Print Form

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: Kern
1115 Truxtun Avenue
Bakersfield, CA 93301

From: (Public Agency): Kern High School District
5801 Sundale Avenue
Bakersfield, CA 93309
(Address)

Project Title: Highland High School: 50-Meter Pool & Aquatics Center

Project Applicant: Kern High School District

Project Location - Specific:

2900 Royal Scots Way, Bakersfield, CA (APN 438-010-03 and 146-020-23)

Project Location - City: Bakersfield Project Location - County: Kern

Description of Nature, Purpose and Beneficiaries of Project:

The Kern High School District proposes to develop an aquatics facility at the existing Highland High School campus to serve the existing student body, greater district student body, and community, by providing a recreational facility.

Name of Public Agency Approving Project: Kern High School District

Name of Person or Agency Carrying Out Project: Kern High School District

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: 15314, Class 14 Minor Additions to School
- ☐ Statutory Exemptions. State code number: _____

Reasons why project is exempt:

A Class 14 exemption consists of minor additions to existing schools within existing school grounds where the addition does not increase original student capacity by more than 25% or ten classrooms, whichever is less. The aquatics facility will be located in an already disturbed area of the Highland High School campus and the development of one classroom. The Project will not increase the student capacity of the existing high school. See attached memo and technical studies to provide substantiation of the findings and for additional information.

Lead Agency Contact Person: Jenny Hannah Brown Area Code/Telephone/Extension: (661) 396-4969

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? Yes No

Signature: _____ Date: 5/21/23 Title: Director

▪ Signed by Lead Agency Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

☐

PROJECT DESCRIPTION

The Highland High School (HHS) campus is located west of Royal Scots Way between Charger Avenue to the north and Claymore Street to the south in the City of Bakersfield addressed as 2900 Royal Scots Way, Bakersfield, CA (APN 438-010-03 and 146-020-23) (Figures 1 and 2). The campus encompasses approximately 48 acres.

The Kern High School District (as lead agency) proposes to develop an aquatics facility on the existing Highland High campus. The aquatic center facility will be developed with the following components:

Demolition:

a. Outdoor recreational space
    1. Outdoor asphalt space for basketball, volleyball, and badminton courts
    2. Eight handball courts
b. Storage containers
c. Associated site/landscape areas (i.e., turf, trees, small drainage basin)
d. Non-operational water tank and associated site elements

Construction:

a. Locker room building (Bldg A)
    1. 2,448 sq. ft. building
    2. Exterior rinse off showers
    3. Separate wings for girls and boys
        i. Restrooms
        ii. Locker rooms
        iii. Accessible showers
    4. Lobby and Office
    5. Utility room
    6. Custodial room
b. 50-meter pool
    1. Tiered bleacher seating for approximately 356 occupants
    2. Sports lighting
    3. Scoreboard
    4. Amplified sound system or associated outlets to allow connection of a system at the deck
    5. Concrete pool deck
    6. Synthetic turf area
    7. Pool accessory storage (fenced)
c. 1,605 sq. ft. pump house (Bldg C)
d. Classroom and Ticket Booth (Bldg B)
    1. 5,426 sq. ft. building
    2. Classroom
    3. Four restrooms
    4. Ticket booth
    5. Utility room
    6. Electrical/data room
e. Revision to existing parking and site walkways/fire lane
f. Construction of new retention basin for storm water and pool water during drainage

g. Landscaping at interior of campus adjacent to pool

The proposed facility will utilize existing parking spaces located directly south of the site. Parking and access infrastructure are proposed to be improved to meet ADA and emergency access requirements. Utility connections are anticipated to connect to existing City of Bakersfield services and would be developed in accordance with local standards and regulations.

The proposed aquatics facility is anticipated for use by the Highland High School student population and the greater Kern High School District educational facilities. The Kern High School District also proposes to open the swimming pool facility for community (club) and public recreational and instructional use, scheduled when school is not in session.

EXEMPTION

- Class 14 15314: *Minor Additions to Schools* consists of minor additions to existing schools within existing school grounds where the addition does not increase original student capacity by more than 25% or ten classrooms, whichever is less. The addition of portable classrooms is included in this exemption.

REASONS WHY PROJECT IS EXEMPT

In order to substantiate the findings made for the Project under a Class 14 exemption, several studies were completed. These include a Cultural Resources records search, a Lightening Study, a Traffic Trip Generation memo and a Focused Air Quality study. These studies are attached to this NOE.

Cultural

A cultural resources records search (#23-161) was conducted at the Southern San Joaquin Valley Information Center (SSJVIC) at California State University, Bakersfield for the proposed Project. In addition to the cultural resources records search, a Sacred Lands File request was submitted to the Native American Heritage Commission (NAHC). The purpose of the search is to determine whether any known cultural resources were located on or near the proposed Project that might be impacted by Project development and/or activities. The records search found twelve previous cultural resource surveys within a half mile of the Project site; however, no surveys have been conducted on the Project site. Two historic-era cultural resources; a segment of the Southern California Edison Company's Big Creek East and West Transmission Line (Primary no. P-15-019115), and the T-Mobile West LLC SV90518A/PGE Auburn Transmission Tower (P-15-018443) have been recorded within a half-mile of the Project site. The Project will not impact any of these historical resources. The SSJVIC records search yielded negative results for other cultural resources on the Project site.

NAHC responded to the Sacred Land File request on April 2, 2023, and indicated negative results for the Project site. Therefore, based on this information, the Project is anticipated to be constructed upon already disturbed ground and would not significantly impact cultural resources. in the unlikely event an unknown cultural resource was discovered during construction, the Project will comply with all pertinent local, State and federal codes and regulations.

Aesthetics/Lighting

Implementation of the proposed project would result in the construction of an aquatics facility located in the southwest portion of the existing HHS campus. A Lighting Study has been prepared to determine if the Project would result in significant light and glare impacts as a result of Project development and operation and has been attached for review. The project anticipates the installation

of outdoor lighting to illuminate the aquatics facility during nighttime use. The location of the proposed light poles and their relative distance from neighboring properties to the south is depicted on Figure 3. These areas are proposed to be illuminated via 50-foot light poles and LED fixtures. The remaining support facilities and pedestrian areas are proposed to be developed with standard pathing and security lighting where minimal impacts would occur. Photometrics supplied by the manufacture was used to make predictions of the light levels produced exclusively by the proposed lighting system (Musco Sports Lighting, LLC., 2022). Based on the assumed performance of the proposed stadium lighting, a maximum illumination of 69 foot candles within the aquatics facility would occur with an average of 44 foot candles for the pool area where the majority of lighting would be concentrated. The manufacturer's lighting summary indicate that the maximum illumination levels at the boundaries of the facility would be 23 foot candles. The closest residence is approximately 394 feet south of the nearest light pole and the second closest residences is approximately 428 feet south. Per fixture details provided by the manufacture, the lighting fixtures are designed with reflectors and hoods that minimize light spill and glare on off-site receptors while maximizing illumination of the facility. It is anticipated that the neighboring residences will have little to no glare or light spill resulting from the Project. Structural barriers along the Project's southern boundary would further shield light exposure and reduce light spill levels.

The Kern High School District (KHSD) is not considered under the jurisdiction of the City of Bakersfield, however as there is no established threshold adopted by the California Department of Education (CDE) or KHSD, consideration is made to the Bakersfield Municipal Code to determine if an impact is made on sensitive receptors under the jurisdiction of the City of Bakersfield. Based on the consideration of these factors discussed Lighting Study, the illumination levels are not anticipated to exceed the 0.5 foot candle, the light trespass threshold established by the City of Bakersfield Municipal Code. Therefore, the Lighting Study concluded that the Project would not significantly impact sensitive receptors.

Traffic

The Project will be serviced by existing roadways and does not require or propose the construction of a new street. Construction activities would generally occur during daytime hours, Monday through Friday with varying levels of personnel and equipment. Trips associated with construction would be temporary and would be distributed over longer AM and PM periods. Trips associated with construction of the Project is anticipated to result in no significant impacts.

A Trip Generation memo was prepared for the Project. The Project itself does not increase or expand the student or faculty population at HHS. The main generation of trips would be associated with events utilizing the facility. For example, a projected trip generation for a swim meet held at the facility assuming an average of 50 swimmers/divers per school (25 boys and 25 girls) is shown in Table 1 below.

Table 1
Trip Generation

Trip	Vehicle Type	Variable	ADT Daily Trips	AM Peak Hour IN % Split Trips	AM Peak Hour Out % Split Trips	PM Peak Hour In % Split Trips	PM Peak Hour Out % Split Trips
Team	School Bus	1	2	0	0	0	0
				0	0	0	0

Spectators	Passenger	100	200	0 0	0 0	50% 25	50% 25
Staff	Passenger	15	30	0 0	0 0	100% 5	0 0
		Total	**232**	**0**	**0**	**30**	**25**

Notes:
(1) Used to transport away team to school site (arrives at 2:30 PM, returns at 7:00 PM)
(2) Assume 1 spectator per swimmer/diver per team (total of 100), Assume 25 percent of total spectators (25) at any single event. No carpool rate applied.
(3) Assume 15 support staff/volunteers (officials, timers, ticket takers, medical personnel, etc.). No carpool rate applied.

Events held at the proposed aquatics facility would be seasonal in nature and would therefore no have a significant impact on everyday circulation patterns. With the anticipated seasonal use, the Project is not expected to result in a significant impact to the existing circulation system.

With regard to vehicle miles traveled (VMT), the City of Bakersfield has not yet formally adopted transportation significance thresholds for transportation impact analysis procedures. Since regulations of SB 743 have not been finalized or adopted by the City, traffic delay remains the measure used to determine the significance of a traffic impact. Therefore, as there is no significance threshold adopted by the City of Bakersfield for VMT, a review of the Project in relation to adopted City standards have indicated that the Project would result in no significant impacts.

Air Quality and Greenhouse Gases

A Focused Air Quality Study (FAQS) has been prepared to provide construction and operation emissions resulting from the Project. The FAQS was prepared pursuant to the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) and utilized the California Emissions Estimator Model (CalEEMod) to estimate short-term construction emissions and long-term operational emissions. Table 2 and 3 provide the short-term and long-term emissions resulting from the Project and their comparison to SJVAPCD emission thresholds established in the SJVAPCD GAMAQI.

Table 2
Construction Emissions

Emissions Source	Pollutant ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	tons/year					
2023 Construction Emissions	0.161	1.233	1.327	0.003	0.085	0.061
2024 Construction Emissions	0.167	0.059	0.082	0.000	0.004	0.003
SJVAPCD Construction Emission Thresholds	10	10	100	27	15	15
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Table 3
Project Operational Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Operational Emissions	0.189	0.164	0.764	0.002	0.169	0.046
SJVAPCD Operational Emissions Thresholds	10	10	100	27	15	15
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Based on the estimated emissions resulting from short-term construction and long-term operations of the Project, criteria pollutant generation does not exceed SJVAPCD thresholds of significance.

The Project's greenhouse gas (GHG) emissions are primarily from mobile source activities. Not all GHGs exhibit the same ability to induce climate change; as a result, GHG contributions are commonly quantified as carbon dioxide equivalents ($CO2_e$). The proposed Project's operational $CO2_e$ emissions were estimated using CalEEMod. These emissions are summarized in Table 4.

Table 4
Estimated Annual Greenhouse Gas Emissions

	CO_2 Emissions metric tons	CH_4 Emissions metric tons	N_2O Emissions metric tons	CO_2e Emissions metric tons
2024 Project Operations	240.36	3.876	0.013	341.18

The Project would generate GHGs from electricity use and combustion of gasoline/diesel fuels, each of which is regulated near the top of the supply-chain. As such, each citizen of California (including those creating emissions of this Project) will have no choice but to purchase electricity and fuels produced in a way that is acceptable to the California market. Thus, Project GHG emissions will be consistent with the relevant plan (i.e., AB 32 Scoping Plan). The Project would meet its fair share of the cost to mitigate the cumulative impact of global climate change based on energy purchases from the California market. Thus, consumers of electricity and transportation fuels are in effect regulated by higher level emissions restrictions on the producers of these energy sources. Therefore, the Project would have a less than significant impact on applicable GHG reduction plans and the Project's contribution to cumulative global climate change impacts would not be cumulatively considerable. Therefore, the Project would not result in a significant air quality or greenhouse gases impacts.

Health Risk Assessment

As a part of the FAQS, health risk was 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. For construction health impacts, diesel combustion emissions from diesel on-site construction equipment were modeled as an area source for on-site construction activity on the property and the equipment was modeled as clean fleet construction equipment. Diesel particulate matter was calculated using CalEEMod for on-site construction equipment. A unit emission rate of 1 grams/second (g/sec) was input to AERMOD for the area source.

SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic non-cancer risk is a hazard index of 1.0. All receptors were modeled as residential receptors.

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 twenty in one million (20E-06) and 1.0, respectively for the proposed Project. The PMIs are identified by receptor location and risk and are provided in Table 5.

Table 5
Potential Maximum Health Risk Impacts

	Value	UTM East	UTM North
Excess Cancer Risk	1.57E-05	324414.4	3919085
Chronic Hazard Index	1.76E-02	324414.4	3919085

As shown above in Table 5, the maximum predicted cancer risk for the proposed Project is 1.57E-05. The maximum chronic non-cancer hazard index for the proposed Project is 1.76E-02. 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.

Biological

The Project site is proposed to be located on the existing Highland High School campus. The Project site is predominantly developed with no suitable habitat to support special status species. The campus is surrounded by existing urban development. Due to the existing built nature and human activity associated with the site and surrounding area, no known biological resource is anticipated to occur at the Project site and would not be adversely impacted by Project construction and operation. In the unlikely event a special status species was observed during construction, the Project will comply with all applicable local, State and federal regulations and codes related to biological resources, and no take of a species would occur.

Hazardous Waste Site

A review of the California Department of Toxic Substances Control, Envirostor database indicates that the Project site does not contain a listed hazardous waste facility or known cleanup site.

CONCLUSION

The Project will provide a minor addition to the existing Highland High School campus by allowing construction and operation of a recreational aquatic facility. The Project proposes the development of one additional classroom, however there is no expansion or increase of the student and faculty population at the school.

As discussed above the Project would not result in a significant environmental impact and is consistent the provisions of a Class 14 Exemption as per CEQA Guidelines Section 15314.

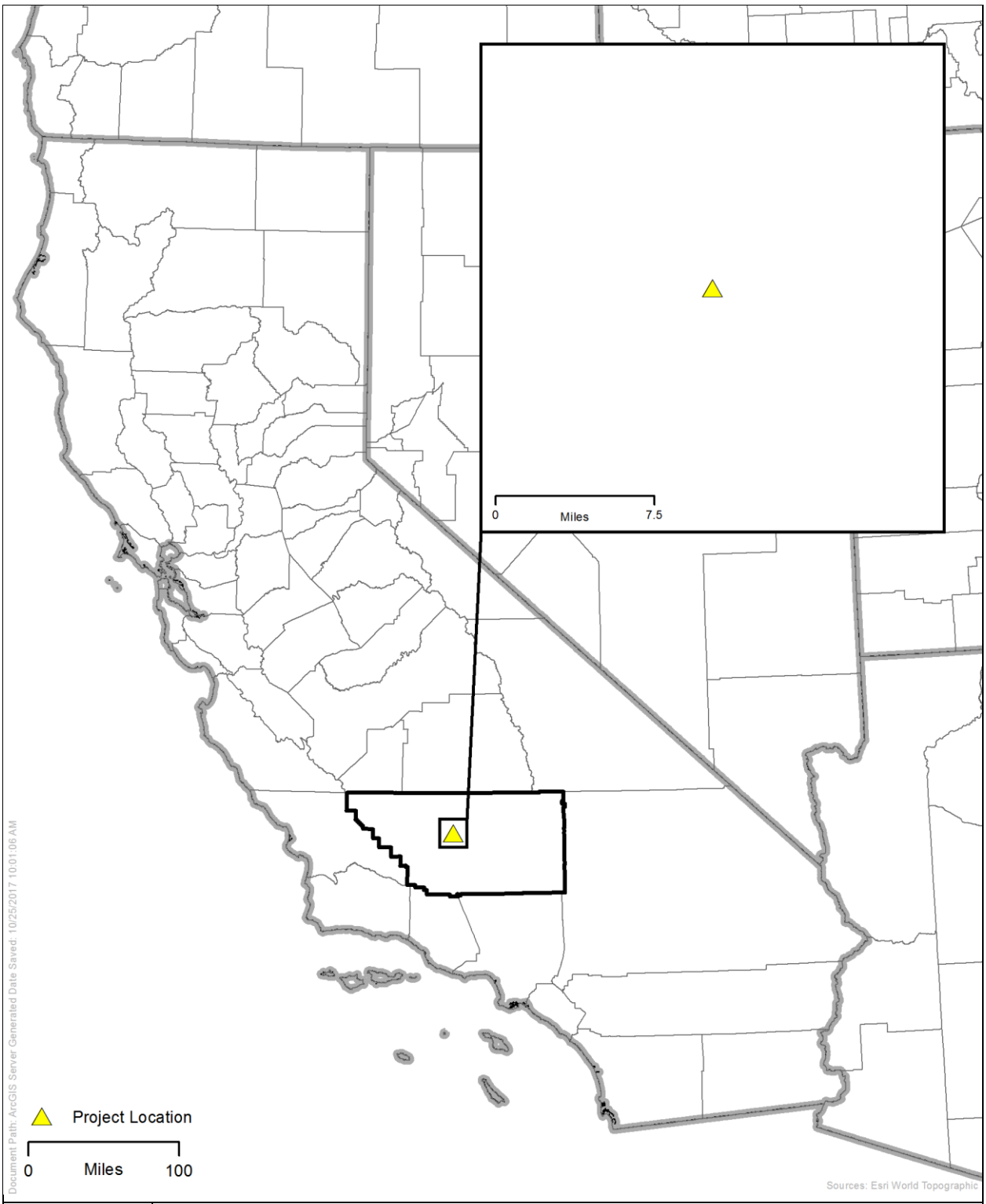


Figure 1
Regional Area

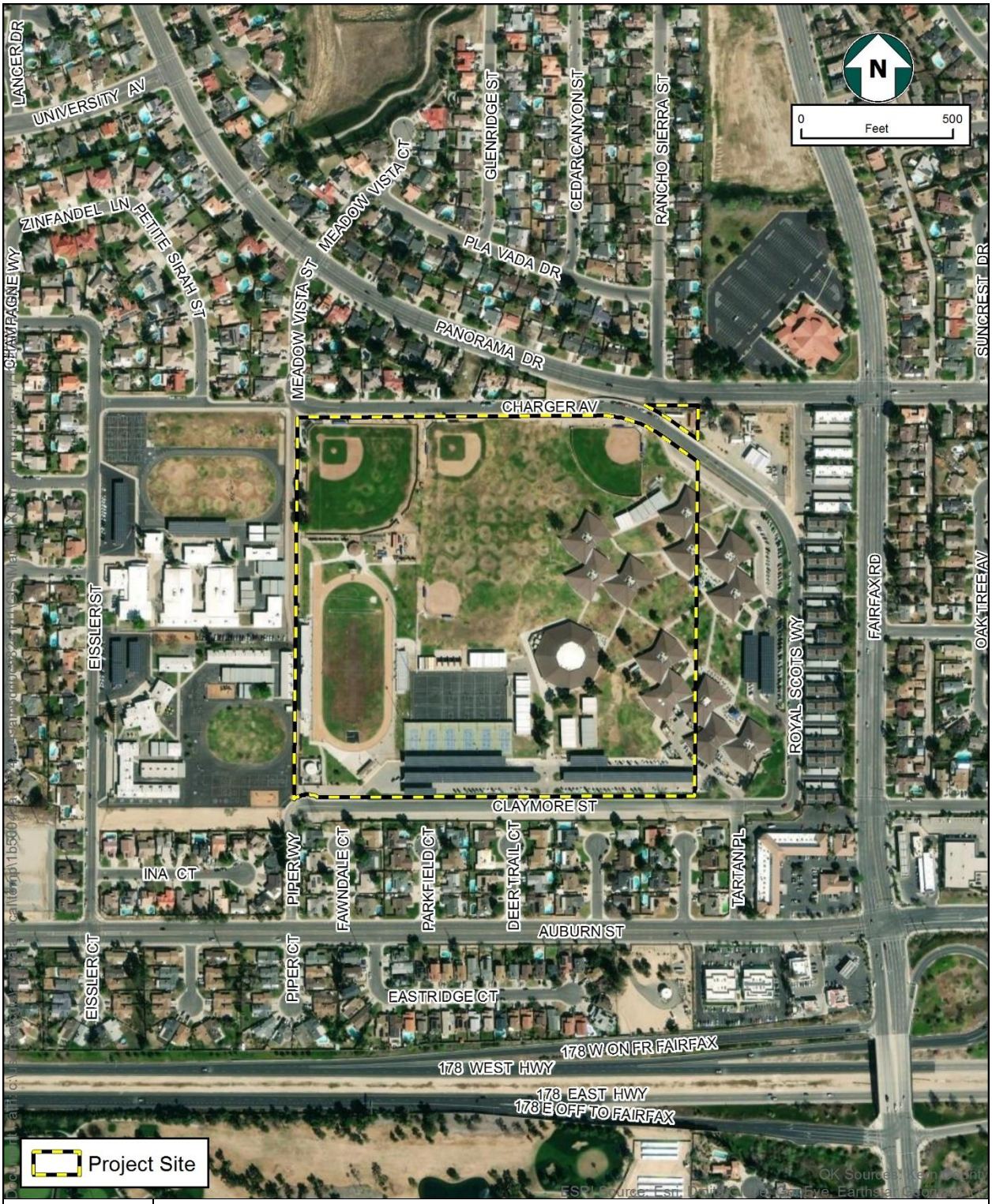


Figure 2
Project Area

Figure 3
Light Pole Position

Technical Studies

TECHNICAL MEMORANDUM

Date: March 18, 2023

Project: Cultural resources records search- Fairfax School District New Elementary School Project, City of Bakersfield, Kern County, CA

To: Jaymie Brauer, Principal Planner

From: Robert Parr, MS, RPA, Senior Archaeologist

Subject: Cultural Resources Records Search Results (RS#22-376)

Background

A cultural resources records search (#23-161) was conducted at the Southern San Joaquin Valley Information Center (IC) at California State University, Bakersfield for the Highland High School Sports Complex Project to determine whether the proposed project would impact cultural resources.

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 the subject property had never been surveyed for cultural resources. Twelve cultural resource studies have been conducted within a half mile of the project (Macko and Weil 1982; Hovey 1999; Ballester 2001; Pruett 2003, 2005; Hudlow 2003, 2005; Bonner 2010; Gust 2010a, 2010b; Travers 2011; Bonner et al. 2014; Wills and Crawford 2014; Lloyd 2016).

Two historic-era cultural resources, a segment of the Southern California Edison Company's Big Creek East & West Transmission Line (Primary no. P-15-019115), and the T-Mobile West LLC SV90518A/ PGE Auburn Transmission Tower (P-15-018443) have been recorded within a half mile of the project. No further cultural resources, either historical or prehistoric, have been identified or recorded on or within one half mile of the project.

Conclusions

Based on the results of cultural records search findings and the lack of historical or 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 would be considered unlikely. in the unlikely event an unknown cultural resource was discovered during construction, the Project will comply with all pertinent local, State and federal codes and regulations.

Robert E. Parr, MS, RPA
Senior Archaeologist

References

(all reports on file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield)

Ballester, Daniel
2001 Negative Historic Property and Archaeological Survey Report: 06-KER-178 (Reconfiguration of Interchange Between SR 178 and Fairfax). (KE-02544)

Bonner, Diane, Carrie Wills and Kathleen Crawford
2014 Cultural Resources Records Search and Site Visit for T-Mobile West, LLC CandidateSV90518A (PGE Auburn), 6211 Auburn Street, Bakersfield, Kern County, California. (KE-04717)

Bonner, Wayne H.
2010 Records Search and Site Visit Results for T-Mobile USA Candidate SV11334-A (Fairfax CCI), 5651 Auburn Street, Bakersfield, Kern County, California. (KE-04004)

Gust, Sherri
2010a Morning Drive/State Route 178 Interchange Project Historic Property Survey Report. (KE-05180)

2010b Morning Drive/State Route 178 Interchange Project Archaeological Survey Report. (KE-05180A)

Hovey, Kevin
1999 Archaeological Survey Report for a Pavement Project (Route 178, Kern County, California), Caltrans District 6, Fresno. (KE-02314)

Hudlow, Scott M.
2003 Phase I Cultural Resource Survey for Tentative Tracts 6202 and 6256, City of Bakersfield, California. (KE-03478)

2005 Phase I Cultural Resource Survey for TK Development and Cesar Gaona, City of Bakersfield, California. (KE-03437)

Lloyd, Jay
2016 Documentation and Evaluation of the Magunden-Vestal No. 1 and No. 2 Transmission Lines for Kern Tulare Water District's Oil Field Water Conservation Project, Kern County, California. (KE-04905)

Macko, Michael E. and Edward B. Weil
1982 Cultural Resource Survey: Proposed Kern River Field Cogeneration Project. (KE-00253)

Pruett, Catherine Lewis
2003 Cultural Resources Assessment for Three Acres Located at 6100 Auburn Street in Northeast Bakersfield, Kern County, CA. (KE-02744)

2005 A Cultural Resources Assessment for Tentative Tract No. 6539, 70 Acres Located in Northeast Bakersfield, Kern County, California. (KE-03076)

Travers, Aniela
2011 Cultural Resources Analysis for PG&E Auburn/LAB518A 6211 Auburn Street, Bakersfield, Kern County, California. (KE-04523)

Wills, Carrie and Kathleen Crawford
2014 Direct APE Historic Architectural Assessment for T-Mobile West, LLC Candidate SV90518A (PGE Auburn), 6211 Auburn Street, Bakersfield, Kern County, California. (KE-4717A)

LIGHTING STUDY

KERN HIGH SCHOOL DISTRICT, HIGHLAND HIGH SCHOOL AQUATICS FACILITY PROJECT

MARCH 2023

LIGHTING STUDY

KERN HIGH SCHOOL DISTRICT, HIGHLAND HIGH SCHOOL AQUATICS FACILITY PROJECT

Prepared for:

Kern High School District
5801 Sundale Avenue,
Bakersfield, CA 93309

Consultant:

5080 California Avenue, Suite 220
Bakersfield, CA 93309
Contact: Jaymie Brauer
Phone: (661) 616-2600
Fax: (559) 733-7821

March 2023

Project #220362

Table of Contents

ACRONYMS AND ABBREVIATIONS ii

SECTION 1 - Introduction 1-1

Purpose and Methods of Assessment 1-1
1.1 - Project Description 1-4
Location 1-4
Project Characteristics 1-4

SECTION 2 - Regulatory Setting 2-1

2.1 - State of California 2-1
California Code of Regulations, Title 24 2-2
California vehicle code, division 11. rules of the road 2-2
2.2 - Local 2-3
Metropolitan Bakersfield General Plan 2-3
City of Bakersfield Municipal Code 2-3

SECTION 3 - Existing Conditions 3-1

3.1 - Existing Conditions 3-1
Project Site Conditions 3-1
Surrounding Site Conditions 3-1

SECTION 4 - Impact Analysis 4-1

4.1 - Creation of a new source of substantial light or glare 4-1
Impact Analysis 4-1

SECTION 5 - Summary of Findings 5-1

SECTION 6 - References 6-1

List of Figures

Figure 1-1 Regional Location 1-2

Figure 1-2 Project Site 1-3

Figure 4-1 Positions of Light Poles and Nearest Residences 4-3

Appendix A -- Musco Lighting Documentation

ACRONYMS AND ABBREVIATIONS

ADA	American with Disabilities Act
BUG	Backlight, Uplight and Glare
CCR	California Code of Regulations
CDE	California Department of Education
CEC	California Energy Code
CEQA	California Environmental Quality Act
DSA	Division of the State Architect
EIR	Environmental Impact Report
HHS	Highland High School
KHSD	Kern High School District

SECTION 1 - INTRODUCTION

Purpose and Methods of Assessment

The Kern High School District (District; KHSD) proposes to develop an aquatics facility in the southwest portion of the existing Highland High School (HHS) campus (Project; Assessor's Parcel Numbers 438-010-03 and 146-020-23). This Lighting Study evaluates the anticipated impacts of the Project through the installation of outdoor lighting to illuminate the proposed aquatics facility.

The subject site occupies a portion of the northwest quarter of Section 14, Township 29 South, Range 28 East, Mount Diablo Baseline and Meridian (Figure 1-1 and Figure 1-2). The Lead Agency for this project is Kern High School District.

In determining whether light and glare impacts resulting from the project are significant environmental effects, this study will assess State and local regulations.

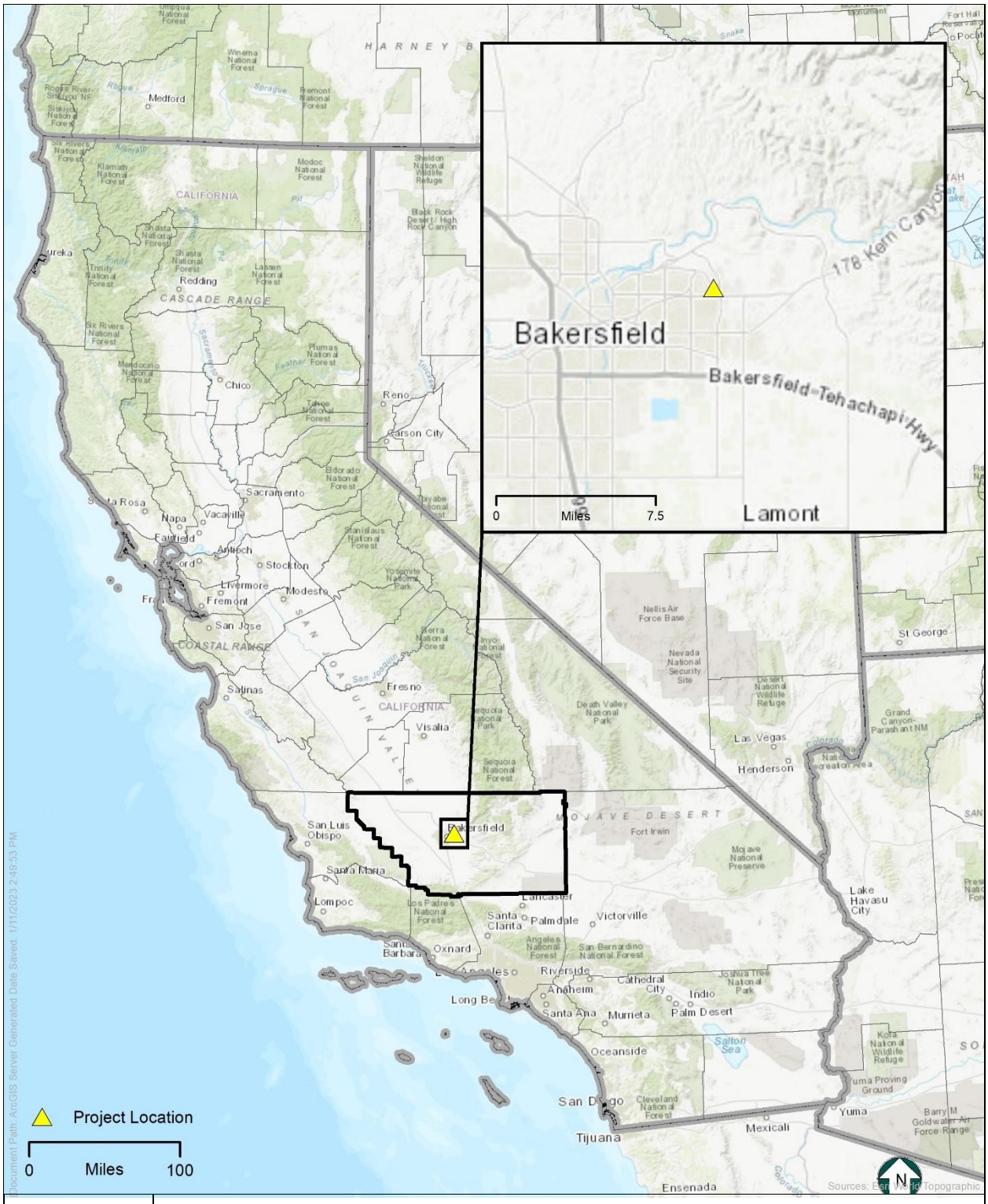


Figure 1-1
Regional Location

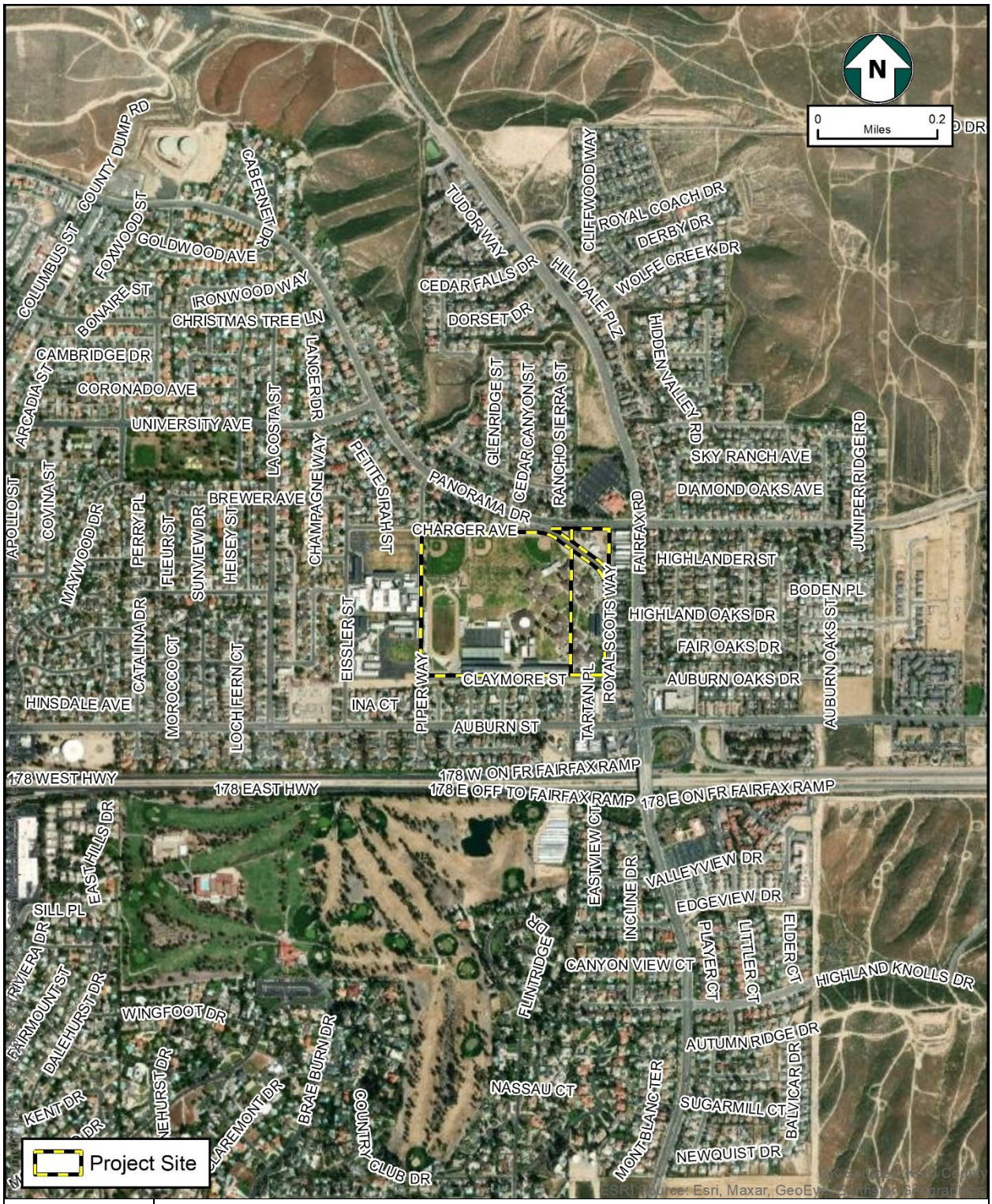


Figure 1-2
Project Site

1.1 - Project Description

LOCATION

The HHS campus is located west of Royal Scots Way between Charger Avenue to the north and Claymore Street to the south in the City of Bakersfield addressed as 2900 Royal Scots Way, Bakersfield, CA (APN 438-010-03 and 146-020-23). The campus encompasses approximately 48 acres.

PROJECT CHARACTERISTICS

KHSD proposes to develop an aquatics facility on the existing HHS campus.

The aquatic center facility will be developed with the following components:

Demolition:

a. Outdoor recreational space
    1. Outdoor asphalt space for basketball, volleyball, and badminton courts
    2. Eight handball courts
    3. Storage containers
    4. Associated site/landscape areas (i.e., turf, trees, small drainage basin)
    5. Non-operational water tank and associated site elements

Construction:

a. Locker room building (Bldg A)
    1. 2,448 sq. ft. building
    2. Exterior rinse off showers
    3. Separate wings for girls and boys
        i. Restrooms
        ii. Locker rooms
        iii. Accessible showers
    4. Lobby and Office
    5. Utility room

6. Custodial room

b. 50-meter pool

    1. Tiered bleacher seating for approximately 356 occupants
    2. Sports lighting
    3. Scoreboard
    4. Amplified sound system or associated outlets to allow connection of a system at the deck
    5. Concrete pool deck
    6. Synthetic turf area
    7. Pool accessory storage (fenced)

c. 1,605 sq. ft. pump house (Bldg C)

d. Classroom and Ticket Booth (Bldg B)

    1. 5,426 sq. ft. building
    2. Classroom
    3. Four restrooms
    4. Ticket booth
    5. Utility room
    6. Electrical/data room

e. Revisions to existing parking and site walkway/fire lane

f. Construction of new retention basin for storm water and pool water during drainage

g. Landscaping at interior of campus adjacent to pool

The proposed facility will utilize existing parking spaces located directly south of the site. Parking and access infrastructure is proposed to be improved to meet Americans with Disabilities Act (ADA) and emergency access requirements. Utility connections are anticipated to connect to existing City of Bakersfield services and would be developed in accordance with local standards and regulations.

The proposed aquatics facility is anticipated for use by the HHS student population and the greater KHSD educational facilities. The KHSD also proposes to open the swimming pool facility for community (club) and public recreational and instructional use, scheduled when school is not in session.

Development of the Project is anticipated to occur over a 12-month period. Construction equipment will vary over the course of development and would include the following:

- Excavators / earth moving equipment
- Depending on foundation system, auger rig or pile driving rig
- All terrain forklifts
- A man/material hoist
- Truck cranes
- Concrete trucks
- Dump trucks
- Street sweepers / water trucks for dust control
- Construction delivery trucks (typically box trucks of flat beds)
- Small tools (generators, light plants, compactors, air compressors)

SECTION 2 - REGULATORY SETTING

Exterior lighting is regulated throughout California by the local municipal code and the state energy and building codes. However, special circumstances regarding development of school facilities fall under the jurisdiction of the California Department of Education (CDE) and Division of the State Architect (DSA). Pertinent lighting sections are presented in the following paragraphs to summarize the applicable section of the City of Bakersfield Municipal Code, the CDE, the DSA, and considerations to the State of California Green Building Code and the California Energy Code.

2.1 - State of California

CALIFORNIA CODE OF REGULATIONS, TITLE 5

Title 5 of the California Code of Regulations (CCR) consists of regulations that control school facility construction throughout the State. Article 4 provides standards for development of plans for the design and construction of school facilities with the following components of including standards related to lighting:

Division 1, Chapter 13 , Subchapter 1, Article 4, Section 14030.l

Article 4. Section 14030.l consists of light design standards that shall generate a lumination level that provides comfortable and adequate visual conditions in each educational space, specifically;

- Ceilings and walls are white or light colored for high reflectance unless function of space dictates otherwise.
- Lights do not produce glare or block the line of sight.
- Window treatment allows entrance of daylight but does not cause excessive glare or heat gain.
- Fixtures provide an even light distribution throughout the learning area.
- Light design follows the California Electric Code found in Part 3 of Title 24 of the CCR.

CALIFORNIA EDUCATION CODE

Title 1, Division 1, Part 10.5, Chapter 3, Section 17280

Section 17280 states that the Department of General Services (Division of the State Architect) under the police power of the state shall supervise the design and construction of any school building or the reconstruction or alteration of or addition to any school building or the reconstruction or alteration of or addition to any school building, if not exempted under Section 17295, to ensure that plans and specifications comply with the rules and

regulations adopted pursuant to this article and building standards published in Title 24 of the CCR, and to ensure that the work of construction has been performed in accordance with the approved plans and specifications, for the protection of life and property.

CALIFORNIA CODE OF REGULATIONS, TITLE 24

Title 24 of the CCR, also known as the California Building Standards Code, consists of regulations to control building standards throughout the State. The following components of Title 24 includes standards related to lighting:

California Energy Code (Title 24, Part 6)

The California Energy Code (CEC) stipulates allowances for lighting power and provides lighting control requirements for various lighting systems, with the aim of reducing energy consumption through efficient and effective use of lighting equipment.

California Green Building Standards Code (Title 24, Part 11)

The California Green Building Standards Code, which is Part 11 of Title 24, is commonly referred to as the CALGreen Code. Paragraph 5.1106.8, Light pollution reduction, requires that all non-residential outdoor lighting must comply with the following:

- The minimum requirements in the CEC for Lighting Zones 1-4 as defined in Chapter 10 of the California Administrative Code as noted above; and

- Backlight, Uplight and Glare (BUG) ratings as defined Illuminating Engineering Society of North America's Technical Memorandum on Luminaire Classification Systems for Outdoor Luminaires identified as IESNA TM-15-07 Addendum A; and

- Allowable BUG ratings not exceeding those shown in Table A5.106.8 in Section 5.106.8 of the CALGreen Code

CALIFORNIA VEHICLE CODE, DIVISION 11. RULES OF THE ROAD

Chapter 2, Article 3. Offenses Relating to Traffic Devised (21450 – 21468) (Article 3 enacted by Stats. 1959, Ch. 3.), Section 21455.5. No person shall place or maintain or display, upon or in view of any highway, any light of any color of such brilliance as to impair the vision of drivers upon the highway. A light source shall be considered vision impairing when its brilliance exceeds the values listed below.

The brightness reading of an objectionable light source shall be measured with a 11/2-degree photoelectric brightness meter placed at the driver's point of view. The maximum measured brightness of the light source within 10 degrees from the driver's normal line of sight shall not be more than 1,000 times the minimum measured brightness in the driver's field of view, except that when the minimum measured brightness in the field of view is 10-foot lamberts or less, the measured brightness of the light source in foot-lambert shall not

exceed 500 plus 100 times the angle, in degrees, between the driver's line of sight and the light source.

2.2 - Local

While exempted from local zoning and land use requirements, the District typically designs projects to be consistent with applicable local policies, when feasible.

METROPOLITAN BAKERSFIELD GENERAL PLAN

The 2002 Metropolitan Bakersfield General Plan Update Environmental Impact Report (EIR) (City of Bakersfield/County of Kern, 2002) contains specific goals and policies for the provision and implementation of light and glare impacts in the planning area.

SECTION 4.2. AESTHETICS, LIGHT AND GLARE

Goals and Polices

PSF-SL-G-1 Provide uniform and adequate public lighting for all developed and developing portions of the Planning Area.

CITY OF BAKERSFIELD MUNICIPAL CODE

The City of Bakersfield Municipal Code (City of Bakersfield, 2022) establishes the basic regulations under which land is developed. This includes allowable uses, building setback requirements, and development standards. Pursuant to State law, the Zoning Ordinance must be consistent with the City of Bakersfield General Plan. The basic intent of the City of Porterville Development Code is to promote and protect the public health, safety, and welfare via the orderly regulation of land uses throughout the city limits. This zoning code applies to all property within the city limits of the City of Bakersfield, except land owned by the United States or any of its agencies.

Section 17.71.030.A: Outdoor lighting must be fully shielded and aimed downward. Fully shielded denotes lighting fixtures that are shielded, focused, or constructed so that light rays do not project horizontally or vertically. The shield must be arranged in such a manner that light rays emitted from the device or fixture, whether directly from the lamp or indirectly from the fixture, are projected below the horizontal plane at the lowest point on the fixture where the light is emitted. The light must be aimed to ensure that the illumination is only pointing downward onto the ground surface with no escaping light permitted to contribute to sky glow by shining upward into the sky.

Section 17.71.030.C: Any outdoor lighting that shines onto adjacent property or streets that produce a nuisance or disabling glare, or that is above the horizontal plane, shall not be permitted.

Section 17.71.030.D: Light trespass that extends beyond the property or project boundaries within or adjacent to residentially zoned and/or designated properties shall not exceed an intensity of 0.5 foot-candles at the property line as measures three feet above the ground or finished grade. This light intensity maximum shall also apply to lands zoned and/or designated agriculture, parks, and open space.

Section 17.71.040.B.1: Where playing fields or other special activity areas are to be illuminated, lighting fixtures shall be mounted, aimed, and shielded so that their beams fall within the primary playing area and immediate surroundings within the project site. Illumination should be no greater than the minimum recommended levels established by the Illuminating Engineering Society of North America (IESNA) for the type of activity. Illumination should also meet, without exceeding, the IESNA recommendations for the IESNA defined illumination class appropriate for the predominant use of the facility.

SECTION 3 - EXISTING CONDITIONS

3.1 - Existing Conditions

PROJECT SITE CONDITIONS

The HHS campus is located west of Royal Scots Way between Charger Avenue to the north and Claymore Street to the south in the City of Bakersfield addressed as 2900 Royal Scots Way, Bakersfield, CA (APN 438-010-03 and 146-020-23). The campus encompasses approximately 48 acres (Figure 1-2).

The HHS campus is located in the northeast portion of the City of Bakersfield. The campus is improved with a mixture of permanent and portable classroom structures, extracurricular facilities including an auditorium, indoor gymnasium, and outdoor sports fields/courts. An athletic field improved with a track, football/soccer field, bleachers, and stadium lighting is located in the western portion of the campus.

This project proposes the development of a new aquatics facility located in southwestern portion of the HHS campus and includes development of a 50-meter pool, classroom, locker room, and other support facilities.

SURROUNDING SITE CONDITIONS

The surrounding area is mainly developed with residential uses adjacent to the campus on the north, east, and south. Henry Eissler Elementary School and Chipman Junior High School are located directly west of HHS. Non-residential uses including churches, commercial development, and professional offices are located in proximity to the high school.

SECTION 4 - IMPACT ANALYSIS

The California Environmental Quality Act (CEQA) Implementation Document and the Environmental Checklist identify, per CEQA Guidelines Appendix G, that a project would have a significant impact on aesthetics in relation to lighting if it would:

- Create a new source of substantial light or glare that will adversely affect day or nighttime views in the area.

To determine if a new source of substantial light or glare that will adversely affect day or nighttime views in the area would result in a significant impact, jurisdictions would adopt thresholds of significance to provide future developments a consistent evaluation criterion to use. However, the KHSD has not adopted significance thresholds regarding light or glare impacts resulting from a project. Therefore, relevant State and local standards and regulations regarding light design noted above have been reviewed to assess if a significant impact occurs as a result of the Project.

4.1 - Creation of a new source of substantial light or glare

Data used in the analysis is based on technical information, equipment specifications and other available sources related to the proposed stadium lighting. This information is included as Appendix A of the study.

As noted previously, although HHS is located within the city limits of the City of Bakersfield, the HHS campus is not subject to the development code of the City of Bakersfield. Therefore, design standards for lighting under the City of Bakersfield development code would not be applicable to this project. However, the KHSD intends to comply with local and State building codes, development standards and regulations.

IMPACT ANALYSIS

Implementation of the proposed project would result in the construction of an aquatics facility located in the southwest portion of the existing HHS campus. The project anticipates the installation of outdoor lighting to illuminate the aquatics facility during nighttime use. The location of the proposed light poles and their relative distance from neighboring properties to the south is depicted on Figure 4-1.

These areas are proposed to be illuminated via 50-foot light poles and LED fixtures. The remaining support facilities and pedestrian areas are proposed to be developed with standard pathing and security lighting where minimal impacts would occur.

Photometrics supplied by the manufacture was used to make predictions of the light levels produced exclusively by the proposed lighting system (Musco Sports Lighting, LLC., 2022). Based on the assumed performance of the proposed stadium lighting, an analysis of the lighting against sensitive receptors can be determined.

Per the manufacture's equipment specifications and information regarding the proposed stadium lighting, it was calculated that a maximum illumination of 69 foot candles within the aquatics facility would occur with an average of 44 foot candles for the area of the pool area where the majority of lighting would be concentrated.

Data provided by the manufacturer indicates that light spill will occur at the boundary of the project site. The manufacturer's lighting summary suggests that the maximum illumination levels at the boundaries of the facility would be 23 foot candles.

The closest sensitive receptor is located approximately 394 feet south of the nearest light pole (Figure 4-1). The design of the proposed lighting includes shielding and the downward direction of the lighting. These design standards are anticipated to produce maximum illuminance on the field and minimal light spill offsite. Additionally, illuminance is assumed to reduce as the distance gets further from the light source.

Figure 4-1 depicts the distance of the proposed light poles from the nearest residences. The nearest residence is approximately 394 feet from the nearest light pole. The second closest residence to a proposed light pole is located approximately 428 feet south. However, the positioning of the lighting fixtures will be positioned so the light will shine onto the facility with the fixtures being fully shielded. Because these lighting fixtures are designed with reflectors and hoods that minimize light spill and glare on sensitive receptors while maximizing illumination of the facility, it is anticipated that the neighboring residences will have little to no glare or light spill onto the property. Additionally, there are structural barriers existing along the project's southern boundary that would further shield light exposure and reduce light spill levels. These structural barriers include existing tennis courts fencing enclosures that are improved with screening material.

As discussed, the KHSD is not considered under the jurisdiction of the City of Bakersfield, however as there is no established threshold adopted by the CDE or KHSD, consideration is made to the Bakersfield Municipal Code to determine if an impact is made on sensitive receptors under the jurisdiction of the City of Bakersfield. Based on the consideration of these factors discussed above, the illumination levels are not anticipated to exceed the 0.5 foot candlelight trespass threshold established by the City of Bakersfield Municipal Code. Therefore, the Project would not significantly impact sensitive receptors. Impacts from lighting on sensitive receptors is considered less than significant, and no additional measures are warranted.

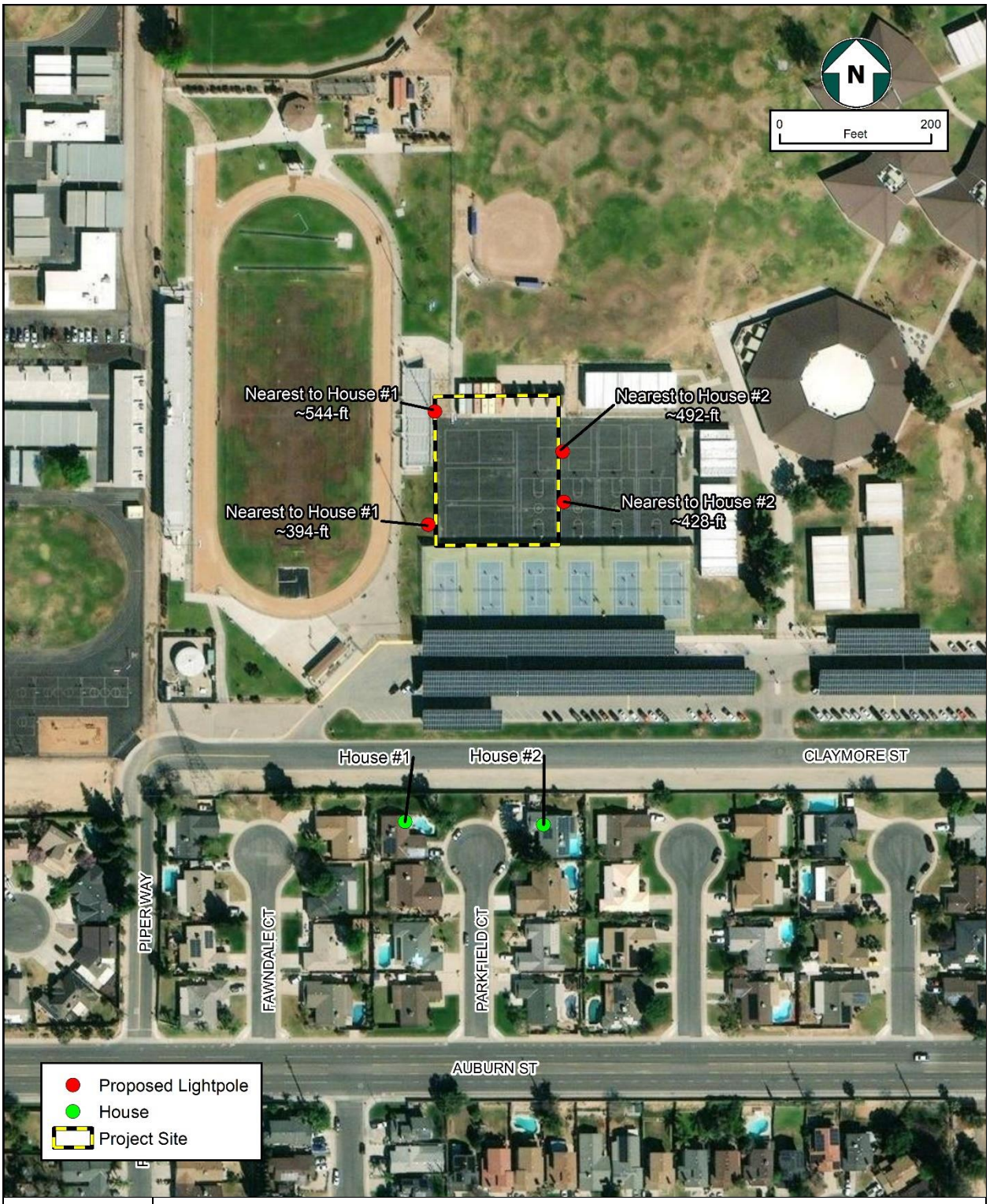


Figure 4-1
Positions of Light Poles and Nearest Residences

SECTION 5 - SUMMARY OF FINDINGS

This report evaluated the impacts of the installation of outdoor lighting associated with the development of an aquatic facility at the HHS campus. The use of available thresholds of significance associated with the CDE, DSA, City of Bakersfield Municipal Code, and CEQA guidelines for lighting provided criteria to determine if a significant impact would occur as a result of the project. Based on the analysis contained in this report and supporting evidence, this report finds that the project:

- Would result in a less than significant impact due to the introduction of lighting associated with the modified Project; and

- No additional mitigation measures are required.

For these reasons, the project's impacts related to lighting are considered less than significant.

SECTION 6 - REFERENCES

City of Bakersfield. (2022). *City of Bakersfield Municipal Code, Title 17*. Retrieved 2022, from City of Bakersfield Municipal Code: https://bakersfield.municipal.codes/Code/17.71

City of Bakersfield/County of Kern. (2002). *Metropolitan Bakersfield General Plan Update Environmental Impact Report.*

Musco Sports Lighting, LLC. (2022). *Highland High School Pool LIghting Equipment Specifications.*

Highland High School Pool

Bakersfield,CA

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
P1, P4	50'	50'	2	TLC-LED-900	1.78 kW	B
		50'	2	TLC-LED-900	1.78 kW	A
P2-P3	50'	50'	1	TLC-LED-400	0.40 kW	B
		50'	2	TLC-LED-900	1.78 kW	A
		50'	1	TLC-LED-900	0.89 kW	B
4			***16***		***13.26 kW***	

Circuit Summary

Circuit	Description	Load	Fixture Qty
A	Pool	7.12 kW	8
B	Pool Egress	6.14 kW	8

Fixture Type Summary

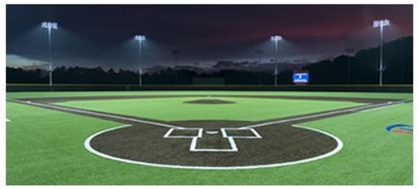
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-400	LED 5700K - 75 CRI	400W	46,500	>120,000	>120,000	>120,000	2
TLC-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	14

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Pool Deck	Horizontal Illuminance	44.4	3	69	20.71	14.80	A,B	16
Pool Egress Grid	Horizontal	18.6	2	36	15.15	9.30	B	8
Swimming Pool	Horizontal Illuminance	51.4	41	63	1.54	1.25	A,B	16

From Hometown to Professional

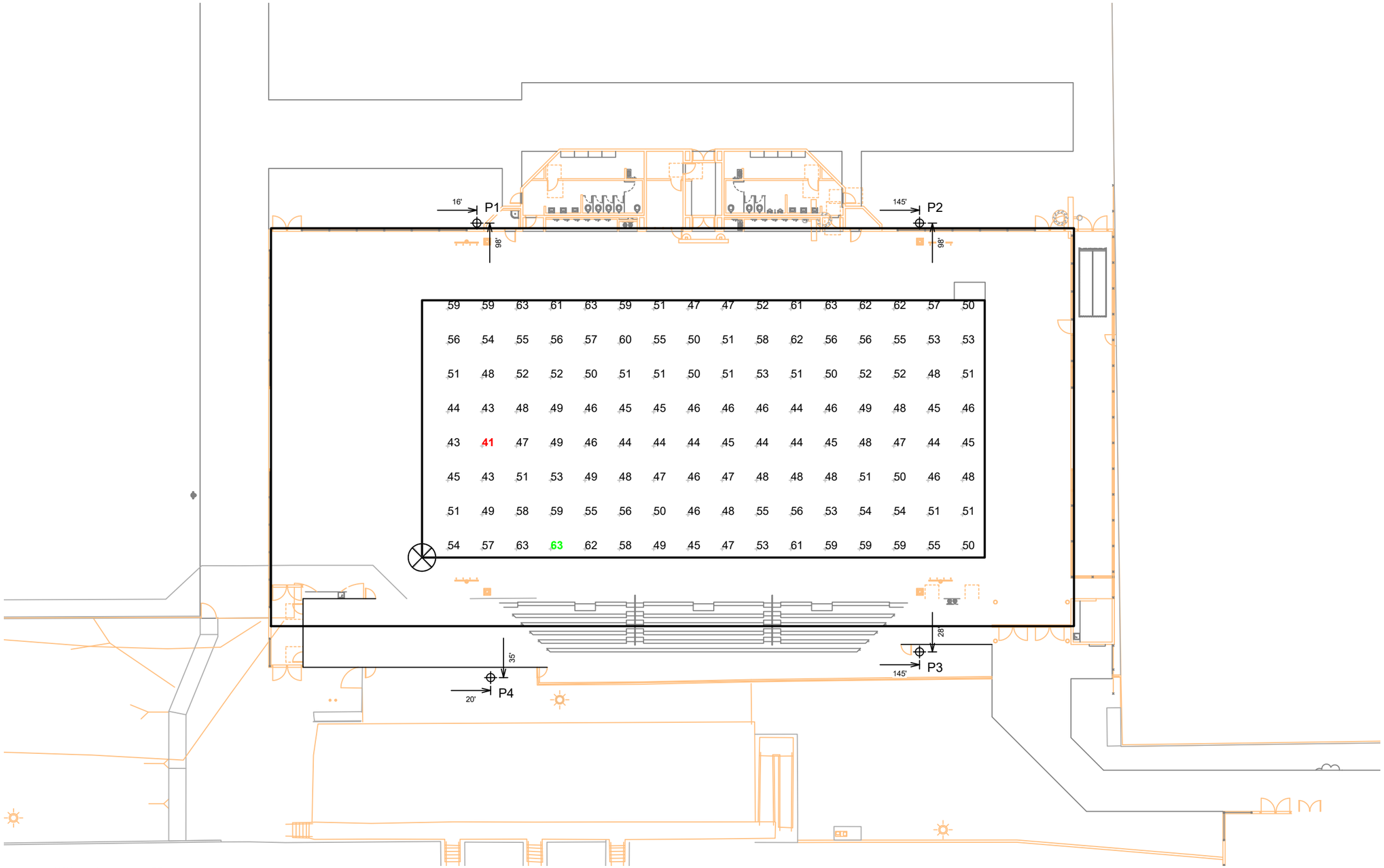


We Make It Happen.

ENGINEERED DESIGN By: C.Hensley · File #221419A · 10-Aug-22

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	P1, P4	50'	-.2'	49.8'	TLC-LED-900	4	4	0
2	P2-P3	50'	-.2'	49.8'	TLC-LED-900	3	3	0
				49.8'	TLC-LED-400	1	1	0
4	TOTALS					16	16	0



SCALE IN FEET 1 : 30

0' 30' 60'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Highland High School Pool

Bakersfield,CA

GRID SUMMARY

Name:	**Swimming Pool**
Size:	164' x 75'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**50**
Scan Average:	51.4
Maximum:	63
Minimum:	41
Avg / Min:	1.24
Guaranteed Max / Min:	**2**
Max / Min:	1.54
UG (adjacent pts):	1.21
CU:	0.50
No. of Points:	128

LUMINAIRE INFORMATION

Applied Circuits:	A, B
No. of Luminaires:	**16**
Total Load:	13.26 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

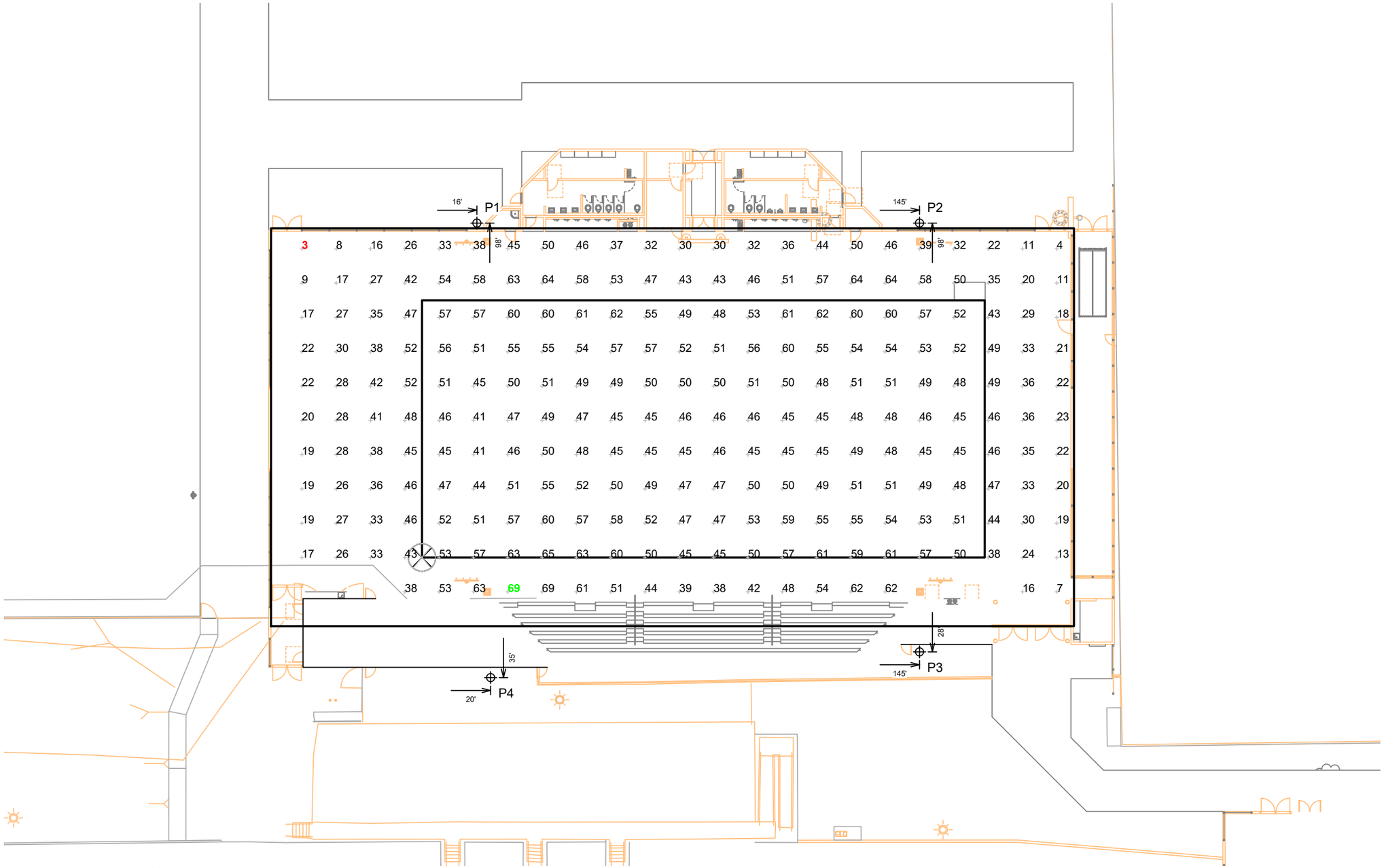
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN By: C.Hensley · File #221419A · 10-Aug-22

We Make It Happen.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	P1, P4	50'	0'	50'	TLC-LED-900	4	4	0
2	P2-P3	50'	0'	50'	TLC-LED-900	3	3	0
				50'	TLC-LED-400	1	1	0
4	TOTALS					16	16	0



SCALE IN FEET 1 : 30

0' 30' 60'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ENGINEERED DESIGN By: C.Hensley · File #221419A · 10-Aug-22

Highland High School Pool

Bakersfield,CA

GRID SUMMARY

Name:	**Pool Deck**
Size:	234' x 116'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	**44.4**
Maximum:	69
Minimum:	3
Avg / Min:	13.28
Max / Min:	**20.71**
UG (adjacent pts):	2.71
CU:	0.83
No. of Points:	247

LUMINAIRE INFORMATION

Applied Circuits:	A, B
No. of Luminaires:	**16**
Total Load:	13.26 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

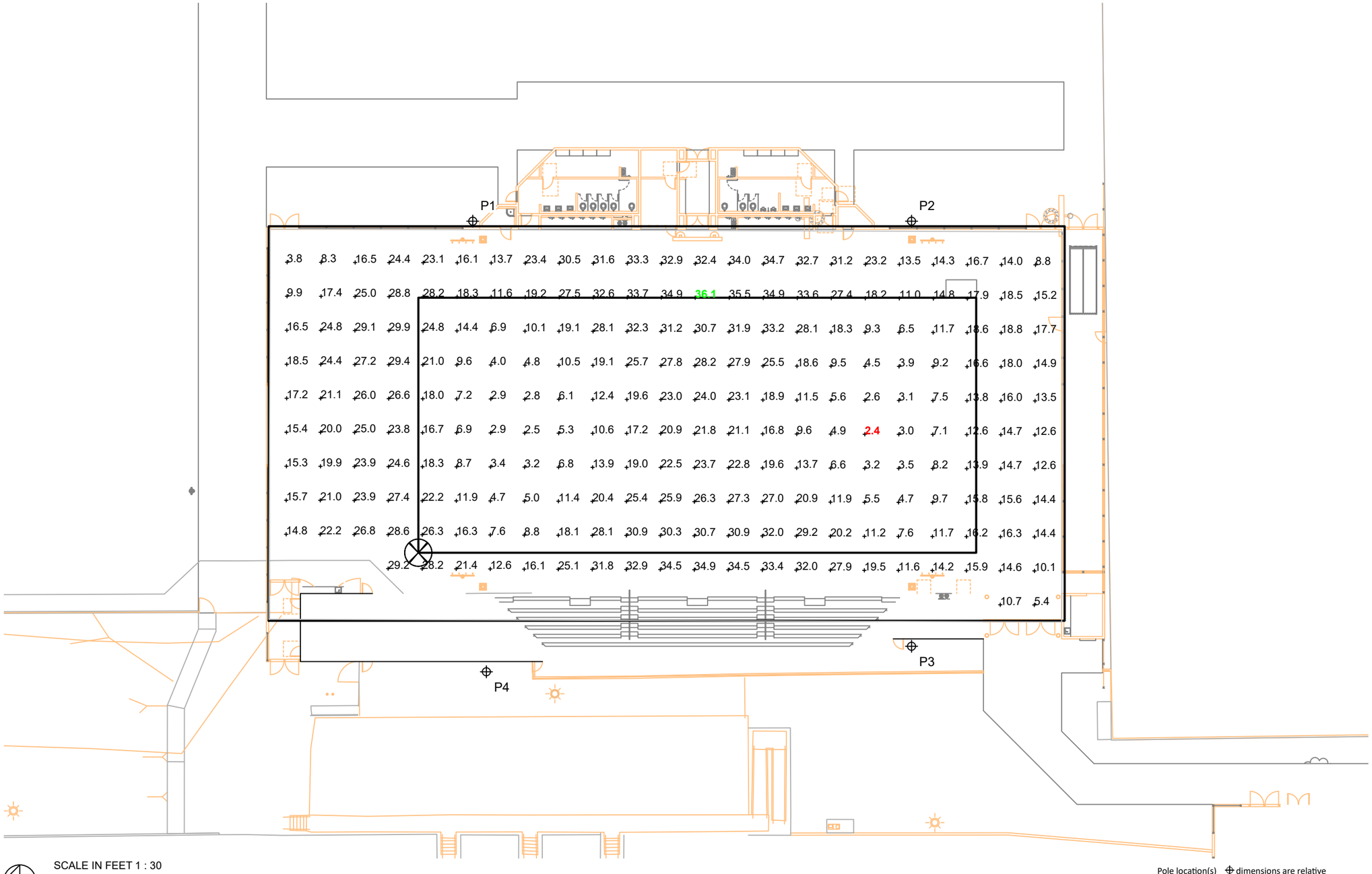
Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

We Make It Happen.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	P1, P4	50'	-.2'	49.8'	TLC-LED-900	4	2	2
2	P2-P3	50'	-.2'	49.8'	TLC-LED-900	3	1	2
				49.8'	TLC-LED-400	1	1	0
4	TOTALS					16	8	8



SCALE IN FEET 1 : 30

0' 30' 60'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Highland High School Pool

Bakersfield,CA

GRID SUMMARY

Name:	**Pool Egress Grid**
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	**18.6**
Maximum:	36
Minimum:	2
Avg / Min:	7.81
Max / Min:	**15.15**
UG (adjacent pts):	2.60
CU:	0.78
No. of Points:	229

LUMINAIRE INFORMATION

Applied Circuits:	B
No. of Luminaires:	**8**
Total Load:	6.14 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

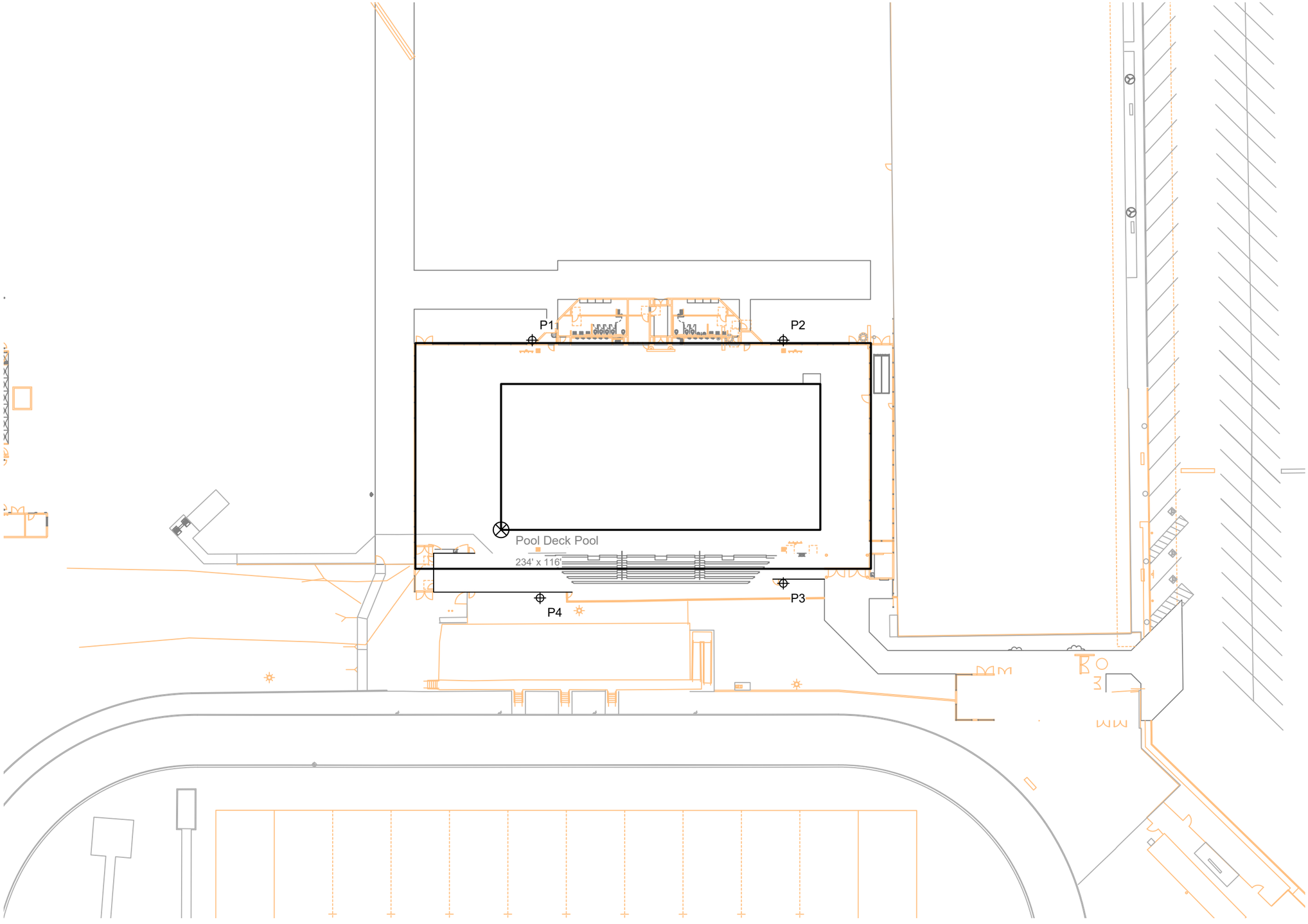
Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN By: C.Hensley · File #221419A · 10-Aug-22

We Make It Happen.



Highland High School Pool

Bakersfield,CA

EQUIPMENT LAYOUT

INCLUDES:
· Pool Deck
· Swimming Pool

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	P1, P4	50'	0'	50'	TLC-LED-900	4
2	P2-P3	50'	0'	50'	TLC-LED-900	3
				50'	TLC-LED-400	1
4	TOTALS					16

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-400	2.3	2.2	2.0	1.7	1.4	1.3	1.0
TLC-LED-900	5.3	5.0	4.6	4.0	3.2	2.9	2.3

SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ENGINEERED DESIGN By: C.Hensley · File #221419A · 10-Aug-22

musco Lighting
We Make It Happen.

Highland High School Aquatics Center **Trip Generation**
Swimming and Diving

Meets generally held during the week (Tuesday through Friday) 330 PM to 630 PM
Assume PM peak hour of adjacent street traffic occurs between 430 PM and 530 PM

Two schools compete
Assume 50 swimmers/divers per school (25 boys, 25 girls)

				ADT	AM Peak Hour		PM Peak Hour	
					IN	OUT	IN	OUT
	Trip	Vehicle Type	Variable	Daily Trips	% Split Trips	% Split Trips	% Split Trips	% Split Trips
(1)	Team	School Bus	1	2	0 0	0 0	0 0	0 0
(2)	Spectators	Passenger	100	200	0 0	0 0	50% 25	50% 25
(3)	Staff	Passenger	15	30	0 0	0 0	100% 5	0 0
			TOTAL	232	0	0	30	25

NOTES

(1) Used to transport away team to school site (arrives at 230 PM, returns at 7 PM)

(2) Assume 1 spectator per swimmer/diver per team (total of 100)
Assume 25 percent of total spectators (25) at any single event
No carpool rate applied

(3) Assume 15 support staff/volunteers (officials, timers, ticket takers, medical personnel, etc.)
No carpool rate applied

FOCUSED AIR QUALITY STUDY

Highland High School Aquatics Facility
Bakersfield, CA

Prepared For:

QK, Inc.
5080 California Avenue, Suite 220
Bakersfield, CA 93309

Prepared By:

TRINITY CONSULTANTS
4900 California Avenue, Suite 420A
Bakersfield, CA 93309
(661) 282-2200

April 2023

Project 230505.0012

Trinity Consultants

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY 1-1
   - 1.1 Executive Summary 1-1
   - 1.2 Statement of Finding 1-1

2. PROJECT INFORMATION 2-1
   - 2.1 Introduction 2-1
   - 2.2 Project Location 2-1

3. AIR QUALITY IMPACTS THRESHOLDS AND EVALUATION METHODOLOGY 3-1

4. ENVIRONMENTAL EFFECTS 4-1
   - 4.1 Short-Term Impacts 4-1
   - 4.2 Long-Term Impacts 4-1
   - 4.3 Greenhouse Gas Emissions 4-2
   - 4.4 Potential Impact on Sensitive Receptors 4-3
   - 4.5 Potential Impacts to Visibility to Nearby Class 1 Areas 4-3
   - 4.6 Potential Odor Impacts 4-3
   - 4.7 Ambient Air Quality Impacts 4-4
   - 4.8 Toxic Air Contaminant (TAC) Impacts 4-4
   - 4.9 Cumulative Impacts 4-6

5. CONCLUSIONS 5-1

6. REFERENCES 6-1

APPENDIX A. CALEEMOD EMISSIONS ESTIMATES OUTPUT FILES A-1

APPENDIX B. HEALTH RISK ASSEMENT MODELING B-1

LIST OF FIGURES

Figure 2-1. Project Location 2-1

LIST OF TABLES

Table 3-1. SJVAPCD Air Quality Thresholds of Significance - Criteria Pollutants 3-1

Table 4-1. Construction Emissions 4-1

Table 4-2. Total Project Operational Emissions 4-2

Table 4-3. Estimated Annual Greenhouse Gas Emissions 4-2

Table 4-4. Sensitive Receptors Located <1 Mile from Project 4-3

Table 4-5. Potential Maximum Health Risk Impacts 4-5

1. EXECUTIVE SUMMARY

1.1 Executive Summary

Trinity Consultants (Trinity) has completed a Focused Air Quality Study (FAQS) for construction of the Highland High School Aquatics Facility located at the intersection of Royal Scots Way and Claymore Street about 0.25 mile north of State Route 178 in Bakersfield, California. The Project includes the construction of an aquatics facility totaling approximately 23,000 square feet of new building construction.

This FAQS was prepared pursuant to the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015), the California Environmental Quality Act (CEQA) (Public Resources Code 21000 to 21189) and the CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).

1.2 Statement of Finding

Based on the thresholds established by the SJVAPCD's GAMAQI, the emissions estimates prepared pursuant to this FAQS assessment do not exceed the SJVAPCD's established emissions significance thresholds for all CEQA air quality contaminants, Therefore, this Project would not pose a significant impact to the San Joaquin Valley Air Basin and would have a less than significant air quality impact.

2. PROJECT INFORMATION

2.1 Introduction

The Project site is located in the City of Bakersfield at the intersection of Royal Scots Way and Claymore Street about 0.25 mile north of State Route 178 (APN 146-020-23). The Project includes the construction of a 2,448 sq.ft locker room building, a 50-meter pool (approx. 13,448 sq.ft), a 1,605 sq.ft pump house, and a 5,426 sq.ft classroom and ticket booth. It will also include the demolition of outdoor recreational space (outdoor asphalt space for basketball, volleyball, badminton courts and handball courts), storage containers, landscape areas, and a non-operational water tank and associated site elements.

The Project was modeled based on an adjusted building size of 23,000 sq.ft and was assessed as if it would be developed in one phase. This assessment examines the projected gross impact to air quality posed by this Project to the San Joaquin Valley Air Basin to determine whether or not the Project remains below established air quality thresholds of significance.

2.2 Project Location

The Project is located in the City of Bakersfield at the intersection of Royal Scots Way and Claymore Street about 0.25 mile north of State Route 178. **Figure 2-1** depicts the Project location within the City of Bakersfield.

Figure 2-1. Project Location

3. AIR QUALITY IMPACTS THRESHOLDS AND EVALUATION METHODOLOGY

Significance thresholds are based on the CEQA Appendix G Environmental Checklist Form (not included herein) and SJVAPCD air quality thresholds (SJVAPCD 2015). A potentially significant impact to air quality, as defined by the CEQA Checklist, would occur if the project caused one or more of the following to occur:

- Conflict with or obstruct implementation of the applicable air quality plan;
- 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;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The SJVAPCD has identified quantitative emission thresholds to determine whether the potential air quality impacts of a project require analysis in the form of an Environmental Impact Report. The SJVAPCD air quality thresholds from the GAMAQI are presented in **Table 3-1** (SJVAPCD 2015). The SJVAPCD separates construction emissions from operational emissions, and further separates permitted operational emissions from non-permitted operational emissions, for determining significance thresholds for air pollutant emissions.

Table 3-1. SJVAPCD Air Quality Thresholds of Significance - Criteria Pollutants

Pollutant/ Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
	Emissions (tpy)	Emissions (tpy)	Emissions (tpy)
CO	100	100	100
NOx	10	10	10
ROG	10	10	10
SOx	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

Source: SJVAPCD 2015

Criteria pollutant emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 (California Air Pollution Control Officers Association (CAPCOA) 2020). This project would generate short-term construction emissions and long-term operational emissions.

An air quality evaluation also considers: 1) exposure of sensitive receptors to substantial pollutant concentrations; and 2) the creation of other emissions (such as those leading to odors) adversely affecting a substantial number of people. The criteria for this evaluation are based on the Lead Agency's determination of the proximity of the proposed Project to 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.

4. ENVIRONMENTAL EFFECTS

This document was prepared pursuant to the SJVAPCD's GAMAQI and provides a cursory review of the Project emissions to demonstrate that it would not exceed established air quality emissions thresholds.

4.1 Short-Term Impacts

Table 4-1 shows the construction emission levels using default CalEEMod factors for construction of an aquatics facility totaling approximately 23,000 square feet of new building construction (see Attachment A).

Construction emission estimates also included the following SJVAPCD's required measures for all projects:

- Water exposed area 3 times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Based on these anticipated activity levels, the Project construction activities would not exceed construction emissions thresholds (**Table 3-1)** and were found to be less than significant. No further evaluation is required.

Table 4-1. Construction Emissions

Emissions Source	Pollutant					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	(tons/year)					
2023 Construction Emissions	0.161	1.233	1.327	0.003	0.085	0.061
2024 Construction Emissions	0.167	0.059	0.082	0.000	0.004	0.003
SJVAPCD Construction Emissions Thresholds	10	10	100	27	15	15
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

4.2 Long-Term Impacts

Table 4-2 presents the Project's long-term operations emissions generated from mobile, energy, and area sources as well as from water use and waste generation emissions. The following changes to default values were incorporated during the CalEEMod analysis:

- Vehicle trips were adjusted to match the traffic study.

Operational emission estimates also included the following mitigation measures even though the project was less than significant before mitigation:

- Use electric lawnmower, leaf blower, and chainsaw (3% per SJVAPCD).

Table 4-2. Total Project Operational Emissions

Emissions Source	Pollutant					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	(tons/year)					
Operational Emissions	0.189	0.164	0.764	0.002	0.169	0.046
SJVAPCD Operational Emissions Thresholds	10	10	100	27	15	15
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

As calculated (see **Attachment A**), the long-term operational emissions associated with the proposed Project would be less than SJVAPCD significance threshold levels and would, therefore, not pose a significant impact to criteria air pollutants.

4.3 Greenhouse Gas Emissions

The Project's greenhouse gas (GHG) emissions are primarily from mobile source activities. Not all GHGs exhibit the same ability to induce climate change; as a result, GHG contributions are commonly quantified as carbon dioxide equivalents (CO_2e) (**see Attachment A**). The proposed Project's operational CO_2e emissions were estimated using CalEEMod. These emissions are summarized in **Table 4-3**.

Table 4-3. Estimated Annual Greenhouse Gas Emissions

	CO_2 Emissions metric tons	CH_4 Emissions metric tons	N_2O Emissions metric tons	CO_2e Emissions metric tons
2024 Project Operations	240.36	3.876	0.013	341.18

In the decade after SJVAPCD adopted their Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA, several new laws and executive orders were adopted that require additional reductions in years after 2020. For instance, Senate Bill 32 requires that GHG emissions be 40% less than 1990 levels by 2030. More drastic still, Senate Bill 100 which was signed by the Governor recently requires 100% zero-carbon electricity by 2045. On the day SB 100 was signed into law, the Governor also signed Executive Order B-55-18 which commits California to total, economy-wide carbon neutrality by 2045. Clearly, the 2009 Guidance may be somewhat inadequate in producing a meaningful comparison by today's standards which propose a grand vision that, if achieved, would fundamentally change how business is conducted and citizens live in the State. Thus, as discussed in the most recent updates to the Scoping Plan, objectives of the Scoping Plan affect all sectors of the economy and it no longer makes sense to evaluate GHG emissions on a project-level.

For these reasons, Project GHG emissions levels presented in Table 4-3 are primarily for disclosure purposes. The Project's largest contributors to GHG emissions are from electricity and exhaust from transportation fuels. Electricity and transportation fuels are, in effect, regulated by requiring providers and importers of electricity and fuel to participate in the GHG Cap-and-Trade Program and other Programs (e.g., low carbon fuel standard, renewable portfolio standard, etc.). Each sector-wide program exists within the framework of AB 32 and its descendant laws the purpose of which is to achieve GHG emissions reductions consistent with the AB 32 Scoping Plan.

The Project would generate GHGs from electricity use and combustion of gasoline/diesel fuels, each of which is regulated near the top of the supply-chain. As such, each citizen of California (including those creating emissions of this Project) will have no choice but to purchase electricity and fuels produced in a way that is acceptable to the California market. Thus, Project GHG emissions will be consistent with the

relevant plan (i.e., AB 32 Scoping Plan). The Project would meet its fair share of the cost to mitigate the cumulative impact of global climate change based on energy purchases are from the California market. Thus, consumers of electricity and transportation fuels are in effect regulated by higher level emissions restrictions on the producers of these energy sources. Therefore, the Project would have a less than significant impact on applicable GHG reduction plans and the Project's contribution to cumulative global climate change impacts would not be cumulatively considerable.

4.4 Potential Impact on Sensitive Receptors

The proposed Project is located at the intersection of Royal Scots Way and Claymore Street about 0.25 mile north of State Route 178. 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. Schools, hospitals, nursing homes and daycare centers are locations where sensitive receptors would likely reside. **Table 4-4** below shows the nearest sensitive receptors. There are no other known schools, hospitals, or nursing homes within a one-mile radius of the Project.

Table 4-4. Sensitive Receptors Located <1 Mile from Project

Receptor	Facility Type	Distance from Project in Miles	Direction from Project
Highland High School	School	0.00	E
Henry Eissler Elementary School	School	0.00	W
Chipman Junior High School	School	0.08	NW
D.V. Assisted Living	Nursing Home	0.52	SE
Summit Hills	Nursing Home	0.64	SE
Windsor Post Acute Center of Bakersfield	Hospital	0.65	N
Royal Play School WeeCare	Daycare	0.66	SW
Canyon Hills Senior Housing	Nursing Home	0.69	E
Bakersfield Rehabilitation Hospital	Hospital	0.86	SE
Canyon Hills Preschool	Preschool	0.90	E

Based on the predicted operational emissions and activity types, the proposed Project is not expected to affect any on-site or off-site sensitive receptors and is not expected to have any adverse impacts on any known sensitive receptor.

4.5 Potential Impacts to Visibility to Nearby Class 1 Areas

It should be noted that visibility impact analyses are not usually conducted for area sources. The recommended analysis methodology was initially intended for stationary sources of emissions which were subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60. Since the Project's emissions are predicted to be significantly less than the PSD threshold levels, an impact on any Class 1 areas is extremely unlikely. Therefore, based on the Project's predicted emissions, the Project is not expected to have any adverse impact to visibility at any Class 1 Area.

4.6 Potential Odor Impacts

The proposed Project is a recreational swimming pool project located near residential neighborhoods. Expected uses that are not known to be a source of nuisance odors as listed in Table 6 of the SJVAPCD's GAMAQI. The Project, therefore, is anticipated to have a less than significant odor impact.

4.7 Ambient Air Quality Impacts

As stated in the of GAMAQI (2015, p 96-97), SJVAPCD has developed screening levels for requiring an Ambient Air Quality Analysis (AAQA). The SJVAPCD recommends that an AAQA be performed for all criteria pollutants when emissions of any criteria pollutant resulting from project construction or operational activities exceed the 100 pounds per day screening level, after compliance with Rule 9510 requirements and implementation of all enforceable mitigation measures.

As shown above in **Table 4-1** and **Table 4-2**, average daily emissions for construction and operational activities associated with this Project would not exceed 100 pounds per day. Therefore, an AAQA is not required for this Project.

4.8 Toxic Air Contaminant (TAC) Impacts

TACs, as defined by the California Health & Safety Code (CH&SC) §44321, are listed in Appendices AI and AII in AB 2588 Air Toxic "Hot Spots" and Assessment Act's Emissions Inventory Criteria and Guideline Regulation document. SJVAPCD's risk management objectives for permitting and CEQA are as follows:

- Minimize health risks from new and modified sources of air pollution.
- Health risks from new and modified sources shall not be significant relative to the background risk levels and other risk levels that are typically accepted throughout the community.
- Avoid unreasonable restrictions on permitting.

To predict the potential health risk to the population attributable to emissions of diesel particulate matter 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 a 1-year construction timeline. 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 TACs.

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 was used to predict the dispersion of emissions from the proposed Project. The analysis employed all of the regulatory default AERMOD model keyword parameters, including elevated terrain options.

For construction health impacts, diesel combustion emissions from diesel on-site construction equipment was modeled as an area source for on-site construction activity on the property and the equipment was modeled as clean fleet construction equipment. Diesel particulate matter was calculated using CalEEMod for on-site construction equipment. A unit emission rate of 1 grams/second (g/sec) was input to AERMOD for the area source.

Discrete receptors were placed on scattered houses and businesses within close proximity of the Project site. Receptor grids were placed over the more densely populated areas surrounding the Project site. A total of 3,153 discrete off-site receptors were analyzed. Elevated terrain options were employed even though there is not complex terrain in the Project area.

SJVAPCD-provided, AERMET UStar processed meteorological datasets for the Bakersfield monitoring station, calendar years 2013 through 2017 was input to AERMOD. 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 v22118) program in the Hotspots Analysis and Reporting Program Version 2 (HARP 2) (CARB 2021). ADMRT post-processing was used to assess the potential for excess cancer risk and chronic and acute noncancer 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 for residential receptors and inhalation, soil ingestion, and dermal for worker receptors. 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 each receptor. A hazard index was computed for chronic non-cancer health effects for each applicable endpoint and each receptor. A hazard index for acute non-cancer health effects was not computed since DPM does not have a risk exposure level for acute risk.

SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic non-cancer risk is a hazard index of 1.0. All receptors were modeled as residential receptors.

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 twenty in one million (20E-06) and 1.0, respectively for the proposed Project. The PMIs are identified by receptor location and risk and are provided in **Table 4-5**. The electronic AERMOD and HARP2 output files are provided in Appendix B.

Table 4-5. Potential Maximum Health Risk Impacts

	Value	UTM East	UTM North
Excess Cancer Risk	1.57E-05	324414.4	3919085
Chronic Hazard Index	1.76E-02	324414.4	3919085

As shown above in **Table 4-5**, the maximum predicted cancer risk for the proposed Project is 1.57E-05. The maximum chronic non-cancer hazard index for the proposed Project is 1.76E-02. 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 twenty 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 1.0 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.

4.9 Cumulative Impacts

Cumulative impacts were also evaluated; however, cumulative emissions were not quantified because no other tentative projects were found within a one-mile radius of the Proposed Project that provided enough project detail information to accurately estimate emissions. Owing to the inherently cumulative nature of air quality impacts, the threshold for whether a project would make a cumulatively considerable contribution to a significant cumulative impact is currently based on whether the proposed Project would exceed established project-level thresholds. As such, a qualitative evaluation of the cumulative projects supports a finding that the Project's contribution would not be cumulatively considerable because the proposed Project's incremental emissions increase would be less than significant.

5. CONCLUSIONS

Based on the criteria established by the SJVAPCD's GAMAQI, the proposed Project does not meet the minimum standards to require a full Air Quality Impact Analysis. Furthermore, the Project as proposed would not exceed the SJVAPCD's criteria air pollutant emission levels and would generate *less than significant air quality impacts*.

6. REFERENCES

California Air Pollution Control Officers Association (CAPCOA). 2021. California Emissions Estimator Model tm (CalEEMod), version 2020.4.0

----------. 2016. "Air Toxic Hot Spots" Facility Prioritization Guidelines, Revised 2016. Final August 2016 http://www.capcoa.org/wp-content/uploads/2016/08/CAPCOA%20Prioritization%20Guidelines%20-%20August%202016%20FINAL.pdf

California Air Resources Board (CARB). 2015. Hotspots Analysis and Reporting Program (HARP2) User Guide. https://ww2.arb.ca.gov/sites/default/files/classic//toxics/harp/docs2/harp2admrtuserguide.pdf, accessed December 2022.

California Environmental Quality Act (CEQA). 2022. (Public Resources Code 21000 - 21189) and CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).

---------. 2022. CEQA, Appendix G – Environmental Checklist Form, Final Text.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2020. Small Project Analysis Level (SPAL). November 13, 2020. http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF

----------. 2015. Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI). March 19, 2015. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf

----------. 2009. Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. December 17, 2009. http://www.valleyair.org/Programs/CCAP/12-17-09/1%20CCAP%20-%20FINAL%20CEQA%20GHG%20Staff%20Report%20-%20Dec%2017%202009.pdf

----------. 2022. Air Monitoring Location Map. http://valleyair.org/aqinfo/air-monitoring.htm, accessed December 2022.

----------. 2017. UStar Meteorological Datasets for Bakersfield 2013-2017. http://www.valleyair.org/busind/pto/Tox_Resources/Modeling-Sites/bakersfield.htm

APPENDIX A. CALEEMOD EMISSIONS ESTIMATES OUTPUT FILES

Highland HS Aquatics Facility - Kern-San Joaquin County, Annual

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

Highland HS Aquatics Facility

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Recreational Swimming Pool	55.00	1000sqft	1.26	55,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Land Use Change -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Highland HS Aquatics Facility - Kern-San Joaquin County, Annual

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

Vehicle Trips - The swimming pool will be used for school swim meets during the weekdays and the daily trip rates are adjusted to match the results of the traffic study. All of the trips to the facilty will be primary trips by swimmers, spectators, and staff.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblVehicleTrips	CC_TTP	48.00	100.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	39.00	0.00
tblVehicleTrips	PB_TP	9.00	0.00
tblVehicleTrips	PR_TP	52.00	100.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	28.82	4.22

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1608	1.2326	1.3272	2.5600e-003	0.0447	0.0525	0.0972	0.0164	0.0506	0.0670	0.0000	215.2950	215.2950	0.0324	2.9600e-003	216.9871
2024	0.1671	0.0586	0.0815	1.4000e-004	1.2200e-003	2.6200e-003	3.8400e-003	3.3000e-004	2.4800e-003	2.8100e-003	0.0000	12.0129	12.0129	2.5700e-003	7.0000e-005	12.0992
Maximum	**0.1671**	**1.2326**	**1.3272**	**2.5600e-003**	**0.0447**	**0.0525**	**0.0972**	**0.0164**	**0.0506**	**0.0670**	**0.0000**	**215.2950**	**215.2950**	**0.0324**	**2.9600e-003**	**216.9871**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1608	1.2326	1.3272	2.5600e-003	0.0323	0.0525	0.0847	0.0104	0.0506	0.0610	0.0000	215.2948	215.2948	0.0324	2.9600e-003	216.9869
2024	0.1671	0.0586	0.0815	1.4000e-004	1.2200e-003	2.6200e-003	3.8400e-003	3.3000e-004	2.4800e-003	2.8100e-003	0.0000	12.0129	12.0129	2.5700e-003	7.0000e-005	12.0992
Maximum	**0.1671**	**1.2326**	**1.3272**	**2.5600e-003**	**0.0323**	**0.0525**	**0.0847**	**0.0104**	**0.0506**	**0.0610**	**0.0000**	**215.2948**	**215.2948**	**0.0324**	**2.9600e-003**	**216.9869**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**27.13**	**0.00**	**12.33**	**35.84**	**0.00**	**8.60**	**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	**3-23-2023**	**6-22-2023**	0.4561	0.4561
2	**6-23-2023**	**9-22-2023**	0.4517	0.4517
3	**9-23-2023**	**12-22-2023**	0.4475	0.4475
4	**12-23-2023**	**3-22-2024**	0.2626	0.2626
		Highest	0.4561	0.4561

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	0.1059	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.8000e-004	9.8000e-004	0.0000	0.0000	1.0500e-003
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	0.0832	0.1640	0.7639	1.8400e-003	0.1671	1.8000e-003	0.1689	0.0447	1.6900e-003	0.0464	0.0000	173.4132	173.4132	9.1100e-003	0.0106	176.7928
Waste						0.0000	0.0000		0.0000	0.0000	63.6377	0.0000	63.6377	3.7609	0.0000	157.6596
Water						0.0000	0.0000		0.0000	0.0000	1.0320	2.2742	3.3062	0.1064	2.5500e-003	6.7243
Total	**0.1890**	**0.1640**	**0.7644**	**1.8400e-003**	**0.1671**	**1.8000e-003**	**0.1689**	**0.0447**	**1.6900e-003**	**0.0464**	**64.6697**	**175.6884**	**240.3580**	**3.8764**	**0.0131**	**341.1778**

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

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	0.1059	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.7000e-004	9.7000e-004	0.0000	0.0000	1.0300e-003
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	0.0832	0.1640	0.7639	1.8400e-003	0.1671	1.8000e-003	0.1689	0.0447	1.6900e-003	0.0464	0.0000	173.4132	173.4132	9.1100e-003	0.0106	176.7928
Waste						0.0000	0.0000		0.0000	0.0000	63.6377	0.0000	63.6377	3.7609	0.0000	157.6596
Water						0.0000	0.0000		0.0000	0.0000	1.0320	2.2742	3.3062	0.1064	2.5500e-003	6.7243
Total	**0.1890**	**0.1640**	**0.7644**	**1.8400e-003**	**0.1671**	**1.8000e-003**	**0.1689**	**0.0447**	**1.6900e-003**	**0.0464**	**64.6697**	**175.6883**	**240.3580**	**3.8764**	**0.0131**	**341.1778**

	ROG	NOx	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	3/23/2023	3/24/2023	5	2	
2	Grading	Grading	3/25/2023	3/30/2023	5	4	
3	Building Construction	Building Construction	3/31/2023	1/4/2024	5	200	

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

4	Paving	Paving	1/5/2024	1/18/2024	5	10	
5	Architectural Coating	Architectural Coating	1/19/2024	2/1/2024	5	10	

Acres of Grading (Site Preparation Phase): 1.88

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 34,500; Non-Residential Outdoor: 11,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Highland HS Aquatics Facility - Kern-San Joaquin County, Annual

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	23.00	9.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	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 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	0.0124	6.6400e-003	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236
Total	**1.1300e-003**	**0.0124**	**6.6400e-003**	**2.0000e-005**	**6.2700e-003**	**5.1000e-004**	**6.7800e-003**	**3.0000e-003**	**4.7000e-004**	**3.4700e-003**	**0.0000**	**1.5114**	**1.5114**	**4.9000e-004**	**0.0000**	**1.5236**

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

3.2 Site Preparation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0526	0.0526	0.0000	0.0000	0.0531
Total	**2.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0526**	**0.0526**	**0.0000**	**0.0000**	**0.0531**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.4400e-003	0.0000	2.4400e-003	1.1700e-003	0.0000	1.1700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	0.0124	6.6400e-003	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236
Total	**1.1300e-003**	**0.0124**	**6.6400e-003**	**2.0000e-005**	**2.4400e-003**	**5.1000e-004**	**2.9500e-003**	**1.1700e-003**	**4.7000e-004**	**1.6400e-003**	**0.0000**	**1.5114**	**1.5114**	**4.9000e-004**	**0.0000**	**1.5236**

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

3.2 Site Preparation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0526	0.0526	0.0000	0.0000	0.0531
Total	**2.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0526**	**0.0526**	**0.0000**	**0.0000**	**0.0531**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0289	0.0174	4.0000e-005		1.2100e-003	1.2100e-003		1.1100e-003	1.1100e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	**2.6700e-003**	**0.0289**	**0.0174**	**4.0000e-005**	**0.0142**	**1.2100e-003**	**0.0154**	**6.8500e-003**	**1.1100e-003**	**7.9600e-003**	**0.0000**	**3.6208**	**3.6208**	**1.1700e-003**	**0.0000**	**3.6501**

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

3.3 Grading - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1315	0.1315	0.0000	0.0000	0.1327
Total	**6.0000e-005**	**4.0000e-005**	**4.8000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1315**	**0.1315**	**0.0000**	**0.0000**	**0.1327**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.5200e-003	0.0000	5.5200e-003	2.6700e-003	0.0000	2.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0289	0.0174	4.0000e-005		1.2100e-003	1.2100e-003		1.1100e-003	1.1100e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	**2.6700e-003**	**0.0289**	**0.0174**	**4.0000e-005**	**5.5200e-003**	**1.2100e-003**	**6.7300e-003**	**2.6700e-003**	**1.1100e-003**	**3.7800e-003**	**0.0000**	**3.6208**	**3.6208**	**1.1700e-003**	**0.0000**	**3.6501**

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

3.3 Grading - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1315	0.1315	0.0000	0.0000	0.1327
Total	**6.0000e-005**	**4.0000e-005**	**4.8000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1315**	**0.1315**	**0.0000**	**0.0000**	**0.1327**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1493	1.1476	1.2359	2.1600e-003		0.0504	0.0504		0.0487	0.0487	0.0000	177.9671	177.9671	0.0302	0.0000	178.7227
Total	**0.1493**	**1.1476**	**1.2359**	**2.1600e-003**		**0.0504**	**0.0504**		**0.0487**	**0.0487**	**0.0000**	**177.9671**	**177.9671**	**0.0302**	**0.0000**	**178.7227**

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

3.4 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	1.0200e-003	0.0390	0.0127	1.8000e-004	5.8900e-003	2.6000e-004	6.1400e-003	1.7000e-003	2.4000e-004	1.9400e-003	0.0000	17.1946	17.1946	7.0000e-005	2.5400e-003	17.9532
Worker	6.5900e-003	4.5700e-003	0.0539	1.6000e-004	0.0182	1.0000e-004	0.0183	4.8200e-003	9.0000e-005	4.9200e-003	0.0000	14.8170	14.8170	4.4000e-004	4.2000e-004	14.9518
Total	**7.6100e-003**	**0.0436**	**0.0666**	**3.4000e-004**	**0.0241**	**3.6000e-004**	**0.0244**	**6.5200e-003**	**3.3000e-004**	**6.8600e-003**	**0.0000**	**32.0116**	**32.0116**	**5.1000e-004**	**2.9600e-003**	**32.9050**

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	0.1493	1.1476	1.2359	2.1600e-003		0.0504	0.0504		0.0487	0.0487	0.0000	177.9669	177.9669	0.0302	0.0000	178.7224
Total	**0.1493**	**1.1476**	**1.2359**	**2.1600e-003**		**0.0504**	**0.0504**		**0.0487**	**0.0487**	**0.0000**	**177.9669**	**177.9669**	**0.0302**	**0.0000**	**178.7224**

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

3.4 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	1.0200e-003	0.0390	0.0127	1.8000e-004	5.8900e-003	2.6000e-004	6.1400e-003	1.7000e-003	2.4000e-004	1.9400e-003	0.0000	17.1946	17.1946	7.0000e-005	2.5400e-003	17.9532
Worker	6.5900e-003	4.5700e-003	0.0539	1.6000e-004	0.0182	1.0000e-004	0.0183	4.8200e-003	9.0000e-005	4.9200e-003	0.0000	14.8170	14.8170	4.4000e-004	4.2000e-004	14.9518
Total	**7.6100e-003**	**0.0436**	**0.0666**	**3.4000e-004**	**0.0241**	**3.6000e-004**	**0.0244**	**6.5200e-003**	**3.3000e-004**	**6.8600e-003**	**0.0000**	**32.0116**	**32.0116**	**5.1000e-004**	**2.9600e-003**	**32.9050**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8400e-003	0.0221	0.0250	4.0000e-005		9.0000e-004	9.0000e-004		8.7000e-004	8.7000e-004	0.0000	3.6322	3.6322	6.0000e-004	0.0000	3.6474
Total	**2.8400e-003**	**0.0221**	**0.0250**	**4.0000e-005**		**9.0000e-004**	**9.0000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**3.6322**	**3.6322**	**6.0000e-004**	**0.0000**	**3.6474**

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

3.4 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	2.0000e-005	8.0000e-004	2.5000e-004	0.0000	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3454	0.3454	0.0000	5.0000e-005	0.3606
Worker	1.2000e-004	8.0000e-005	1.0200e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2948	0.2948	1.0000e-005	1.0000e-005	0.2974
Total	**1.4000e-004**	**8.8000e-004**	**1.2700e-003**	**0.0000**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**1.3000e-004**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**0.6402**	**0.6402**	**1.0000e-005**	**6.0000e-005**	**0.6580**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8400e-003	0.0221	0.0250	4.0000e-005		9.0000e-004	9.0000e-004		8.7000e-004	8.7000e-004	0.0000	3.6322	3.6322	6.0000e-004	0.0000	3.6473
Total	**2.8400e-003**	**0.0221**	**0.0250**	**4.0000e-005**		**9.0000e-004**	**9.0000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**3.6322**	**3.6322**	**6.0000e-004**	**0.0000**	**3.6473**

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

3.4 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	2.0000e-005	8.0000e-004	2.5000e-004	0.0000	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3454	0.3454	0.0000	5.0000e-005	0.3606
Worker	1.2000e-004	8.0000e-005	1.0200e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2948	0.2948	1.0000e-005	1.0000e-005	0.2974
Total	**1.4000e-004**	**8.8000e-004**	**1.2700e-003**	**0.0000**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**1.3000e-004**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**0.6402**	**0.6402**	**1.0000e-005**	**6.0000e-005**	**0.6580**

3.5 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	3.0900e-003	0.0293	0.0441	7.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	5.8870	5.8870	1.8700e-003	0.0000	5.9337
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0900e-003**	**0.0293**	**0.0441**	**7.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.8870**	**5.8870**	**1.8700e-003**	**0.0000**	**5.9337**

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

3.5 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	1.8000e-004	1.2000e-004	1.4400e-003	0.0000	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4166	0.4166	1.0000e-005	1.0000e-005	0.4202
Total	**1.8000e-004**	**1.2000e-004**	**1.4400e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4166**	**0.4166**	**1.0000e-005**	**1.0000e-005**	**0.4202**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0900e-003	0.0293	0.0441	7.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	5.8870	5.8870	1.8700e-003	0.0000	5.9337
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0900e-003**	**0.0293**	**0.0441**	**7.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.8870**	**5.8870**	**1.8700e-003**	**0.0000**	**5.9337**

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

3.5 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	1.8000e-004	1.2000e-004	1.4400e-003	0.0000	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4166	0.4166	1.0000e-005	1.0000e-005	0.4202
Total	**1.8000e-004**	**1.2000e-004**	**1.4400e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4166**	**0.4166**	**1.0000e-005**	**1.0000e-005**	**0.4202**

3.6 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	0.1599					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	**0.1608**	**6.0900e-003**	**9.0500e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**1.2766**	**1.2766**	**7.0000e-005**	**0.0000**	**1.2784**

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

3.6 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	7.0000e-005	4.0000e-005	5.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1602	0.1602	0.0000	0.0000	0.1616
Total	**7.0000e-005**	**4.0000e-005**	**5.5000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1602**	**0.1602**	**0.0000**	**0.0000**	**0.1616**

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	0.1599					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	**0.1608**	**6.0900e-003**	**9.0500e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**1.2766**	**1.2766**	**7.0000e-005**	**0.0000**	**1.2784**

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

3.6 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	7.0000e-005	4.0000e-005	5.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1602	0.1602	0.0000	0.0000	0.1616
Total	**7.0000e-005**	**4.0000e-005**	**5.5000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1602**	**0.1602**	**0.0000**	**0.0000**	**0.1616**

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

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	0.0832	0.1640	0.7639	1.8400e-003	0.1671	1.8000e-003	0.1689	0.0447	1.6900e-003	0.0464	0.0000	173.4132	173.4132	9.1100e-003	0.0106	176.7928
Unmitigated	0.0832	0.1640	0.7639	1.8400e-003	0.1671	1.8000e-003	0.1689	0.0447	1.6900e-003	0.0464	0.0000	173.4132	173.4132	9.1100e-003	0.0106	176.7928

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Recreational Swimming Pool	232.10	0.00	0.00	440,526	440,526
Total	232.10	0.00	0.00	440,526	440,526

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
Recreational Swimming Pool	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Recreational Swimming Pool	0.480055	0.053153	0.177436	0.165193	0.030848	0.009491	0.014052	0.037969	0.000584	0.000238	0.025005	0.001479	0.004498

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

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

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

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					
Recreational Swimming Pool	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					
Recreational Swimming Pool	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**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Recreational Swimming Pool	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			
Recreational Swimming Pool	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

Use Electric Lawnmower

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

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1059	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.7000e-004	9.7000e-004	0.0000	0.0000	1.0300e-003
Unmitigated	0.1059	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.8000e-004	9.8000e-004	0.0000	0.0000	1.0500e-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	0.0160					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0898					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.8000e-004	9.8000e-004	0.0000	0.0000	1.0500e-003
Total	**0.1059**	**0.0000**	**5.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.8000e-004**	**9.8000e-004**	**0.0000**	**0.0000**	**1.0500e-003**

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

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	0.0160					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0898					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.7000e-004	9.7000e-004	0.0000	0.0000	1.0300e-003
Total	**0.1059**	**0.0000**	**5.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.7000e-004**	**9.7000e-004**	**0.0000**	**0.0000**	**1.0300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Highland HS Aquatics Facility - Kern-San Joaquin County, Annual

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.3062	0.1064	2.5500e-003	6.7243
Unmitigated	3.3062	0.1064	2.5500e-003	6.7243

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Recreational Swimming Pool	3.25287 / 1.9937	3.3062	0.1064	2.5500e-003	6.7243
Total		**3.3062**	**0.1064**	**2.5500e-003**	**6.7243**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Recreational Swimming Pool	3.25287 / 1.9937	3.3062	0.1064	2.5500e-003	6.7243
Total		**3.3062**	**0.1064**	**2.5500e-003**	**6.7243**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	63.6377	3.7609	0.0000	157.6596
Unmitigated	63.6377	3.7609	0.0000	157.6596

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Recreational Swimming Pool	313.5	63.6377	3.7609	0.0000	157.6596
Total		**63.6377**	**3.7609**	**0.0000**	**157.6596**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Recreational Swimming Pool	313.5	63.6377	3.7609	0.0000	157.6596
Total		**63.6377**	**3.7609**	**0.0000**	**157.6596**

9.0 Operational Offroad

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

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

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 B. HEALTH RISK ASSEMENT MODELING

(Electronic Files)