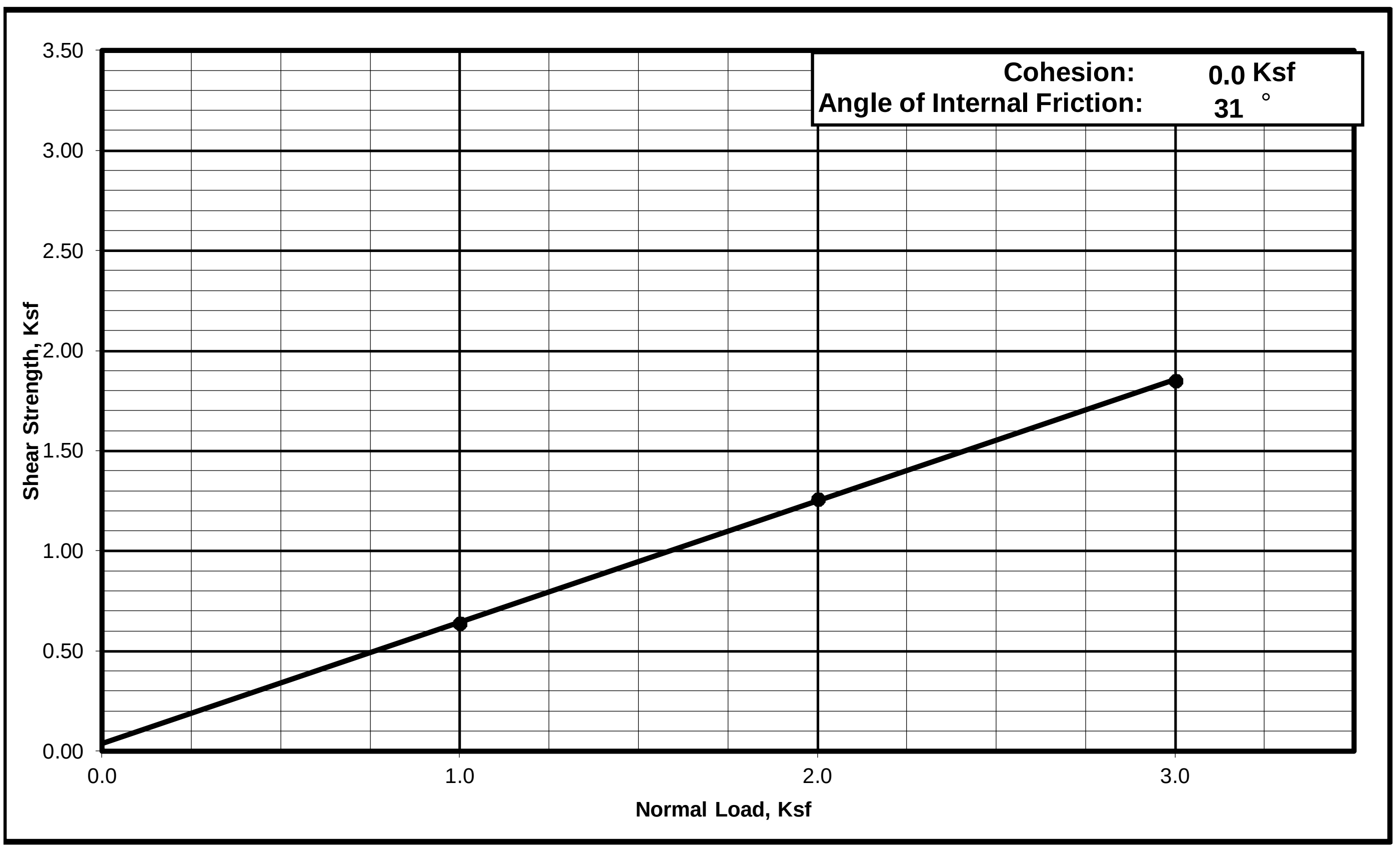
Direct Shear of Consolidated, Drained Soils
ASTM D - 3080 / AASHTO T - 236

Project Number	: 11220028
Project Name	: PE Outdoor Complex
Date	: 4/28/2020
Sample Location	: B-10 @ 5'
Soil Classification	: SM
Sample Surface Area	: 0.0289

STRESS DISPLACEMENT DATA

Lat. Disp. (in.)	Normal Load		
	1000	2000	3000
0	0	0	0
0.030	26.2	54.2	58
0.060	35.2	73	69.8
0.090	40.8	84	79.8
0.120	44.8	90.6	88.8
0.150	46.8	95.8	98.9
0.180	48.2	99.8	111.2
0.210	49.2	103	121.8
0.240	50.8	105	132.8
0.270	51.8	105.8	142
0.300	52	110.4	150
0.330	55	112.4	166
0.360			

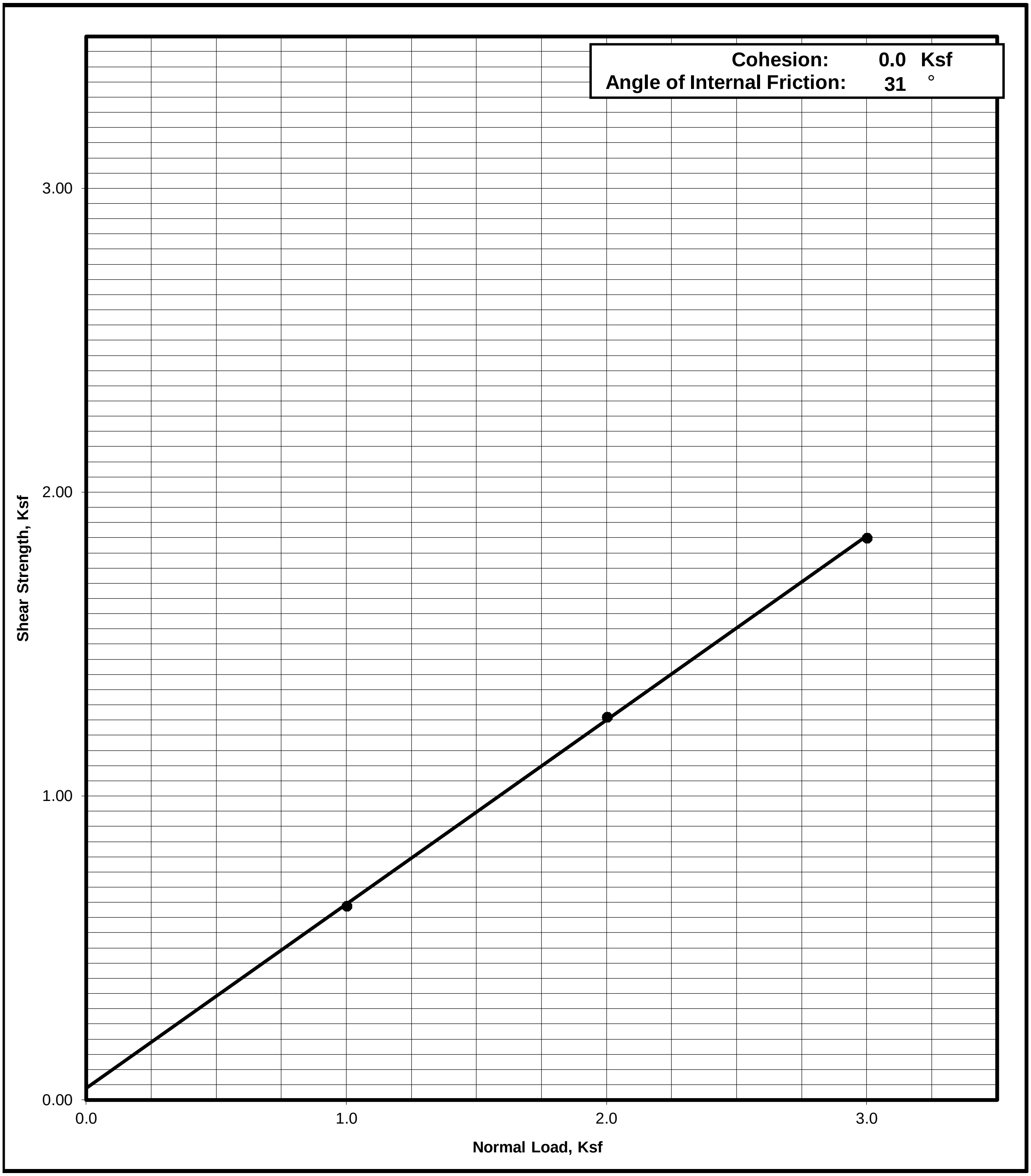
Normal Load psf	Shear force lbs	Shear Stress psf
1000	18.5	639
2000	36.5	1262
3000	53.5	1851



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
11220028	B-10 @ 5'	SM	4/28/2020

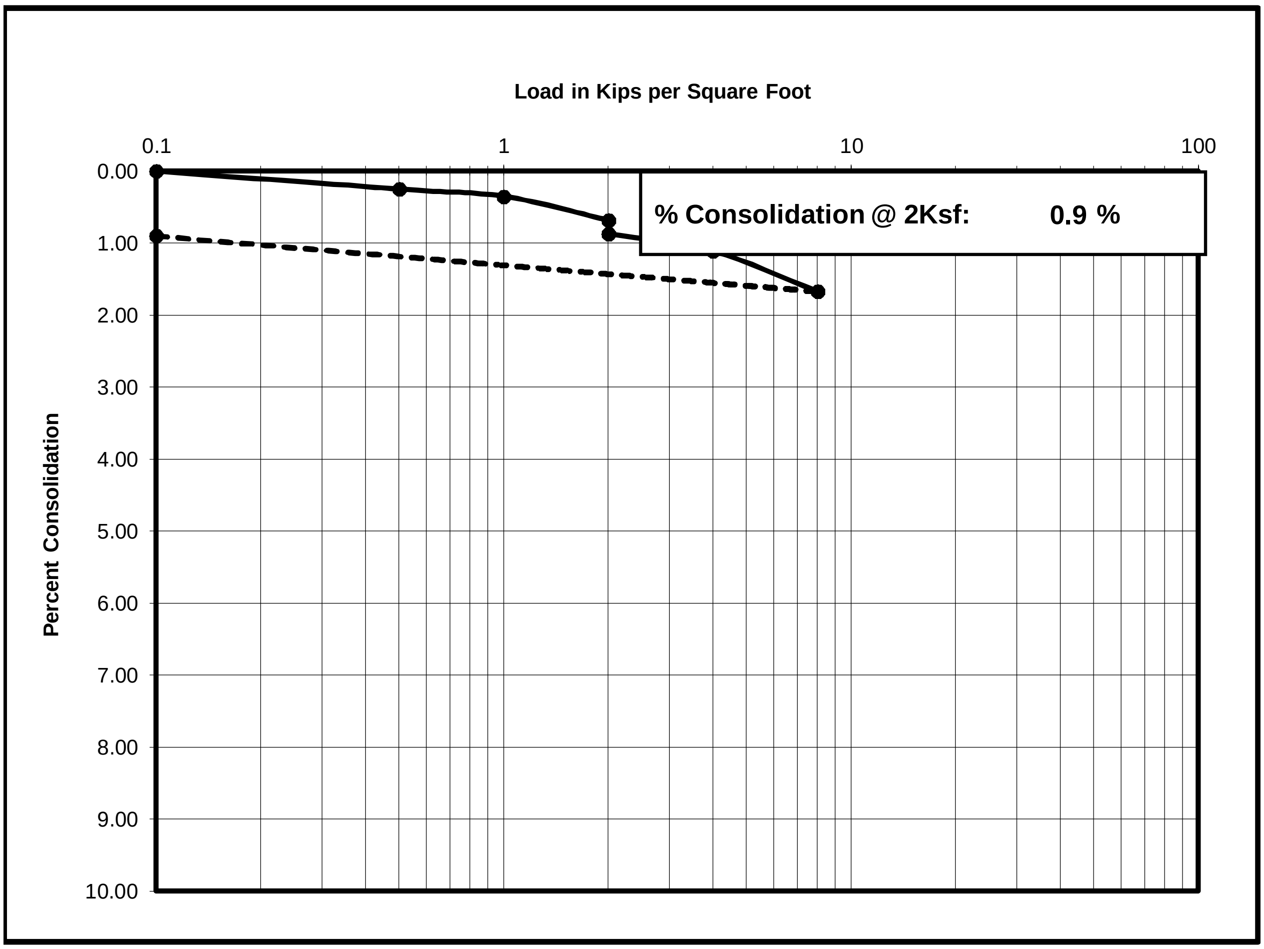


Krazan Testing Laboratory

One Dimensional Consolidation Properties of Soil
ASTM D - 2435 / AASHTO T - 216

Project Number : 11220028
Project Name : PE Outdoor Complex
Date : 4/28/2020
Sample Location : B-5 @ 5'
Soil Classification : SM
Sample Condition : Undisturbed

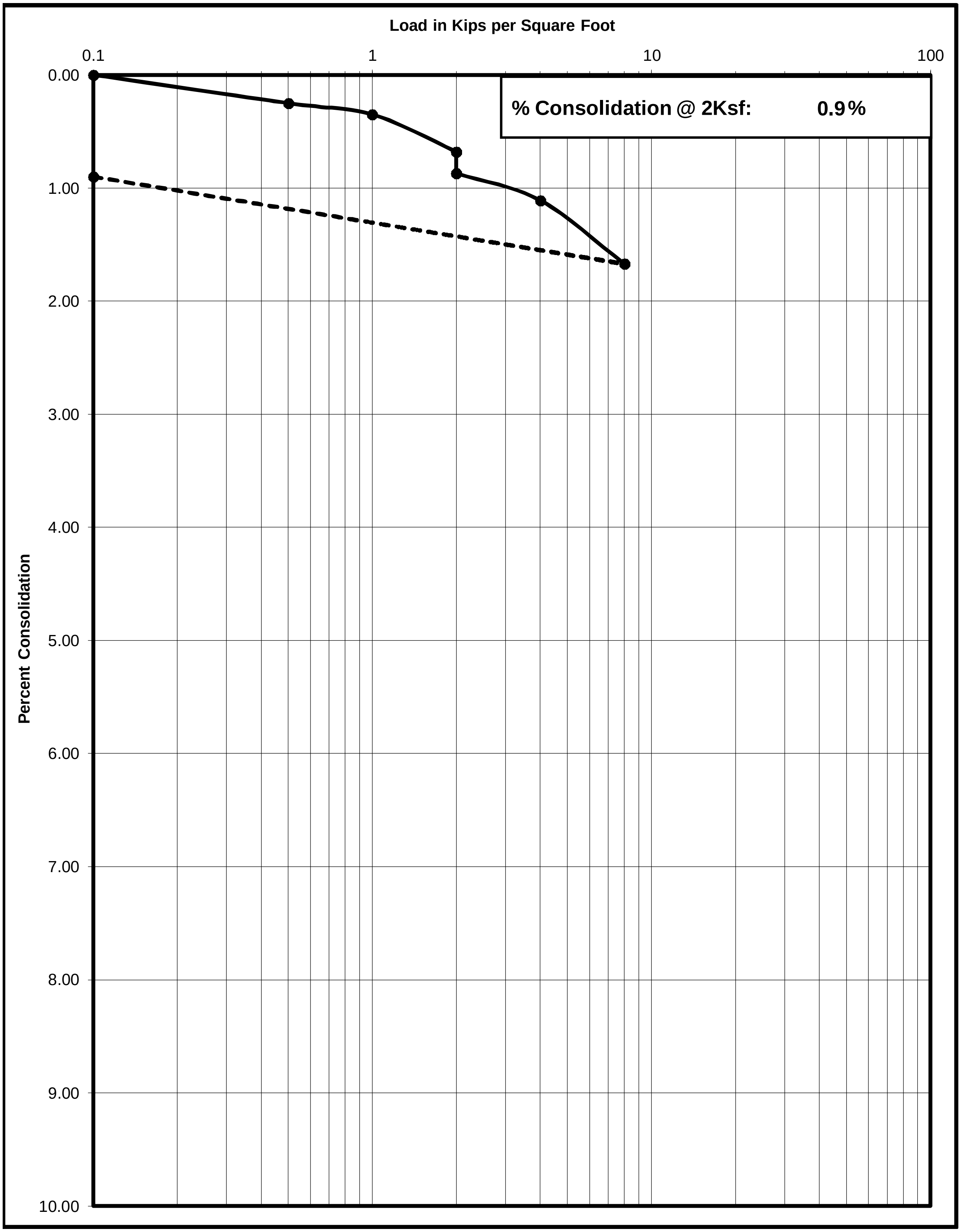
LOAD (ksf)	Reading	% Consolidation
0.1	0	--
0.5	0.0025	0.25
1	0.0035	0.35
2	0.0068	0.68
Satur.	0.0087	0.87
4	0.0111	1.11
8	0.0167	1.67
0.1	0.009	0.90



Krazan Testing Laboratory

Consolidation Test

Project No	Boring No. & Depth	Date	Soil Classification
11220028	B-5 @ 5'	4/28/2020	SM

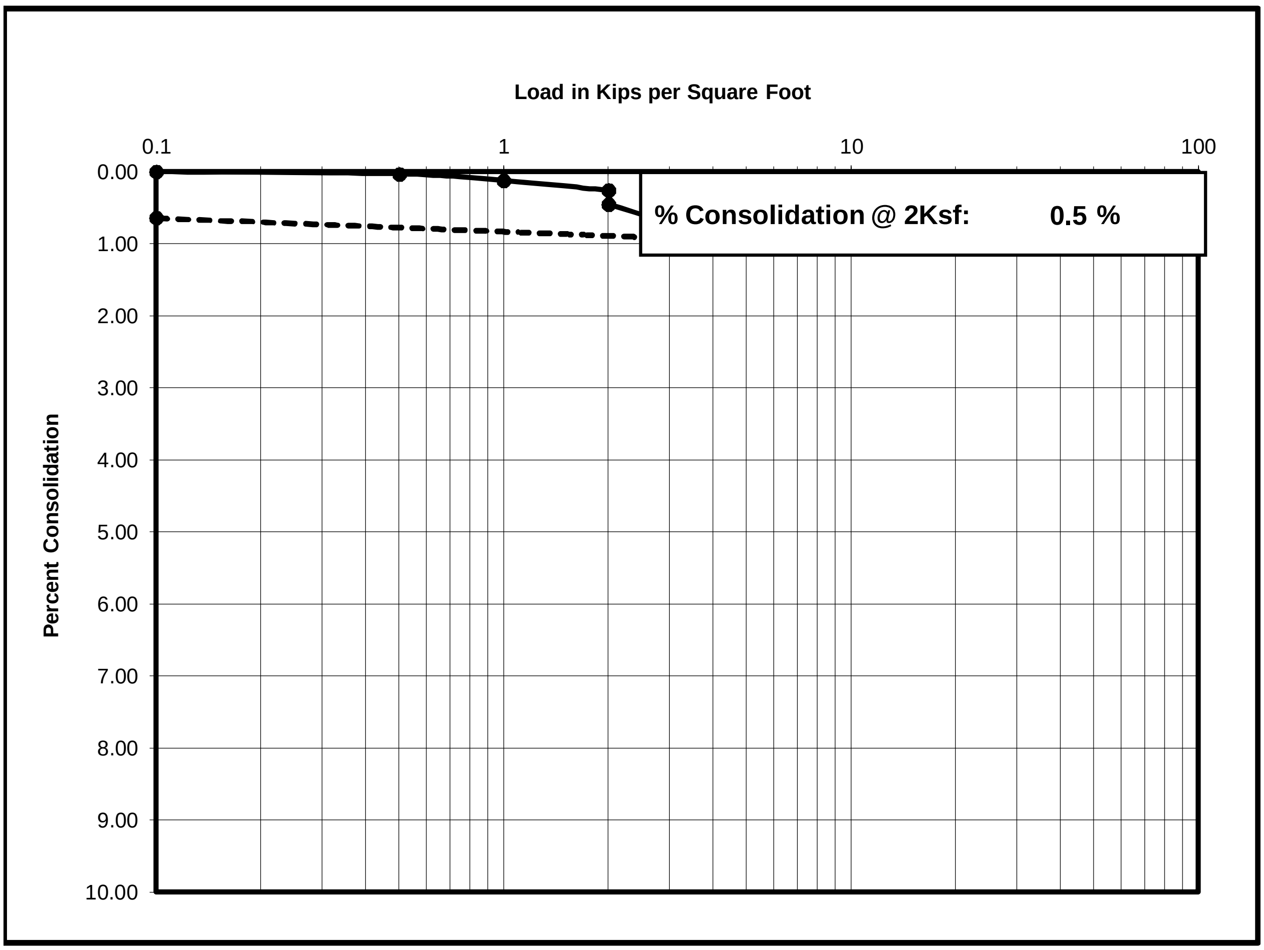


Krazan Testing Laboratory

One Dimensional Consolidation Properties of Soil
ASTM D - 2435 / AASHTO T - 216

Project Number : 11220028
Project Name : PE Outdoor Complex
Date : 4/28/2020
Sample Location : B-5 @ 10'
Soil Classification : SM
Sample Condition : Undisturbed

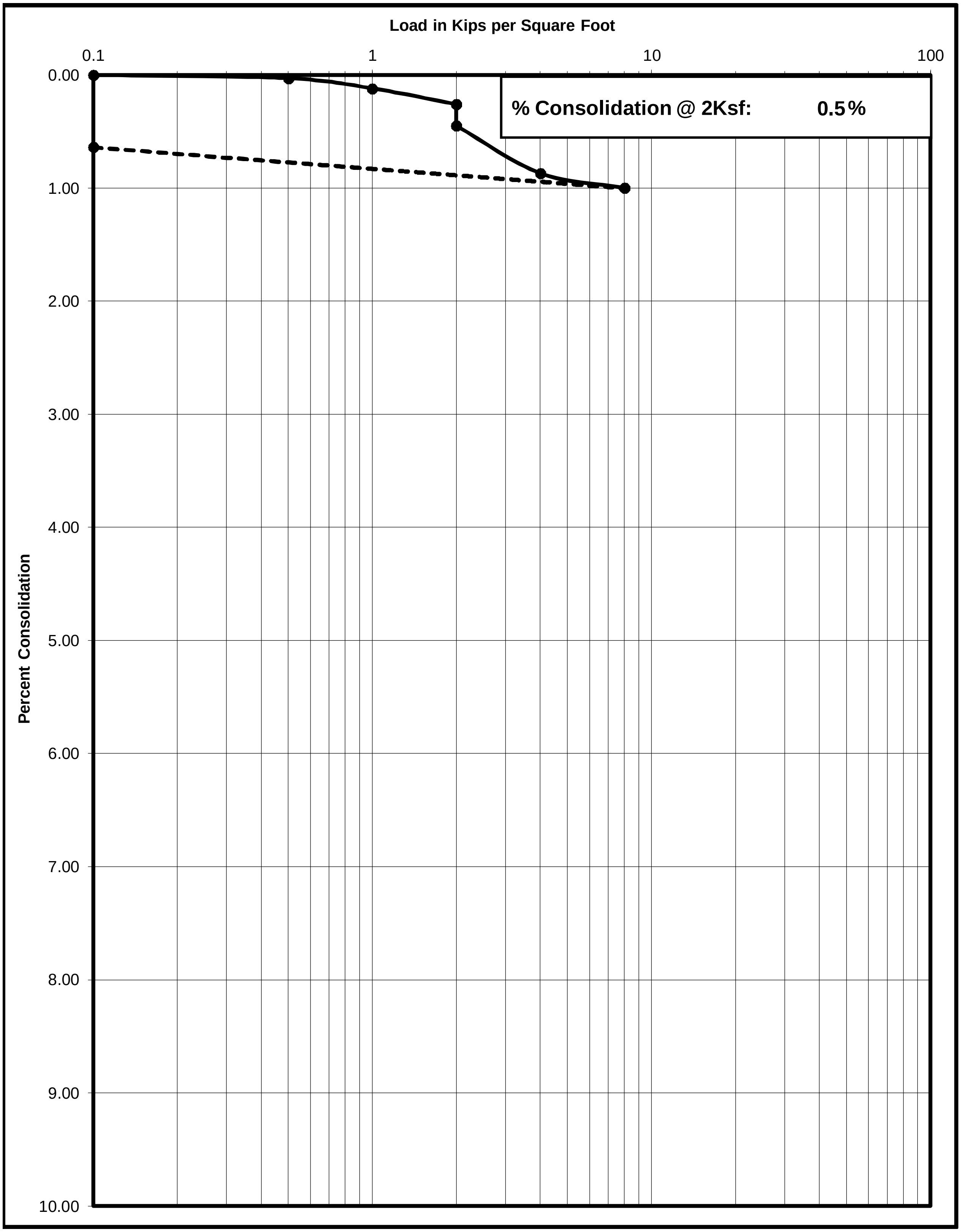
LOAD (ksf)	Reading	% Consolidation
0.1	0	--
0.5	0.0003	0.03
1	0.0012	0.12
2	0.0026	0.26
Satur.	0.0045	0.45
4	0.0087	0.87
8	0.01	1.00
0.1	0.0064	0.64



Krazan Testing Laboratory

Consolidation Test

Project No	Boring No. & Depth	Date	Soil Classification
11220028	B-5 @ 10'	4/28/2020	SM



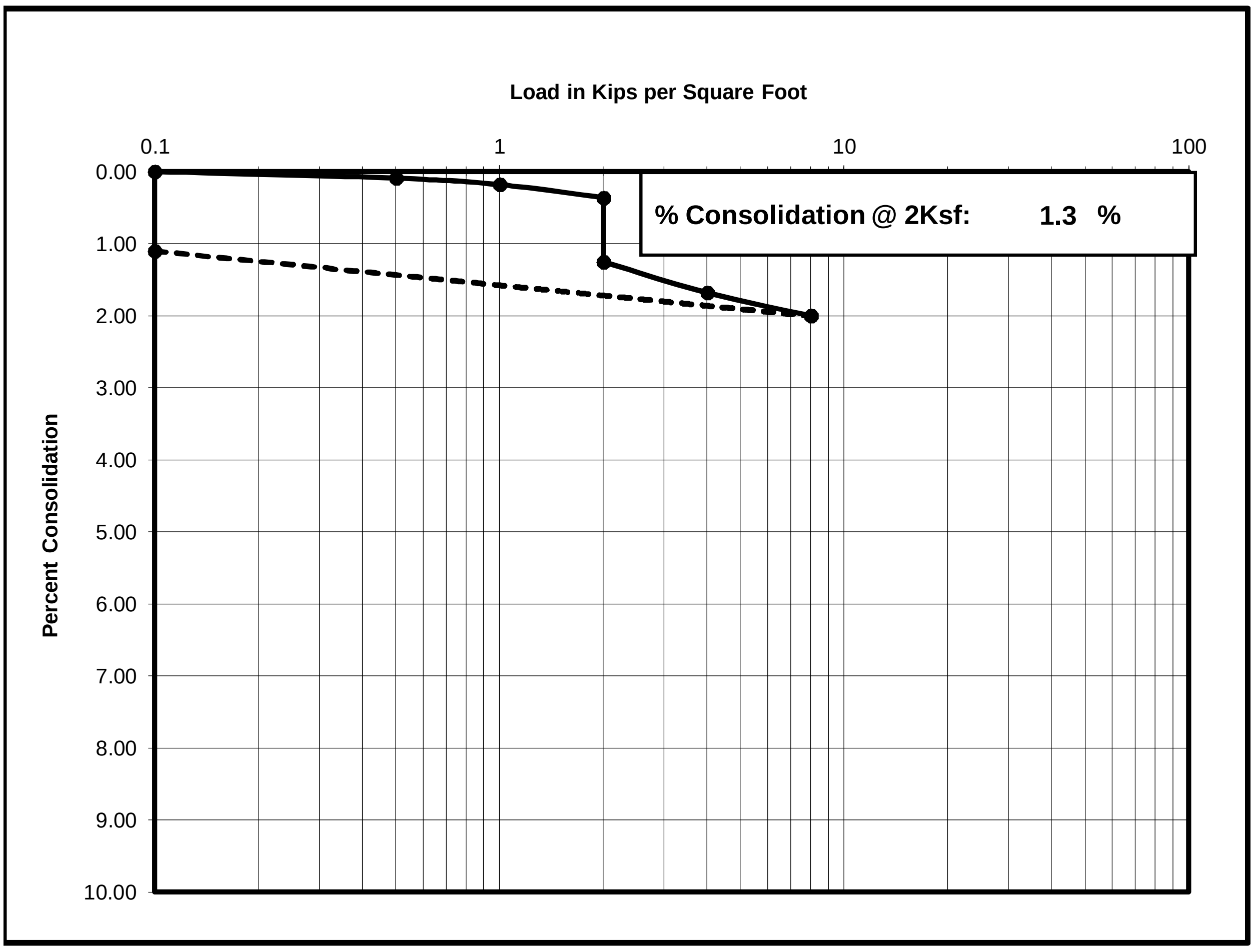
Krazan Testing Laboratory

One Dimensional Consolidation Properties of Soil

ASTM D - 2435 / AASHTO T - 216

Project Number	: 11220028
Project Name	: PE Outdoor Complex
Date	: 4/28/2020
Sample Location	: B-7 @ 5'
Soil Classification	: SM
Sample Condition	: Undisturbed

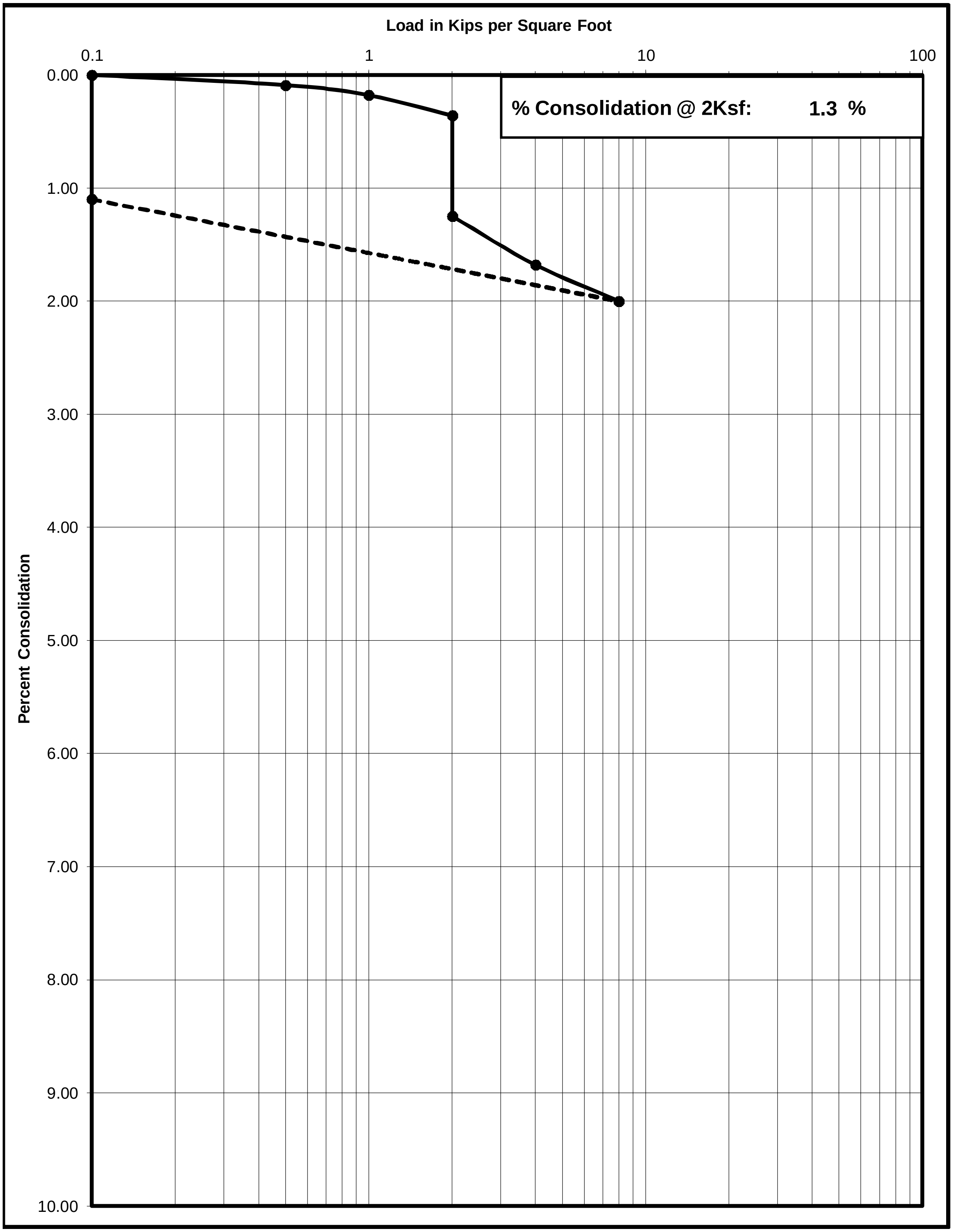
LOAD (ksf)	Reading	% Consolidation
0.1	0	--
0.5	0.0009	0.09
1	0.0018	0.18
2	0.0036	0.36
Satur.	0.0125	1.25
4	0.0168	1.68
8	0.02	2.00
0.1	0.011	1.10



Krazan Testing Laboratory

Consolidation Test

Project No	Boring No. & Depth	Date	Soil Classification
11220028	B-7 @ 5'	4/28/2020	SM



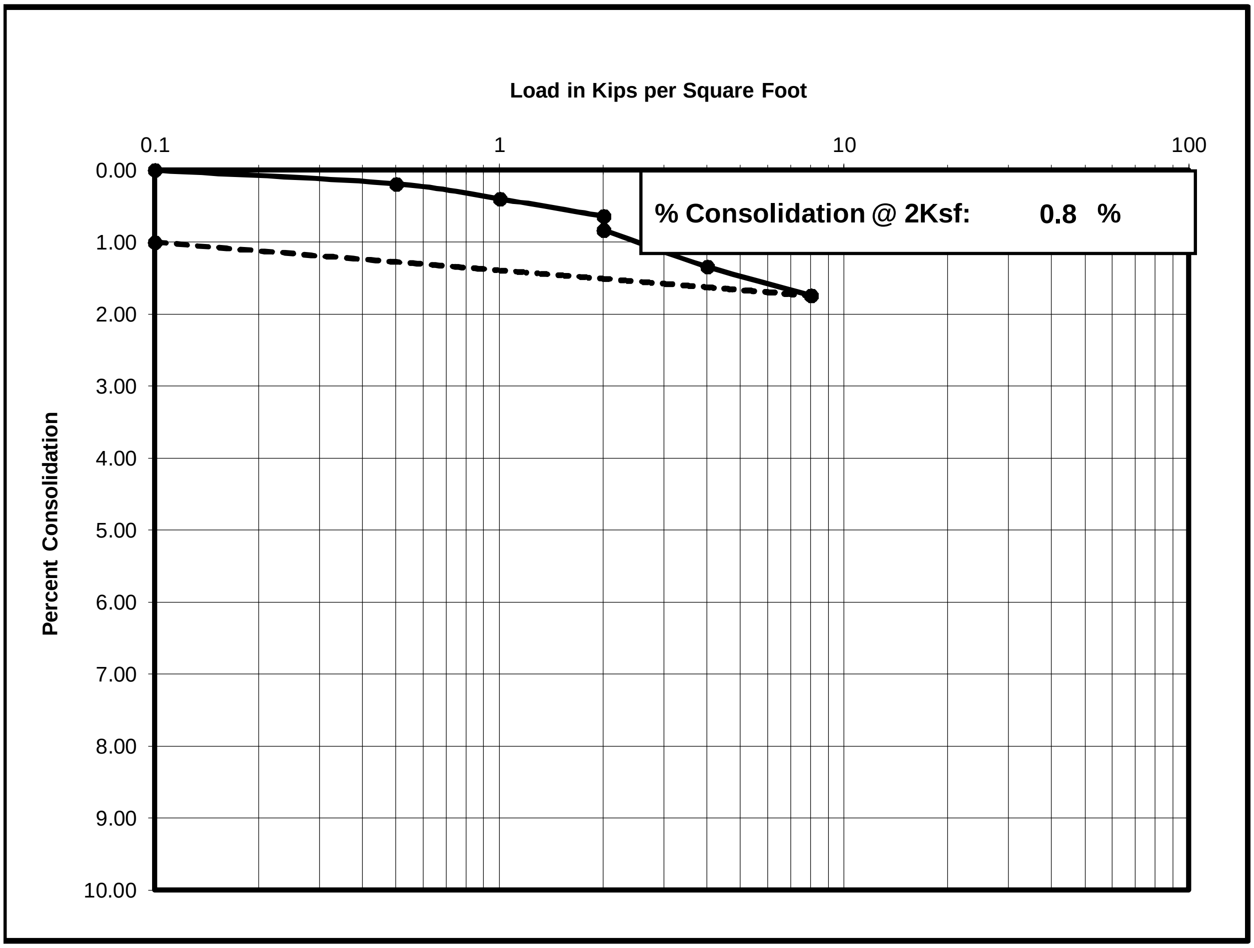
Krazan Testing Laboratory

One Dimensional Consolidation Properties of Soil

ASTM D - 2435 / AASHTO T - 216

Project Number : 11220028
Project Name : PE Outdoor Complex
Date : 4/28/2020
Sample Location : B-7 @ 10'
Soil Classification : SM
Sample Condition : Undisturbed

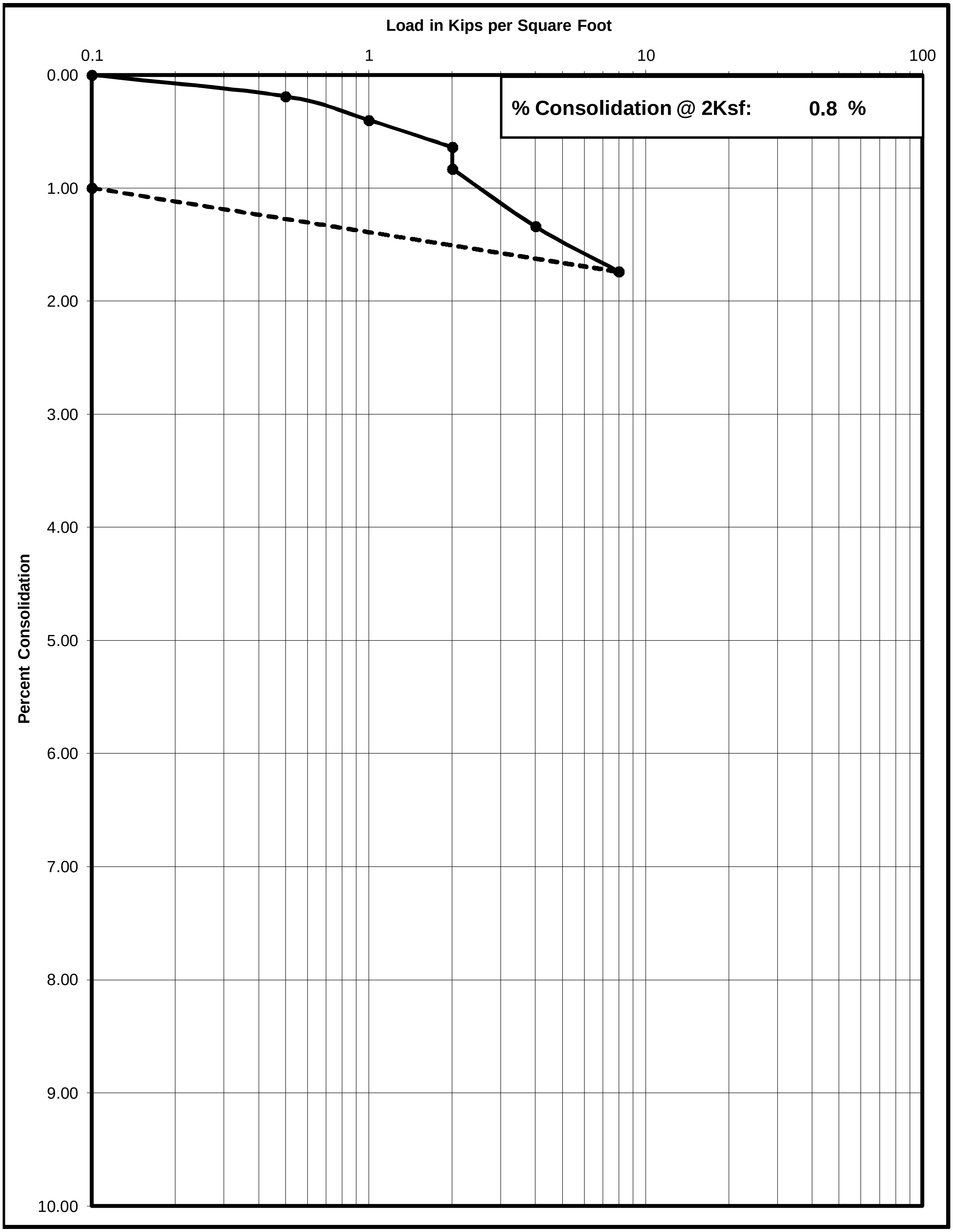
LOAD (ksf)	Reading	% Consolidation
0.1	0	--
0.5	0.0019	0.19
1	0.004	0.40
2	0.0064	0.64
Satur.	0.0083	0.83
4	0.0134	1.34
8	0.0174	1.74
0.1	0.01	1.00



Krazan Testing Laboratory

Consolidation Test

Project No	Boring No. & Depth	Date	Soil Classification
11220028	B-7 @ 10'	4/28/2020	SM



Krazan Testing Laboratory

Expansion Index Test

ASTM D - 4829/ UBC Std. 18-2

Project Number	:	11220028
Project Name	:	PE Outdoor Complex
Date	:	4/29/2020
Sample location/ Depth	:	Composite @ 0'-5'
Sample Number	:	--
Soil Classification	:	SM

Trial #	**1**	**2**	**3**
Weight of Soil & Mold, gms	546.2		
Weight of Mold, gms	171.0		
Weight of Soil, gms	375.2		
Wet Density, Lbs/cu.ft.	113.2		
Weight of Moisture Sample (Wet), gms	200.0		
Weight of Moisture Sample (Dry), gms	177.6		
Moisture Content, %	12.6		
Dry Density, Lbs/cu.ft.	100.5		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	50.3		

Time	Inital	30 min	1 hr	6hrs	12 hrs	24 hrs
Dial Reading	0	--	--	--	--	0.005

Expansion Index $_{measured}$ = 5

Expansion Index $_{50}$ = 5.1

Expansion Index = 5

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

Krazan Testing Laboratory

Expansion Index Test

ASTM D - 4829/ UBC Std. 18-2

Project Number	: 11220028
Project Name	: PE Outdoor Complex
Date	: 4/29/2020
Sample location/ Depth	: Stockpiled
Sample Number	: --
Soil Classification	: SM

Trial #	**1**	**2**	**3**
Weight of Soil & Mold, gms	540.3		
Weight of Mold, gms	171.3		
Weight of Soil, gms	369.0		
Wet Density, Lbs/cu.ft.	111.3		
Weight of Moisture Sample (Wet), gms	200.0		
Weight of Moisture Sample (Dry), gms	175.8		
Moisture Content, %	13.8		
Dry Density, Lbs/cu.ft.	97.8		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	51.5		

Time	Inital	30 min	1 hr	6hrs	12 hrs	24 hrs
Dial Reading	0	--	--	--	--	0.007

Expansion Index $_{measured}$ = 7

Expansion Index $_{50}$ = 7.6

Expansion Index = 8

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

Krazan Testing Laboratory

ANAHEIM TEST LAB, INC

3008 ORANGE AVENUE
SANTA ANA, CALIFORNIA 92707
PHONE (714) 549-7267

DATE: 04/27/20

Krazan & Associates, Inc.
1100 Olympic Drive, Ste. 103
Corona, CA 92881

P.O. NO: Verbal

LAB NO: C-2119

SPECIFICATION: CT-417/422/643

MATERIAL: Soil

Project No: 11220028
PE Outdoor Complex
Composite @ 0-5'

ANALYTICAL REPORT

CORROSION SERIES
SUMMARY OF DATA

pH	SOLUBLE SULFATES per CT. 417 ppm	SOLUBLE CHLORIDES per CT. 422 ppm	MIN. RESISTIVITY per CT. 643 ohm-cm
7.4	201	88	1,750

RESPECTFULLY SUBMITTED

WES BRIDGER CHEMIST

General Earthwork Specifications

Appendix B

APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including but not limited to the furnishing of all labor, tools, and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans, and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Inc., hereinafter known as the Soils Engineer and/or Testing Agency. Attainment of design grades when achieved shall be certified to by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the soil negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to a density not less that 95 percent relative compaction based on ASTM Test Method D1557, UBC or CAL-216, as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be as determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the soil report.

The Contractor shall make his own interpretation of the data contained in said report, and the Contractor shall not be relieved of liability under the Contractor for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing and the preparations of foundation materials for receiving fill.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project, earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter, and all other matter determined by the Soils Engineer to be deleterious. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such a extent which would permit removal of all roots larger than 1 inch. Tree root removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill or tree root excavation should not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill, shall be prepared as outlined above, scarified to a depth of 12 inches, moisture-conditioned as necessary, and recompacted to 90 percent relative compaction.

Loose soil areas, areas of uncertified fill, and/or areas of disturbed soils shall be moisture-conditioned as necessary and recompacted to 95 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas, which are to receive fill materials, shall be approved by the Soils Engineer prior to the placement of any of the fill material.

EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer.

Both cut and fill shall be surface compacted to the satisfaction of the Soils Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill are as specified.

General Paving Specifications

Appendix C

APPENDIX C

PAVEMENT SPECIFICATIONS

1. DEFINITIONS - The term "pavement" shall include asphaltic concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term “Standard Specifications”: hereinafter referred to is the January 1991 Standard Specifications of the State of California, Department of Transportation, and the "Materials Manual" is the Materials Manual of Testing and Control Procedures, State of California, Department of Public Works, Division of Highways. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as defined in the applicable tests outlined in the Materials Manual.

2. SCOPE OF WORK - This portion of the work shall include all labor, materials, tools, and equipment necessary for, and reasonably incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically notes as "Work Not Included."

3. PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 95 percent. The finished subgrades shall be tested and approved by the Soils Engineer prior to the placement of additional pavement courses.

4. UNTREATED AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class II material, 1½ inches maximum size. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent. The aggregate base material shall be spread and compacted in accordance with Section 26 of the Standard Specifications. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

5. AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class II material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent, and it shall be spread and compacted in accordance with Section 25 of the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

6. ASPHALTIC CONCRETE SURFACING - Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades, and dimensions shown on the plans. The viscosity grade of the asphalt shall be AR-4000. The mineral aggregate shall be Type B, ½ inch maximum size, medium grading, and shall conform to the requirements set forth in Section 39 of the Standard Specifications. The drying, proportioning, and mixing of the materials shall conform to Section 39.

The prime coat, spreading and compacting equipment, and spreading and compacting the mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50 degrees F. The surfacing shall be rolled with a combination steel-wheel and pneumatic rollers, as described in Section 39-6. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

7. FOG SEAL COAT - The fog seal (mixing type asphaltic emulsion) shall conform to and be applied in accordance with the requirements of Section 37.

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X Division of the State Architect

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