

**SAN RAFAEL HIGH SCHOOL
CAPITAL IMPROVEMENTS PROJECT
DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT**

STATE CLEARINGHOUSE NUMBER 2016082017



Prepared for
San Rafael City Schools

January 2024

Prepared by
Amy Skewes-Cox, AICP

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In conjunction with

BASELINE ENVIRONMENTAL CONSULTING
ENVIRONMENTAL COLLABORATIVE
NATALIE MACRIS
PARAMETRIX
PEARCE RENEWABLES

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1. INTRODUCTION

This document is a Supplemental Environmental Impact Report (Supplemental EIR or SEIR) for the San Rafael High School Capital Improvements Project (project), prepared in accordance with the California Environmental Quality Act of 1970 (CEQA), as amended (Public Resources Code [PRC] Sections 21000, et seq.), and the CEQA Guidelines (California Code of Regulations, Title 14, Sections 15000, et seq.). As discussed further below, this SEIR tiers off the 2017 San Rafael High School Master Facilities Long-Range Plan and Stadium Project Environmental Impact Report (2017 EIR).

CEQA requires that, before a project with potentially significant environmental effects may be approved, an Environmental Impact Report (EIR) must be prepared that fully describes the environmental effects of the project, identifies mitigation measures to lessen or eliminate adverse impacts, and examines feasible alternatives to the project (CEQA Guidelines Section 15121(a)). An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information that enables them to make a decision that intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of a EIR is to be reviewed in the light of what is reasonably feasible. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure (CEQA Guidelines Section 15151).

Once an EIR has been completed, additional environmental review must be conducted if substantial changes are proposed in the project, if substantial changes occur in the circumstances under which the project is being undertaken, or if new information of substantial importance to the project that was not known and could not have been known at the time the original EIR was certified as complete becomes available, and if one or more of these conditions as set forth in PRC Section 21166 and CEQA Guidelines Section 15162 applies to a subsequent discretionary approval. An SEIR should be prepared when minor additions or changes are necessary to make an original EIR adequate (PRC Section 21166, CEQA Guidelines Section 15163). An SEIR need only contain the information necessary to make the previous EIR adequate for the project as revised (CEQA Guidelines Section 15163(b)). Thus, an SEIR need respond only to the project changes, changes in circumstances, or new information that triggered the need to prepare the additional environmental review under PRC Section 21166 and CEQA Guidelines Section 15162.

1.1 PROJECT BACKGROUND

In 2017, San Rafael City Schools (also referred to as “the District”) certified a Final EIR that addressed a number of improvements on the San Rafael High School (SRHS) campus (San Rafael City Schools, 2017) and considered the environmental impacts of projects identified in the District’s 2015 Master Facilities Long-Range Plan (2015 Master Plan). The 2017 EIR addressed the proposed Stadium Project at a project level of detail and other improvements identified in the 2015 Master Plan at a program level of detail. The 2017 EIR addressed the following proposed new SRHS buildings at the program level of detail:

- Science Building (to also house Madrone High Continuation School on first floor) (Building No. 1)
- Administration/Kitchen/Student Commons Building and Four Classrooms (Building No. 2)
- Career and Technical Education (CTE)/Art Building (Building No. 3)
- Classrooms/Ceramics/Theater (Building No. 4)
- Wrestling/Dance/Classrooms (Building No. 7)
- Restroom/Changing Rooms (Building No. 8)

In addition, Buildings A (Library), D, and K were proposed to be modernized.

Since that time, a number of building improvements and new construction have taken place on the campus, and other projects identified in the 2017 EIR remain to be completed. In 2022, after certification of the 2017 EIR, the District prepared a District-Wide Capital Improvement Projects report (2022 CIP Report), which identified the progress made toward realizing the vision set forth in the 2015 Master Plan in light of District-wide target initiatives reflective of current thinking, including updates to projects at the San Rafael High School campus. This SEIR tiers off the 2017 EIR to address minor additions and changes to the 2017 EIR necessary to reflect the proposed new and modified projects and changed circumstances. Chapter 3, *Project Description*, of this SEIR explains the new and modified projects that have been proposed since the 2017 EIR was completed and that are the subject of this SEIR.

Some projects have been reduced or changed in scale. For example, the 2017 EIR assumed partial demolition of the existing gym building and construction of new classrooms, and a larger new Visual Arts Building. The Science Classrooms Building (SC) was proposed for replacement; however, now it is proposed for modernization only. Even when the current Capital Improvements Project has potentially reduced impacts compared to those identified in the 2017 EIR, this SEIR addresses the change if any significant impact might occur. A copy of the Mitigation Monitoring and Reporting Program (MMRP) for the 2017 EIR can be found in **Appendix G**.

1.2 PUBLIC REVIEW

This Draft SEIR will be circulated for review and comment by the public and other interested parties, agencies, and organizations for a 45-day period as indicated on the Public Notice of Availability of this document. During the public review period, written comments on the adequacy of the Draft SEIR may be submitted to:

Mr. Tim Ryan, Senior Director of Strategic Facility Planning
San Rafael City Schools
310 Nova Albion Way, Room 505
San Rafael, CA 94903

Written comments via email can be sent to Mr. Tim Ryan at bondprogram@srcs.org with the subject line to read "Comments on SRHS SEIR."

Responses to all substantive comments received on the adequacy of the SEIR and submitted within the specified review period will be prepared and included in the Responses to Comments/Final SEIR. Prior to approval of the project, the San Rafael City Schools Board of

Education, the lead agency, must certify the Final SEIR and adopt an MMRP for mitigation measures identified in the SEIR, in accordance with the requirements of PRC Section 21001.

1.3 ORGANIZATION OF THE SUPPLEMENTAL EIR

This Draft SEIR is organized into the following chapters:

Chapter 1, Introduction: Provides an introduction and overview that describes the intended use of this SEIR, project background, the SEIR process, and organization of the document.

Chapter 2, Summary: Briefly describes the project and concerns associated with it, identifies levels of significance for each impact addressed in the SEIR, summarizes the project-specific effects of the project, identifies mitigation measures, and compares impacts of the project with those of alternatives to the project. Table 2-2, Summary of Environmental Impacts and Mitigation Measures, is provided at the end of Chapter 2.

Chapter 3, Project Description: Contains information on the project site, project objectives, and project characteristics, including proposed changes to the project that were addressed in the 2017 EIR.

Chapter 4, Environmental Setting, Impacts, and Mitigation Measures: Contains an analysis of environmental topics. Each topic is addressed in a separate section. Each section is divided into an *Introduction* that describes the general content and approach used for the topic; an *Environmental Setting* section that describes baseline environmental information; a *Regulatory Framework* section that describes federal, state, and local regulations applicable to the topic; and an *Environmental Impacts and Mitigation Measures* section that describes project-specific impacts and mitigation measures, along with cumulative impacts. A summary of impacts and mitigation measures identified in the 2017 EIR is included in the *Environmental Impacts and Mitigation Measures* section before the assessment of impact and mitigation measures related to the current Capital Improvements Project. The following topics are addressed in Chapter 4, as these topics are relevant for the new changes proposed on the SRHS campus: Aesthetics, Air Quality, Biological Resources, Geology/Soils/Seismicity, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, and Transportation/Traffic.

Chapter 5, Alternatives: Assesses impacts of three alternatives to the project—a No Project Alternative (no change from existing conditions), buildout under the 2015 Master Plan (a second No Project Alternative), and a Reduced Scope Alternative. The alternatives are compared to the proposed project and an “Environmentally Superior Alternative” is identified.

Chapter 6, CEQA Considerations: Contains additional information required by CEQA, including a discussion of cumulative impacts, growth inducement, and significant unavoidable impacts.

Chapter 7, SEIR Authors: Lists the persons directly involved in preparing this report.

Chapter 8, References: Lists the persons, agencies, and organizations contacted and documents used during preparation of this report.

Appendices:

Appendix A	Notice of Preparation and NOP Comments
Appendix B	Scoping Meeting Comments
Appendix C	Lighting Analysis for San Rafael High School
Appendix D	Air Quality Data
Appendix E	Biological Resources Data
Appendix F	Noise Data
Appendix G	2017 Stadium EIR Mitigation Monitoring and Reporting Program
Appendix H	Transportation Management Plan

1.4 NOTICE OF PREPARATION

A Notice of Preparation (NOP) was prepared on June 23, 2023 by San Rafael City Schools, as lead agency, to obtain comments from agencies and the public regarding issues to be addressed in the SEIR. The date of the NOP, June 23, 2023, is the date assumed for the “baseline” conditions against which the environmental impacts of the proposed project are analyzed. The NOP is included in **Appendix A**.

The NOP was circulated for public review for 30 days between June 23, 2023, and July 24, 2023 (see **Appendix A**). Copies of the comments received in response to the NOP are included in Appendix A of this SEIR. As stated in the NOP, the District determined that the following environmental factors would not warrant further discussion in the SEIR because they are not applicable to the project or project site:

- Agricultural/Forestry Resources
- Public Services/Recreation
- Utilities and Service Systems
- Energy
- Land Use
- Cultural Resources
- Population/Housing
- Tribal Cultural Resources
- Mineral Resources
- Wildfire

This SEIR was prepared based on the comments received on the NOP and the project information provided. The following topics were found to have potential environmental impacts and thus are addressed herein in this SEIR:

- Aesthetics
- Air Quality
- Biological Resources
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation and Traffic

1.5 REFERENCES

San Rafael City Schools, 2015. San Rafael City Schools Master Facilities Plan (with assistance from Hibser Yamauchi Architects, Inc.), July.

San Rafael City Schools, 2017. San Rafael City Schools District-Wide Capital Improvement Projects (with assistance from Hibser Yamauchi Architects, Inc.), May 23.

2. SUMMARY

This chapter briefly describes the proposed Capital Improvements Project for San Rafael High School and the changes to the development program analyzed in the 2017 San Rafael High School Master Facilities Long-Range Plan and Stadium Project Environmental Impact Report (2017 EIR). It also summarizes the project-specific impacts and mitigation measures identified in this Supplemental EIR (SEIR) (see **Table 2-1**). Alternatives to the project that will be considered are also summarized.

2.1 PROJECT UNDER REVIEW

San Rafael City Schools (also referred to as “the District”) is preparing a Supplemental EIR for the proposed expansion and reconstruction (also referred to as “the Capital Improvements Project” or “the project”) at the San Rafael High School campus located at 150 3rd Street, San Rafael, California 94901. The California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) and its interpreting regulations (California Code of Regulations, Title 14, Section 15000, et seq.) (collectively, “CEQA”) require that the District conduct environmental review of the project, which has the potential to result in physical changes in the environment. The District is the “Lead Agency” for the project and is the public agency with the principal responsibility for approving and carrying out the project. The District has determined that a SEIR will be the required CEQA document for the project.

The 2017 EIR prepared and certified by the District’s Board of Education in 2017 for the original San Rafael High School Master Facilities Long-Range Plan and Stadium Project considered environmental impacts of improvements identified in the District’s Master Facilities Long-Range Plan for the San Rafael High School campus (2015 Master Plan) at a program level. Subsequently, in 2022, a District-Wide Capital Improvement Projects report (2022 CIP Report) was prepared to identify the progress made toward realizing the vision set forth in the 2015 Master Plan in light of District-wide target initiatives reflective of current thinking. The 2022 CIP Report identifies updates to campus projects, including the San Rafael High School campus Capital Improvements Project. This SEIR tiers off the 2017 EIR to address minor additions and changes to the 2017 EIR necessary to reflect the proposed new and modified projects and changed circumstances.

The primary project components evaluated in this SEIR are the following (further details are set forth in Table 3-2 and Section 3.6 in *Chapter 3, Project Description*, of this SEIR):

- New Aquatics Center and Pool Replacement Project
- Performing Arts Plaza Project
- Athletic Fields Turf and Storage Project

The project also includes the following components that are not evaluated in detail in this SEIR because they do not have the potential to cause significant environmental impacts not already evaluated in the 2017 EIR:

- Gym and PE Spaces Modernization Project
- Arts Building Project (AR Building)

- AD, SC, TE, MU, LA Building Modernization Project
- Landscaping, Site Work, and Fencing Project

AREAS OF POTENTIAL CONTROVERSY

A Notice of Preparation (NOP) was prepared by the District to obtain comments from agencies and the public regarding issues to be addressed in the SEIR. The NOP and comment letters/emails can be found in **Appendix A** of this SEIR.

The Initial Study was circulated for public review for 30 days between June 23 and July 24, 2023. Copies of the comments received in response to the NOP are included in Appendix A of this SEIR. In addition, a Scoping Meeting was held for the public on October 19, 2023, on the San Rafael High School campus. Notices were sent to neighbors within 300 feet of the campus, and the public were invited to comment at the Scoping Meeting and/or send in additional comments until October 25, 2023. Oral comments made at the Scoping Meeting were noted and are summarized in **Appendix B**.

This SEIR was prepared based on the comments received on the NOP and the Scoping Meeting, and on the project information provided by the District. The following topics were found to have potential impacts and thus are addressed in this SEIR:

- Aesthetics
- Air Quality
- Biological Resources
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation and Traffic

2.2 IMPACTS AND MITIGATION MEASURES

Under CEQA, a significant effect on the environment is defined as a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by a project, including effects on land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (CEQA Guidelines Section 15382). In this SEIR, the criteria used to determine whether or not effects are significant are included in the "Environmental Impacts and Mitigation Measures" section for each topic discussion.

All potential impacts identified for the project could be mitigated to a less-than-significant level.

Prior to approval of the project, written findings regarding each of the identified environmental impacts must be prepared. Also, a monitoring program for the mitigation measures must be adopted. This monitoring program will be prepared as part of the Final SEIR for this project.

2.3 ALTERNATIVES TO THE PROJECT

Three alternatives to the proposed project are evaluated in *Chapter 5, Alternatives*: Alternative 1 – No Project with No Change from Existing Conditions, Alternative 2 – No Project with Buildout Under 2015 Master Plan, and Alternative 3 – Reduced Scope Alternative. The environmental impacts of each alternative are compared. The ability of each alternative to meet project objectives is also evaluated. In addition to the No Project Alternative, the Reduced Scope Alternative would be the environmentally superior alternative.

2.4 SUMMARY TABLE

Table 2-1 summarizes project impacts and mitigation measures. The table identifies each impact's level of significance both before and after mitigation.

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
Aesthetics			
<p><u>S-AESTHETICS-1</u>: Development in accordance with the Capital Improvements Project could substantially degrade the existing visual character or quality of the site and its surroundings if new buildings do not respect the overall design of the campus and surrounding residences, or include adequate landscaping.</p>	PS	<p><u>S-AESTHETICS-1a</u>: New buildings shall be designed to be both contemporary in appearance and compatible with the materiality, features, size, scale, and proportion, and massing of the existing historic building (Building A) on campus. The new work shall be differentiated from the old and shall not create a false sense of historical development.</p>	LTS
		<p><u>S-AESTHETICS-1b</u>: Building heights shall be less than 36 feet to be within the limits established by the City of San Rafael for the Public/Quasi-Public zoning district and to respect the scale of nearby residences. The new Visual Arts Building is proposed to be 32 feet in height.</p>	
		<p><u>S-AESTHETICS-1c</u>: New buildings shall be designed in a color scheme that is compatible with the existing buildings, with accent colors used for specific detailing.</p>	
		<p><u>S-AESTHETICS-1d</u>: The District shall establish Project Site Design Committees for the new buildings on the campus prior to development of schematic designs for new buildings and shall ensure that at least one public meeting is held for each project prior to development of construction drawings..</p>	
		<p><u>S-AESTHETICS-1e</u>: Large expanses of flat wall area along Mission Avenue shall be avoided in new buildings such as the new Visual Arts Building, and windows and architectural detailing shall be added to provide a more aesthetically pleasing view of buildings as seen from Mission Avenue.</p>	
		<p><u>S-AESTHETICS-1f</u>: If such a plan has not already been developed (as recommended in the 2017 EIR), a landscape plan shall be developed for the entire campus. This plan shall be reviewed by the District Board of Trustees at one public meeting that shall allow comments from the public. Suggestions from this meeting, if any, shall be considered prior to developing the final landscape plans. The new landscape plan shall include planter beds at the north end of the site adjacent to Mission Avenue, where a narrow setback could exist between new buildings and the sidewalk area. New tree plantings shall occur along Mission Avenue. All trees shall be planted from 24-inch boxes and shall be monitored for the first 3 years so that any lost trees can be replaced.</p>	
<p>The combination of the above measures would reduce this potential impact to a less-than-significant level.</p>			
<p><u>S-AESTHETICS-2</u>: The project could result in additional light and glare for nearby residential development due to lighting of the Aquatics Center at the north edge of the site.</p>	PS	<p><u>S-AESTHETICS-2</u>. The following measures shall be implemented to minimize glare for nearby residences to the extent feasible:</p> <p>a) All outdoor lighting shall be shielded and directed downward to minimize both sky-light and spill light, in accordance with California Code of Regulations (CCR) Title 24</p>	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p>outdoor lighting requirements. Lighting shall be controlled by photocontrols or time switches. The proposed sports lighting system shall provide light levels in accordance with recommendations of the Illuminating Engineering Society of North America (IESNA) RP-6-22 Current Recommended Practice for Sports Lighting (Illuminating Engineering Society of North America (IESNA), 2022).</p> <p>b) Glare from the aquatic sports lights shall be limited to a maximum of 9,000 to 10,000 candelas (cd) at 6 feet elevation at the property line. Field testing shall be completed by trained technicians.</p> <p>c) To ensure that the maximum trespass/spill light on residences at the identified remains at or below 1 foot-candle, field testing shall take place for the actual performance of the aquatic sports lights system.</p> <p>d) Any need to re-aim and/or adjust the luminaires during the initial nighttime testing of the aquatic sports lights shall be part of the project scope. This will ensure that no excessive trespass/spill light remains uncorrected.</p> <p>e) The proposed aquatic sports lights shall be provided with programmable controls to turn OFF the lights at a pre-set time, recommended by San Rafael City Schools. Manual controls shall only be provided for testing the lights.</p> <p>f) Additional control features that can be considered are dimming controls that would allow operation of the aquatic sports lights illumination to be reduced for practice play when there are no spectators present, as well as for after-event clean-up work. This has the benefit of allowing some degree of illumination after the prescribed time for when lights must be turned off immediately after events..</p> <p>The combination of the above mitigation measures would reduce this potential impact to less than significant.</p>	
Air Quality			
<p><u>S-AIR-1</u>: Fugitive dust emissions during project construction could adversely affect a substantial number of people.</p>	<p>PS</p>	<p><u>S-AIR-1</u>: During project construction, the contractor shall implement a dust control program that includes the following measures recommended by the Bay Area Air Quality Management District (BAAQMD):</p> <ul style="list-style-type: none"> ▪ During project construction, all exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. ▪ During project construction, all haul trucks transporting soil, sand, or other loose material off-site shall be covered. 	<p>LTS</p>

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<ul style="list-style-type: none"> ▪ During project construction, all visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers as needed. The use of dry power sweeping is prohibited. ▪ During project construction, all vehicle speeds on unpaved roads shall be limited to 15 miles per hour. ▪ During project construction, a publicly visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD phone number shall also be visible to ensure compliance with applicable regulations. <p>The foregoing requirements shall be included in the appropriate contract documents with the contractor.</p>	
Biological Resources			
<p><u>S-BIO-1</u>: Development under the Capital Improvements Project may result in adverse impacts on nesting birds, if present on the site.</p>	PS	<p><u>S-BIO-1</u>: Adequate measures shall be taken to avoid inadvertent take of raptor nests and other nesting birds protected under the Migratory Bird Treaty Act when in active use. This shall be accomplished by taking the following steps:</p> <ul style="list-style-type: none"> ▪ If construction is proposed during the nesting season (February through August), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 7 days prior to the onset of vegetation removal or construction, in order to identify any active nests on the project site and in the vicinity of proposed construction. ▪ If no active nests are identified during the survey period, or if development is initiated during the non-breeding season (September through January), construction may proceed with no restrictions. ▪ If bird nests are found, an adequate setback shall be established around the nest location and construction activities restricted within this no-disturbance zone until the qualified biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the California Department of Fish and Wildlife (CDFW), and may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated on the remainder of the development site. A report of findings shall be prepared by the qualified biologist and submitted to the District for review and approval prior to initiation of construction within the no-disturbance zone during the nesting season (February through August). The report either shall confirm absence of any active nests or shall confirm that any 	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		young within a designated no-disturbance zone have fledged and construction can proceed.	
Geology, Soils, and Seismicity			
S-GEO-1: During its design life, the project would likely be subject to strong groundshaking from a seismic event, creating the potential for a significant risk to structures and human lives.	PS	S-GEO-1: The District shall demonstrate through obtaining Division of the State Architect (DSA) approval as set forth herein that school building design and construction comply with applicable requirements of the Field Act, including design, oversight, and inspection provisions. This shall include incorporation of public school seismic design standards established by the DSA, review of plans by DSA, and inspections throughout construction by independent qualified inspectors. Prior to occupancy of new development under the project, the District shall receive a certification of compliance from DSA that oversight and inspection of construction was completed in accordance with Field Act and other DSA requirements in accordance with DSA Procedure 13-02.	LTS
S-GEO-2: The project would have the potential to expose people or structures to substantial adverse effects involving seismic-related ground failure, including liquefaction.	PS	S-GEO-2: Implement Mitigation Measure S-GEO-1.	LTS
S-GEO-3: Expansive, potentially unstable, and corrosive soils at the project site could result in damage to the project, creating the potential for a significant risk to structures and human lives.	PS	S-GEO-3: For each proposed project improvement, the District shall ensure compliance with Mitigation Measure S-GEO-1. Site-specific geotechnical investigations shall also be prepared for the proposed conversion of the existing sports field to artificial turf and relocation of portable structures. The site-specific geotechnical investigations shall include recommendations to mitigate potential damage to proposed and existing improvements (e.g., structures, pavement surfaces, roadways, and utilities), both on and off the project site, that could result from settlement of existing unstable soil on and adjacent to the project site due to project construction (e.g., due to new loads from fill materials/structures or vibration generating activities). The geotechnical evaluation shall also account for potential settlement of unstable soil that could be generated by existing and planned improvements on properties adjacent to the project site. Geotechnical recommendations to address potential settlement may include use of light-weight fill materials, installation of bracing/underpinning, installation of flexible utility couplings, or relocation of utilities.	LTS
S-GEO-4: Slopes in the eastern portion of the SRHS campus may be susceptible to landslides or slope instability that could affect the proposed baseball field or users of the proposed baseball field.	PS	S-GEO-4: The District shall implement Mitigation Measure S-GEO-3. The site-specific geotechnical investigation for the proposed baseball field shall also include an evaluation of slope stability for the nearby slopes on the San Rafael High School campus, and shall include recommendations to address slope instability, if identified.	LTS
S-GEO-5: The project could directly or indirectly destroy a unique paleontological resource or site by unearthing or otherwise displacing	PS	S-GEO-5: Should paleontological resources be encountered during project subsurface construction activities, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
<p>fossils that may occur below Holocene landforms underlying the project site.</p>		<p>appropriate, and make recommendations for the treatment of the discovery. For purposes of this mitigation, a “qualified paleontologist” shall be an individual with the following qualifications: 1) a graduate degree in paleontology or geology and/or a person with a demonstrated publication record in peer-reviewed paleontological journals; 2) at least two years of professional experience related to paleontology; 3) proficiency in recognizing fossils in the field and determining their significance; 4) expertise in local geology, stratigraphy, and biostratigraphy; and 5) experience collecting vertebrate fossils in the field. If the paleontological resources are found to be significant and project activities cannot avoid them, measures shall be implemented to the extent feasible to ensure that the project does not cause a substantial adverse change in the significance of the paleontological resource. Measures may include monitoring, recording the fossil locality, data recovery and analysis, a final report, and/or accessioning the fossil material and technical report to a paleontological repository. Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to the District for review. If paleontological materials are recovered, this report also shall be submitted to a paleontological repository such as the University of California Museum of Paleontology, along with significant paleontological materials. Public educational outreach may also be appropriate, to the extent feasible.</p> <p>The District shall inform its contractor(s) of the sensitivity of the project site for paleontological resources and shall verify that the following directive has been included in the appropriate contract documents:</p> <p><i>“The subsurface of the construction site may be sensitive for fossils. If fossils are encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any paleontological materials. Fossils can include plants and animals, and such trace fossil evidence of past life as tracks or plant imprints. Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Vertebrate land mammals may include bones of mammoth, camel, saber tooth cat, horse, and bison. Contractor acknowledges and understands that excavation or removal of paleontological material is prohibited by law and constitutes a misdemeanor under California Public Resources Code, Section 5097.5.”</i></p>	

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TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
Greenhouse Gas Emissions			
<i>The project would have no potentially significant greenhouse gas emissions impacts.</i>			
Hazards and Hazardous Materials			
<p><u>S-HAZARDS-1</u>: The project could create a significant hazard to the public or the environment through the accidental release of hazardous materials.</p>	PS	<p><u>S-HAZARDS-1</u>: To the extent practical and feasible, the District shall ensure that all artificial turf purchased and installed at the San Rafael High School campus is manufactured without perfluoroalkyl and polyfluoroalkyl substances (PFAS). The District shall hire a qualified environmental professional to perform a comprehensive Hazardous Building Materials Survey (HBMS) for the structures to be demolished or renovated under the project. The HBMS shall document the presence or lack thereof of asbestos-containing materials, lead paint, polychlorinated biphenyls (PCBs)-containing equipment and materials, and any other hazardous building materials. The HBMS shall include abatement specifications for the stabilization and/or removal of the identified hazardous building materials in accordance with all applicable laws and regulations. The District shall implement the abatement specifications and shall submit evidence of completion of abatement activities to applicable regulatory agencies, as necessary.</p> <p>The District shall hire a qualified environmental professional to perform an investigation of potential soil and groundwater contamination in accordance with the Department of Toxic Substances Control’s (DTSC’s) Preliminary Endangerment Assessment Guidance Manual and DTSC’s Interim Guidance for Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers. If any contaminants are identified in soil, soil vapor, or groundwater at concentrations above applicable regulatory thresholds (e.g., the most current DTSC-modified Screening Levels or San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels for residential scenarios), the contamination shall be remediated to reduce contaminant levels to be below the applicable regulatory thresholds or a site-specific risk assessment shall be performed to further evaluate whether the contamination poses an unacceptable risk to human health or the environment. If the site-specific risk assessment concludes that the contamination poses an unacceptable risk to human health or the environment, remediation of the contamination shall be performed to reduce contaminant levels to be below the applicable regulatory thresholds, to the extent feasible. If residual contamination exceeding applicable regulatory thresholds remains on the project site, appropriate engineering controls (e.g., capping of soil or installation of vapor mitigation systems) shall be recommended by the</p>	LTS

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TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p>qualified environmental professional and implemented by the District to ensure that occupants of the project site would not be exposed to contaminants at levels exceeding applicable regulatory thresholds. The investigation activities/results, risk assessment (if performed), remediation plans and implementation of remedial actions (if necessary), shall be reviewed/overseen by a third-party qualified environmental professional hired by the District or by appropriate regulatory agencies if required by applicable laws and regulations. To the extent feasible, the District shall implement any recommendations/requirements for investigation/remediation as recommended by the third-party qualified environmental professional or requested by a regulatory agency.</p> <p>The District shall require that any soil or other fill material that would be imported to the project shall be sampled and analyzed to ensure that it is free of contamination prior to being imported to the project site. The sampling and analysis shall be performed in accordance with DTSC's Information Advisory Clean Imported Fill Material. The District shall review the fill material testing results, compare them to applicable regulatory thresholds (e.g., the most current DTSC-modified Screening Levels or San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels for residential scenarios), and determine whether the fill material is suitable for use at the project site or whether additional testing or an alternative source of fill material is required.</p>	
<p><u>S-HAZARDS-2</u>: The project would handle hazardous materials and waste within 0.25-mile of an existing school.</p>	PS	<p><u>S-HAZARDS-2</u>: Implement Mitigation Measures S-HYDRO-1a and S-HAZARDS-1.</p>	LTS
<p><u>S-HAZARDS-3</u>: The project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment.</p>	PS	<p><u>S-HAZARDS-3</u>: Implement Mitigation Measures S-HYDRO-1a and S-HAZARDS-1.</p>	LTS
<p>Hydrology and Water Quality</p>			
<p><u>S-HYDRO-1</u>: The project could violate water quality standards or otherwise substantially degrade surface or ground water quality.</p>	PS	<p><u>S-HYDRO-1a</u>: The District shall further investigate the extent of soil and groundwater contamination beneath the western athletic field of the San Rafael High School campus, which shall include the collection of soil and groundwater samples to the east and southeast of monitoring well MW-2 and the former gasoline underground storage tank (UST) and fuel dispenser at the San Rafael City Schools Maintenance Facility. The investigation shall be performed under the oversight of the San Francisco Bay Regional Water Quality Control Board (RWQCB). The District shall notify the RWQCB of planned construction activities within and near the western athletic field of the San Rafael High School campus, including any excavation and construction dewatering activities that</p>	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p>may be required. The District shall provide the designs for improvements within the western athletic field of the San Rafael High School campus to the RWQCB for review so that the RWQCB can evaluate whether installation of utilities or drainage systems could create preferential pathways for the migration of contaminated groundwater. Based on the findings of the investigation and the RWQCB's review of proposed construction activities and project designs, the District shall implement any measures requested by the RWQCB to ensure appropriate management of soil and groundwater and prevent the migration of contaminated groundwater, if necessary, such as limiting the extent and duration of construction dewatering activities to the maximum extent feasible, remediating the source of the contaminated groundwater, or altering the design of the proposed subsurface drainage system.</p>	
		<p><u>S-HYDRO-1b</u>: The District shall include stormwater management and treatment systems for the proposed artificial turf fields in the Stormwater Control Plans to be submitted to the Division of the State Architect (<u>DSA</u>) for review and approval. The Stormwater Control Plans shall include systems to treat water that would be captured in the subsurface drainage system of the fields, and systems that would capture and treat any additional surface runoff from the fields. The District shall hire a qualified Professional Civil Engineer to perform a detailed hydraulic analysis for the proposed artificial turf fields to evaluate the volumes and durations of stormwater drainage and runoff that would be generated by the artificial turf fields and discharged into the storm drain system. This hydraulic analysis shall account for the potential for shallow groundwater to seep into the subsurface drainage systems of the artificial turf fields, which shall account for depth to groundwater information generated by the groundwater monitoring activities at the San Rafael City Schools Maintenance Facility at the southwestern corner of the San Rafael High School campus. The design of the artificial turf fields shall include measures to prevent groundwater seepage into the subsurface drainage systems and/or stormwater retention systems, as necessary, to ensure that the subsurface drainage systems and stormwater treatments systems would function properly during periods of heavy rain and high groundwater and prevent the exceedance of storm drain capacity and flooding on- or off-site due to increased discharge of water from the proposed artificial turf fields to the storm drain systems. The hydraulic analysis and stormwater management and treatment system designs for the proposed artificial turf fields shall be provided to the <u>DSA</u> for review and approval prior to construction to ensure that the artificial turf fields would be appropriately designed to retain and treat runoff.</p>	

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TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
<u>S-HYDRO-2</u> : The project would alter the existing drainage pattern of the site in a manner that could result in exceedance of storm drain capacity, polluted runoff, and/or flooding on- or off-site.	PS	<u>S-HYDRO-2</u> : Implement Mitigation Measure S-HYDRO-1b.	LTS
<u>S-HYDRO-3</u> : The project could impede or redirect flood flows.	PS	<u>S-HYDRO-3</u> : The District shall hire a qualified Professional Civil Engineer to prepare a Hydraulic Study to evaluate how the project would affect flooding conditions on the San Rafael High School campus and surrounding areas during a 100-year flood event. The Hydraulic Study shall account for changes to drainage patterns and placement of fill material, structures, and other improvements within the 100-year flood hazard area and evaluate whether such changes under the project would result in an increase in the base flood elevation in any areas within the San Rafael High School campus or surrounding areas of the city when combined with changes in flooding conditions from other existing and anticipated development that could affect these areas. If the Hydraulic Study finds that the project would increase flooding conditions, the project designs shall be modified to ensure that flooding conditions would not be increased by the project. Such modifications could include reducing the placement of fill material or modifying the design of improvements to ensure that adequate flood flows may pass through or around the improvements. The Hydraulic Study shall be submitted to the Division of State Architecture (DSA) for review and approval prior to the start of construction for any improvements intersected by a 100-year flood hazard area.	LTS
<u>S-HYDRO-4</u> : The project would risk release of pollutants due to project inundation from flood hazard, tsunami, or seiche zones.	PS	<u>S-HYDRO-4</u> : All construction contractors shall store hazardous materials in containers that are appropriately located and secured to ensure that they would not be mobilized, damaged, or leak as a result of flooding inundation. All hazardous materials storage areas that would be used during operation of the project shall be appropriately designed to resist inundation from flooding or shall have hazardous materials stored in containers that are appropriately located, designed, and secured to ensure that they would not be mobilized, damaged, or leak as a result of flooding inundation. Infill material used on the artificial turf fields shall be of adequate density to resist being washed away during potential flooding inundation.	LTS
<u>S-HYDRO-5</u> : The project could conflict with a water quality control plan or sustainable groundwater management plan.	PS	<u>S-HYDRO-5</u> : Implement Mitigation Measures S-HYDRO-1a, S-HYDRO-1b, and S-HYDRO-4.	LTS
Noise			
<u>S-NOISE-1</u> : Operation of the project could generate a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance.	PS	<u>S-NOISE-1a</u> : San Rafael City Schools shall use mechanical equipment selection and acoustical shielding to ensure that noise levels from the installation/modification of heating, ventilation, and air conditioning (HVAC) systems do not exceed 45 dBA L_{eq} inside of the nearest on-campus buildings, and do not exceed 60 dBA L_{max} /50 dBA L_{eq} during the daytime and 50 dBA L_{max} /45 dBA L_{eq} during the nighttime at	LTS

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TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p>the nearest residential receptors. Controls that would typically be incorporated to attain this outcome include locating equipment indoors or in less noise-sensitive areas, when feasible; selecting quiet equipment; and providing sound attenuators on fans, sound attenuator packages for cooling towers and emergency generators, acoustical screen walls, and equipment enclosures. The foregoing requirements shall be included in the appropriate contract documents with the contractor.</p> <p><u>S-NOISE-1b</u>: San Rafael City Schools shall consult a qualified acoustical engineer in the design and selection of the new public address (PA) system for the Aquatics Center. The qualified acoustical engineer shall confirm that sound is directed toward the pool area in a manner that reduces noise levels generated by the use of the PA system at approximately 50 feet outside the fence line of the school to below 80 dBA L_{max} to the maximum extent practicable and to the extent feasible.</p> <p><i>If reliable complaints related to the PA system are received by San Rafael City Schools during Aquatics Center activities, noise levels shall be measured by a qualified acoustical professional at approximately 50 feet outside the fence line of the school near the location where the noise complaints originated. If the measured noise levels exceed 80 dBA L_{max}, then a qualified acoustical professional shall identify additional noise reduction measures for the District's consideration to reduce noise levels to below 80 dBA L_{max} to the maximum extent practicable, and to the extent feasible.</i></p>	
<p><u>S-NOISE-2</u>: Construction of the project could generate temporary increases in ambient noise levels in the project vicinity and in excess of standards established in the local general plan or noise ordinance.</p>	<p>PS</p>	<p><u>S-NOISE-2a</u>: To the maximum extent practicable, San Rafael City Schools shall schedule construction activities during periods when classes are not in session, such as summer, school breaks, and after class dismissal.</p> <p><u>S-NOISE-2b</u>: For each of the campus improvements evaluated in the Supplemental Environmental Impact Report (SEIR) (including the new Aquatics Center, Visual Arts Building and Performing Arts Plaza, and the Athletic Fields Turf and Storage Project), a Construction Noise Management Plan shall be prepared by a qualified acoustical consultant and included in all contractor specifications. The Construction Noise Management Plan shall contain a set of site-specific noise attenuation measures to further reduce construction noise impacts at the nearby on-campus buildings and off-site residential receptors. If appropriate based on the circumstances, multiple improvements can be addressed under one Construction Noise Management Plan. The site-specific noise attenuation measures shall be designed to reduce noise levels at the nearest on-campus and off-site receptors to below 70 dBA L_{eq}, as practical. If it is not feasible to reduce noise at the nearest on-campus receptors to below 70 dBA L_{eq} due to their proximity to the nearest construction and demolition locations, the school shall relocate</p>	<p>LTS</p>

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TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p>students to classrooms with interior noise levels below 45 dBA L_{eq}. At a minimum, the following measures shall be included in the Construction Noise Management Plan:</p> <ul style="list-style-type: none"> ▪ Construct or use temporary noise barriers, as needed, to shield on-campus construction and demolition noise from noise-sensitive areas to the extent feasible. To be most effective, the barrier should be placed as close as possible to the noise source or the sensitive receptor. Examples of barriers include portable acoustically lined enclosure/housing for specific equipment (e.g., jackhammer and pneumatic-air tools, which generate the loudest noise), temporary noise barriers (e.g., solid plywood fences or portable panel systems, minimum 8 feet in height), and/or acoustical blankets, as feasible. ▪ To the extent feasible, establish construction staging areas at locations that would create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. ▪ Prohibit all unnecessary idling of internal combustion engines and equip all internal combustion engine-driven equipment with an operating muffler or baffling system that is in good condition and appropriate for the equipment. ▪ Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from noise-sensitive land uses, as feasible. Muffle the stationary equipment and enclose within temporary sheds or surround by insulation barriers, if feasible. <hr/> <p><u>S-NOISE-2c</u>: San Rafael City Schools shall develop a set of procedures for responding to and tracking complaints received pertaining to construction noise and shall implement the procedures during construction of the project. Contractor specifications shall include these procedures. At a minimum, the procedures shall include:</p> <ol style="list-style-type: none"> a) Designation of a construction complaint and enforcement manager for the project; b) Protocols specific to receiving, responding to, and tracking received complaints; and c) Maintenance of a complaint log that records received complaints and how complaints were addressed. <p>The contact information of the construction complaint and enforcement manager shall be posted in conspicuous locations at the construction site.</p> <hr/> <p><u>S-NOISE-2d</u>: Residences located within 250 feet of the campus improvements evaluated in the SEIR (including the new Aquatics Center, Visual Arts Building and Performing Arts Plaza, and the Athletic Fields Turf and Storage Project) shall be provided with written notice of construction activity before work begins, except in the</p>	

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TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
S-NOISE-3: Construction of the proposed project could generate excessive ground-borne vibration.	PS	case of an emergency. The notice shall include the contact information of the construction complaint and enforcement manager identified in Mitigation Measure S-NOISE-2c. S-NOISE-3: Mitigation Measures S-NOISE-2a shall be implemented.	LTS
Transportation and Traffic			
<i>The project would have no potentially significant transportation and traffic impacts.</i>			

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

3. PROJECT DESCRIPTION

3.1 INTRODUCTION

This Supplemental Environmental Impact Report (Supplemental EIR or SEIR) evaluates proposed new buildings and other improvements (also referred to as “the Capital Improvements Project” or “the project”) at San Rafael High School (also referred to as “SRHS”), which is maintained and operated by San Rafael City Schools (also referred to as “the District”). The proposed new buildings would be constructed on the 29.8-acre SRHS campus (also referred to as the “San Rafael High School campus,” “campus,” and “project site”). This SEIR is a supplement to the San Rafael High School Master Facilities Long-Range Plan and Stadium Project EIR, which was certified in 2017 and is also referred to as the “2017 EIR.” This SEIR addresses minor additions and changes to the 2017 EIR necessary to evaluate the proposed changes to the project and changed circumstances.

The San Rafael City Schools Board of Education, hereinafter referred to as the Trustees, will serve as the lead agency for this SEIR.¹ The Trustees will be responsible for certifying the SEIR to ensure that the document meets all requirements of the California Environmental Quality Act (CEQA). The action that the Trustees will take relevant to the subject of this SEIR is the approval and adoption of the components of the San Rafael City Schools Capital Improvement Projects related to SRHS. The full list of Capital Improvement Projects can be reviewed on the District’s website at <https://www.srcsbondprogram.org/Page/1> under “Facilities Program Schedule.”

The San Rafael City Schools Master Facilities Plan of 2015 (San Rafael City Schools, 2015)² covered all of the schools within San Rafael City Schools’ jurisdiction, and only a portion of that plan addressed the San Rafael High School and Madrone High Continuation School campus.³ The 2017 EIR was prepared to address the 2015 Master Facilities Plan provisions for SRHS. This SEIR tiers off the 2017 EIR and addresses the 2022 District-Wide Capital Improvement Projects document, which includes SRHS (San Rafael City Schools, 2022). Other campuses within the District addressed in the 2022 Capital Improvement Projects document will not be addressed herein.

¹ The term “District” is used later in this SEIR when referring to actions associated with the campus improvements or the entity responsible for certain mitigation measures. While the Madrone High Continuation School is located on the site of San Rafael High School, the term “San Rafael High School campus,” “SRHS campus” or “campus” will be used throughout this document when referring to the project site.

² The Master Facilities Plan of 2015 addressed all schools within the District, whereas the Master Facilities Long-Range Plan for the San Rafael High School campus addressed specific development on the SRHS campus only and in more detail than shown in the Master Facilities Plan. The 2022 District-Wide Capital Improvement Projects document also addressed all schools within the District, including San Rafael High School, which is the subject of this SEIR.

The Master Facilities Plan that was approved by the District on July 27, 2015, was prepared before the passage of the bond measure to allow the Measure B Bond Program to clarify the work that needed to be done at the SRHS campus. The actual final planning based on the success of the bond resulted in the conceptual plan for the SRHS campus that was formally approved by the Trustees on April 18, 2016.

³ San Rafael City Schools is a district that includes 11 elementary schools and three high schools. The Madrone High Continuation School is located on the San Rafael High School campus. The elementary schools cover 74.82 acres of land and the high schools cover 59.59 acres of land (San Rafael City Schools, 2015).

Measure B was passed by City of San Rafael voters in 2015. It provided \$161 million to fund updates to the San Rafael High School/Madrone High Continuation School campus and the Terra Linda High School campus as follows: update, renovate, and construct science, technology, engineering, and math/core academic classrooms; replace aging electrical, plumbing, and heating, ventilation, and air conditioning (HVAC) systems; make classrooms accessible for students with disabilities; and repair, construct, and equip classrooms, sites, and facilities (County of Marin, 2016). In 2022, San Rafael City Schools voters approved Measures B and C. Measure B was projected to generate \$216 million for the District's high schools, while Measure C was projected to raise \$152 million for the District's elementary schools.

This SEIR addresses the overall program improvements of the Capital Improvements Project for SRHS and expands on the 2017 EIR to address any changes or new projects for the campus since the 2017 EIR was prepared. More detail is provided below.

3.2 PROJECT LOCATION

The SRHS campus is located in central Marin County in the incorporated City of San Rafael. The main access to the 29.8-acre campus is provided via 3rd Street and Mission Avenue. Other roads abutting the campus include Belle Avenue, Park Street, and Embarcadero Way. A regional and project location map is provided in **Figure 3-1**. A map showing the existing site plan of the campus is provided in **Figure 3-2** and an aerial photograph is provided in **Figure 3-3**.

Major highway access to the project site is available from State Highway 101, about ¼ -mile west of the campus. Mission Avenue and 2nd Street are main exit points from this highway for drivers coming from the north and south.

3.3 PROJECT COMPONENTS AND RELATIONSHIP TO 2017 EIR

This SEIR addresses the following proposed new SRHS buildings and other improvements at a project level of detail due to their potential to result in environmental impacts:

- New Aquatics Center and Pool Replacement Project
- Performing Arts Plaza Project
- Athletic Fields Turf and Storage Project

The project also includes the following components that are not evaluated in detail in this SEIR because they do not have the potential to cause significant environmental impacts not already evaluated in the 2017 EIR:

- Gym and PE Spaces Modernization Project
- Arts Building Project (AR Building)
- AD, SC, TE, MU, LA Building Modernization Project
- Landscaping, Site Work, and Fencing Project

Please refer to Table 3-2 in Section 3.6 below for further details.

The proposed buildings and other improvements included in the project were not specifically evaluated in the 2017 EIR, which analyzed anticipated future construction on the campus at a program level of detail. See *Section 3.6, Project Characteristics*, for more detailed comparison of the current project and the development program evaluated in the 2017 EIR.

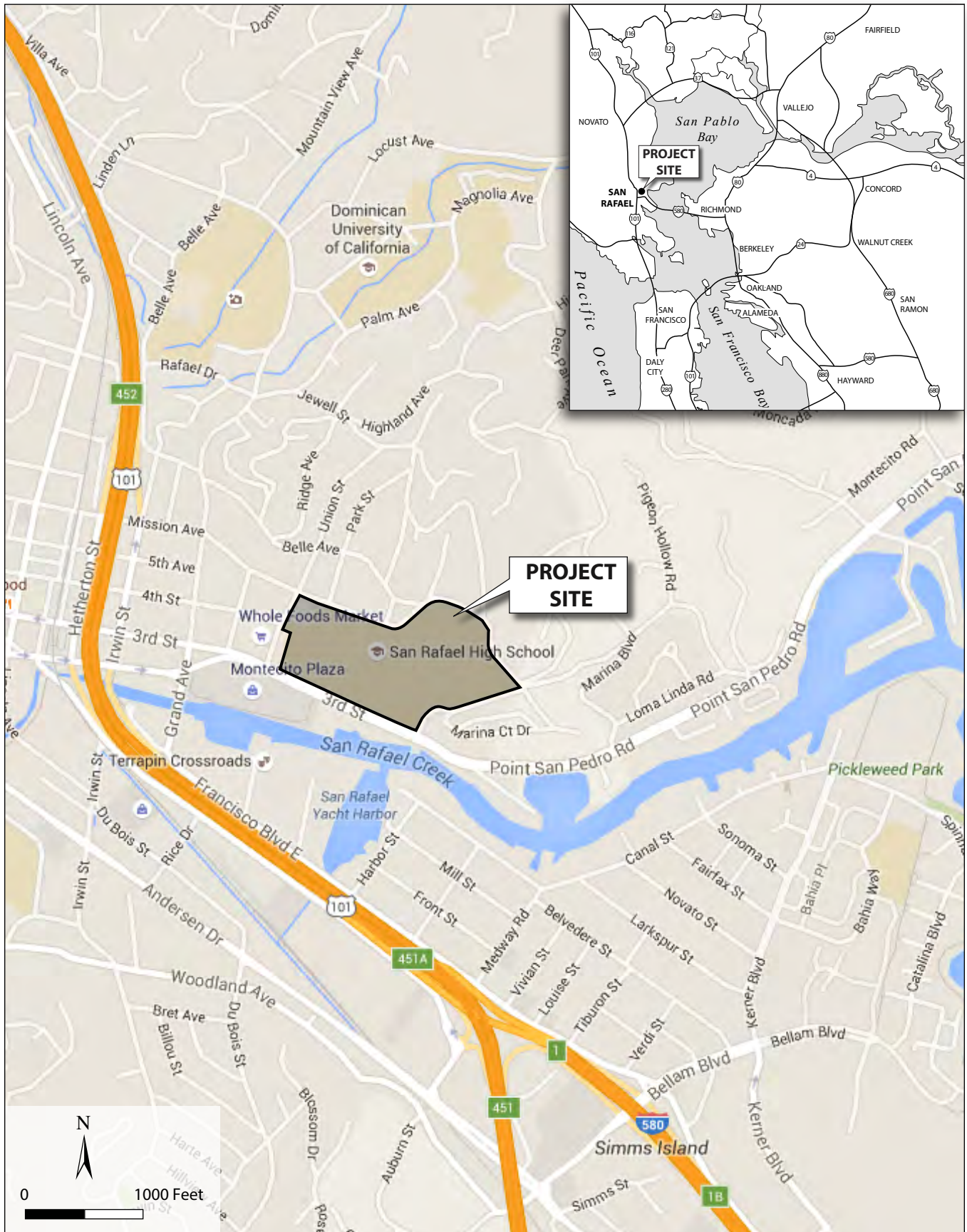
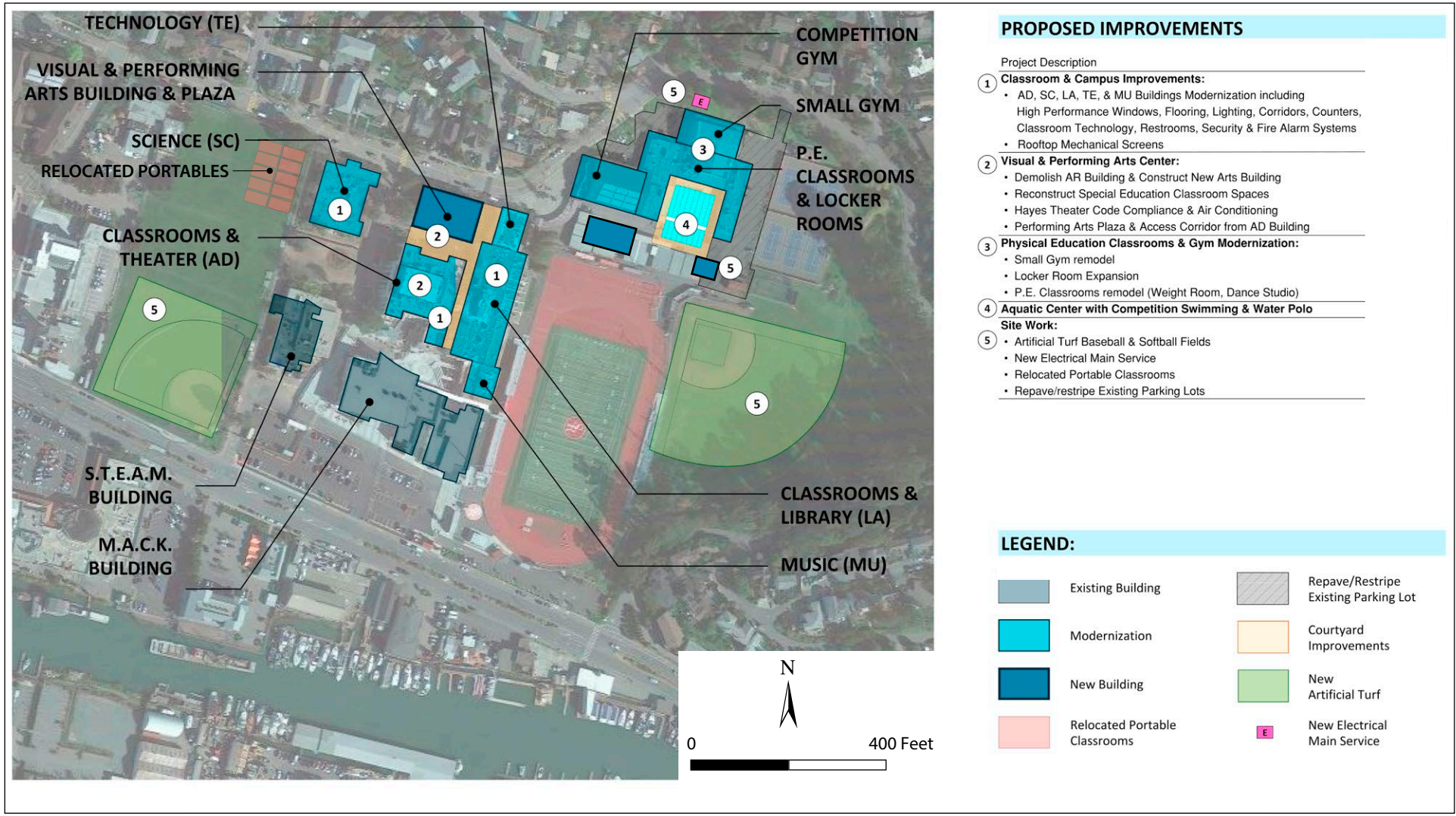


Figure 3-1

SOURCE: Google Maps, 2016

PROJECT AND REGIONAL LOCATION



SOURCE: San Rafael City Schools, 2023

Figure 3-2
2023 UPDATED MASTER PLAN FOR SAN RAFAEL HIGH SCHOOL



SOURCE: Google Earth, 2023

Figure 3-3
AERIAL PHOTOGRAPH OF SITE

The proposed buildings and other improvements are all shown in Figure 3-2, which also provides a summary of existing campus buildings and an overall site plan to show where certain buildings would be replaced by new buildings. As the figure shows, the District proposes building demolitions, renovations, and new construction for the campus. A total of 10,000 gross square feet (gsf) of existing buildings would be removed and 31,113 gsf of new buildings would be constructed, for a net of 21,113 gsf of new building space. At completion, the SRHS campus would have 259,683 gsf of campus buildings.

3.4 PROJECT SITE CHARACTERISTICS

The project site, the 29.8-acre SRHS campus (see Figure 3-2), currently includes approximately 238,570 gsf of building area in 18 buildings. Of the total campus acreage, about 15.87 acres are developed for the athletic outdoor area. The remaining 13.93 acres are used for campus buildings and landscaped areas. On the SRHS campus, a total of 46 classrooms are provided for SRHS and five classrooms are provided for the Madrone High Continuation School.

A total of 236 parking spaces are currently provided on the SRHS campus in three surface parking lots—one at the south end of the campus (with access from 3rd Street) and two small parking areas at the north end of the campus (with access from Mission Avenue) (see Figure 3-3).⁴ The 236 spaces include a total of 13 Americans with Disabilities Act (ADA) parking spaces and 18 electric vehicle (EV) charging parking spaces (16 standard and 2 ADA).

The stadium portion of the SRHS campus is located at the center of the campus to the east of the Library and west of one set of playing fields. This area includes the stadium bleachers, the football field with a turf surface, and an all-weather running track. Two basketball courts are located just north of this stadium area, reduced from the four courts that existed at the time the 2017 EIR was prepared. This area was upgraded in 2018.

The existing athletic and pool complex was built over several decades, with the first building constructed in 1929 and subsequent construction expanding the footprint of the building. The existing pool is a 25-yard-by-27.3 yard (25 meter) pool, with existing in-pool as well as pool deck lighting. Existing pool deck lighting is attached to the buildings surrounding the pool; the height of existing pool deck lighting varies between 20 feet and 31 feet.

No natural features such as creeks or other waterways are located on the SRHS campus. Most of the SRHS campus, including all currently developed area, is relatively level, with an elevation of approximately 10 feet above mean sea level (msl) (USGS, 2015). However, relatively steep slopes are present near the eastern boundary of the campus, with elevations reaching 74 feet above msl near the intersection of Mission Avenue and Embarcadero Way (USGS, 2015). Mission Avenue and Embarcadero Way slope down from east to west from this high point. Slopes are present near the northeastern site boundary from the SRHS tennis courts to Embarcadero Way, and near the southeastern site boundary from Mission Avenue to the southeast corner of the stadium.

SRHS has been at this location since 1924. Madrone High Continuation School has been located on the campus since 1986. Since 2004, the following modernizations and new buildings have been constructed:

⁴ At the time of the 2017 EIR, 233 parking spaces were provided on the SRHS campus in the three surface parking lots.

- Administration (9,122 square feet [sf]): 2020. Administration was moved into new facilities as part of the SRHS MACK Building Project.
- Classrooms (95,311 sf): 2004, 2019, 2022 (HVAC and partial modernization at the AD Building).
- Student Support/Cafeteria/Library (21,333 sf): 2004 and 2020. Cafeteria was demolished and replaced with a new facility in 2020.
- Art/Theater/Music (28,917 sf): 2004 and 2019.
- Shops/Tech/CTE (26,678 sf): 2004 and 2022. (Buildings were demolished and replaced with new facilities in the STEAM Classrooms [ST] Building.)
- Gym/PE (79,666 sf): 2004 and 2019.
- SRHS Stadium Project: Replacement of stadium with new stadium in 2020.
- Madrone High School (10,471 sf): Building was demolished and replaced with new facility in 2020.

3.5 PROJECT NEED

The District has undertaken a number of studies and community meetings to evaluate the existing condition of buildings at the SRHS campus and to determine what improvements are needed on the campus. Concurrently with the review of outstanding projects from the 2015 Master Plan, the District worked to identify district-wide target initiatives reflective of current thinking, and established, among others, the following initiatives, which are fully set forth in their entirety in the 2022 Capital Improvement Projects report:

- Future Ready Classrooms and Learning Environments:
 - Maximize teaching opportunities through technology infrastructure and flexible layouts.
 - High-quality lighting and acoustics.
 - Remove portable classrooms and house educational programs in permanent construction.
 - Keystone Project (High School District): Competition-level Aquatics Centers for swimming and water polo at District high school campuses.
- Climate Resiliency and Sustainability:
 - Improve climate control through high performance windows, heating, ventilation, and air conditioning upgrades.
 - Develop outdoor spaces that support campus operations, and at the high school level, larger scale outdoor gathering areas such as courtyards or plazas.
 - Reduce reliance on irrigation and potable water to maintain outdoor athletic areas.
- Functional and Operational Support:
 - Upgrade fire and security alarm systems to meet current district standard systems.
 - Reconfigure poorly functioning parking and drop-off areas.

- Campus Safety and Security:
 - Understand and enhance the role of the built environment in providing safe and secure spaces for students, staff, and community members.
 - Supplement campus security through electronic systems as well as physical features.

SRHS is the oldest campus in the District. Many of the SRHS campus buildings are in a state of disrepair and need upgrades or replacement. New and renovated buildings would allow the campus to provide expanded programs and modernized facilities for the students.

3.6 PROJECT CHARACTERISTICS

OVERVIEW

The Capital Improvements Project would be constructed over a 6- or 7-year period. At completion, SRHS is expected to add about 25 new students and to have an enrollment of about 1,400 students. Existing enrollment is 1,379 students. No change in staff or faculty is projected. **Table 3-1** presents existing and projected enrollment and building space. As can be seen in Table 3-1, the Capital Improvements Project would provide for a net increase in building square footage of 21,113 gsf.

TABLE 3-1 EXISTING AND PROJECTED STUDENT ENROLLMENT, FACULTY/STAFF, AND BUILDING AREA

	Existing	Total at Completion of SRHS Capital Improvements Project	Change
Number of Students	1,379	1,404	+25
Number of Faculty and Staff	100	100	0
Gross Square Feet (gsf) of Building Area (Approximate)	238,570 gsf	259,683 gsf	+21,113 gsf

Note: According to the District, no new faculty/staff are considered necessary because the new students could be accommodated by increasing some class sizes, and faculty/staff now supporting the campus are adequate to handle this increase.

Source: San Rafael City Schools, 2023.

Figure 3-4 shows the Master Facilities Long-Range Plan addressed in the 2017 EIR so that the reader can compare this to Figure 3-2. **Table 3-2** compares the project that is the subject of this SEIR to the campus improvements evaluated in the 2017 EIR. The line items in green shading show the projects that are the focus of this SEIR, since these projects could result in potential environmental impacts. Other planned campus improvements are largely internal to the buildings, do not require a new building footprint or ground disturbance, or are reduced from the improvement program already evaluated in the 2017 EIR.

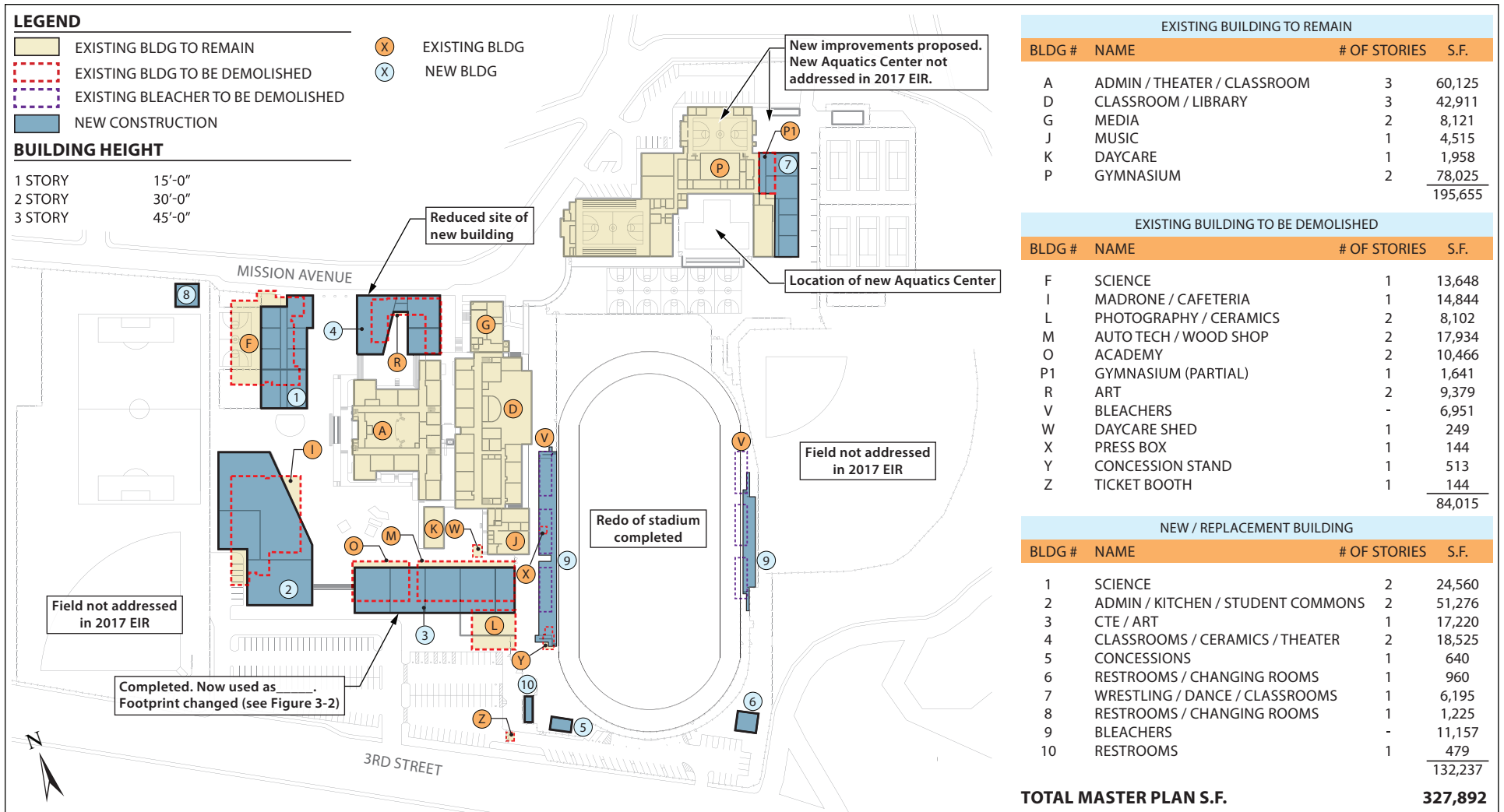


Figure 3-4

SOURCE: HY Architects, 2016

2015 MASTER FACILITIES LONG-RANGE PLAN

TABLE 3-2 COMPARISON OF CAPITAL IMPROVEMENTS PROJECT TO IMPROVEMENTS ADDRESSED IN 2017 EIR

Type of Improvement	Proposed Capital Improvements Project	Improvements Addressed in 2017 EIR	Net Quantitative Change
New Aquatics Center (Nos. 3, 4, and 5 in Figure 3-2). See Figure 3-5 for Site Plan of Aquatics Center.	Demolition of existing pool; construction of new competition-level aquatics center with low-level lights on 50-foot poles; replacement of pool deck; replacement of bleachers; improved access to locker rooms, pool pump house, and snack shack; turf viewing area with shade structure adjacent to pool; installation of battery backup system for building systems; installation of new switchgear and transformer; repaving and reconfiguration of parking lots (reduction of two parking spaces in Lot C for a total of 234 on-campus parking spaces upon project completion); addition of 12 bike parking spaces; adjustment to track fence; demolition of existing covered canopies; new flatwork at the western, southern, and eastern sides of gym buildings; replacement of exterior lighting with high efficiency light-emitting diode (LED) lights; installation of seat walls, bollards, benches, landscaping, and other typical exterior architectural features; removal of trees required for new infrastructure and/or aesthetic purposes; upgrades to sanitary sewer, storm drain, water, gas, electrical, landscaping, and other typical utilities, including upsizing of existing facilities; grading, paving, and drainage improvements to facilitate storm water diversion and safe ingress/egress to campus, construction of a new chemical storage/pump/equipment storage building (2,100 sf), construction of a new 7,900-sf athletic club house that includes restrooms to	Not addressed, except for reconfiguration of parking lots and stormwater improvements addressed at a program level.	All new improvements; new pool to be 132 feet by 75 feet; amount of estimated cut material to be hauled off-site would be 7,973 cubic yards. Expanded stormwater improvements; Modification of parking lot reconfigurations (the 2017 EIR addressed the loss of 34 parking spaces in Lot 3 for a total of 231 on-campus parking spaces upon completion of the development program).

TABLE 3-2 COMPARISON OF CAPITAL IMPROVEMENTS PROJECT TO IMPROVEMENTS ADDRESSED IN 2017 EIR

Type of Improvement	Proposed Capital Improvements Project	Improvements Addressed in 2017 EIR	Net Quantitative Change
	<p>serve the pool, 5,000 sf of new bioretention areas, removal of existing irrigation and planting to be replaced in kind or with new flatwork, and rough and fine grading to adjust elevations, and replacement and/or addition of exterior lighting (both pole mounted and/or lighting attached to the exterior of the building).</p> <p>Two new buildings would be placed at the south end of the pool: a pump house, and a new “field house” that would provide an exercise room, team rooms, sports medicine office, and the restrooms for the pool. The field house would be a single-story building, but the exercise room would have a tall ceiling, 20 feet from finished floor. This would put the roof height at 30 feet at its high point. There would be no special lights at the field house, but there would be speakers in the exercise room.</p> <p>The portable buildings that would be removed in the location of the two new buildings would be relocated to the soccer field to the west. An additional five portable buildings from other District campuses would be moved to the same soccer field area. For these 10 portables, a total of 30,000 square feet of new impervious area would be added to the campus.</p>		
Gym and PE Spaces Modernization (No. 3 in Figure 3-2)	Modernization and improvements of PE, pool, and athletic spaces including gyms, locker rooms, office, restrooms, hallways, dance/fitness studios, storage facilities, and team rooms, and	This scope is reduced from the 2017 EIR, which assumed partial demolition of the existing gym building and construction of new classrooms.	Reduced demolition and construction.

TABLE 3-2 COMPARISON OF CAPITAL IMPROVEMENTS PROJECT TO IMPROVEMENTS ADDRESSED IN 2017 EIR

Type of Improvement	Proposed Capital Improvements Project	Improvements Addressed in 2017 EIR	Net Quantitative Change
Art Classrooms Building (AR Building) (No.1 in Figure 3-2)	accessory spaces (80,000 sf). Improvements include replacement and/or coating of existing roofs, replacement of existing and the addition of new mechanical systems at the interior and exterior of the building, painting of the building, upgrades to interior lighting systems, reconfiguration of existing spaces, floor refinishing and/or replacement, installation of new utilities on or in the buildings, upgrades to fire alarm systems, upgrades to building fire sprinkler systems, demolition of antiquated building and pool systems, and other interior and ancillary exterior upgrades typical of building modernization projects.	2017 EIR addressed replacement of the existing AR Building with a new, larger Visual Arts Building (Building 4) (17,220 sf).	Reduction in square footage of 2,220 sf.

TABLE 3-2 COMPARISON OF CAPITAL IMPROVEMENTS PROJECT TO IMPROVEMENTS ADDRESSED IN 2017 EIR

Type of Improvement	Proposed Capital Improvements Project	Improvements Addressed in 2017 EIR	Net Quantitative Change
Performing Arts Plaza (No. 2 in Figure 3-2)	lighting (both pole mounted and/or lighting attached to the exterior of the building). Site work and landscaping cover 14,000 sf, which is exclusive of building footprint.	All new compared to 2017 EIR.	Addition of plaza; removal of trees; regrading; and new landscaping.
AD, SC, TE, MU, LA Building Modernization (Nos. 1 and 2 in Figure 3-2)	Work includes Americans with Disabilities Act (ADA) upgrades to seating; theatrical and house lighting upgrades; painting; installation of catwalks; upgrades to lighting and sound controls and their associated spaces; replacement of theater curtain; installation of an orchestra pit lift; reconfiguration of the stage, including replacement and/or configuration of flooring, access doors, electrical, plumbing, fire alarm, and other building systems; replacement of various	Not addressed in 2017 EIR; primarily internal improvements; 2017 EIR addressed replacement of existing Science Classrooms (SC) Building (13,648 sf) with new 24,560-sf building.	Renovation instead of Science Classrooms replacement (reduced scope).

TABLE 3-2 COMPARISON OF CAPITAL IMPROVEMENTS PROJECT TO IMPROVEMENTS ADDRESSED IN 2017 EIR

Type of Improvement	Proposed Capital Improvements Project	Improvements Addressed in 2017 EIR	Net Quantitative Change
Athletic Fields Turf and Storage Project (No. 5 in Figure 3-2)	building finishes including but not limited to flooring, wall coverings, ceiling coverings and/or treatments, acoustic baffling and/or other acoustic treatments; reconfiguration of existing offices, storage, audience, actor, teacher, and control, administration and classroom spaces; installation of new mechanical systems, glazing systems, fire alarm systems, exterior mechanical screens and other scope typical of school modernization projects.	Not addressed in 2017 EIR.	All new; approximately 200,000 sf of turf would be added.
Landscaping, Site Work, and Fencing Project	Removal of existing trees; landscaping and site improvements; installation of campus traffic control, security, and sports fencing; paving; irrigation; and installation of architectural features typically found at high school or college campuses.	Alterations since 2017 EIR but not significant.	Minor site work.

Note: sf = square feet; = Shaded rows indicate projects that are the focus of this SEIR.
 Source: San Rafael City Schools, 2023.

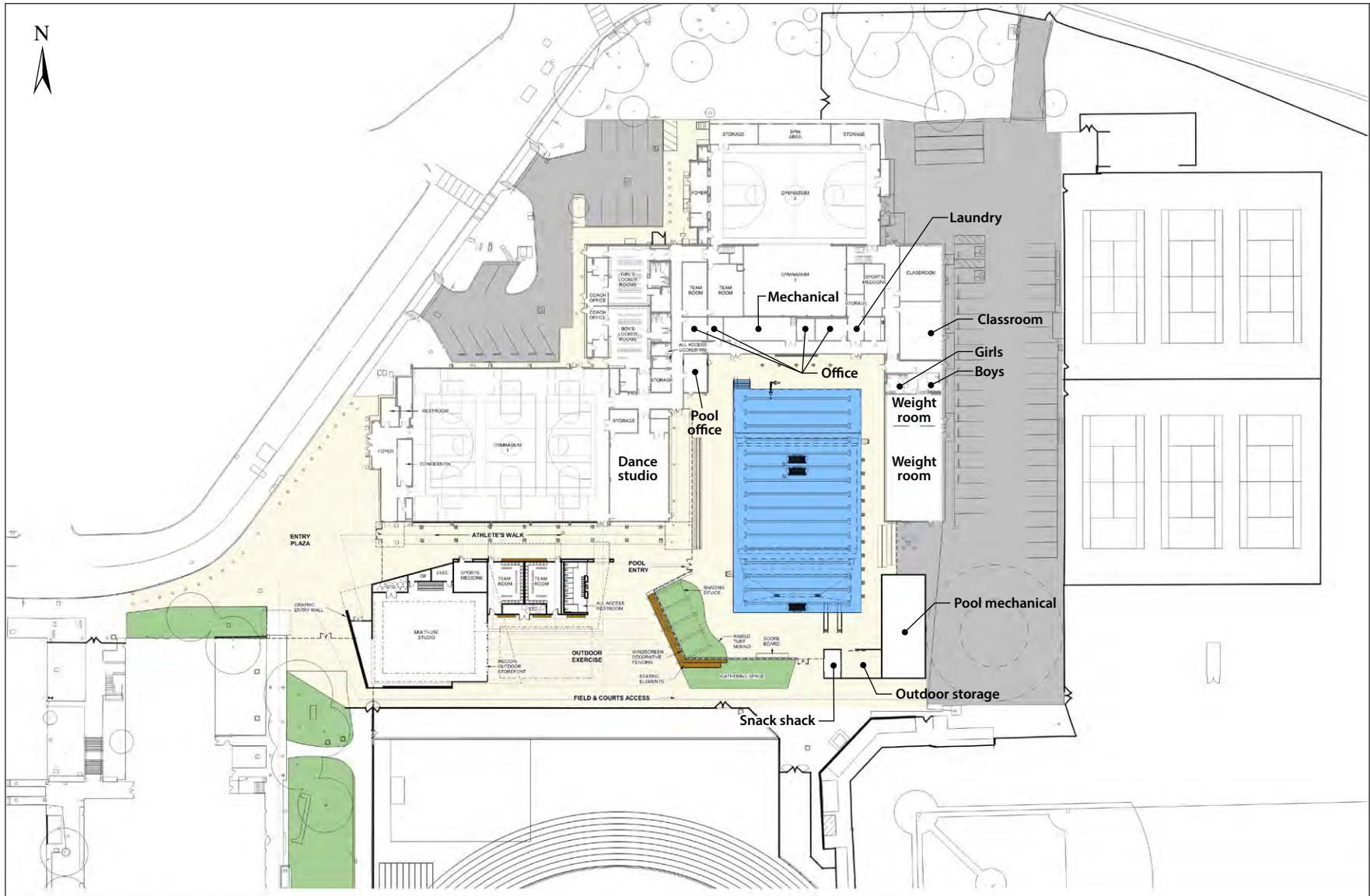


Figure 3-5
AQUATICS CENTER SITE PLAN

SOURCE: Hibser Yamauchi Architects, Inc.

New synthetic turf would replace the existing grass turf that now exists for the baseball and softball fields on the east and west sides of the campus (see Figure 3-2), thus extending the seasonal use of the fields. The exact brand of material to be used has not been selected. No “crumb rubber” materials would be present in the synthetic turf. Such compounds have raised health concerns due to compounds that may affect players using such fields.

BUILDING DEMOLITION PROPOSED BY PROJECT

Demolition proposed as part of the Capital Improvements Project consists of the following (see Figure 3-2):

- Demolition of AR Building.
- Demolition of swimming pool and pool deck at Aquatics Center.

CONSTRUCTION AND RECONSTRUCTION PROPOSED BY PROJECT

New construction and reconstruction would include the following:

- Rebuild of swimming pool, pool deck, and other facilities at New Aquatics Center, including field house.
- Construction of new Visual Arts Building.
- Reconstruction of special education classroom spaces.
- Construction of new Performing Arts Plaza and access corridor from AD Building to Visual Arts Building.
- Gym and PE space improvements (reduced scope from 2017 EIR).

PROPOSED DEMOLITION COMPARED TO 2017 EIR

In accordance with the SRHS Master Facilities Long-Range Plan, a number of buildings on the SRHS campus were planned to be demolished because the cost of repairing these buildings and bringing them up to current building standards would be far greater than replacing the buildings altogether. Some of these buildings have not yet been demolished, as shown below. The main buildings proposed for demolition in 2017 included the following (see Figure 3-4):

- Science (Building F): Building has not and will not be demolished; instead, this building will be modernized.
- Madrone/Cafeteria (Building I): Building has been demolished (2020).
- Photography/Ceramics (Building L): Building has been demolished. (2018).
- Auto Tech/Wood Shop (Building M): Building has been demolished (2018).
- Academy (Building O): Building has been demolished (2018).
- Gymnasium (partial) (Building P1): Building has not and will not be demolished; instead, this building will be modernized.
- AR Building: Building has not been demolished and is anticipated to be demolished for the new Visual Arts Building.

- Daycare Shed (Building W): Building has been demolished (2018).
- CTE/Art Building (Building No. 3): These buildings have been demolished (2018).

This SEIR will address demolition of the following:

- Swimming Pool: Demolition of the existing pool and reconstruction was not addressed in the 2017 EIR.

PROPOSED BUILDING MODERNIZATION AND CONSTRUCTION COMPARED TO 2017 EIR

The SRHS Master Facilities Long-Range Plan program improvements included construction of the following new buildings (see Figures 3-2 and 3-4):

- Science Building (Building No. 1): This building has not been built and will not be built.
- Administration/Kitchen/Student Commons Building, Four Classrooms and Conference Space (Building No. 2): This building has been constructed (2019).
- Classrooms/Ceramics/Theater (Building No. 4): This building has not yet been demolished; a smaller new building is now proposed in this location (Visual Arts Building), and a new Performing Arts Plaza is also proposed.
- Wrestling/Dance/Classrooms/Offices (Building No. 7): Modernization is still proposed for this building.
- Restroom/Changing Rooms (Building No. 8): This building has been constructed (2019).

Some buildings, such as the Administration/Theater/Classrooms building (Building A), classroom/Library building (Building D), and Head Start (Building K) buildings, underwent modernization without wholesale building demolition. Thus, no change in footprints took place for these buildings and changes were internal (i.e., inside the buildings).

For the SEIR, the new Aquatics Center would be a completely new project not addressed in the 2017 EIR. Figure 3-5 shows the site plan for the new Aquatics Center, where a new pool that would be 75 feet in width and 132 feet in length would be created to allow water polo and other swimming events. The existing 20 to 31-foot-high lights at the perimeter of the pool would be replaced by four 50-foot light standards at approximately the corners of the pool.

Similarly, the new Performing Arts Plaza project and the Athletic Fields Turf and Storage project would likewise be new projects not addressed in the 2017 EIR.

SITE IMPROVEMENTS: LANDSCAPING, PATHWAYS, LIGHTING, PARKING, AND UTILITIES

In addition, the Capital Improvements Project would include overall site improvements such as new landscaping, new pathways, new drainageways and stormwater improvements, and new or relocated utility lines (water, wastewater, gas, electricity, and telecommunications).

Landscaping, Pathways, and Lighting

The main areas proposed for landscape improvements would likely be the central campus quad as well as areas adjacent to the Aquatics Center/Gym Complex. Currently this area is predominantly concrete and asphalt paving. Central campus areas and areas adjacent to the new Visual Arts Building would have major grade changes. Grade changes would be as much as 12 to 14 feet. Elsewhere, relatively minor grading and landscaping would be added to enhance the area for gathering and outdoor learning. Mature trees at the central campus quad, Visual Arts Building, and Aquatics Center would be removed, with reduced-size, better-suited, and drought-tolerant trees planted at these areas.

Additionally, bioswales and other rainwater retention areas would be developed that would increase the amount of planting on the campus. These would generally be located adjacent to parking, driveways, and pedestrian concrete pathway and/or patio improvements. Two new 24-inch storm drain pipes would be installed between the large gym and the landscaping to the east of the TE and LA Buildings to accommodate additional stormwater runoff.

Outdoor lighting would be designed to maximize public safety and security while minimizing visual intrusion to adjacent residential areas. Outdoor lighting would occur between the turf track and the MU, LA, and TE Buildings; between the AD Building and the TE, LA, and MU Buildings; between the AR Building (to be replaced by the Visual Arts Building and the AD, LA, TE, and SC Buildings; and between the VAPA and Mission Street. Outdoor light fixtures would include shrouds and other shielding as appropriate. Lighting along pedestrian corridors would be low-level lights, with a total height of approximately 15 to 18 feet above grade. To the extent practicable, area lighting and security lighting would be controlled by the use of lighting control systems that enable scheduling, astronomical clocks, and/or motion sensors to reduce energy consumption.

Existing pool deck lighting is attached to the buildings surrounding the pool; the height of existing pool deck lighting varies between 20 feet and 31 feet. With the new Aquatics Center, low-level lights on 50-foot poles would be installed to replace existing lighting.

New pedestrian pathways would be created throughout the campus, with improvements for compliance with the ADA. Existing ADA pathways within the areas of work for the various projects would be reworked as necessary to ensure they meet current federal and state accessibility codes.

Driveway, Emergency Access, and Vehicle/Bicycle Parking

Emergency access would be available throughout the campus as shown in **Figure 3-6**.

The overall project would result in a reduction of two parking spaces on the campus because two spaces would be removed from Lot 3 for new buildings (e.g., near the existing gym). There are currently 236 existing parking spaces (including 13 existing ADA parking spaces) on the overall campus, and after the project is complete there would be 234 spaces. However, the project addressed in the 2017 EIR included the removal of 34 parking spaces (32 standard and 2 ADA) from Lot 3. Per the 2017 EIR, 231 parking spaces would have been provided at the SRHS campus at project completion.

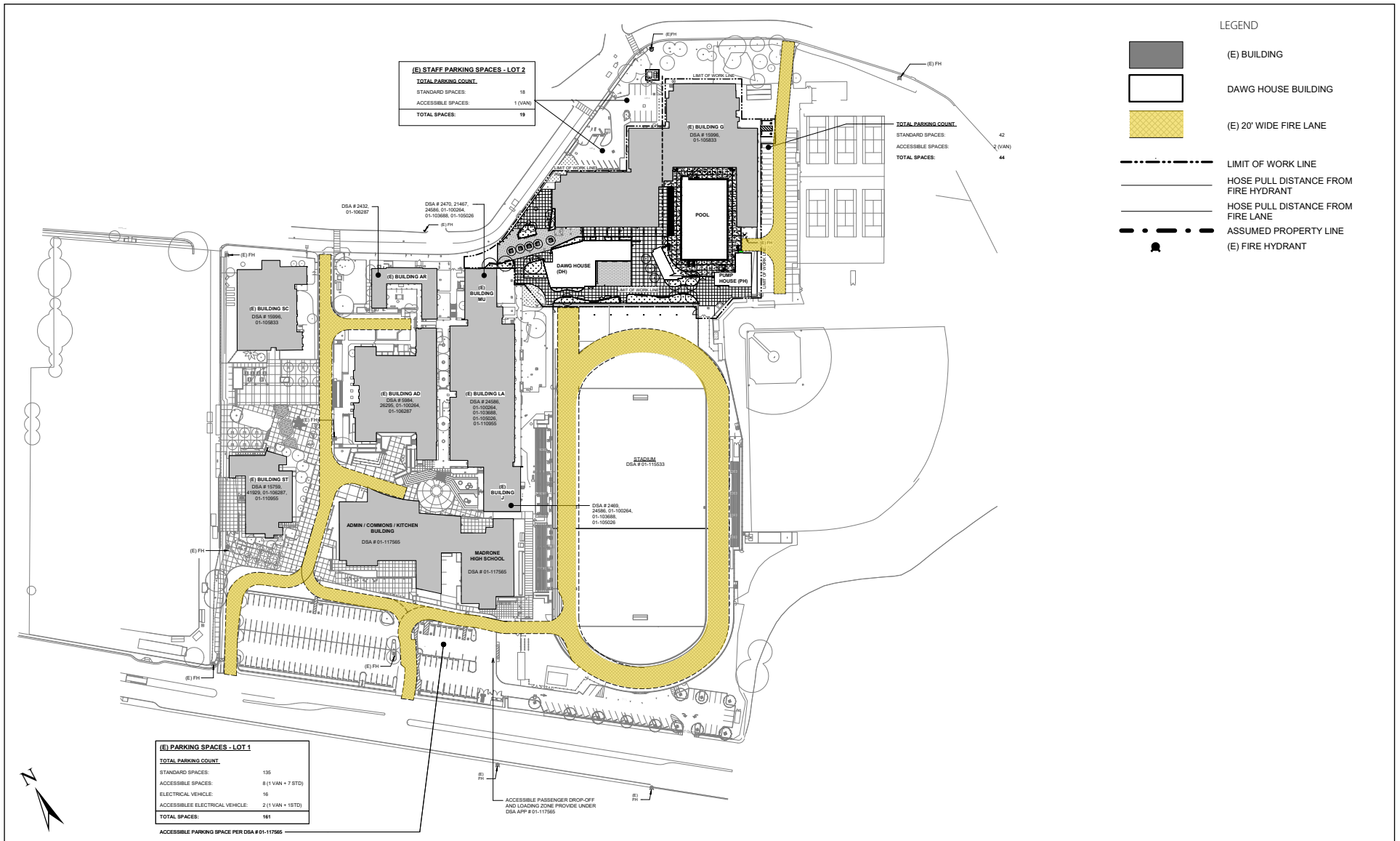


Figure 3-6

SOURCE: HY Architects, 2016

CIRCULATION AND EMERGENCY VEHICLE ACCESS



AMY SKEWES-COX
ENVIRONMENTAL PLANNING

The driveway servicing Parking Lot 3 would be potentially reconfigured to either eliminate its separate entrance off Mission Avenue or to connect with Parking Lot 2. This driveway may also potentially be reconfigured to provide a safer ingress and egress point along Mission Avenue.

New bicycle parking facilities have been provided throughout the campus as part of previous projects subject to the 2017 EIR (76 bike parking spaces). An additional 12 new bicycle parking facilities (including bike locker parking spaces) and minor changes to the existing layout may occur as a result of the central courtyard modifications. Overall availability for bicycle parking would be increased.

Utility Lines

A number of utility improvements would be made on the SRHS campus for water, natural gas, wastewater, telecommunications (phone, fiber optics, and other signal systems), and storm drainage. Electrical service upgrades at the transformer and switchgear servicing the Aquatics Center, and potentially the Visual Arts Center, would be required. Existing water supply to the campus is from the Marin Municipal Water District. Existing piping and fire hydrants would be replaced and new hydrants installed, if necessary, in a phased manner as construction proceeds. Sanitary sewer service is provided by the San Rafael Sanitation District. Existing on-site sewer lines would be replaced as necessary and extended to serve the new restroom at the field house.

Natural gas lines would be upgraded as necessary to feed the new Aquatics Center. Boilers fed by natural gas would be used to heat the pool. Other areas of the campus would have electric heat pumps put in place to heat and cool spaces, and to save energy.

All of the telecommunication services would be installed at the existing main point of entry and routed in a joint trench to the new and modernized buildings. This system would include data and clock and bell cables that would consist primarily of fiber optics between buildings and CAT6 or other cable within buildings.

PHASING OF FACILITIES

The following is the expected phasing for new campus buildings that are proposed as part of the Capital Improvements Project and that are currently funded:

- New Aquatics Center: June 2024 – November 2025
- Visual Arts Building and Performing Arts Plaza: June 2025 – November 2026
- Classroom Modernizations (AD, SC, TE, MU, and LA Buildings): June 2025 – August 2028
- Physical Education Classrooms and Modernization: June 2024 – November 2025
- Athletic Fields Turf and Storage Project: June 2027 – December 2028

Additional work for smaller projects would occur between 2028 and 2031.

PROVISIONS APPLICABLE TO ALL DEVELOPMENT

Hazardous Materials

Hazardous material storage in the science labs would be minimal and would be limited to quantities allowed by the Uniform Building Code for Group E Occupancies as set forth by Table 7902.5A of the California Fire Code.

Asbestos, lead, and polychlorinated biphenyl (PCB) abatement would occur during the modernization and replacement of buildings.

Building Mass, Height, and Design

Campus buildings would be 1 to 2 stories in height and would be designed to harmonize with the scale of existing campus buildings. No specific designs have been completed as of the printing of the Draft SEIR.

Site Grading and Construction Staging

Site development would require moderate grading to raise the site where necessary to bring new building levels above the identified Federal Emergency Management Agency (FEMA) flood plain. This would be especially true for the playing fields where new artificial turf would be added. Grading would also occur around buildings as necessary to provide wheelchair access to all new and modernized buildings on the campus. Cut material would also result from preparation of the new pool. A total of approximately 24,364 cubic yards of cut material would be hauled off the site (see **Table 3-3**).

TABLE 3-3 ESTIMATED CUT MATERIAL FOR CAPITAL IMPROVEMENTS PROJECT

Improvement	Amount of Cut Material (Cubic Yards)
New Aquatics Center	7,973
Visual Arts Building and Performing Arts Plaza	5,280
Athletic Fields Turf	11,111
Total	24,364

Source: San Rafael City Schools, 2023.

Construction trailers are proposed to be located at the Mission Street parking lot, shown as Lot 3 on Figure 3-6, to house contractors' offices for the Aquatics Center project as well as the Visual Arts project. Additional items that may be located at the Mission Street parking lot include contractor staff parking and materials storage. Construction trailers, material laydown, and contractor parking for other projects would be provided along the 3rd Street parking lot.

As individual buildings are constructed, specific staging areas in the immediate vicinity of new buildings would be identified. For example, the new Aquatics Center would likely have construction

supplies and equipment stored at an adjacent area such as the Mission Street parking lots on the campus as noted above.

Energy-Efficient Design

Facilities would be designed with efficient heating and cooling systems beginning with the orientation of the buildings on the site and the placement of the windows on the buildings to maximize natural winter heat gain and minimize summer heat gain. Furthermore, the structures would be constructed of building systems that provide appropriate levels of thermal protection. Skylights and clerestory windows would assist in providing required lighting. All new buildings would be designed with infrastructure for photovoltaic panels. In addition, photovoltaics are planned for other areas of the campus to provide additional power to the campus off the main power grid. All campus improvements would result in more efficient mechanical and electrical systems. Electric heat pumps are proposed for heating/cooling of occupied spaces to reduce energy demands.

Hours of Operation and Construction

Hours of operation at the SRHS campus would be 8:00 AM to 5:00 PM, Monday through Friday, for classroom activities. There would be no weekend classes, but facilities are currently used occasionally on the weekend, such as for SAT/ACT testing, and after school hours for community use (civic center purposes, etc.). Current Adult Education classes are taught Monday through Thursday, 5:30 PM to 8:30 PM, and require use of two to three on-campus classrooms. Theater usage is 7:00 AM to 10:00 PM every day of the week. Weekend use is limited to productions and limited practices. After the plaza changes, this usage is not expected to change. The plaza would allow use by theater audience members.

The hours of use for the Aquatics Center would be 7:00 AM to 10:00 PM Monday through Saturday. The existing pool is used for seasonal water polo (practice, competitions, outside user events), lap swimming, and swimming lessons. During the school day, use of the Aquatics Center takes place between 7:00 AM and 3:00 PM. After-school aquatic sports programs take place between 3:00 PM and 9:30 PM. Games/meets most commonly occur from 3:00 PM to 9:30 PM. Non-school and holiday games/meets are generally played between 11:00 AM and 8:00 PM. The Aquatics Center would not be used after 10:00 PM. Some games/meets may take place on Saturday if, for example, there is a rainout during the week. **Table 3-4** shows the anticipated timing and net change in after-school sporting events with the project.

The softball field/soccer field is used by SRHS softball teams, lacrosse teams, soccer teams and PE classes. It also has outside users who use the fields for these purposes as well as more esoteric usage such as for film/commercial productions. Use for school purposes takes place 7 days a week, between 7:00 AM and 9:00 PM daily. Outside user use takes place between 3:00 PM and 9:00 PM 7 days a week during the school year, and 7 days a week during the summer recess. The baseball field is used primarily by the SRHS baseball and lacrosse teams, but is also used by outside users for various other sports including but not limited to lacrosse and soccer. The small gym is used by the SRHS cheer team, basketball teams, volleyball teams, and PE classes, and for school assemblies and other school activities, including school photographs and school dances. It is also used by outside users for volleyball, basketball, indoor futsal, and sports-related camps during the summer recess. The large gym serves a similar function.

TABLE 3-4 PROJECTED SPORTS EVENTS FOR SAN RAFAEL HIGH SCHOOL

Facility and After School Event	Days of Week in Use	High Use Season	Existing After School Events per Year	Proposed After School Events per Year	Net Change in Number of After School Events	Average Number of Participants/ Spectators per Event	Proposed Participants/ Spectators per Event	Net Change in Participants/ Spectators per Event
Aquatics Center – Weekday Use – Practice or Limited Spectators	Mon-Fri	Aug-July	152	168	16	40/10	40/10	0
Aquatics Center – Weekday Use – Games or Competitions	Mon-Fri	Aug-July	43	47	5	40/50	40/50	0
Aquatics Center – Weekend Use – Practice or Limited Spectators	Sat-Sun	Aug-July	5	6	1	50/20	50/20	0
Aquatics Center – Weekend Use – Games or Competitions	Sat-Sun	Aug-July	10	12	2	100/200	100/200	0
Softball Field – Practice or Limited Spectators	Mon-Sat	Jan-Aug	92	108	16	20/15	20/15	0
Softball Field – Games or Competitions	Mon-Sat	Jan-Aug	23	27	4	20/50	20/0	0
Baseball Field – Practice or Limited Spectators	Mon-Sat	Jan-Aug	117	131	14	20/15	20/15	0
Baseball Field – Games or Competitions	Mon-Sat	Jan-Aug	13	15	2	20/50	20/50	0
Main Gym (including adjoining PE support spaces) – Practice or Limited Spectators	Mon-Sun.	Aug-July	204	204	0	25/25	25/25	0
Main Gym (including adjoining PE support spaces) – Games or Competitions	Mon-Sun	Aug-July	31	31	0	25/75	25/75	0
Small Gym (including adjoining PE support spaces) - Practice or Limited Spectators	Mon-Sun	Aug-July	228	228	0	25/25	25/25	0
Small Gym (including adjoining PE support spaces) - Games or Competitions	Mon-Sun	Aug-July	12	12	0	25/75	25/75	0

Source: San Rafael City Schools, 2023.

Athletic support spaces, such as the locker rooms, are often rented in conjunction with the small and large gyms to serve these outside users as well. Usage for school events and outside use is 7 days a week, 7:00 AM to 10:00 PM.

During the construction period, construction would occur between 7:00 AM and 6:00 PM, Mondays through Fridays, and between 9:00 AM and 6:00 PM on Saturdays, with no Sunday or holiday work per the City of San Rafael Noise Ordinance.

PROJECT OBJECTIVES

The SRHS campus is the oldest campus in the District, San Rafael High School opened in 1888. The school's current campus opened in 1924. This campus has seen several modernizations and expansions over the years, with buildings dating from 1957, 1958, 1964, and 1965. The most recent modernization program in 2017 included renovations for music and physical education and minor upgrades to the science wing. Many of the older buildings are in good shape in terms of infrastructure, but others are in severe disrepair.

The objectives specific to the Capital Improvements Project evaluated in this SEIR include the following:

1. Provide functional instructional and administrative space to meet program requirements.
2. Provide upgrades to the existing SRHS campus to serve the population in this area.
3. Modernize classrooms and laboratories to meet contemporary standards of education to ensure all students are well prepared for success in the 21st century.
4. Implement modern technology for the campus.
5. Replace outmoded teaching equipment.
6. Upgrade buildings for fire safety, energy conservation, seismic safety, ADA compliance, and campus security.
7. Provide an upgraded New Aquatics Center to improve SRHS's physical education and athletic program for its students and other students in the District who use the Aquatics Center.
8. Address increasing enrollment while providing students and faculty with a learning environment that reflects the District's strategic plan for the future.
9. Improve disabled access.
10. Implement "green building" practices in all capital improvement projects.
11. Improve safety for athletic programs.
12. Implement District-Wide Target Initiatives applicable to the District's high schools and San Rafael High School campus.

REQUIRED PROJECT APPROVALS

The San Rafael City Schools Board of Trustees is the lead agency for the Capital Improvements Project. The project would be subject to review and approval by the following agencies, many of which may use the SEIR in their review:

- **The Division of the State Architect (DSA)** reviews school project designs to determine compliance with the California Building Code, fire safety, and ADA requirements and reviews and approves applications for new landscape irrigation systems and irrigation renovations.
- **The local Fire Marshal's Office** has delegated fire code regulatory responsibilities for access to the site and number and location of fire hydrants.
- **The County of Marin Health Department** reviews food preparation facilities and reviews for required equipment and finishes. They are also responsible for reviewing the pool and associated infrastructure.
- **The Regional Water Quality Control Board (RWQCB)** oversees the permitting for projects that could affect water quality. The project would be covered under the State National Pollutant Discharge Elimination System (NPDES) General Construction Permit, which is accomplished by filing a Notice of Intent (NOI) with the RWQCB. A Storm Water Pollution Prevention Plan (SWPPP) may be required for the project.
- **The City of San Rafael** reviews and approves any improvements to the public roads (i.e., driveway curb-cut) surrounding the campus, and also approves stormwater systems and treatment and grading.
- **The Bay Area Air Quality Management District (BAAQMD)** would be notified about demolition activities.
- **Marin Municipal Water District (MMWD)** would be informed about any new tie-ins to existing water mains prior to construction and would review and approve permits for new landscape irrigation systems and irrigation renovations.
- **The San Rafael Sanitation District** would be contacted if there are tie-ins to existing lines.
- **Pacific Gas & Electric Company (PG&E)** would review and approve any new or upgraded electrical or gas service to the campus.

3.7 INTENDED USES OF THE SEIR

This SEIR provides the environmental information and evaluation necessary for the planning, construction, and operation of the proposed project. This SEIR also provides the CEQA compliance documentation upon which the District's consideration of, and action on, all applicable approvals may be based. It is the intent of this SEIR to enable the District's Board of Trustees, other responsible agencies, and interested parties to evaluate the environmental impacts of the proposed project, thereby enabling them to make informed decisions with respect to the requested entitlements, permits, or approvals. These include all approvals set forth in this SEIR, as well as any additional approvals that may be necessary or useful to implement the project, including planning, construction, operation, and maintenance. In accordance with CEQA Guidelines Section 15124, the agencies expected to use this SEIR and the approvals required for the project are as shown in *Section 3.6, Project Characteristics*, above.

3.8 REFERENCES

- County of Marin, 2016. Website: <http://www.marincounty.org/depts/rv/election-info/past-elections/page-data/tabs-collection/2015/nov3/measures/measureb>, accessed June 15.
- Hibser Yamauchi Architects, Inc., 2016. Site Plan for San Rafael High School Master Facilities Implementation Plan, July.
- Marin Independent Journal, 2022. Article entitled "San Rafael Voters OK Measures B, C School Bond Measures," June 7. Website: <https://www.marinij.com/2022/06/07/san-rafael-voters-approving-measures-b-c-school-bond-measures/>, accessed June 28, 2023.
- San Rafael City Schools, 2015. San Rafael City Schools Master Facilities Plan (with assistance from Hibser Yamauchi Architects, Inc.), July.
- San Rafael City Schools, 2017. San Rafael City Schools District-Wide Capital Improvement Projects (with assistance from Hibser Yamauchi Architects, Inc.), May 23.
- San Rafael City Schools, 2022. San Rafael City Schools District-Wide Capital Improvement Projects (with assistance from Hibser Yamauchi Architects, Inc.), May 23.
- San Rafael City Schools, 2023. Discussions of EIR team with District staff on project elements, May through August.
- United States Geological Survey (USGS), 2015. San Rafael Quadrangle, California Marin County, 7.5-Minute Series (Topographic).

4. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

This chapter of the Supplemental Environmental Impact Report (Supplemental EIR or SEIR) addresses project-related impacts within the following nine topic categories:

- Aesthetics
- Air Quality
- Biological Resources
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation and Traffic

Each of the nine topic sections in this chapter presents information in four subsections, as follows:

- **Introduction.** This subsection addresses the overall issues covered for the topic and the approach used in the analysis.
- **Environmental Setting.** This subsection briefly describes elements of the project setting relevant to a discussion of impacts in the topic category. A summary of the environmental setting from the 2017 EIR is presented, and changes since 2017 are described.
- **Regulatory Framework.** This subsection describes federal, state, and local regulations applicable to the topic. A summary of the regulatory setting from the 2017 EIR is presented and changes since 2017 are also addressed, as applicable.
- **Environmental Impacts and Mitigation Measures.** This subsection identifies potential impacts based on the identified significance criteria. Potentially significant impacts are numbered and summarized in **bolded** text, followed by text that describes the impact in more detail. Mitigation measures (indented text) that can reduce such impacts follow this discussion; these measures are labeled with a number that corresponds to the number of the impact. A statement regarding the level of significance of each impact after mitigation follows the mitigation measure for that impact. The term “PS” stands for “potentially significant” and “LTS” stands for “less than significant.” The term “SU” stands for “significant and unavoidable.” To distinguish the impacts and mitigation measures identified in this Supplemental EIR from those identified in the 2017 EIR, the numbering system for the Supplemental EIR impacts and mitigation measures includes an “S” before each numbered item.

A summary of the impacts and mitigation measures from the 2017 EIR is presented, and any changes in applicable significance criteria are identified. These are followed by an identification of impacts specifically related to the Capital Improvements Project that is the subject of this Supplemental EIR. A copy of the Mitigation Monitoring and Reporting Program (MMRP) for the 2017 EIR is attached as **Appendix G**

- **References.** This subsection lists reference materials used in preparing the analysis.

Other topics specified in Appendix G of the California Environmental Quality Act (CEQA) Guidelines are not addressed further in the Draft Supplemental EIR, for the following reasons:

- **Agriculture and Forestry Resources and Mineral Resources.** The topics of agriculture and forestry resources and mineral resources would not apply, given the urbanized nature of the project site.
- **Cultural Resources.** This topic was adequately evaluated in the 2017 EIR and no new impacts are considered likely with the Capital Improvements Project.
- **Energy.** This topic was adequately evaluated in the 2017 EIR and no new impacts are considered likely with the Capital Improvements Project.
- **Land Use and Planning.** This topic was adequately evaluated in the 2017 EIR and no new impacts are considered likely with the Capital Improvements Project. No zoning changes or General Plan amendments have taken place for the project site. Further, the proposed project and the San Rafael High School campus are exempt from local zoning under Board Resolution No. 1691, dated June 27, 2016, and Board Resolution No. 2324-17, dated October 23, 2023, pursuant to Government Code Section 53094.
- **Population and Housing.** The topic of population and housing is not discussed because no housing would be displaced by the project, and growth-inducing impacts are addressed in Chapter 6, Other CEQA Considerations.
- **Public Services and Recreation.** These topics were addressed in the 2017 EIR and no new impacts are considered likely with the Capital Improvements Project.
- **Tribal Cultural Resources.** The 2017 EIR addressed tribal cultural resources as part of the cultural resources analysis. Assembly Bill 52 was discussed as related to tribal consultation and it was stated that no tribe had requested to be placed on the District's consultation notification. A copy of the Notice of Preparation (see **Appendix A**) for the SEIR was provided to local tribes, and the District did not receive a request for consultation.
- **Utilities and Service Systems.** This topic was adequately evaluated in the 2017 EIR and no new impacts are considered likely with the Capital Improvements Project.
- **Wildfire.** The wildfire topic is not addressed in its own section of the Supplemental EIR because the criteria listed in CEQA Guidelines Appendix G (Section XX, Wildfire) do not apply, given that the project site is not located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones. However, wildfire issues are addressed in *Section 4.8, Hazards and Hazardous Materials*, of the Supplemental EIR.

4.1 AESTHETICS

INTRODUCTION

This section discusses the existing visual conditions at the San Rafael High School (SRHS) campus and vicinity and addresses the potential aesthetic impacts of the proposed Capital Improvements Project. The potential impacts relate to the potential for increased light and glare, the visual compatibility of the proposed project with surroundings, and the potential impacts on viewsheds, with an emphasis on public viewing locations. Views from nearby residences to the north of the site are also addressed. This visual impact analysis is based on field observations at the project site and vicinity on September 21, 2023.

ENVIRONMENTAL SETTING

Summary of Environmental Setting from 2017 EIR

The SRHS campus is located within the City of San Rafael in the County of Marin, California. More specifically, the campus is set within the overall developed portion of San Rafael east of U.S. Highway 101, and is surrounded by a mixture of residential and commercial development. Specifically, single-family residential development within San Rafael is immediately east of the campus, and a mixture of single-family and multi-family residential development is located immediately north of the campus. To the west, the San Rafael City Schools Maintenance Facility (38 Union Street) abuts the campus. The immediate environs to the west of the campus also include the City of San Rafael's Fire Station No. 52, Whole Foods Market, senior housing, and a Salvation Army thrift store. Mission Avenue abuts the campus to the north, Embarcadero Way abuts the campus to the southeast, and 3rd Street abuts the campus to the south. A variety of commercial development establishments are located to the south of the campus across 3rd Street, including the Montecito Plaza shopping center, 3rd Street Plaza offices and retail, and a boat yard. San Rafael Creek is located south of the campus, on the south side of 3rd Street.

Existing Visual Features of Project Site

The SRHS campus is largely built out, with the center of the campus being the main location for campus classroom buildings, and the east and western edges of the campus holding sports fields. Existing campus buildings are one and two stories in height except for Buildings A and D which are three stories.

The campus includes a mixture of architectural styles in the existing buildings. The oldest building (Building A), dating back to 1925, was completed in the Neoclassical architectural style with specific features such as ionic columns, classical forms, strong symmetry, dominant entry porch, faux rustication, and an overall monumentality. The original section of the gymnasium, constructed in 1930, also minimally maintains some influences of the Neoclassical style. The second period of campus development was executed in the 1930s and includes buildings designed in the Moderne architectural style featuring elements such as simple forms, flat roofs with coping, speed bands in

the coping, an emphasis on horizontality, minimal decorative features and smooth exterior wall finishes. The newer buildings, built in the late-1950s and mid-1960s, are more modern in style and include concrete finishes and details such as simple forms, flat roofs with no coping, minimal ornament, and no decorative detailing at the doors and windows. Other than Building A, the other buildings on the campus that are over 50 years in age lack historical significance under the four criteria identified by the California Register of Historic Resources as discussed further in the 2017 EIR.

A large parking area is located at the south-central portion of the campus, with two access points to 3rd Street. Additional smaller parking areas are located on the north side of campus, with access from Mission Avenue. The San Rafael City Schools Maintenance Yard is located at the northwestern corner of the SRHS campus, with access from Union Street.

Landscaping on the campus includes a thick canopy of trees at the far eastern edge of the campus, east of the playing fields and separating the campus from nearby residential areas. Additional tree plantings occur on the north side of campus along Mission Avenue. Within the campus, tree plantings are primarily located along the central north-south pedestrian spine near Building A.

Views of Site from Mission Avenue, Within Campus, Embarcadero Way, and 3rd Street

From Mission Avenue, in proximity to nearby residences, one sees a variety of campus buildings and parking areas. As shown in **Figure 4.1-1**, one can see the location of the existing AR Building on the right side of a major entrance location, and other campus buildings and trees that front on this main entrance (see Figure 4.1-1(a) and (b)). The new plaza south of the Visual Arts Building and north of the recently constructed Science, Technology, Engineering, Arts, and Math (STEAM) Building can be seen in Figure 4.1-1(c). From Mission Avenue, one also looks south across the existing grass fields where the softball field is in the background (see Figure 4.1-1(d)). Parking along Mission Avenue and trees on the north side of the campus can be seen in **Figure 4.1-2(a)**. From the eastern terminus of Mission Avenue, one looks down onto the campus across the tennis courts toward the large gym and the existing aquatics complex (see Figure 4.1-2(b)). The existing pool cannot be seen from this location.

From the eastern portion of Mission Avenue, one can also see Mt. Tamalpais in the background with the tennis courts of the SRHS campus in the foreground. Trees screen views of much of the campus from this general area. From Embarcadero Way at the eastern edge of the campus, one can see the southern end of the stadium area and the baseball field (see Figure 4.1-2(c)). From this same roadway, some views of the campus are screened by the existing eucalyptus trees at the eastern edge of the campus.

From the 3rd Street entrance to the campus, one views the south end of the built area of the campus, as well as portions of playing fields on the east and west ends of the campus. Views to the east side of the campus from the campus driveway entrance take in distant trees located at the far eastern campus edge and parked cars at the main parking lot. Looking north from this same location, the campus entrance portico is the dominant visual element. At the time of the 2017 EIR, a one-story classroom building/cafeteria (Building I) for the Madrone High Continuation School was visible just beyond this entrance. Changes to the views of the campus as seen from 3rd Street are discussed below.



a. View from Mission Avenue to the south looking towards Science Building



b. View south to center of campus from Mission Avenue



c. View from interior of campus looking southwest towards plaza recently constructed



d. View south across field from Mission Avenue. Softball field in background

Figure 4.1-1

SOURCE: A. Skewes-Cox, 2023

VIEWS OF SITE FROM MISSION AVENUE AND INSIDE CAMPUS



a. View southwest from Mission Avenue towards location of future portables



b. View west towards Large Gym and Aquatics Center from Mission Avenue



c. View north across baseball field. Newly renovated stadium on left side of viewshed



d. View of newly constructed Student Commons as seen from 3rd Street

Figure 4.1-2

SOURCE: A. Skewes-Cox, 2023

VIEWS OF SITE FROM MISSION AVENUE, EMBARCADERO WAY, AND 3RD STREET



AMY SKEWES-COX
ENVIRONMENTAL PLANNING

Light and Glare

Sources of light and glare near and within the project site are primarily vehicles on public roadways, lighting from adjacent residential development, lighting in parking lots and along public streets, lighting from the existing stadium field at the campus, and campus building lighting. Vehicle headlights on public roadways, on adjacent properties, and on the project site emit temporary lighting in their direction of travel. Existing buildings on the SRHS campus include lighting visible during nighttime hours when the school buildings are occupied or campus buildings are being cleaned after sunset. Field lighting occurs during nighttime events, such as games and practices.

Changes in Environmental Setting Since 2017 EIR

Views from Surrounding Roads

Since the 2017 EIR was certified, a number of improvements have taken place on the SRHS campus. The most recently built buildings on the campus include the Student Commons/Cafeteria that faces 3rd Street and the STEAM Building to the west of the Student Commons/Cafeteria. These have both been built since the 2017 EIR was completed. Figure 4.1-2(d) shows the recently constructed Student Commons/Cafeteria.

REGULATORY FRAMEWORK

Summary of Regulatory Framework from 2017 EIR

Federal and State Regulations

No federal regulations related to visual quality would pertain to the project.

The State of California has a formal program related to scenic highways. The California Scenic Highway Program, established in 1963, identifies and designates certain highways along which adjoining land uses and features require special conservation treatment. No highways are located in the vicinity of the project site, and none of the roadways in the vicinity are included in the Streets and Highways Code list of eligible highways or are designated a scenic highway (California Department of Transportation, 2016).

The California Division of the State Architect (DSA) also has design requirements. DSA reviews plans for public school construction to ensure that plans, specifications, and construction comply with California's building codes. DSA reviews projects for structural safety, fire and life safety, access compliance, and energy savings.

Local Regulations and Policies

As discussed in *Chapter 1, Introduction*, of this Supplemental EIR (SEIR), pursuant to California Government Code Section 53094, the governing board of a school district may render city or county zoning ordinances and general plan requirements inapplicable to a proposed classroom facilities project. Even though the District adopted Resolution No. 2324-17, dated October 23, 2023, pursuant to Section 53094 exempting the SRHS campus from any zoning ordinances or

regulations of the City of San Rafael, including, without limitation, the City's Municipal Code, the City's General Plan, and related ordinances and regulations that otherwise would be applicable, this SEIR evaluates the project's consistency with local regulations and policies for the purposes of CEQA compliance, and also because it is the District's goal that local policies and regulations be acknowledged and adhered to as much as feasible.

City of San Rafael Zoning Code

The City of San Rafael zoning code designates the site as Public/Quasi-Public (P/QP) which allows a height limit of 36 feet (City of San Rafael, 2023).

San Rafael General Plan

The City of San Rafael has updated its general plan since the 2017 EIR was prepared. Therefore, the San Rafael General Plan discussion from the 2017 EIR is not relevant to the proposed Capital Improvements Project. See "Changes in Regulatory Framework Since 2017 EIR" below for discussion of relevant policies from the updated San Rafael General Plan.

San Rafael City Schools Design Requirements

San Rafael City Schools does not have a set of design guidelines that address future development. Each project is designed separately for each campus.

Changes in Regulatory Framework Since 2017 EIR

The San Rafael General Plan includes the following policies that would relate to potential visual impacts of the project (City of San Rafael, 2021):

Policy CDP-2.3: Neighborhood Identity and Character. Recognize, preserve, and enhance the positive qualities that shape neighborhood identity. Development standards should respect neighborhood context and scale and preserve design elements that contribute to neighborhood livability. Standards should also provide flexibility for innovative design and new types of construction. Code enforcement and City programs should maintain community standards and the integrity of buildings and landscapes.

Policy CDP-2.5: Commercial and Industrial Districts. Recognize and preserve the design elements that contribute to the economic vitality, functionality, and visual quality of San Rafael's commercial and industrial districts. Where feasible, improve the appearance of these areas by making them more walkable, attractive, and visually compatible with the neighborhoods around them.

Policy CDP-3.1: Plazas and Active Public Spaces. Encourage the integration of public space—or private space that is available for public use—in larger-scale commercial, civic, and mixed-use development. Such spaces should be designed and operated so that they can be easily maintained, remain safe and attractive, and contribute positively to the community.

Policy CDP-3.4: Landscape Maintenance. Prioritize landscape maintenance along the city's most heavily traveled roadways and gateways. Control costs by using low-maintenance materials,

removing litter, and avoiding deferred maintenance. Operational practices should support the City's commitment to water conservation, fire prevention, and reduced use of toxic materials.

Policy CDP-3.5: Street Trees. Encourage the planting and maintenance of street trees to reduce urban heat island effects, sequester carbon, improve air quality, absorb runoff and wind, define neighborhoods, and improve the appearance and character of city streets.

Policy CDP-4.8: Scale Transitions. Require sensitive scale and height transitions between larger and smaller structures. In areas where taller buildings are allowed, they should be designed to minimize shadows, loss of privacy, and dramatic contrasts with adjacent low-scale structures. Exceptions may be made where taller buildings are also permitted on the adjoining site.

Policy CDP-4.10: Landscape Design. Encourage—and where appropriate require—privately owned and maintained landscaping that conserves water, contributes to neighborhood quality, complements building forms and materials, improves stormwater management and drainage, and enhances the streetscape. Natural elements such as plants should be an integral part of site development and should enhance the built environment while supporting water conservation goals.

Policy CDP-4.11: Lighting. Encourage lighting for safety and security while preventing excessive light spillover and glare. Lighting should complement building and landscape design.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Supplemental EIR Analysis Scope and Pertinent Changes

The Capital Improvements Project would include improvements in areas of the SRHS campus where visual impacts could be different from those previously evaluated as part of the 2017 EIR. Therefore, supplemental analysis of the potential impacts of the project related to visual quality is warranted and presented below.

Significance Criteria

Significance Criteria from 2017 EIR

The 2017 EIR indicated that, based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant effect on aesthetics if it would:

- a) Have a substantial adverse effect on a scenic vista;
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- c) Substantially degrade the existing visual character or quality of the site and its surroundings;
or
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Changes in Significance Criteria Since 2017 EIR

Criterion (c) above has been changed since the 2017 EIR to read as follows:

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experiences from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Summary of Impacts and Mitigation Measures from 2017 EIR

Areas of No Impact from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would have no impact in relation to the following significance criteria:

- a) Have a substantial adverse effect on a scenic vista.
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Less-than-Significant Impacts from 2017 EIR

The 2017 EIR concluded that no less-than-significant aesthetic impacts would result from the Master Facilities Long-Range Plan and the Stadium Project.

Potentially Significant Impacts and Mitigation Measures from 2017 EIR

The table below summarizes potentially significant impacts and mitigation measures identified in the 2017 EIR.

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
Aesthetics			
<u>AESTHETICS-1</u> : Development in accordance with the Master Facilities Long-Range Plan could substantially degrade the existing visual character or quality of the site and its surroundings if new buildings do not respect the overall design of the campus and surrounding residences or include adequate landscaping.	PS	<u>AESTHETICS-1a</u> : New buildings shall be designed to be both contemporary in appearance and compatible with the materiality, features, size, scale, and proportion, and massing of the existing historic building (Building A) on campus. The new work shall be differentiated from the old and shall not create a false sense of historical development. <u>AESTHETICS-1b</u> : Building heights shall be less than 36 feet to be within the limits established by the City of San Rafael for the Public/Quasi-Public zoning district and to respect the scale of nearby residences. <u>AESTHETICS-1c</u> : New buildings shall be designed in a color scheme that is compatible with the neutral and earth-tone colors of existing buildings, with accent colors used for specific detailing. <u>AESTHETICS-1d</u> : The District shall establish Project Site Design Committees for the new buildings on the	LTS

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p>campus prior to development of schematic designs for new buildings (except for the Stadium Project, which has already undergone schematic design), and shall ensure that at least one public hearing is held for each project prior to development of construction drawings. The Project Site Design Committees shall include at least two representatives of the neighborhood.</p> <p><u>AESTHETICS-1e</u>: Large expanses of flat wall area along Mission Avenue shall be avoided in new buildings (especially Building 4, which has a long east/west axis), and windows and architectural detailing shall be added to provide a more aesthetically pleasing view of buildings as seen from Mission Avenue.</p> <p><u>AESTHETICS-1f</u>: A landscape plan shall be developed for the entire campus prior to construction of any new campus buildings in the campus core. This plan shall be reviewed by the District Board of Trustees at one public hearing that shall allow comments from the public. Suggestions from this hearing shall be considered prior to developing the final landscape plans that shall be developed prior to any construction within the campus core. The new landscape plan shall include groundcover and shrubbery at the north end of the site adjacent to Mission Avenue, where a narrow setback would exist between new buildings and the sidewalk area. New evergreen tree plantings shall occur along Mission Avenue to screen campus buildings from view, and to screen parking areas from view. Additional tree plantings with evergreen trees shall be included for the main existing parking area adjoining 3rd Street as well as for the new parking lot for 39 cars at the south end of the Stadium Project site. A minimum of five evergreen trees that are at least 24 feet at maturity shall be planted on the south side of this new parking area. All trees shall be planted from 24-inch boxes and shall be monitored for the first 3 years so that any lost trees can be replaced.</p> <p>The combination of the above measures would reduce this potential impact to a less-than-significant level.</p>	
<p><u>AESTHETICS-2</u>: Development in accordance with the Master Facilities Long-Range Plan could result in increased light and glare for the surrounding residential neighborhood due to lighting of facilities and outdoor areas.</p>	<p>PS</p>	<p><u>AESTHETICS-2</u>: All new lighting shall be shielded to reduce off-site light and glare. Pedestrian pathway lighting shall be of a uniform style and quality of illumination that aids in navigation without over-lighting the surroundings. Signage lighting shall be minimized to provide context for pedestrians and drivers. Parking lot lighting shall be shielded and cast downward to minimize "light spillage" to off-site locations and shall be placed on timers so that minimal lighting occurs after 11:00 PM. To the extent practicable, area lighting and security lighting shall be controlled by the use of timed switches and/or motion detector activation to reduce energy consumption and excess lighting.</p>	<p>LTS</p>

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
AESTHETICS-3: Lighting for the Aquatics Project could result in increased light and glare for the surrounding residential neighborhood.	PS	AESTHETICS-3: The District shall install outdoor lighting that is light-emitting diode (LED) but that is no greater than 3,000 Kelvin and that minimizes the "blue-rich" lighting as a means of reducing glare in the community and protecting public health. All outdoor lighting shall be shielded and directed downwards to minimize "light spillage" to off-site locations. Lighting shall be on timers so that no lighting of the Stadium Project fields occurs after 11:00 PM. Pedestrian and security lighting shall be strategically placed in the Aquatics Project vicinity so that excessive lighting does not occur and shall also be shielded and directed downward. When possible, motion activated lighting shall be used to minimize overall lighting of the Project area.	LTS

Cumulative Impacts from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would not result in or contribute to any significant cumulative aesthetic impacts.

Impacts of New Capital Improvements Project

Areas of No Impact

The following significance criteria would not apply to the new Capital Improvements Project and are therefore excluded from further discussion in this impact analysis:

- a) Have a substantial adverse effect on a scenic vista.
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

The proposed changes to the campus with the Capital Improvements Project would be integrated in scale and design with the existing campus. View of Mount Tamalpais from nearby residences and public roads would not be affected, as the scale of the new buildings would be similar to existing campus buildings and no major scenic vistas would be impaired. No state scenic highway is located in the vicinity of the campus.

Less-than-Significant Impacts

Similar to the conclusions of the 2017 EIR, the Capital Improvements Project would not result in less-than-significant visual impacts.

Potentially Significant Impacts and Mitigation Measures

Impact S-AESTHETICS-1: Development in accordance with the Capital Improvements Project could substantially degrade the existing visual character or quality of the site and its surroundings if new buildings do not respect the overall design of the campus and surrounding residences, or include adequate landscaping. (PS)

This impact and the recommended mitigation measure below are the same as Impact AESTHETICS-1 and Mitigation Measure AESTHETICS-1 in the 2017 EIR. Mitigation measures are revised so that they specifically address the new improvements.

There are a number of trees on the project site that would be removed or could be damaged as a result of construction during implementation of the Capital Improvements Project. The District also intends to remove or prune an estimated 23 trees identified as hazardous in an Arborist Report and Tree-Risk Assessment (Arborscience, 2023), at least 8 of which are recommended for removal. These include two bush cherries (*Syzygium paniculatum*), two glossy privet (*Ligustrum lucidum*), two Fremont cottonwood (*Populus fremontii*), a Modesto ash (*Fraxinus velutina*), and a multi-trunk blue gum eucalyptus. Trees to be pruned or dead limbs removed include Deodar cedar, Canary Island date palm, Raywood ash (*Fraxinus oxycarpa*), coast redwood, blue gum eucalyptus, and red ironbark (*Eucalyptus sideroxylon*). Additional smaller trees such as crape myrtles, flowering pear, and glossy privet trees along the Mission Avenue frontage and elsewhere on the site could be removed to accommodate improvements to the Middle Campus, Aquatics Center, and Athletic Fields. The District would plant new landscaping in various portions of the campus.

Mitigation Measure S-AESTHETICS-1a: New buildings shall be designed to be both contemporary in appearance and compatible with the materiality, features, size, scale, and proportion, and massing of the existing historic building (Building A) on campus. The new work shall be differentiated from the old and shall not create a false sense of historical development.

Mitigation Measure S-AESTHETICS-1b: Building heights shall be less than 36 feet to be within the limits established by the City of San Rafael for the Public/Quasi-Public zoning district and to respect the scale of nearby residences. The new Visual Arts Building is proposed to be 32 feet in height.

Mitigation Measure S-AESTHETICS-1c: New buildings shall be designed in a color scheme that is compatible with the existing buildings, with accent colors used for specific detailing.

Mitigation Measure S-AESTHETICS-1d: The District shall establish Project Site Design Committees for the new buildings on the campus prior to development of schematic designs for new buildings and shall ensure that at least one public meeting is held for each project prior to development of construction drawings.

Mitigation Measure S-AESTHETICS-1e: Large expanses of flat wall area along Mission Avenue shall be avoided in new buildings such as the new Visual Arts Building, and windows and architectural detailing shall be added to provide a more aesthetically pleasing view of buildings as seen from Mission Avenue.

Mitigation Measure S-AESTHETICS-1f: If such a plan has not already been developed (as recommended in the 2017 EIR), a landscape plan shall be developed for the entire campus. This plan shall be reviewed by the District Board of Trustees at one public meeting that shall allow comments from the public. Suggestions from this meeting, if any, shall be considered prior to developing the final landscape plans. The new landscape plan shall include planter beds at the north end of the site adjacent to Mission Avenue, where a narrow setback could exist between new buildings and the sidewalk area. New tree plantings shall occur along Mission Avenue. All trees shall be planted from 24-inch boxes and shall be monitored for the first 3 years so that any lost trees can be replaced.

The combination of the above measures would reduce this potential impact to a less-than-significant level. (LTS)

Impact S-AESTHETICS-2: The project could result in additional light and glare for nearby residential development due to lighting of the Aquatics Center at the north edge of the site. (PS)

This impact and the recommended mitigation measures address light and glare issues similar to Impacts AESTHETICS-2 and AESTHETICS-3 in the 2017 EIR but are tailored to address the specific issues raised by the Capital Improvements Project. An analysis of lighting impacts was completed by the firm Pearce Renewables and can be found in **Appendix C** of the SEIR. The following is a summary of the analysis conclusions.

General Discussion / Outdoor Sports Lighting

The potential environmental impacts of outdoor sports lighting are generally evaluated as combination of “light trespass” and “discomfort glare.” Light trespass is defined as light spilling onto adjacent properties, differing from the intended purpose and becoming a visual annoyance. Glare is defined as the visual discomfort experienced by an observer but can also be the contrast brightness of the light source.

Visual characteristics of outdoor sports lighting may additionally be considered as being objectionable to some include if the sports light poles either individually or cumulatively block a major view corridor. For this site, however, the light poles would not have a significant visual impact due to their location and intervening buildings.

Sports Lighting Design Criteria

The design of the proposed sports lighting system should provide light levels in accordance with recommendations of the Illuminating Engineering Society of North America (IESNA) RP-6-22 *Current Recommended Practice for Sports Lighting* (Illuminating Engineering Society of North America (IESNA), 2022). Using the IESNA criteria, it is recommended that average illuminance in footcandles (fc) for category IV and III be:

- Swimming pool illuminance IV on pool: 20 foot-candles (fc) @ 3 feet (ft)
- Swimming pool illuminance IV on deck: 10 fc @ 3 ft
- Swimming pool illuminance III on pool: 30 fc @ 3 ft
- Swimming pool illuminance III on deck: 10 fc @ 3 ft

Regulatory Environment

Although not applicable to the San Rafael High School campus, the City of San Rafael's Ordinance No. 2025, updated May 23, 2023, addresses residential properties and spill light. The ordinance states that lighting shall be appropriately designed and/or shielded to conceal light sources from view off-site and avoid spillover onto adjacent properties. Lighting is to be directed downwards, and to only illuminate the sports playing area and not to illuminate adjacent property. Currently, there is no legal or uniformly accepted definition of light trespass. Commonly, the term is employed in reference to unwanted light at the property line, disturbing the tranquility of an adjacent property owner.

This ordinance also places some limits regarding the light trespass levels. In general terms, acceptable lighting levels would provide 1 foot-candle ground-level overlap at doorways and 0.5 foot-candle overlap at walkways and parking lots and fall below 1 foot-candle at the property line.

The California legislature has been working on outdoor lighting issues, including "dark sky" issues, and does consider such in part of the 2022 Energy Efficiency Building Standards and the California Green Building Standards Code (CALGreen), but those standards do not include issues of light trespass from sports lighting, which is listed as an exempt category.

From recent experience it has been found that a 1 foot-candle limit is too high to properly address the spill light impact in residential neighborhoods; that is, it would produce lighting impacts that would disturb the tranquility of adjacent property owners.

The potential for light trespass can be analyzed by computing lighting intensity (illuminance) on horizontal and vertical planes at various locations of concern and comparing the result to the ambient conditions. For the project site, due to its suburban character, the natural ambient nighttime conditions are like those of bright moonlight.

The most feasible maximum value of trespass light to achieve minimal neighborhood impact would be equal to or less than 0.2 foot-candle, making the resulting illumination similar to that created by residential streetlights.

Criteria for Trespass Light and Glare

For trespass/spill light mitigation, the maximum horizontal and vertical illumination at the property line of homes should not exceed 1 foot-candle. While this value is relatively low, the more important consideration for the impact on the neighborhood is the glare produced by the Aquatic Center lights. Glare represents the brightness of the observed light sources.

For glare, the maximum value measured at 6 feet above ground, at the property line, in the viewed direction of the Aquatics Center, should not exceed 9,000 to 10,000 candelas (cd). There are no recognized standards for glare values; data are available pertaining to the discomfort level experienced by the observer. The value of 9,000 to 10,000 cd is a value known by professional lighting experience to cause little to no discomfort to the observer and would result in very minimal impacts of spill light into homes or outdoor areas.

Proposed Lighting Plan for Swimming Pool

Major considerations in the design of the sport area lighting systems (aquatic sport lights) include illumination levels, pole heights and position, light output of lamps, optical control of fixtures and glare shielding, ball check lighting (up-light), and proximity to surrounding land uses and residential neighborhoods.

The area to the north side of the swimming pool and beyond the school property contains residences, 330 feet from the swimming pool outer line. Horizontal values at 3 feet above ground level are 0 foot-candles and glare values at 3 feet above ground level are below 800 cd.

The area to the west side of the swimming pool consists of other residences, located beyond around 266 feet from the swimming pool outline. These two sides represent an area of spill light or glare concern. Horizontal values at 3 feet above ground level are 0 foot-candles and glare values at 3 feet above ground level are below 800 cd.

The area to the east side of the swimming pool, approximately 390 feet from the outer line, does not represent an area of spill light or glare concern.

The area to the south side of the swimming pool consists of school buildings, and beyond that is a football field. Because of distance exceeding 900 feet to residences, swimming pool lighting does not represent an area of spill light or glare concern in this area.

As illustrated in the Electrical Site Plan, the computer-predicted results for the lighting on the swimming pool and deck area are indicated in MUSCO Sports Lighting's Illumination Summary, in **Appendix C**.

Musco Lighting uses light-emitting diode (LED) fixtures with a high degree of optical control that can produce the required mitigation of spill light toward directions of the outfield light fixtures.

The proposed light fixtures are 540-watt LED lamps and would have aluminum housings with glare control, as illustrated in the manufacture product brochure included in Appendix C. These fixtures have unique optical systems allowing precise beam control, to the point where they are a cost-effective option for recreational facilities.

The poles in the recommended plan are to be 50 feet high. The selection of pole height was based on the need to provide adequate illumination at an economical cost, and to satisfactorily mitigate spill light. The configuration of the poles and light fixture clusters is illustrated in the MUSCO Sports Lighting product brochure attached as **Appendix C**.

The installation of the outdoor Aquatic Center lights would produce spill light and glare to the west side of the fields. Mitigation measures are therefore recommended to limit maximum spill light (measured in vertical and horizontal candles) to be equal to or less than 1 foot-candle at property lines. Such computer predicted results can be field-verified with a standard handheld illumination meter.

Mitigation Measure S-AESTHETICS-2: The following measures shall be implemented to minimize glare for nearby residences to the extent feasible:

- a) All outdoor lighting shall be shielded and directed downward to minimize both sky-light and spill light, in accordance with California Code of Regulations (CCR) Title 24 outdoor lighting requirements. Lighting shall be controlled by photocontrols or time switches. The proposed sports lighting system shall provide light levels in accordance with recommendations of the Illuminating Engineering Society of North America (IESNA) RP-6-22 Current Recommended Practice for Sports Lighting (Illuminating Engineering Society of North America (IESNA), 2022).*
- b) Glare from the aquatic sports lights shall be limited to a maximum of 9,000 to 10,000 candelas (cd) at 6 feet elevation at the property line. Field testing shall be completed by trained technicians.*
- c) To ensure that the maximum trespass/spill light on residences at the identified remains at or below 1 foot-candle, field testing shall take place for the actual performance of the aquatic sports lights system.*
- d) Any need to re-aim and/or adjust the luminaires during the initial nighttime testing of the aquatic sports lights shall be part of the project scope. This will ensure that no excessive trespass/spill light remains uncorrected.*
- e) The proposed aquatic sports lights shall be provided with programmable controls to turn OFF the lights at a pre-set time, recommended by San Rafael City Schools. Manual controls shall only be provided for testing the lights.*
- f) Additional control features that can be considered are dimming controls that would allow operation of the aquatic sports lights illumination to be reduced for practice play when there are no spectators present, as well as for after-event clean-up work. This has the benefit of allowing some degree of illumination after the prescribed time for when lights must be turned off immediately after events.*

The combination of the above mitigation measures would reduce this potential impact to less than significant. (LTS)

Cumulative Impacts

The new Capital Improvements Project would have the same cumulative impacts identified for the Master Facilities Long-Range Plan in the 2017 EIR.

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4.2 AIR QUALITY

INTRODUCTION

This section of the Supplemental EIR (SEIR) describes the air quality setting at the San Rafael High School (SRHS) campus (project site) and its vicinity, discusses the regulations and policies pertinent to air quality, and assesses the potentially significant impacts on the environment that could result from implementation of the project. This section identifies project-level and cumulative environmental impacts and explains how application of mitigation measures would reduce or avoid the identified impacts. The analysis in this section was prepared in accordance with the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines (CEQA Guidelines).

ENVIRONMENTAL SETTING

Summary of Environmental Setting from 2017 EIR

Conditions related to air quality at and near the SRHS campus at the time the 2017 EIR was prepared are described below.

Regional Climate, Meteorology, and Topography

The SRHS campus is located in the City of San Rafael in the County of Marin, which is located in the San Francisco Bay Area Air Basin (SFBAAB). Air basins have natural characteristics that limit the ability of natural processes to either dilute or transport air pollutants. The major determinants of air pollution transport and dilution are climatic and topographic factors such as wind, atmospheric stability, terrain that influences air movement, and sunshine. Winds and terrain can combine to transport pollutants away from upwind areas, while solar energy can chemically transform pollutants in the air to create secondary, photochemical pollutants such as ozone.

The Bay Area has a Mediterranean climate characterized by wet winters and dry summers. During the summer, a high-pressure cell centered over the northeastern Pacific Ocean results in stable meteorological conditions and a steady northwesterly wind flow that keep storms from affecting the California coast. During the winter, the Pacific high-pressure cell weakens resulting in increased precipitation and the occurrence of storms. The highest air pollutant concentrations in the Bay Area generally occur during inversions, when a surface layer of cooler air becomes trapped beneath a layer of warmer air. An inversion reduces the amount of vertical mixing and dilution of air pollutants in the cooler air near the surface (BAAQMD, 2017a).

Marin County is bounded on the west by the Pacific Ocean, on the east by San Pablo Bay, on the south by the Golden Gate, and on the north by the Petaluma Gap. San Rafael is located in the southeastern part of Marin County. The eastern side of Marin County has warmer weather than the western side because of its distance from the ocean and because the hills that separate eastern Marin from western Marin occasionally block the flow of the marine air. The temperatures of cities next to the Bay are moderated by the cooling effect of the Bay in the summer and the warming

effect of the Bay in the winter. For example, San Rafael experiences average maximum summer temperatures in the low 80 degrees Fahrenheit and average minimum winter temperatures in the low 40 degrees Fahrenheit.

While Marin County does not have many polluting industries, the air quality on its eastern side (especially along the U.S. 101 corridor) may be affected by emissions from motor vehicle use within and through the county. The prevailing wind directions throughout Marin County are generally from the northwest. In southeast Marin County, the influence of marine air keeps pollution levels low (BAAQMD, 2017a).

Air Pollutants of Concern

The California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (EPA) currently focus on the following air pollutants as regional indicators of ambient air quality: ozone, suspended particulate matter (i.e., respirable particulate matter [PM₁₀] and fine particulate matter [PM_{2.5}]), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and lead. Because these are the most prevalent air pollutants known to be deleterious to human health and about which extensive health-effects criteria documents are available, they are referred to as “criteria air pollutants.”

In the SFBAAB, the primary criteria air pollutants of concern are CO, ground level ozone formed through reactions of oxides of nitrogen (NO_x) and reactive organic gases (ROG), PM₁₀, and PM_{2.5}. In addition to criteria air pollutants, local emissions of toxic air contaminants (TACs), such as diesel particulate matter (DPM), are a concern for nearby receptors. These primary air pollutants of concern are discussed further below.

Carbon Monoxide (CO)

CO is a colorless, odorless gas produced by the incomplete combustion of fuels, and the primary source of CO in the SFBAAB is motor vehicles. CO impacts are generally localized as CO will disperse rapidly as distance increases from the source, but high concentrations can be a concern in areas with heavy traffic congestion. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near highly congested transportation corridors and intersections. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.

Ozone

While ozone serves a beneficial purpose in the upper atmosphere (stratosphere) by reducing ultraviolet radiation potentially harmful to humans, it can be harmful to the human respiratory system and to sensitive species of plants when it reaches elevated concentrations in the lower atmosphere. Ozone is not emitted directly into the environment, but is formed in the atmosphere by complex chemical reactions between ROG and NO_x in the presence of sunlight. Ozone formation

is greatest during periods of little or no wind, bright sunshine, and high temperatures. As a result, levels of ozone usually build up during the day and peak in the afternoon hours.

Sources of ROG and NO_x are vehicle tailpipe emissions; the evaporation of solvents, paints, and fuels; and biogenic sources.¹ Automobiles are the single largest source of ozone precursors in the SFBAAB. Short-term ozone exposure can reduce lung function in children, make persons susceptible to respiratory infection, and produce symptoms that cause people to seek medical treatment for respiratory distress. Long-term exposure can impair lung defense mechanisms and lead to emphysema and chronic bronchitis. Ozone can also damage plants and trees, and materials such as rubber and fabrics.

Particulate Matter (PM₁₀ and PM_{2.5})

PM₁₀ and PM_{2.5} consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen, forest fires, and windblown dust, are naturally occurring. In populated areas, however, most particulate matter is caused by road dust, combustion products, abrasion of tires and brakes, and construction activities. Particulate matter can also be formed in the atmosphere by condensation of SO₂ and ROG.

Particulate matter exposure can affect breathing, aggravate existing respiratory and cardiovascular disease, alter the body's defense systems against foreign materials, and damage lung tissue, contributing to cancer and premature death. Individuals with chronic obstructive pulmonary or cardiovascular disease, asthmatics, the elderly, and children are most sensitive to the effects of particulate matter.

Toxic Air Contaminants

TACs include a diverse group of air pollutants that can adversely affect human health. Unlike criteria air pollutants, which are regionally regulated based on the California ambient air quality standards (CAAQS), TAC emissions are evaluated based on estimations of localized concentrations and risk assessments. The adverse health effects a person may experience following exposure to any chemical depend on several factors, including the amount to which one is exposed (dose), the duration of exposure, the form of the chemical, and if exposure to any other chemicals has occurred.

For risk assessment purposes, TACs are separated into carcinogens and non-carcinogens. Carcinogens are assumed to have no safe threshold below which health impacts would not occur and cancer risk is expressed as excess cancer cases per one million exposed individuals over a lifetime of exposure. Non-carcinogenic substances are generally assumed to have a safe threshold below which health impacts would not occur. Acute and chronic exposure to non-carcinogens is expressed as a hazard index (HI), which is the sum of expected exposure levels divided by the corresponding acceptable exposure levels. In the SFBAAB, adverse air quality impacts on public health from TACs are predominantly from DPM.

¹ Biogenic sources include volatile organic compounds, which include ROG, from the decomposition of vegetative matter and certain plants, such as oak and pine trees.

DPM is generated when an engine burns diesel fuel. It is the particulate component of diesel exhaust, which includes diesel soot and aerosols such as ash particulates, metallic abrasion particles, sulfates, and silicates. DPM is of particular health concern as it can penetrate deeply into the lungs, where it can contribute to a range of health problems. In 1998, CARB identified particulate matter from diesel-powered engines as a TAC based on its potential to cause cancer and other adverse health effects (CARB, 1998). While diesel exhaust is a complex mixture that includes hundreds of individual constituents, under California regulatory guidelines DPM is used as a surrogate measure of exposure for the mixture of chemicals that make up diesel exhaust as a whole.

Existing Sensitive Receptors

Sensitive receptors are areas where individuals are more susceptible to the adverse effects of poor air quality. Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing, and convalescent facilities. Residential areas are also considered sensitive receptors because people are often at home for extended periods, thereby increasing the duration of exposure to potential air contaminants.

Sensitive receptors on the SRHS campus include the 9th to 12th grade classrooms where children congregate throughout the school day. Other sensitive receptors near the SRHS campus include residences located immediately north and east of the campus and retirement homes on 4th Street west of the campus (San Rafael Commons).

Changes in Environmental Setting Since 2017 EIR

New information regarding air quality conditions at and near the SRHS campus is presented below.

Air Pollutants of Concern

As the Bay Area is formally recognized as a carbon monoxide attainment area, carbon monoxide is no longer considered as one of the primary air pollutants of concern. In the SFBAAB, the primary criteria air pollutants of concern are ground-level ozone formed through reactions NO_x and ROG, PM₁₀, and PM_{2.5}.

Regional air pollutants, such as ozone, PM₁₀, and PM_{2.5}, can be formed and/or transported over long distances and affect ambient air quality far from the emissions source. The magnitude and location of specific health effects from exposure to increased ozone, PM₁₀, and PM_{2.5} concentrations are the result of emissions generated by numerous sources throughout the SFBAAB, as opposed to a single project. The BAAQMD and other air districts use regional air dispersion models to correlate the cumulative emissions of regional pollutants to potential community health effects. However, these dispersion models have limited sensitivity to the relatively small (or negligible) changes in criteria air pollutant concentrations associated with an individual project. Therefore, it is not feasible to provide reliable estimates of specific health risks associated with regional air pollutant emissions from an individual project.

The BAAQMD operates a network of air monitoring stations throughout the SFBAAB to monitor air pollutants such as ozone, PM₁₀, and PM_{2.5}. **Table 4.2-1** presents a five-year summary for the period from 2017 to 2021 of the highest annual concentrations of ozone, PM_{2.5}, and PM₁₀

measured at the nearest monitoring station located at 534 4th Street in the City of San Rafael, approximately 0.3 mile west of the project site. Table 4.2-1 also compares measured pollutant concentrations with applicable state and federal ambient air quality standards, which are discussed under *Regulatory Framework*, below.

TABLE 4.2-1 AIR QUALITY TRENDS

Pollutant	Standard	2018	2019	2020	2021	2022
Ozone (O ₃)	Max 1-hour Concentration (ppm)	0.072	0.096	0.086	0.082	0.074
	Days > CAAQS (0.09 ppm)	0	1	0	0	0
	Max 8-hour Concentration (ppm)	0.054	0.081	0.064	0.066	0.066
	Days > CAAQS (0.070 ppm)	0	1	0	0	0
	Days > NAAQS (0.070 ppm)	0	1	0	0	0
Coarse Particulate Matter (PM ₁₀)	Max 24-hour Concentration (µg/m ³)	166.0	33.0	118.0	30.0	40.0
	Days > CAAQS (50 µg/m ³)	12.2	NV	6.1	0.0	0.0
	Days > NAAQS (150 µg/m ³)	6.1	0.0	0.0	0.0	0.0
	Annual Arithmetic Mean (µg/m ³)	18.9	13.9	16.6	14.7	13.7
Fine Particulate Matter (PM _{2.5})	Max 24-hour Concentration (µg/m ³)	167.6	19.5	155.5	29.1	30.8
	Days > NAAQS (35 µg/m ³)	13.0	0.0	9.0	0.0	0.0
	Annual Arithmetic Mean (µg/m ³)	11.1	6.4	8.7	7.0	6.9

Notes: CAAQS = California ambient air quality standards; µg/m³ = micrograms per cubic meter; NAAQS = National ambient air quality standards; ppm = parts per million; NV = no value due to insufficient data.

State statistics are based on California-approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. When the measured state and national concentrations varied due to different sample methods, the highest concentration was reported in the summary table.

Source: California Air Resources Board (CARB), 2023.

Existing Sources and Levels of Local Air Pollution

In the Bay Area, stationary and mobile sources are the primary contributors of TACs and PM_{2.5} emissions to local air pollution. In an effort to promote healthy infill development from an air quality perspective, the BAAQMD has prepared guidance entitled *Planning Healthy Places* (BAAQMD, 2016b). The purpose of this guidance document is to encourage local governments to address and minimize potential local air pollution issues early in the land-use planning process, and to provide technical tools to assist them in doing so. Based on a screening-level cumulative analysis of mobile and stationary sources in the Bay Area, the BAAQMD mapped localized areas of elevated air pollution that 1) exceed an excess cancer risk of 100 in a million; 2) exceed PM_{2.5} concentrations of 0.8 micrograms per cubic meter; or 3) are located within 500 feet of a freeway, 175 feet of a major roadway (with more than 30,000 annual average daily vehicle trips), or 500 feet of a ferry terminal. Within these localized areas of elevated air pollution, the BAAQMD encourages local governments to implement best practices to reduce exposure to and emissions from local sources of air pollutants. According to the BAAQMD, elevated levels of PM_{2.5} and/or TAC pollution do not currently extend across the project site (BAAQMD, 2023a).

Existing Sensitive Receptors

Sensitive receptors on the SRHS campus include the 9th to 12th grade classrooms where children congregate throughout the school day. Other sensitive receptors near the SRHS campus include residences located immediately north and east of the campus and the retirement homes on 4th Street west of the campus (San Rafael Commons). Off-site worker receptors are located west and south of the project site across Union Street and 3rd Street, respectively. The off-site worker receptors are new receptors compared to the 2017 EIR.

REGULATORY FRAMEWORK

Summary of Regulatory Framework from 2017 EIR

Federal, State, and Regional Regulations

The EPA is responsible for implementing the programs established under the Federal Clean Air Act, such as establishing and reviewing the national ambient air quality standards (NAAQS) and judging the adequacy of State Implementation Plans (SIP) to attain the NAAQS. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in non-attainment areas, using a combination of performance standards and market-based programs. If a state fails to enforce its SIP-approved regulations, or if the EPA determines that a state's SIP is inadequate, the EPA is required to prepare and enforce a Federal Implementation Plan to promulgate comprehensive control measures for a given SIP.

CARB is responsible for establishing and reviewing the CAAQS, developing and managing the California SIP, identifying TACs, and overseeing the activities of regional air quality management districts. In California, mobile emissions sources (e.g., construction equipment, trucks, and automobiles) are regulated by CARB, and stationary emissions sources (e.g., industrial facilities) are regulated by air quality management districts.

The CAAQS and NAAQS, which were developed for criteria air pollutants, are intended to incorporate an adequate margin of safety to protect the public health and welfare. California has also established ambient air quality standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. To achieve ambient air quality standards, criteria air pollutant emissions in California are managed through control measures described in regional air quality plans and emission limitations placed on permitted stationary sources.

In accordance with the federal Clean Air Act and California Clean Air Act, areas in California are classified as either in "attainment," "maintenance," or "non-attainment" of the NAAQS or CAAQS for each criteria air pollutant. To assess the regional attainment status, the BAAQMD collects ambient air quality data from over 30 monitoring sites within the SFBAAB. Based on the monitoring data, the SFBAAB is currently designated as a non-attainment area for ozone, PM₁₀, and PM_{2.5}, and is designated an attainment or unclassified area for all other pollutants (see **Table 4.2-2**).

Regulation of TACs, referred to as hazardous air pollutants (HAPs) under federal regulations, is achieved through federal, state, and local controls on individual sources. The air toxics provisions of the federal Clean Air Act require the EPA to establish National Emission Standards for

TABLE 4.2-2 AIR QUALITY STANDARDS AND ATTAINMENT STATUS

Pollutant	Averaging Time	CAAQS		NAAQS	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	8-Hour	0.070 ppm	N	0.070 ppm	N
	1-Hour	0.09 ppm	N	Revoked in 2005	---
Carbon Monoxide (CO)	8-Hour	9.0 ppm	A	9 ppm	A
	1-Hour	20 ppm	A	35 ppm	A
Nitrogen Dioxide (NO ₂)	1-Hour	0.18 ppm	A	0.100 ppm	U
	Annual	0.030 ppm	A	0.053 ppm	A
Sulfur Dioxide (SO ₂)	24-Hour	0.04 ppm	A	0.14 ppm	A
	1-Hour	0.25 ppm	A	0.075 ppm	A
	Annual	---	---	0.030 ppm	A
Respirable Particulate Matter (PM ₁₀)	Annual	20 µg/m ³	N	---	---
	24-Hour	50 µg/m ³	N	150 µg/m ³	U
Fine Particulate Matter (PM _{2.5})	Annual	12 µg/m ³	N	12 µg/m ³	U/A
	24-Hour	---	---	35 µg/m ³	N
Sulfates	24-Hour	25 µg/m ³	A	---	---
	30-Day	1.5 µg/m ³	A	---	---
Lead	Calendar Quarter	---	---	1.5 µg/m ³	A
	Rolling 3-Month	---	---	0.15 µg/m ³	A
Hydrogen Sulfide	1-Hour	0.03 ppm	U	---	---
Vinyl Chloride	24-Hour	0.010 ppm	Unknown	---	---
Visibility Reducing Particles	8 Hour (10:00 to 18:00 PST)	---	U	---	---

Notes: A=Attainment; N=Non-attainment; U=Unclassified; "—"=Not Applicable; ppm=parts per million; µg/m³=micrograms per cubic meter; CAAQS=California ambient air quality standards; NAAQS=national ambient air quality standards; PST=Pacific Standard Time.

Source: Bay Area Air Quality Management District (BAAQMD), 2016a.

Hazardous Air Pollutants (NESHAP) to identify HAPs that are known or suspected to cause cancer or other serious health effects to protect public health and welfare. California regulates TACs primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act created California's program to identify and reduce exposure to TACs. To date, CARB has identified over 21 TACs and adopted the EPA's list of 187 HAPs as TACs. The Hot Spots Act supplements the Tanner Act by requiring a

statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

Bay Area Air Quality Management District Responsibilities

The BAAQMD is primarily responsible for assuring that the NAAQS and CAAQS are attained and maintained in the SFBAAB. The BAAQMD fulfills this responsibility by adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits, inspecting stationary sources of air pollutants, responding to citizen complaints, and monitoring ambient air quality and meteorological conditions. The BAAQMD also awards grants to reduce motor vehicle emissions and conducts public education campaigns and many other activities associated with improving air quality within the SFBAAB.

The demolition of existing buildings and structures is subject to BAAQMD's Regulation 11, Rule 2 (Asbestos Demolition, Renovation, and Manufacturing), which limits asbestos emissions from demolition or renovation of structures and the associated disturbance of asbestos-containing waste material generated or handled during these activities. The rule addresses the national emissions standards for asbestos along with some additional requirements. The rule requires the lead agency and its contractors to notify BAAQMD of any regulated renovation or demolition activity. This notification includes a description of structures and methods utilized to determine whether asbestos-containing materials are potentially present. All asbestos-containing material found on the site must be removed prior to demolition or renovation activity in accordance with BAAQMD Regulation 11, Rule 2, including specific requirements for surveying, notification, removal, and disposal of material containing asbestos. Therefore, projects that comply with Regulation 11, Rule 2 would ensure that asbestos-containing materials would be disposed of appropriately and safely.

In June 2010, the BAAQMD adopted thresholds of significance to assist lead agencies in the evaluation and mitigation of air quality impacts under CEQA (BAAQMD, 2010a). The BAAQMD's thresholds established levels at which emissions of ozone precursors (ROG and NO_x), PM₁₀, PM_{2.5}, local CO, and TACs could cause significant air quality impacts.

Bay Area Clean Air Plan

In accordance with the California Clean Air Act, the BAAQMD is required to prepare and update an air quality plan that outlines measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve the NAAQS and CAAQS in areas designated as non-attainment. In September 2010, the BAAQMD adopted the *Bay Area 2010 Clean Air Plan* (CAP) (BAAQMD, 2010b).

Local Regulations

San Rafael General Plan

The City of San Rafael has updated its general plan since the 2017 EIR was prepared. Therefore, the San Rafael General Plan discussion from the 2017 EIR is not relevant to the proposed Capital Improvements Project. See "Changes in Regulatory Framework Since 2017 EIR" below for discussion of relevant policies and programs from the updated San Rafael General Plan.

Changes in Regulatory Framework Since 2017 EIR

Regional Regulations

Bay Area Air Quality Management District Responsibilities

Since the 2017 EIR, the BAAQMD has revised its CEQA Guidelines in 2017 and again in 2022. The BAAQMD's CEQA Guidelines include recommended thresholds of significance to assist lead agencies in evaluating and mitigating air quality impacts under CEQA (BAAQMD, 2023b). The BAAQMD's recommended thresholds of significance for air quality remain unchanged from those adopted in 2010, however, as discussed further in *Section 4.5, Greenhouse Gas Emissions*, the recommended thresholds of significance for climate impacts from greenhouse gas (GHG) emissions were updated in 2022. The BAAQMD's thresholds establish levels at which emissions of ozone precursors (ROG and NO_x), PM₁₀, PM_{2.5}, TACs, and odors could cause significant air quality impacts. The scientific soundness of the thresholds is supported by substantial evidence presented in BAAQMD's CEQA Guidelines Appendix A, Thresholds of Significance Justification. The 2022 Guidelines also include recommended best practices for centering environmental justice, health, and equity for overburdened and/or AB 617 communities. The SRHS campus is not located in an overburdened and/or AB 617 community.

Bay Area Clean Air Plan

In accordance with the California Clean Air Act, the BAAQMD is required to prepare and update an air quality plan that outlines measures by which both stationary and mobile sources of pollutants can be controlled to achieve the NAAQS and CAAQS in areas designated as non-attainment. In April 2017, the BAAQMD adopted the 2017 Clean Air Plan: Spare the Air, Cool the Climate (2017 CAP). The 2017 CAP includes 85 control measures to reduce ozone precursors, particulate matter, TACs, and GHGs. The 2017 CAP was developed based on a multi-pollutant evaluation method that incorporates well-established studies and methods of quantifying health benefits; air quality regulations; computer modeling and analysis of existing air quality monitoring data and emissions inventories; and traffic and population growth projections prepared by the Metropolitan Transportation Commission and the Association of Bay Area Governments, respectively.

Local Regulations and Policies

San Rafael General Plan 2040

The City of San Rafael has updated its General Plan since the 2017 EIR. The City's current General Plan (City of San Rafael, 2021) contains updated goals, policies, and programs pertaining to air quality that may be applicable to the project, as follows:

Policy C-2.1: State and Federal Air Quality Standards. Continue to comply with state and federal air quality standards.

Program C-2.1A: Cooperation with Other Agencies. Work with the Bay Area Air Quality Management District (BAAQMD) and other agencies to ensure compliance with air quality regulations and proactively address air quality issues.

Policy C-2.2: Land Use Compatibility and Building Standards. Consider air quality conditions and the potential for adverse health impacts when making land use and development decisions. Buffering, landscaping, setback standards, filters, insulation and sealing, home HVAC measures, and similar measures should be used to minimize future health hazards.

Program C-2.2A: Protection of Sensitive Receptors. Use the development review process to require an evaluation of air quality impacts and the inclusion of measures to mitigate the exposure of sensitive receptors to both construction-related and long-term operational impacts. As prescribed by the EIR for General Plan 2040 and the Downtown Precise Plan, the following protocols shall be followed:

a) Projects that exceed BAAQMD screening criteria shall be required to evaluate project-specific construction emissions and operational emissions in conformance with California Environmental Quality Act (CEQA) Guidelines and BAAQMD methodologies. If projected pollutant levels for either construction or operations exceed BAAQMD thresholds, project applicants shall be required to mitigate the impacts to an acceptable level.

(b) As recommended by the California Air Resources Board, projects that would result in construction activities within 1,000 feet of residential and other land uses that are sensitive to toxic air contaminants (e.g., hospitals, nursing homes, day care centers, etc.), as measured from the property line of the project, shall be required to prepare a construction health risk assessment in accordance with the policies and procedures of the Office of Environmental Health Hazard Assessment (OEHHA) and the BAAQMD CEQA Guidelines. These Guidelines identify mitigation measures capable of reducing potential cancer and non-cancer risks to a level below ten in one million or a hazard index of 1.0.

(c) Applicants for industrial or warehousing land uses or commercial land uses that would generate substantial diesel truck travel (i.e., 100 diesel trucks per day or 40 or more trucks with diesel-powered transport refrigeration units per day) shall contact BAAQMD to determine the appropriate level of operational health risk assessment (HRA) required. If required, the HRA shall be prepared in accordance with OEHHA and BAAQMD requirements and impacts shall be mitigated to an acceptable level.

Policy C-2.3: Improving Air Quality Through Land Use and Transportation Choices.

Recognize the air quality benefits of reducing dependency on gasoline-powered vehicles. Implement land use and transportation policies, supportable by objective data, to reduce the number and length of car trips, improve alternatives to driving, reduce vehicle idling, and support the shift to electric and cleaner-fuel vehicles.

Program C-2.3A: Air Pollution Reduction Measures. Implement air pollution reduction measures as recommended by BAAQMD's Clean Air Plan and supporting documents to address local sources of air pollution in community planning. This should include Transportation Control Measures (TCM) and Transportation Demand Management (TDM) programs to reduce emissions associated with diesel and gasoline-powered vehicles.

Policy C-2.4: Particulate Matter Pollution Reduction. Promote the reduction of particulate matter from roads, parking lots, construction sites, agricultural lands, wildfires, and other sources.

Program C-2.4A: Particulate Matter Exposure. Through development review, require that Best Available Control Technology (BACT) measures (such as setbacks, landscaping, paving, soil and

dust management, and parking lot street sweeping) are used to protect sensitive receptors from particulate matter. This should include control of construction-related dust and truck emissions as well as long-term impacts associated with project operations. Where appropriate, health risk assessments may be required to evaluate risks and determine appropriate mitigation measures.

Program C-2.4B: Wildfire Smoke. Support efforts to reduce health hazards from wildfire smoke, such as limits on outdoor activities, access to respirators and air filtration systems, access to clean air refuge centers, and public education.

Program C-2.4C: Wood-Burning Stoves and Fireplaces. Regulate wood-burning stoves and fireplaces to reduce particulate pollution.

Policy C-2.5: Indoor Air Pollutants. Reduce exposure to indoor air pollutants such as mold, lead, and asbestos through the application of state building standards, code enforcement activities, education, and remediation measures.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Supplemental EIR Analysis Scope and Pertinent Changes

The project would include improvements that are not addressed in the 2017 EIR, such as the Aquatic Center, the new Performing Arts Plaza, and the new artificial turf for the Athletic Fields. In addition, the project would include the demolition of the existing swimming pool and pool deck at the Aquatics Center. Therefore, supplemental analysis of the potential impacts of the project related to air quality is warranted and presented below.

Significance Criteria

Significance Criteria from 2017 EIR

The 2017 EIR indicated that, based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant effect on air quality if it would:

- a) Conflict with or obstruct implementation of the applicable air quality plan(s);
- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- d) Expose sensitive receptors to substantial pollutant concentrations; or
- e) Create objectionable odors affecting a substantial number of people.

The BAAQMD's thresholds of significance have established levels at which emissions of air pollutants of concern (ROG, NO_x, PM₁₀, PM_{2.5}, and TACs) and odors could cause significant air quality impacts (BAAQMD, 2010a). The 2017 EIR used the BAAQMD's plan-level and project-level

thresholds of significance to evaluate the project's impact on the environment, as summarized in **Table 4.2-3** and **Table 4.2-4**, respectively.

TABLE 4.2-3 BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD) PLAN-LEVEL THRESHOLDS OF SIGNIFICANCE

Impact Analysis	Pollutants	Threshold of Significance
Regional Air Quality (Operation)	Criteria Pollutants	<ul style="list-style-type: none"> ▪ Consistency with Current Air Quality Plan control measures. ▪ Projected VMT or vehicle trip increase is less than or equal to projected population increase.
Local Community Risks and Hazards (Operation)	Toxic Air Contaminants (TACs)	<ul style="list-style-type: none"> ▪ Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas). ▪ Overlay zones of at least 500 feet (or Air District-approved modeled distance) from all freeways and high-volume roadways.

Notes: VMT = vehicle miles traveled.

The BAAQMD does not recommend plan-level thresholds of significance for criteria pollutants or TACs during construction.

Source: BAAQMD, 2010a.

TABLE 4.2-4 BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD) PROJECT-LEVEL THRESHOLDS OF SIGNIFICANCE

Impact Analysis	Pollutant	Threshold of Significance
Regional Air Quality (Construction)	ROG	54 pounds/day (average daily emission)
	NOx	54 pounds/day (average daily emission)
	Exhaust PM ₁₀	82 pounds/day (average daily emission)
	Exhaust PM _{2.5}	54 pounds/day (average daily emission)
	Fugitive dust (PM ₁₀ and PM _{2.5})	Best management practices
Regional Air Quality (Operation)	ROG	54 pounds/day (average daily emission) 10 tons/year (maximum annual emission)
	NOx	54 pounds/day (average daily emission) 10 tons/year (maximum annual emission)
	Exhaust PM ₁₀	82 pounds/day (average daily emission) 15 tons/year (maximum annual emission)
	Exhaust PM _{2.5}	54 pounds/day (average daily emission) 10 tons/year (maximum annual emission)
	Local Community Risks and Hazards (Construction)	Exhaust PM _{2.5}
Local Community Risks and Hazards (Operation)	Toxic Air Contaminants	Cancer risk increase > 10 in 1 million Chronic or acute hazard index > 1.0
	CO	9.0 ppm (8-hour average) 20.0 ppm (1-hour average)
	Exhaust PM _{2.5}	0.3 µg/m ³ (annual average)
Local Community Risks and Hazards (Cumulative)	Toxic Air Contaminants	Cancer risk increase > 10 in 1 million Chronic or acute hazard index > 1.0
	Exhaust PM _{2.5}	0.8 µg/m ³ (annual average)

Note: ROG = reactive organic gases; NOx = oxides of nitrogen; PM₁₀ = respirable particulate matter; PM_{2.5} = fine particulate matter; ppm = part per million; DPM = diesel particulate matter; µg/m³ = micrograms per cubic meter.

Source: BAAQMD, 2010a.

Changes in Significance Criteria Since 2017 EIR

Per the current CEQA Guidelines, significance criterion (b) (as listed above) has been removed. The criteria (c) and (e) listed above have been revised (and renumbered as criteria (b) and (d), respectively)² to read as follows:

- b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

This SEIR evaluates the impacts associated with the project at a project level; therefore, the 2017 EIR plan-level thresholds of significance are not applicable to the SEIR. Per the current BAAQMD's thresholds of significance (BAAQMD, 2023b), the thresholds for Local Community Risks and Hazards (construction and operation) have been revised to include fugitive dust for PM_{2.5} emissions and health risks to off-site workers.

Summary of Impacts and Mitigation Measures from 2017 EIR

Areas of No Impact from 2017 EIR

The plan- and project-level analysis in the 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would have no impact in relation to the following significance criteria:

- e) *Create objectionable odors affecting a substantial number of people.* The BAAQMD has identified types of land uses that have the potential to generate considerable odors (e.g., wastewater treatment plants, landfills, confined animal facilities). The 2017 EIR determined that the Master Facilities Long-Range Plan did not include any of these land uses or any other sources of odors and there were no existing sources of objectionable odors in the vicinity of the SRHS campus.

Less-than-Significant Impacts from 2017 EIR

The plan-level analysis in the 2017 EIR concluded that implementation of the Master Facilities Long-Range Plan would result in less-than-significant impacts related to conflicts with the 2010 Clean Air Plan, violation of air quality standards, emissions of criteria air pollutants, and exposure of sensitive receptors to substantial pollutant concentrations. The project-level analysis in the 2017 EIR also concluded that the construction of the Stadium Project would result in less-than-significant impacts related to conflict with the 2010 Clean Air Plan, violation of air quality standards, and emissions of criteria air pollutants.

Potentially Significant Impacts and Mitigation Measures from 2017 EIR

The table below summarizes potentially significant impacts and mitigation measures identified in the project-level analysis of the 2017 EIR.

² Former criterion (d) was similarly renumbered as criterion (c).

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
Air Quality			
<p><u>AIR-1:</u> Construction for the Master Facilities Long-Range Plan could violate an air quality standard or contribute substantially to an existing or projected air quality violation; or result in a cumulatively considerable net increase of a criteria pollutant (including ozone precursors) for which the project region is non-attainment under an applicable federal or state ambient air quality standard.</p>	PS	<p><u>AIR-1a:</u> During project construction, the contractor shall implement a dust control program that includes the following measures:</p> <ul style="list-style-type: none"> ▪ All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. ▪ All haul trucks transporting soil, sand, or other loose material off-site shall be covered. ▪ All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. ▪ All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. ▪ All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. ▪ A publicly visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Bay Area Air Quality Management District (BAAQMD) phone number shall also be visible to ensure compliance with applicable regulations. <p>The foregoing requirements shall be included in the appropriate contract documents with the contractor.</p>	LTS
		<p><u>AIR-1b:</u> Prior to construction of an individual project under the Master Facilities Long-Range Plan, a project-level analysis of criteria pollutant emissions during construction shall be prepared in accordance with BAAQMD CEQA Air Quality Guidance. If emissions exceed the BAAQMD's project-level thresholds of significance, then exhaust-control measures shall be identified to reduce emissions below the thresholds of significance. Acceptable exhaust-control measures for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, oxidation catalysts, diesel particulate filters, and/or other options as such become available. The contractor shall submit a Certification Statement to the San Rafael City Schools stating that the contractor agrees to comply fully with the identified exhaust-control measures (if any) and acknowledges that a significant violation of these measure shall constitute a material breach of contract. The foregoing requirement shall be included in the appropriate contract documents with the contractor.</p>	LTS
<p><u>AIR-2:</u> Construction of the Master Facilities Long-Range Plan could expose sensitive receptors to substantial pollutant concentrations.</p>	PS	<p><u>AIR-2:</u> Prior to construction of an individual project under the Master Facilities Long-Range Plan, a project-level health risk analysis of DPM and PM_{2.5} emissions during construction shall be prepared in accordance with BAAQMD and OEHHA guidance. If the health risks and hazards from DPM and PM_{2.5} emissions exceed the BAAQMD's project-level</p>	LTS

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
<u>AIR-3:</u> Construction of the Stadium Project could expose sensitive receptors to substantial pollutant concentrations.	PS	<p>thresholds of significance, then exhaust-control measures shall be identified to reduce emissions below the thresholds of significance. Acceptable exhaust-control measures for reducing DPM and PM_{2.5} emissions include the use of late model engines, diesel particulate filters, and/or other options as such become available. The contractor shall submit a Certification Statement to the San Rafael City Schools stating that the contractor agrees to comply fully with the identified exhaust-control measures (if any) and acknowledges that a significant violation of these measure shall constitute a material breach of contract. The foregoing requirement shall be included in the appropriate contract documents with the contractor.</p> <p><u>AIR-3:</u> During Stadium Project construction, the contractor shall use off-road equipment that meets the California Air Resources Board's Tier 2 (or higher) certification requirements. The contractor shall submit a Certification Statement to the San Rafael City Schools stating that the contractor agrees to comply fully with the Tier 2 (or higher) engine requirements described above and acknowledges that a significant violation of the measure shall constitute a material breach of contract. The foregoing requirements shall be included in the appropriate contract documents with the contractor.</p>	LTS

Cumulative Impacts from 2017 EIR

The 2017 EIR concluded that construction and operation of the Master Facilities Long-Range Plan, including the Stadium Project, would not result in or contribute to any significant cumulative impact on regional or local air quality. The 2017 EIR indicated that construction projects for the Master Facilities Long-Term Plan could potentially exceed the BAAQMD’s cumulative thresholds of significance. Implementation of Mitigation Measure AIR-2 would reduce potentially significant cumulative impacts on sensitive receptors related to emissions of DPM and PM_{2.5} during construction for the Master Facilities Long-Range Plan to a less-than-significant level.

Impacts of New Capital Improvements Project

Areas of No Impact

The following significance criteria would not apply to the project and are therefore excluded from further discussion in this impact analysis:

- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

As mentioned above, former significance criterion (b) has been removed from Appendix G of the current California Environmental Quality Act (CEQA) Guidelines. Therefore, 2017 EIR criterion (b) is not applicable to the project.

As noted in the 2017 EIR, construction and operation of the project would not be expected to generate significant odors or other emissions for a substantial duration, and there are no existing sources of objectionable odors in the vicinity of the SRHS campus. Therefore, implementation of the project would have no impact related to odors.

Less-than-Significant Impacts

Construction of the project would have less-than-significant impacts related to conflicts with the applicable air quality plan and exposure of sensitive receptors to substantial pollutant concentrations for project construction; these impacts would be the same or less severe than the impacts identified for the Master Facilities Long-Range Plan, including the Stadium Project, in the 2017 EIR. Operation of project would have less-than-significant impacts related to conflicts with the applicable air quality plan, emissions of criteria air pollutants, and exposure of sensitive receptors to substantial pollutant concentrations; these impacts would be the same or less severe than the impacts identified for the Master Facilities Long-Range Plan, including the Stadium Project, in the 2017 EIR.

Air Quality Plan

The project would not conflict with or obstruct implementation of the applicable air quality plan.

The BAAQMD's 2017 CAP is the applicable air quality plan for projects located in the SFBAAB. Consistency may be determined by evaluating whether the project supports the primary goals of the 2017 CAP, including applicable control measures contained within the 2017 CAP, and would not conflict with or obstruct implementation of any 2017 CAP control measures.

The primary goals of the 2017 CAP are the attainment of ambient air quality standards and reduction of population exposure to air pollutants for the protection of public health in the Bay Area. Because the project would not result in any significant and unavoidable air quality impacts related to emissions, ambient concentrations, or public exposures (see discussions below), the project would support the primary goals of the 2017 CAP.

The control measures from the 2017 CAP, which aim to reduce air pollution and GHGs from stationary, area, and mobile sources, are organized into nine categories: stationary sources, transportation, buildings, energy, agriculture, natural and working lands, waste, water, and super-GHG pollutants (e.g., methane, black carbon, and fluorinated gases). As described in **Table 4.2-5**, the project would be consistent with applicable control measures from the 2017 CAP. Therefore, the project would not conflict with or obstruct implementation of the applicable air quality plan, and the impact would be less than significant.

TABLE 4.2-5 PROJECT CONSISTENCY WITH BAY AREA AIR QUALITY DISTRICT (BAAQMD) 2017 CLEAN AIR PLAN (CAP)

Control Measures	Proposed Project Consistency
Stationary Source	The stationary source measures, which are designed to reduce emissions from stationary sources, are incorporated into rules adopted by the BAAQMD and then enforced by the BAAQMD's Permit and Inspection programs. The new Aquatics Center would include two natural gas boilers with 1.75 MM BTU/hr input rating, which are exempt from BAAQMD Regulation 9 Rule 7 requirements. Therefore, the stationary source control measures of the 2017 CAP are not applicable to the project.
Transportation	The transportation control measures are designed to reduce vehicle trips, use, miles traveled, idling, or traffic congestion for the purpose of reducing vehicle emissions. According to <i>Section 4.9, Transportation and Traffic</i> , the project would not generate a significant net increase in vehicle trips, and therefore the project would be consistent with the transportation control measures in the 2017 CAP.
Energy	The energy control measures are designed to reduce emissions of criteria air pollutants, TACs, and GHGs by decreasing the amount of electricity consumed in the Bay Area, as well as decreasing the carbon intensity of the electricity used by switching to less GHG-intensive fuel sources for electricity generation. Since these measures primarily apply to electrical utility providers, the energy control measures are not applicable to the project. Electricity in San Rafael is supplied by Pacific Gas and Electric Company (PG&E), which supplies 93 percent of its electric power mix from a combination of renewable and carbon-free sources. ^a
Buildings	The BAAQMD has authority to regulate emissions from certain sources in buildings such as boilers and water heaters but has limited authority to regulate buildings themselves. Therefore, the building control measures focus on working with local governments that have authority over local building codes to facilitate adoption of best practices and policies to control GHG emissions. The project would be required to comply with state and locally mandated energy efficiency/conservation measures. In addition, the facilities proposed in the project would be designed with efficient heating and cooling systems to maximize natural winter heat gain and minimize summer heat gain, and with skylights and clerestory windows to provide natural lighting. In addition, new buildings included in the project would install infrastructure for photovoltaic panels. Therefore, the proposed project would be consistent with the buildings control measures of the 2017 CAP.
Agriculture	The agriculture control measures are designed to primarily reduce emissions of methane. Since the project does not include any agricultural activities, the agriculture control measures of the 2017 CAP are not applicable to the project.
Natural and Working Lands	The control measures for the natural and working lands sector focus on increasing carbon sequestration on rangelands and wetlands, as well as encouraging local governments to adopt ordinances that promote urban-tree plantings. Since the project does not include the disturbance of any rangelands or wetlands, the natural and working lands control measures of the 2017 CAP are not applicable to the project.
Waste Management	The waste management measures focus on reducing or capturing methane emissions from landfills and composting facilities, diverting organic materials away from landfills, and increasing waste diversion rates through efforts to reduce, reuse, and recycle. The proposed project would comply with local requirements for waste management. Therefore, the project would be consistent with the waste management control measures of the 2017 CAP.
Water	The water control measures to reduce emissions from the water sector will reduce emissions of criteria pollutants, TACs, and GHGs by encouraging water conservation, limiting GHG emissions from publicly owned treatment works (POTWs), and promoting the use of biogas recovery systems. Since these measures apply to POTWs and local government agencies (and not individual projects), the water control measures of the 2017 CAP are not applicable to the project.
Super GHGs	The super-GHG control measures are designed to facilitate the adoption of best GHG control practices and policies through the BAAQMD and local government agencies. Since these measures do not apply to individual developments, the super-GHG control measures of the 2017 CAP are not applicable to the project.

Note: MM BTU/hr = million British Thermal Units per hour

^a Pacific Gas and Electric, 2023.

Source: Bay Area Air Quality Management District (BAAQMD), 2017b.

Criteria Air Pollutants

The project would not 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.

The following project-level analysis of criteria pollutant emissions during construction and operation of the project was prepared in accordance with Mitigation Measure AIR-1b from the 2017 EIR. The analysis of fugitive dust PM₁₀ and PM_{2.5} emissions during project construction are analyzed separately under Impact S-AIR-1, below.

The BAAQMD recommends using the most current version of the California Emissions Estimator Model (CalEEMod Version 2022.1) to estimate construction and operational emissions of pollutants resulting from a proposed project. CalEEMod uses widely accepted models for emission estimates combined with appropriate default data for a variety of land-use projects that can be used if site-specific information is not available. The primary input data used to estimate emissions associated with construction of the project were provided by the District and contain information on construction duration, off-road construction equipment inventory and usage, and construction vehicle trips. A summary of the assumptions for estimating construction emissions is provided in **Table 4.2-6**. Construction information provided by the District and a copy of the CalEEMod report for the project, which summarizes the input parameters, assumptions, and findings, are included as **Appendix D**. It should be noted that construction and operation of the Arts Building were previously analyzed in the 2017 EIR but are addressed in this SEIR to be conservative. It should also be noted that the sizes of some proposed project improvements were rounded up to be conservative.

TABLE 4.2-6 PROJECT LAND-USE INPUT PARAMETERS

Project Development	CalEEMod		Amount
	Land Use Type	Unit	
			10 (Pool)
New Aquatic Center	Swimming Pool	1,000 square feet	10 (Recreational Building Area)
			5 (Landscape)
Visual Arts Building and Performing Arts Plaza	High School	1,000 square feet	12 (Arts Building)
			14 (Landscape)
Athletic Fields Turf and Storage Project	Golf Course	Acre	4.6

Notes: For the new Aquatics Center, the recreational building area includes the 2,100-square-foot storage building and the 7,900-square-foot athletic clubhouse. For the Arts Building and Performing Arts Plaza, it was conservatively assumed that the landscape area is 14,000 square feet.

Source: A copy of CalEEMod report is provided in **Appendix D**.

Criteria Air Pollutants from Project Construction

Project construction activities would generate criteria air pollutant emissions that could potentially affect regional air quality. During construction, the primary pollutant emissions of concern would be ROG, NO_x, PM₁₀, and PM_{2.5} from the exhaust of off-road construction equipment and on-road

construction vehicles related to worker vehicles, vendor trucks, and haul trucks. In addition, fugitive dust emissions of PM₁₀ and PM_{2.5} would be generated by soil disturbance and demolition activities, and fugitive ROG emissions would result from paving. Emissions of ROG, NO_x, PM₁₀, and PM_{2.5} during project construction were estimated using the CalEEMod input parameters summarized in Table 4.2-6 and additional assumptions summarized in **Table 4.2-7**.

TABLE 4.2-7 CONSTRUCTION ASSUMPTIONS FOR CALIFORNIA EMISSIONS ESTIMATOR MODEL (CALEEMOD)

CalEEMod Input Category	Construction Assumptions and Changes to Default Data
Construction Phase	Construction for the new Aquatics Center, new Visual Arts Building and Performing Arts Plaza, and Athletic Fields Turf and Storage Project were assumed to occur from June 2024 through September 2025 (16 months), from June 2025 through November 2026 (18 months), and from June 2028 through November 2028 (6 months), respectively, based on the information provided by the District. The construction durations analyzed in this section (<i>Section 4.2, Air Quality</i>) are either similar to or shorter than the expected durations presented in <i>Chapter 3, Project Description</i> . Although the construction durations are different, the overall level of effort required for construction in terms of the type of off-road construction equipment needed and the total hours of operation required for each type of construction equipment would remain the same. Therefore, the shorter durations would result in more conservative estimates for average daily emissions of criteria air pollutants from project construction.
Construction Equipment	The CalEEMod default construction equipment lists were modified according to project-specific construction information provided by the District (Appendix D).
Material Movement	It was assumed that 8,000 cubic yards, 5,300 cubic yards, and 11,200 cubic yards of materials would be off-hauled for the new Aquatics Center, new Visual Arts Building and Performing Arts Plaza, and Athletic Fields Turf and Storage Project, respectively. It was assumed that the volume of imported materials are about 20 percent of the exported volume for each facility.
Demolition	The existing swimming pool and pool deck and the existing AR Building would be demolished.
Worker, Vendor, and Hauling Trips	Construction vehicle trips and fleet mix were provided by the District (Appendix D). CalEEMod default trip lengths were used.

Notes: Default CalEEMod data used for all other parameters are not described.
 Source: Construction information provided by the District and a copy of the CalEEMod report are provided in **Appendix D**.

To analyze daily emission rates, the total emissions estimated during construction were averaged over the total working days (782 days) and compared to the BAAQMD's thresholds of significance. As shown in **Table 4.2-8**, the project's estimated emissions for ROG, NO_x, and exhaust PM₁₀ and PM_{2.5} during construction were below the thresholds of significance and, therefore, would not result in a cumulatively considerable net increase in criteria air pollutants for which the region is in non-attainment. Therefore, this impact is less than significant.

TABLE 4.2-8 ESTIMATED CONSTRUCTION EMISSIONS (POUNDS PER DAY)

Emissions Scenario	ROG	NOx	Exhaust PM₁₀	Exhaust PM_{2.5}
Construction Emissions	0.6	2.1	0.09	0.09
BAAQMD's Thresholds of Significance	54	54	82	54
Threshold Exceedance?	No	No	No	No

Notes: ROG = reactive organic gases; NOx = oxides of nitrogen; PM₁₀ = respirable particulate matter; PM_{2.5} = fine particulate matter

Source: A copy of the CalEEMod report is provided in **Appendix D**.

Criteria Air Pollutants from Project Operation

Project operation would generate criteria air pollutant emissions that could potentially affect regional air quality. The primary pollutant emissions of concern during project operation would be ROG, NOx, PM₁₀, and PM_{2.5} from mobile sources, energy use, and area sources (e.g., consumer products, architectural coatings, and landscape maintenance equipment). The expected first full year of operation for the new Aquatics Center, the new Visual Arts Building and Performing Arts Plaza, and the Athletic Fields Turf and Storage Project are 2026, 2027, and 2029, respectively. Project emissions were estimated for the year 2026, which is the earliest expected full year of operation for the new facilities. Since statewide vehicle emission standards are required to improve over time in accordance with the Pavley (AB 1493) and Low-Emission Vehicle regulations (Title 13, CCR, Section 1961.2), estimating emissions for the earliest year of operation provides the maximum expected annual emissions. To be conservative, emissions from the existing swimming pool, the existing natural gas boiler for the swimming pool, and the existing AR Building were not subtracted from the project's estimated emissions. Additional project-specific information used to calculate operation emissions in CalEEMod, including changes to default data, is summarized in **Table 4.2-9**.

TABLE 4.2-9 OPERATION ASSUMPTIONS FOR CALIFORNIA EMISSIONS ESTIMATOR MODEL (CALEEMOD)

CalEEMod Input Category	Construction Assumptions and Changes to Default Data
Vehicle Trips	Daily trip rates for the project were adjusted according to the net daily trip generation due to the net increase in after-school sporting events reported in the project-specific transportation analysis (Parisi Transportation Consulting, 2023). It was assumed that the trips would occur on weekdays and weekends.
Process Boilers	The new Aquatics Center would include two natural gas boilers with 1.75 MM BTU/hr input rating.

Notes: MM BTU/hr = million British Thermal Units per hour

Default CalEEMod data used for all other parameters are not described.

Source: A copy of CalEEMod report is provided in **Appendix D**.

The estimated operational maximum annual emissions and average daily emissions for the project are presented in **Table 4.2-10**. As shown in Table 4.2-10, the project's estimated ROG, NOx, PM₁₀, and PM_{2.5} emissions during operation were below the BAAQMD's threshold of significance and would not result in a cumulatively considerable net increase in criteria air pollutants for which the

TABLE 4.2-10 ESTIMATED OPERATION EMISSIONS AT FULL PROJECT BUILDOUT

Emissions Scenario	Maximum Annual Emissions (Tons)				Average Daily Emissions (Pounds)			
	ROG	NOx	PM ₁₀	PM _{2.5}	ROG	NOx	PM ₁₀	PM _{2.5}
Area	0.01	<0.005	0.01	<0.005	0.04	0.02	0.05	0.01
Energy	0.11	<0.005	<0.005	<0.005	0.61	<0.005	<0.005	<0.005
Mobile	<0.005	0.03	<0.005	<0.005	0.01	0.14	0.01	0.01
Stationary	0.02	0.00	0.02	0.02	0.09	0.00	0.12	0.12
Total Emissions	0.14	0.03	0.03	0.03	0.75	0.17	0.18	0.15
Thresholds of Significance	10	10	15	10	54	54	82	54
Exceed Threshold?	No	No	No	No	No	No	No	No

Notes: ROG = reactive organic gases; NOx = oxides of nitrogen; PM₁₀ = respirable particulate matter; PM_{2.5} = fine particulate matter

Source: A copy of the CalEEMod report is provided in **Appendix D**.

region is in non-attainment; therefore, the impact on regional air quality would be less than significant.

Toxic Air Contaminants

The project would not result in the exposure of nearby sensitive receptors to substantial pollutant concentrations.

The following project-level analysis of health risks to sensitive receptors exposed to pollutant concentrations during construction and operation of the was prepared in accordance with Mitigation Measure AIR-2 from the 2017 EIR.

Toxic Air Contaminants from Project Construction

Project construction would generate DPM and PM_{2.5} emissions from the exhaust of off-road diesel construction equipment and fugitive PM_{2.5} emissions from construction activities. In accordance with guidance from the BAAQMD and OEHHA, a health risk assessment was conducted to estimate the incremental increase in cancer risk and chronic HI to sensitive receptors from DPM emissions during construction. The acute HI for DPM was not calculated because an acute reference exposure level has not been approved by OEHHA and CARB, and the BAAQMD does not recommend analysis of acute non-cancer health hazards from construction activity.

The annual average concentrations of DPM and PM_{2.5} during construction were estimated within 1,000 feet of the project using the U.S. EPA's Industrial Source Complex Short Term (ISCST3) air dispersion model. For this analysis, emissions of exhaust PM₁₀ were used as a surrogate for DPM, which is a conservative assumption because more than 90 percent of DPM is less than 1 micron in diameter. The input parameters and assumptions used for estimating emission rates of DPM and PM_{2.5} from off-road diesel construction equipment are included in **Appendix D**.

Daily emissions from construction were assumed to occur over the construction hours established by the City of San Rafael from 8:00 AM to 5:00 PM Monday through Friday, and between 9:00 AM and 5:00 PM on Saturdays.³ The exhaust and fugitive dust from off-road equipment were represented in the ISCST3 model as area sources encompassing the footprint of the proposed project facilities.

A uniform grid of receptors spaced 20 meters apart with receptor heights of 1.5 meters (for ground-level receptors) was encompassed around the project site as a means of developing isopleths (i.e., concentration contours) that illustrate the air dispersion pattern from the various emission sources. The ISCST3 model input parameters included one year of BAAQMD meteorological data from Station 3901 located about 5.2 miles southwest of the project.

Although the construction of the proposed project facilities would occur sequentially, it was conservatively assumed that the construction of the new Aquatics Center, new Visual Arts Building and Performing Arts Plaza, and Athletic Fields Turf and Storage Project would occur concurrently, which would be the worst-case scenario. Based on the annual average concentrations of DPM and PM_{2.5} estimated using the air dispersion model (**Appendix D**), potential health risks were evaluated for the maximally exposed individual resident (MEIR) located about 80 feet north to project site across Mission Avenue; the maximally exposed individual student (MEIS) located at the Classrooms and Library Building; and the maximally exposed individual off-site worker (MEIW) located about 110 feet south to project site across 3rd Street. The locations of the MEIR, MEIS, and MEIW are shown in **Figure 4.2-1**.

For the MEIR, the incremental increase in cancer risk from on-site DPM emissions during construction was assessed for an infant exposed to DPM starting from birth. This exposure scenario represents the most sensitive individual who could be exposed to adverse air quality conditions in the vicinity of the project site. For the MEIS, although SRHS is a high school campus, it was conservatively assumed that a student in the age of 2 to 16 years old would attend school at SRHS during the entire construction duration. For the MEIW, it was conservatively assumed that an adult worker would work in the same location during the entire construction duration. It was conservatively assumed that the MEIR, MEIS, and MEIW would be exposed to annual average DPM concentrations over the entire estimated duration of construction of each facility, which is about 1.3 years for the new Aquatics Center, 1.5 years for the new Visual Arts Building and Performing Arts Plaza, and 0.5 year for the Athletic Fields Turf and Storage Project.⁴ The input parameters and results of the health risk assessment are included in **Appendix D**.

³ The construction hours modeled in AERMOD are substantially similar to the anticipated construction hours presented in *Chapter 3, Project Description*, which would occur between 7:00 AM and 6:00 PM Monday through Friday and between 9:00 AM and 6:00 PM on Saturdays. The resulting DPM and PM_{2.5} concentrations at receptor locations are substantially similar, with less than 5 percent differences due to the different construction hours. It is also to be noted that the project and the SRHS campus are exempted from the City of San Rafael construction hour requirements.

⁴ As discussed above, the construction durations analyzed here are either similar to or shorter than the expected durations presented in *Chapter 3, Project Description*, but the overall level of effort required for construction would be the same. The total construction DPM and PM_{2.5} emissions from off-road equipment would remain the same, but the average daily emissions would be higher due to the shorter construction durations. Therefore, the associated excess cancer risks at sensitive receptors, which are subject to the total DPM exposure, would be the same. The shorter durations would result in more conservative estimates of PM_{2.5} concentrations at the sensitive receptors.



Legend

- ★ MEIR
- ★ MEIS
- 1,000-Foot Buffer around MEIR
- Project Boundary
- ★ MEIW
- Existing Stationary Sources



Figure 4.2-1
Cumulative Sources of TACs and
PM2.5 Emissions in Project Vicinity

Table 4.2-11 summarizes the estimated health risks at the MEIR, MEIS, and MEIW due to DPM and PM_{2.5} emissions from project construction and compares them to the BAAQMD's thresholds of significance. The estimated cancer risks and chronic HIs for DPM, and annual average PM_{2.5} concentrations from construction emissions were below the BAAQMD's thresholds at the MEIR, MEIS, and MEIW location. Therefore, project construction would not expose sensitive receptors to substantial pollutant concentrations and the impact would be less than significant.

TABLE 4.2-11 HEALTH RISKS AT MEIR DURING PROJECT CONSTRUCTION

Receptor	Emissions Scenario	Diesel Particulate Matter		PM _{2.5}
		Cancer Risk (per million)	Chronic Hazard Index	Annual Average Concentration (µg/m ³)
MEIR	Aquatic Center	0.7	0.001	0.01
	Visual Arts Building and Performing Arts Plaza	4.3	0.004	0.03
	Athletic Fields Turf	0.1	0.0001	0.001
	Total	5.0	0.005	0.04
MEIS	Aquatic Center	0.4	0.001	0.03
	Arts Building and Performing Arts Plaza	4.6	0.011	0.08
	Athletic Fields Turf	0.03	0.0002	0.001
	Total	5.0	0.013	0.11
MEIW	Aquatic Center	0.01	0.0003	0.01
	Arts Building and Performing Arts Plaza	0.02	0.0003	0.002
	Athletic Fields Turf	0.03	0.002	0.01
	Total	0.1	0.002	0.02
BAAQMD's Thresholds of Significance		10.0	1.0	0.3
MEIR - Threshold Exceedance?		No	No	No
MEIS - Threshold Exceedance?		No	No	No
MEIW - Threshold Exceedance?		No	No	No

Note: µg/m³ = micrograms per cubic meter; MEIR = maximally exposed individual resident; maximally exposed individual student; MEIW = maximally exposed individual off-site worker

Source: See **Appendix D**.

Toxic Air Contaminants from Project Operation

The project would not add any stationary source (e.g., diesel emergency generator) that would generate TACs such as DPM and PM_{2.5}. The project would generate a relatively small net increase of about 11 vehicle trips per day (Parisi Transportation Consulting, 2023). The CO emissions from the net increase in vehicle trips generated by operation of the project would not pose substantial health risks or hazards to nearby sensitive receptors. Therefore, operation of the project would not expose sensitive receptors to substantial pollutant concentrations and the impact would be less than significant.

Cumulative Toxic Air Contaminants

In addition to a project's individual TAC emissions during construction and operation, the potential cumulative health risks to the MEIR from existing and reasonably foreseeable future sources of TACs were evaluated to represent the worst-case-exposure scenario for sensitive receptors in the project vicinity.

The BAAQMD's online screening tools were used to provide conservative estimates of how much existing and foreseeable future TAC sources would contribute to cancer risk, HI, and $PM_{2.5}$ concentrations. The individual health risks associated with each source were summed to find the cumulative health risk at the MEIR. The supporting health risk calculations are included in **Appendix D**.

Based on the BAAQMD's 2023 permitted stationary source risk map, there is one existing stationary source within 1,000 feet of the MEIR: City of San Rafael Department of Public Works (Plant 17908). Preliminary health risk screening values at the MEIR were determined using the 2021 permitted stationary source inventory data (BAAQMD, 2023c) and BAAQMD Health Risk Calculator with Distance Multipliers (Beta Version 5.0). At the time of preparation of this SEIR, there are no reasonably foreseeable future projects within 1,000 feet of the project that would introduce a new source of TAC and/or $PM_{2.5}$ emissions.

Preliminary health risk screening values at the MEIR from exposure to mobile sources of TACs were estimated based on the BAAQMD's Mobile Source Screening Map for roadway, rail, and railyard (BAAQMD, 2023d), which provides health risk estimates reflective of 2022 for residents living near roadways, rail lines, and rail yards.

Estimates of the cumulative health risks at the MEIR are summarized and compared to the BAAQMD's cumulative thresholds of significance in **Table 4.2-12**. The estimated cancer risk and chronic HI for DPM, and annual average $PM_{2.5}$ concentration, were below the BAAQMD's cumulative thresholds. Therefore, the project's emissions of DPM and $PM_{2.5}$ during construction would have a less-than-significant cumulative impact on nearby sensitive receptors.

Potentially Significant Impacts and Mitigation Measures

Impact S-AIR-1: Fugitive dust emissions during project construction could adversely affect a substantial number of people. (PS)

This impact and the recommended mitigation measure below are essentially the same as Impact AIR-1 and Mitigation Measure AIR-1a in the 2017 EIR. Impact AIR-1 in the 2017 EIR was revised so that it specifically addresses the current project.

Project excavation, grading, and material hauling activities during construction could generate fugitive dust PM_{10} and $PM_{2.5}$ emissions that could adversely affect regional air quality. The BAAQMD does not have a quantitative threshold of significance for fugitive dust PM_{10} and $PM_{2.5}$ emissions; however, the BAAQMD considers implementation of best management practices (BMPs) to control dust during construction sufficient to reduce potential impacts to a less-than-significant level. More specifically, the BAAQMD recommends that all construction projects implement the Basic Construction Mitigation Measures from the BAAQMD's CEQA Air Quality

TABLE 4.2-12 SUMMARY OF CUMULATIVE HEALTH RISKS AT THE MAXIMALLY EXPOSED INDIVIDUAL RESIDENT (MEIR)

Source	Source Type	Method Reference	Cancer Risk (per million)	Chronic Hazard Index	PM _{2.5} (µg/m ³)
Project					
Off-Road Construction Equipment	Diesel Exhaust		5.0	<0.01	0.04
Existing Stationary Sources					
City of San Rafael Department of Public Works (Plant 17908)	Diesel Generator	1,2	0.1	<0.01	<0.01
Existing Mobile Sources					
Roadway	Mobile	3	10.5	0.03	0.22
Cumulative Health Risks			15.7	<0.1	0.3
BAAQMD's Cumulative Thresholds			100	10.0	0.8
Exceed Thresholds?			No	No	No

Notes: µg/m³ = micrograms per cubic meter; HI=hazard index; Ref=reference; MEIR = maximally exposed individual resident
Health risk screening values derived using the following BAAQMD tools and methodologies:

- 1) BAAQMD's 2023 stationary source emissions data.
- 2) BAAQMD's Diesel Internal Combustion Engine Distance Multiplier Tool.
- 3) BAAQMD Beta version Mobile Source Screening Map for roadways, rail lines, and railyards.

Guidelines (BAAQMD, 2023b) to reduce emissions of fugitive dust (regardless of the estimated emissions). The BAAQMD's Basic Construction Mitigation Measures for controlling dust are summarized in Mitigation Measure S-AIR-1 below. Implementation of Mitigation Measure S-AIR-1 would reduce the potentially significant impact of fugitive dust emissions during project construction to a less-than-significant level.

***Mitigation Measure S-AIR-1:** During project construction, the contractor shall implement a dust control program that includes the following measures recommended by the Bay Area Air Quality Management District (BAAQMD):*

- *During project construction, all exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered to reduce dust.*
- *During project construction, all haul trucks transporting soil, sand, or other loose material off-site shall be covered.*
- *During project construction, all visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers as needed. The use of dry power sweeping is prohibited.*
- *During project construction, All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.*
- *During project construction, a publicly visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD phone number shall also be visible to ensure compliance with applicable regulations.*

The foregoing requirements shall be included in the appropriate contract documents with the contractor. (LTS)

Cumulative Impacts

According to the BAAQMD, regional air pollution is largely a cumulative impact. No single project is sufficient in size to independently create regional non-attainment of ambient air quality standards. The BAAQMD's thresholds of significance for criteria air pollutants were designed to represent levels above which a project's individual emissions would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions.

Similar to the 2017 EIR, since construction and operation of the proposed project would not exceed the BAAQMD's thresholds of significance for criteria air pollutants (including ozone precursors), the cumulative impacts on regional air quality would be less than significant. As mentioned above, the estimated cumulative cancer risk and chronic HI for DPM, and annual average PM_{2.5} concentration were below the BAAQMD's cumulative thresholds. Therefore, the project's cumulative impacts related to exposure of sensitive receptors to emissions of DPM and PM_{2.5} during construction would be less than significant.

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4.3 BIOLOGICAL RESOURCES

INTRODUCTION

This section of the Supplemental EIR (SEIR) addresses existing biological resources at the project site and provides an evaluation of the potential impacts on sensitive resources that could result from the Capital Improvements Project. Biological resources were identified by reviewing information from the 2017 EIR (San Rafael City Schools, 2017), updating it accordingly, and conducting a field reconnaissance survey of the project site to confirm existing conditions. The field reconnaissance survey was conducted by Environmental Collaborative for this SEIR on September 28, 2023, to confirm existing conditions and assess any new potential impacts. The review provided information on general resources in the area, the extent of sensitive natural communities, jurisdictional wetlands, and the distribution and habitat requirements of special-status species that have been recorded from or are suspected to occur in the San Rafael vicinity maintained as part of the California Natural Diversity Data Base (CNDDB) by the California Department of Fish and Wildlife (CDFW).

ENVIRONMENTAL SETTING

The discussion below addresses existing biological resources on the San Rafael High School (SRHS) campus.

Summary of Environmental Setting from 2017 EIR (with Updates for 2023)

Conditions related to biological resources at and near the SRHS campus at the time of the 2017 EIR was prepared are described below. If any conditions have changed, this is noted.

Existing Vegetation and Wildlife Habitat

As described in the 2017 EIR, the SRHS campus is occupied by existing school facilities, including structures, paved parking and play areas, irrigated turf, scattered ornamental and native trees, and landscaping surrounding buildings and parking areas. No native habitat remains on the site, although non-native grasslands occur in the hillside at the eastern edge of the campus with introduced blue gum eucalyptus (*Eucalyptus globulus*) and a few native species such as coast live oak (*Quercus agrifolia*), poison oak (*Toxicodendron diversilobum*), and toyon shrubs (*Heteromales arbutifolia*). Tree species in the developed portions of the campus consist of a combination of native and ornamental species bordering buildings, parking lots, lawns, and athletic fields. Tree species include coast live oak (*Quercus agrifolia*), coast redwood (*Sequoia sempervirens*), California buckeye (*Aesculus californica*), Fremont cottonwood (*Populus fremontii*), Canary Island date palm (*Phoenix canariensis*), crape myrtle (*Lagerstroemia indica*), maple (*Acer* sp.), cherry plum (*Prunus cerisifera*), incense cedar (*Calocedrus decurrens*), camphor (*Cinnamomum camphora*), southern magnolia (*Magnolia grandiflora*), and Deodar cedar (*Cedrus deodara*), among others. Sensitive natural communities and regulated wetlands are absent on the site.

The landscaped areas of the developed campus provide habitat for wildlife species that have adapted to human disturbance. Native and ornamental trees, shrubs, and structures provide nesting opportunities for birds such as house finch, English sparrow, scrub jay, brown towhee, America robin, and mourning dove, among others. Urbanized areas also support a range of introduced species that have become adapted to human disturbance. These include common non-native pest species such as house mouse, Norway rat, feral cat, opossum, and raccoon. The remaining non-native grasslands most likely continue to support common grassland-dependent species, such as Botta's pocket gopher, California vole, western fence lizard, and common gopher snake, among others. Raptors such as red-tailed hawk, red-shouldered hawk, great horned owl, barn owl, and American kestrel may occasionally forage in the remaining grasslands in the eastern edge of the site, and perch or roost in the blue gum eucalyptus and other mature trees, but no signs of any conspicuous stick nests commonly used by raptor species were observed during either of the field reconnaissance surveys that occurred in 2016 and 2023.

Special-Status Species

An updated record search conducted by the CNDDDB and the other relevant information sources indicate that numerous plant and animal species with special status have either been recorded from or are suspected to occur in the San Rafael vicinity and eastern Marin County area. Special-status species¹ are plants and animals that are legally protected by the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA)² or other regulations, and other species that the scientific community and trustee agencies have identified as rare enough to warrant special consideration, particularly the protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. Species protected by the CESA and FESA often represent major constraints to development, particularly when they are wide ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take"³ of these species.

Figures 4.3-1 and 4.3-2 show the distribution of special-status plant and animal species, respectively, as currently reported by the CNDDDB within approximately 5 miles of the site.

¹ Special-status species include:

- Officially designated (rare, threatened, or endangered) and candidate species for listing identified by the CDFW;
- Officially designated (threatened or endangered) and candidate species for listing identified by the U.S. Fish and Wildlife Service (USFWS);
- Species considered to be rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act (CEQA) Guidelines, such as those with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, or 2B in the *Inventory of Rare and Endangered Plants of California* maintained by the California Native Plant Society (CNPS); and
- Possibly other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those with a CRPR of 3 and 4 in the CNPS *Inventory* or identified as animal "Species of Special Concern" (SSC) by the CDFW. Species of Special Concern have no legal protective status under the CESA but are of concern to the CDFW because of severe decline in breeding populations in California.

² The Federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall use their authority to conserve endangered and threatened plant and animal taxa. The California Endangered Species Act (CESA) of 1984 parallels the policies of the FESA and pertains to native California species.

³ The FESA defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect" a threatened or endangered species. The USFWS further defines "harm" as including the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modification or degradation. The CDFW also considers the loss of listed species habitat as "take," although this policy lacks statutory authority and case law support under the CESA.

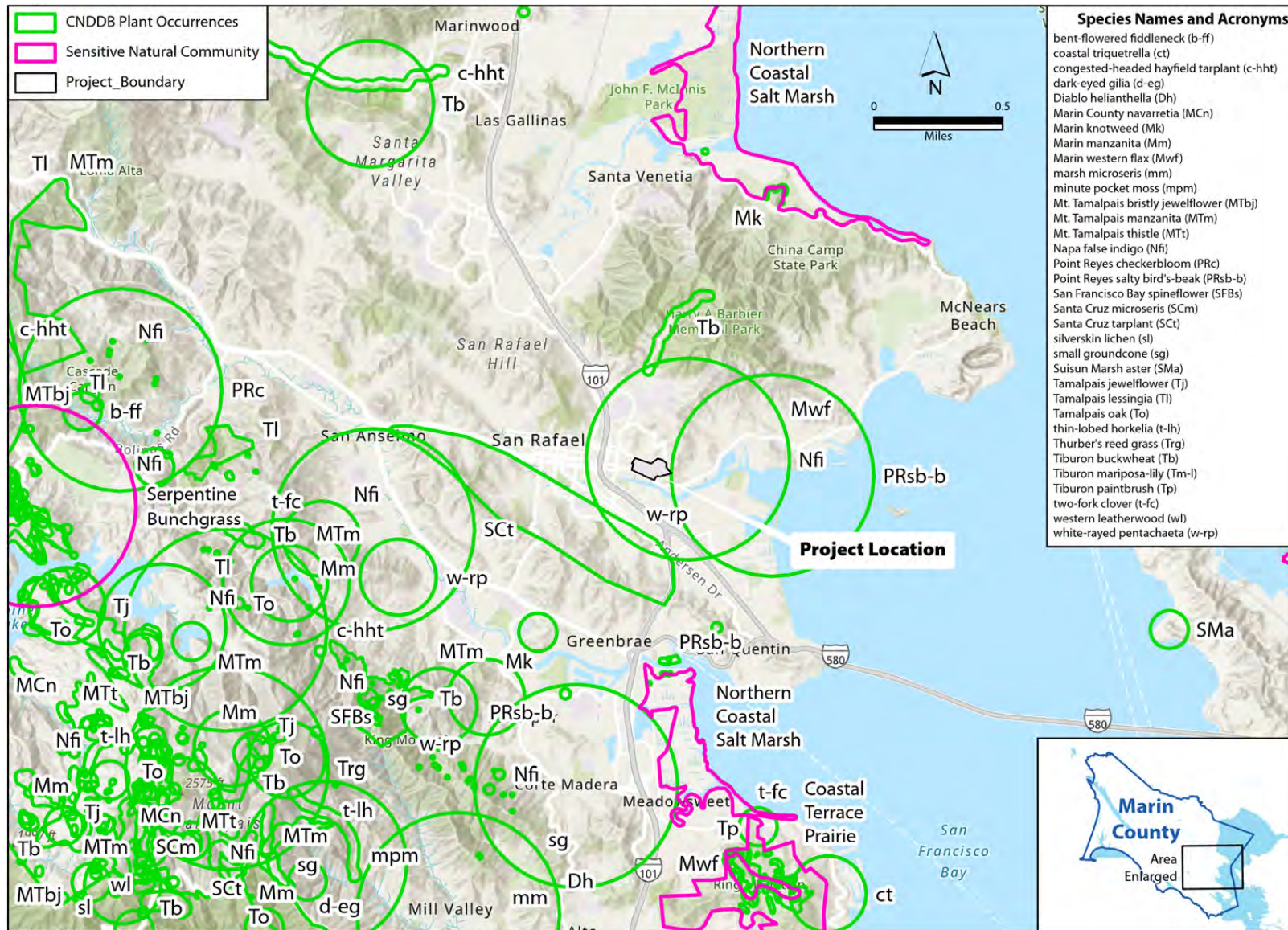
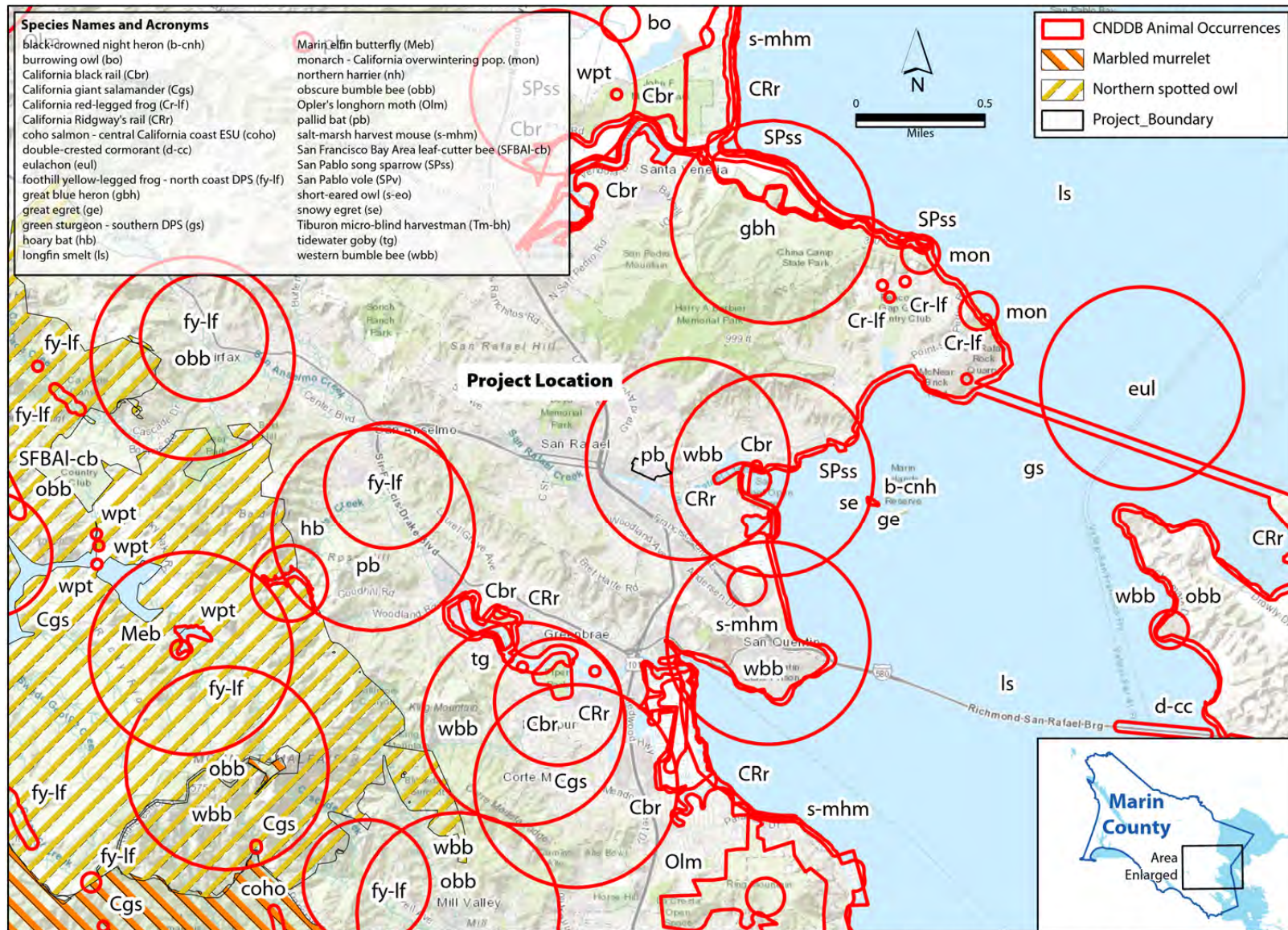


Figure 4.3-1

SOURCES: California Natural Diversity Database, release date 9/2/2023, accessed on 9/13/2023;
 Base map by: ESRI. Map produced by www.digitalmappingsolutions.com on 9/14/2023.

SPECIAL-STATUS PLANT SPECIES AND SENSITIVE NATURAL COMMUNITIES



SOURCES: California Natural Diversity Database release date 9/2/2023, accessed on 9/13/2023;
 USFWS critical habitat data release date 9/11/2023 accessed on 9/31/2023.
 Basemap by: ESRI. Map produced by www.digitalmappingsolutions.com on 9/14/2023.

Figure 4.3-2
**SPECIAL-STATUS ANIMAL SPECIES
 AND CRITICAL HABITAT**

According to the latest CNDDDB records, no special-status plant or animal species have been reported from the site, but general occurrences of Napa false indigo (*Amorpha californica* var. *napensis*), pallid bat (*Antrozous pallidus*), and western bumble bee (*Bombus caliginosus*) extend over the San Rafael vicinity based on vague records reported to the CNDDDB. Napa false indigo has a rank of 1B (rare and endangered in California and elsewhere) according to the CNPS *Inventory*, and is known from woodland and forest habitat not found on the site. Pallid bat is one of several native bat species recognized as “Species of Special Concern” (SSC) by the CDFW. It is known to establish day roosts in rock outcrops, mines, caves, buildings, bridges, and tree cavities. Inspection of the exterior of the existing buildings on the SRHS campus during the field reconnaissance did not indicate any openings that would allow for access by pallid or other special-status bat species, which typically avoid areas of human activity. Western bumblebee, which has been reported from the San Rafael vicinity, is found in a variety of habitat types. It is now considered a candidate for endangered status under the CESA. Due to declines, the western bumblebee has experienced a considerable range contraction and is now considered to be confined to higher elevations in the Sierra Nevada range and portions of the Northern California coast, and is no longer suspected to occur in the San Rafael area.

Most of the special-status species reported from the San Rafael vicinity occur in natural habitats such as coastal salt marsh, riparian woodlands, and forest habitats, all of which are absent from the project site. Information on each of the special-status plant and animal species reported by the CNDDDB as shown in **Figures 4.3-1** and **4.3-2** is provided in the summary table contained in **Appendix E**, including common and scientific names, current status, and occurrence records on distribution. Suitable habitat for special-status species is absent from the largely developed SRHS campus, based on a habitat suitability analysis conducted during the original field reconnaissance survey in October 2016 during preparation of the 2017 EIR, and confirmed during the follow-up field reconnaissance in September 2023. Past development and absence of suitable habitat conditions generally precludes the potential for presence of special-status plant and animal species. With the exception of possible presence of nesting birds that would be protected under state and federal regulations when the nests are in active use, no special-status species are suspected to occur on the site.

Nests of most bird species are protected under the federal Migratory Bird Treaty Act (MBTA) when the nests are in active use, and nests of raptors (birds-of-prey) are also protected under Section 3503 of the California Fish and Game Code when the nests are in active use. No nesting or roosting locations have been identified by the CNDDDB for the site or immediate vicinity, or were observed during the field reconnaissance surveys in October 2016 and September 2023. However, mature trees on the site contain suitable nesting substrate for some bird species recognized as SSC by the CDFW, as well as more common species, and new nests could be established in the future. Species considered to have some potential for nesting on the site include Cooper's hawk (*Accipiter cooperi*), sharp-shinned hawk (*Accipiter striatus*), white-tailed kite (*Elanus caeruleus*), and loggerhead shrike (*Lanius ludovicianus*), as well as more common raptor species such as great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). More common passerine bird species could also potentially nest on the site.

Changes in Environmental Setting Since 2017 EIR

The preceding section addresses relevant changes in the environmental setting since the 2017 EIR was prepared.

REGULATORY FRAMEWORK

Local, state, and federal regulations have been enacted to provide for the protection and management of sensitive biological and wetland resources. Some aspects of these regulations have been revised or expanded since circulation of the 2017 EIR, as summarized below, but these generally do not apply to the project site due to an absence of sensitive resources such as wetlands or listed special-status species. This section outlines the updated key local, state, and federal regulations that apply to these resources.

Summary of Regulatory Framework from 2017 EIR

Federal Regulations

The U.S. Fish and Wildlife Service (USFWS) is responsible for protection of terrestrial and freshwater organisms through implementation of the FESA (16 U.S.C. Section 1531, *et seq.*) and the MBTA (16 U.S.C. Section 703, *et seq.*). The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to federal regulations or pursuant to certain regulatory exceptions. The National Marine Fisheries Service (NOAA Fisheries) is responsible for protection of anadromous fish and marine wildlife under the FESA and Marine Mammal Protection Act. The U.S. Army Corps of Engineers (Corps) has primary responsibility for protecting wetlands under Section 404 of the Clean Water Act (CWA). The Corps also regulates navigable waters under Section 10 (33 U.S.C. 403) of the Rivers and Harbors Act.

State Regulations

The CDFW is responsible for administration of the CESA (California Fish and Game Code, Section 2050, *et seq.*) and for protection of streams and water bodies through the Streambed Alteration Agreement process under Section 1600, *et seq.*, of the California Fish and Game Code.

Certification from the Regional Water Quality Control Board (RWQCB) is also required when a proposed activity may result in discharge into navigable waters, pursuant to Section 401 of the CWA and Environmental Protection Agency (EPA) Section 404(b)(1) Guidelines. The RWQCB also has jurisdiction over waters of the state not regulated by the Corps under the Porter-Cologne Act. The following discusses in more detail how state and federal regulations address special-status species and wetlands.

Special-Status Species

Special-status species are plants and animals that are legally protected under the FESA and CESA, the MBTA, the California Fish and Game Code (Sections 3503, 3503.5, 3511, 3513, 3515, and 4700), or other regulations. In addition, pursuant to CEQA Guidelines Section 15380, special-status species also include other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. These include species recognized by the CDFW as SSC species, and plant species with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, or 2B in the CNPS *Inventory*. As

noted earlier, species with legal protection under the FESA and CESA often represent major constraints to development, particularly when the species are wide ranging or highly sensitive to habitat disturbance and where proposed development would result in a take of these species.

Wetlands and Other Waters of the United States

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. The CDFW, Corps, and RWQCB have jurisdiction over modifications to riverbanks, lakes, stream channels, and other wetland features. Technical standards for delineating wetlands have been developed by the Corps and the USFWS. These standards generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.

The CWA was enacted to address water pollution, establishing regulations and permit requirements regarding construction activities that affect storm water, dredge, and fill material operations, and water quality standards. The regulatory program requires that discharges to surface waters be controlled under the National Pollutant Discharge Elimination System (NPDES) permit program, which applies to sources of water runoff, private developments, and public facilities.

Under Section 404 of the CWA, the Corps is responsible for regulating the discharge of fill material into waters of the United States. The term “waters” includes wetlands and non-wetland bodies of water that meet specific criteria as defined in Part 328 of Title 33 in the Code of Federal Regulations (U.S. Government, Federal Code of Regulations, 2016). All three of the identified technical criteria must be met for an area to be identified as a wetland under Corps jurisdiction, unless the area has been modified by human activity. In general, a permit must be obtained before fill can be placed in wetlands or other waters of the United States. The type of permit is determined by the Corps depending on the amount of acreage and the purpose of the proposed fill.

Jurisdictional authority of the CDFW over wetland areas is established under Section 1600 of the California Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake without notifying the CDFW, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement. The Wetlands Resources Policy of the CDFW states that the Fish and Wildlife Commission will strongly discourage development in or conversion of wetlands, unless, at a minimum, project mitigation assures there will be no net loss of either wetland habitat values or acreage. The CDFW is also responsible for commenting on projects requiring Corps permits under the Fish and Wildlife Coordination Act of 1958 (16 U.S.C. Section 661, *et seq.*).

In addition, the RWQCB is responsible for upholding state water quality standards. Pursuant to Section 401 of the CWA, projects that apply for a Corps permit for discharge of dredge or fill material, and projects that qualify for a Nationwide Permit, must obtain water quality certification from the RWQCB. The RWQCB is also responsible for regulating wetlands under the Porter-

Cologne Water Quality Control Act (California Water Code, Section 13000, *et seq.*); these wetlands may include hydrologically isolated wetlands no longer regulated by the Corps under Section 404 of the CWA. Federal Supreme Court rulings have limited Corps jurisdiction, but the RWQCB in some cases continues to exercise jurisdiction over these features under the Porter-Cologne Water Quality Act.

In 2019, the State Water Resources Control Board (State Water Board) adopted a *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (Procedures). The Procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a wetland feature is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. On April 6, 2021, the State Water Board adopted a resolution to confirm that the Procedures are in effect as state policy for water quality control.

Local Regulations

San Rafael General Plan 2040

The Conservation and Climate Change Element in the *City of San Rafael General Plan 2040* (City of San Rafael, 2021) includes revised and additional policies and programs related to biological resources compared to those referenced in the 2017 EIR. These relate to the protection of sensitive habitat, special-status species, and trees, and other biological resources. The following is a list of policies and programs most relevant to the proposed project, numbered here as they are in General Plan 2040:

Policy C-1.1: Wetlands Preservation. Require appropriate public and private wetlands preservation, restoration and/or rehabilitation through the regulatory process. Support and promote acquisition of fee title and/or easements from willing property owners.

Program C-1.1A: Surveys for Regulated Waters. Require that sites with suitable natural habitat be surveyed for the presence or absence of regulated waters prior to development approval. Such surveys should be conducted by a qualified wetland specialist and occur prior to development-related vegetation removal or other habitat modifications.

Program C-1.1B: Wetlands Overlay District. Continue to implement wetlands policy through a Wetlands Overlay zoning district that is based on wetland delineations consistent with US Army Corps of Engineers criteria. In unincorporated areas within the Planning Area, support County implementation of Baylands Corridor policies and standards.

Policy C-1.2: Wetlands and Sea Level Rise. Optimize the role of wetlands in buffering the San Rafael shoreline against the future impacts of sea level rise.

Policy C-1.6: Creek Protection. Protect and conserve creeks as an important part of San Rafael's identity, natural environment, and green infrastructure. Except for specific access points approved per Policy C-1.7 (Public Access to Creeks), development-free setbacks shall be required along perennial and intermittent creeks (as shown on www.marinmaps.org) to help maintain their function

and habitat value. Appropriate erosion control and habitat restoration measures are encouraged within setbacks and roadway crossings are permitted.

Policy C-1.10: Hillside Preservation. Encourage preservation of hillsides, ridgelines, and other open areas that serve as habitat and erosion protection as well as visual backdrops to urban areas.

Policy C-1.11: Wildlife Corridors. Preserve and protect areas that function as wildlife corridors, particularly those areas that provide connections permitting wildlife movement between larger natural areas.

Program C-1.11A: Surveys for Wildlife Movement Corridors. Require that sites with suitable natural or anthropogenic habitat, including creeks in urban areas, be surveyed for the presence or absence of important wildlife corridors, prior to development approval. Such surveys should be conducted by a qualified biologist following CDFG⁴-accepted species-level protocol and occur prior to development-related vegetation removal or other habitat modifications. As resources allow, surveys also should be conducted in previously developed areas to establish conservation priorities, and support wildlife and ecosystem management and education programs.

Program C-1.11B: Wildlife-Human Interface. Implement programs to reduce conflicts and improve co-existence between people and wildlife, including education about animals living around us and the need to modify certain human behaviors.

Policy C-1.12: Native or Sensitive Habitats. Protect habitats that are sensitive, rare, declining, unique, or represent a valuable biological resource. Potential impacts to such habitats should be minimized through compliance with applicable laws and regulations, including biological resource surveys, reduction of noise and light impacts, restricted use of toxic pesticides, pollution and trash control, and similar measures.

Program C-1.12A: Surveys for Sensitive Natural Communities and Special Status Species. Require that sites with suitable natural or anthropogenic habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of sensitive natural communities and special status species prior to development approval. Such surveys should be conducted by a qualified biologist following CDFG-accepted species-level protocol and occur prior to development-related habitat removal or other habitat modifications.

Policy C-1.13: Special Status Species. Conserve and protect special status plants and animals, including those listed by State or federal agencies as threatened and/or endangered, those considered to be candidate species for listing by state and federal agencies, and other species that have been assigned special status by the California Native Plant Society and the California Fish and Game Code. Avoidance of impacts, accompanied by habitat restoration, is the preferred approach to conservation, but mitigation measures may be considered when avoidance is not possible.

Program C-1.13B: Mitigating Impacts on Special Status Species. Avoid and protect special status species and require that consultation with resource agencies be performed in conformance with federal and State regulations. Require that potential unavoidable impacts to special status

⁴ An error was made in this program statement of the updated General Plan. CDFG is now CDFW which stands for California Department of Fish and Wildlife.

species are minimized through design, construction, and project operations. If such measures cannot adequately mitigate impacts, require measures such as on-site set asides, off-site acquisitions (conservation easements, deed restrictions, etc.), and specific restoration efforts that benefit the listed species being impacted.

Program C-1.13E: Avoidance of Nesting Birds. Nests of native birds in active use shall be avoided in compliance with State and federal regulations. For new development sites where nesting birds may be present, vegetation clearing and construction shall be initiated outside the bird nesting season (February 1 through August 31) or pre-construction surveys shall be conducted by a qualified biologist within a minimum of 500 feet from the project site where access is feasible and no more than seven days prior to any disturbance. If active nests are encountered, appropriate work avoidance buffer zones shall be established based on recommendations by the biologist and remain in place until any young birds have successfully left the nest and are no longer dependent on parental care.

Policy C-1.14: Control of Invasive Plants. Remove and control undesirable non-native plant species from City-owned open space and road rights-of way and encourage the removal and control of these species from non-City owned ecologically sensitive or fire-prone areas.

Program C-1.14C: Removal of Invasive Species. Support partnerships and multi-jurisdictional efforts to remove invasive plant species, reduce fire hazards, and improve habitat on public properties. Use volunteers and non-profit organizations to assist in such efforts and consult with the California Native Plant Society and similar organizations to optimize results, avoid the removal of desirable plants, and replant with appropriate plants before invasive species return. Funding from sources such as Measure A, state and regional wildfire prevention funds, utility funds, and other conservation program funds should be pursued to support these efforts.

Program C-1.14D: Wildfire Action Plan Implementation. Implement the provisions of San Rafael's Wildfire Action Plan (2020) relating to the control of invasive plants, including further limiting the sale or planting of highly flammable non-native plants in the city, supporting volunteer activities to remove Scotch and French broom, revising standards for Eucalyptus, providing fuel breaks on public property, and educating the public on fire-safe landscaping.

Policy C-1.15: Landscaping with Appropriate Naturalized Plant Species. Encourage landscaping with native and compatible non-native plant species that are appropriate for the dry summer climate of the Bay Area, with an emphasis on species determined to be drought-resistant. Diversity of plant species is a priority for habitat resilience.

Program C-1.15A: Education on Desirable Plant Species. Leverage the educational and website materials on "water-wise" plants developed by the Marin Municipal Water District and fire prone plants from Fire Safe Marin as resources for San Rafael property owners. The City should also create Resilient Landscape Templates (RLTs) that offer suggestions for homeowners to achieve beautiful, fire-resistant, drought tolerant landscaping.

Policy C-1.16: Urban Forestry. Protect, maintain, and expand San Rafael's tree canopy. Trees create shade, reduce energy costs, absorb runoff, support wildlife, create natural beauty, and absorb carbon, making them an essential and valued part of the city's landscape and strategy to address global climate change. Tree planting and preservation should be coordinated with

programs to reduce fire hazards, reduce greenhouse gas emissions, expand solar opportunities, and ensure public safety, resulting in a community that is both green and fire-safe.

Policy C-1.17: Tree Management. The removal of healthy trees shall be discouraged, and their replacement may be required when trees are removed due to health, safety, or maintenance reasons. Site plans should indicate the location of existing trees and include measures to protect them wherever feasible.

Program C-1.17A: Tree Preservation. Revise Chapter 11.12 of the Municipal Code (Trees) or add a new Code section that defines protected and heritage trees and establishes permit requirements and procedures for tree protection, removal, and replacement. The regulations should strongly support the protection of California redwoods (*Sequoia sempervirens*) and other native trees.

Program C-1.17B: Tree Management Plan: Require a tree management plan prior to approval of development with the potential to remove or substantially impact trees. The Plan should be prepared by a licensed arborist using published standards and practices for protecting and monitoring tree health during and after construction.

Program C-1.17C: Mitigation for Tree Removal. Continue to implement mitigation requirements for tree removal in new development. When necessary, this could include planting of trees in locations other than the project site, planting native trees in lieu of non-natives, or reducing the footprint of proposed development. Tree replacement should be based on a value that is equal to or greater than the carbon footprint and ecological benefits of the trees being removed. Ecological benefits include water conservation, absorption of runoff, reduction of air pollution, energy reduction from shade and cooling effects, soil retention, slope stabilization, and wildlife support.

San Rafael Municipal Code Provisions

Chapter 11.12 of the San Rafael Municipal Code pertains to the protection and management of street trees. The City has been working to adopt a Tree Preservation Ordinance, but currently has no specific regulations related to tree protection, other than the provisions in the Municipal Code pertaining to street trees. However, Municipal Code Chapter 14.25 (Environmental and Design Review Permits) requires applications to include information on “natural features” including existing trees and other vegetation, and calls for providing information on the impact of proposed development on the existing site conditions.

Municipal Code Section 14.18.160 pertains to parking lot screening and landscaping, and defines minimum tree plantings to be installed in parking lots. A minimum of one canopy tree is to be provided for every four parking spaces, and trees are to be distributed throughout the parking area to shade cars and paved areas. Tree selection and distribution are intended to achieve maximum shading of paved surfaces.

Changes in Regulatory Framework Since 2017 EIR

The preceding section addresses relevant changes in the regulatory framework since the 2017 EIR was prepared.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Supplemental EIR Analysis Scope and Pertinent Changes

The Capital Improvements Project would include improvements in areas of the SRHS campus that could have sensitive resources that were outside the limits of anticipated disturbance previously evaluated as part of the 2017 EIR. In addition, site conditions may have changed with regard to possible presence of sensitive resources, so absence of these resources requires confirmation. Therefore, supplemental analysis of the potential impacts of the project related to biological resources is warranted and presented below.

Significance Criteria

Significance Criteria from 2017 EIR

The 2017 EIR indicated that, based on Appendix G of the CEQA Guidelines, the project would have a significant impact on biological resources if it would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Changes in Significance Criteria Since 2017 EIR

Changes have been made to the significance criteria in Appendix G of the CEQA Guidelines to include recognition of state waters under Criterion c). The revised language is as follows:

- c) Have a substantial adverse effect on federally protected wetlands (as defined by Section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means.

Summary of Impacts and Mitigation Measures from 2017 EIR

Areas of No Impact from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would have no impact in relation to the following significance criteria:

- b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.* Riparian habitats and sensitive natural community types are absent from the project site.
- c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.* Regulated waters are absent from the project site.
- f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.* No such plans encompassing the site or vicinity have been adopted.

Less-than-Significant Impacts from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would result in less-than-significant impacts related to movement of native resident or migratory fish and wildlife species. The project site is largely developed with existing institutional uses, with only limited habitat value to wildlife species common in urbanized areas. Species common to urbanized areas would eventually continue to use the new and existing facilities following construction and establishment of new landscaping. Wildlife movement opportunities would not be substantially impeded on the site.

The 2017 EIR also concluded that that the Master Facilities Long-Range Plan, including the Stadium Project, would not conflict with the few relevant policies in the Conservation Element of the San Rafael General Plan. Most of these relate to the protection of wetlands, drainages, and other sensitive biological resources not found on the site, and no conflicts would occur. Appropriate controls would be implemented to ensure that street trees and other landscape trees on the site to be retained in the vicinity of construction are adequately protected. The replacement landscaping provided as part of individual projects would serve to replace any trees and other landscaping removed to accommodate new structures and other improvements contemplated under the Master Facilities Long Range Plan, including the Stadium Project.

Potentially Significant Impacts and Mitigation Measures from 2017 EIR

The table below summarizes potentially significant impacts and mitigation measures identified in the 2017 EIR.

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
Biological Resources			
BIO-1: Development under the Master Facilities Long-Range Plan may result in adverse impacts on nesting birds, if present on the site.	PS	BIO-1: Adequate measures shall be taken to avoid inadvertent take of raptor nests and other nesting birds protected under the Migratory Bird Treaty Act when in active use. This shall be accomplished by taking the following steps: <ul style="list-style-type: none"> ▪ If construction is proposed during the nesting season (February through August), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 14 days prior to the onset of vegetation removal or construction, in order to identify any active nests on the project site and in the vicinity of proposed construction. ▪ If no active nests are identified during the survey period, or if development is initiated during the non-breeding season (September through February), construction may proceed with no restrictions. ▪ If bird nests are found, an adequate setback shall be established around the nest location and construction activities restricted within this no-disturbance zone until the qualified biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the California Department of Fish and Wildlife (CDFW) and may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated on the remainder of the development site. ▪ A report of findings shall be prepared by the qualified biologist and submitted to the District for review and approval prior to initiation of construction within the no-disturbance zone during the nesting season (February through August). The report either shall confirm absence of any active nests or shall confirm that any young within a designated no-disturbance zone have fledged and construction can proceed. 	LTS
BIO-2: Implementation of the Stadium Project could result in adverse impacts on nesting birds, if present in existing trees and other vegetation in the vicinity.	PS	BIO-2: Implement Mitigation Measure BIO-1.	LTS

Cumulative Impacts from 2017 EIR

The 2017 EIR concluded that no cumulatively considerable impacts on biological resources were expected as a result of anticipated development on the site associated with the Master Facilities Implementation Plan, including the Stadium Project. The site is largely developed, with only limited biological resources. Compliance with Mitigation Measures BIO-1 and BIO-2 served to address

potential impacts on nesting birds, and future landscaping served to replace any trees and other vegetation removed to accommodate new structures and other improvements.

Impacts of New Capital Improvements Project

Areas of No Impact

The following significance criteria would not apply to the project and are therefore excluded from further discussion in this impact analysis:

- b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.* Riparian habitats and sensitive natural community types are absent from the project site.
- c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act or state protected wetlands, through direct removal, filling, hydrological interruption, or other means.* Regulated waters are absent from the project site.
- f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.* No such plans encompassing the site or vicinity have been adopted.

Less-than-Significant Impacts

The project would have the same less-than-significant impacts related to wildlife movement opportunities and conformance to local plans and policies identified for the Master Facilities Long-Range Plan in the EIR. However, an updated analysis is provided to confirm that no new substantial impacts on wildlife movement opportunities or conflicts with the San Rafael General Plan 2040 would occur, as reviewed below. The Capital Improvements Project is exempt from the City's General Plan, but compliance is still reviewed as part of this updated analysis.

Movement of Native Resident or Migratory Fish or Wildlife Species

The Capital Improvements Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The project site is largely developed with existing institutional uses, with only limited habitat value to wildlife species common in urbanized areas. Species common to urbanized areas would eventually continue to use the new and existing facilities following construction and establishment of new landscaping. Wildlife movement opportunities would not be substantially impeded on the site, and the impact of the Capital Improvements Project would be less than significant.

Conformance with Local Plans and Policies

The Capital Improvements Project would generally conform with local policies and ordinances protecting biological resources, and no major conflicts are anticipated.

Although the proposed Capital Improvements Project and the SRHS campus are exempt from the City's General Plan, in general, the proposed project would not conflict with the few relevant

policies in the Conservation and Climate Change Element of San Rafael General Plan 2040. Most of these relate to the protection of wetlands, drainages, and other sensitive biological resources not found on the site, and no conflicts would occur. The District periodically manages invasive vegetation such as French broom found in the undeveloped eastern edge of the site, primarily for fire fuel management, in conformance with Policy C-1.14 (Control of Invasive Plants) and Program C-1.14C (Removal of Invasive Species) from General Plan 2040. Invasive French broom was abundant on this portion of the site during the field reconnaissance in October 2016, but was largely undetectable during the follow-up reconnaissance in September 2023.

Program C-1.13E (Avoidance of Nesting Birds) calls for protection of nests of native birds when in active use through restrictions on timing of initiating construction or through conduct of a preconstruction survey and adherence to any setbacks necessary to avoid any active nests. Mitigation Measure BIO-1 from the 2017 EIR would serve to ensure compliance with this new program, and has been recommended to address the potential for establishment of new nests on the project site, as discussed below under Impact S-BIO-1.

Several policies and programs in General Plan 2040 pertain to tree protection and management. These include Policy C-1.16 (Urban Forestry), Policy C-1.17 (Tree Management), Program C-1.17A (Tree Preservation), Program C-1.17B (Tree Management Plan), and Program C-1.17C (Mitigation for Tree Removal). There are a number of trees on the project site that would be removed or could be damaged as a result of construction during implementation of the Capital Improvements Project. The District also intends to remove or prune an estimated 23 trees identified as hazardous in an Arborist Report and Tree-Risk Assessment (Arborscience, 2023), at least eight of which are recommended for removal. These include two bush cherries (*Syzygium paniculatum*), two glossy privet (*Ligustrum lucidum*) two Fremont cottonwood (*Populus fremontii*), a Modesto ash (*Fraxinus velutina*), and a multi-trunk blue gum eucalyptus. Trees to be pruned or dead limbs removed include Deodar cedar, Canary Island date palm, Raywood ash (*Fraxinus oxycarpa*), coast redwood, blue gum eucalyptus and red ironbark (*Eucalyptus sideroxylon*). Additional smaller trees such as crape myrtles, flowering pear and glossy privet trees on-site along the Mission Avenue frontage and elsewhere on the site could be removed to accommodate improvements to the Middle Campus, Aquatics Center, and Athletic Fields.

The City of San Rafael has no specific regulations related to tree protection, other than the provisions in the Municipal Code pertaining to street trees. However, Chapter 14.25 of the San Rafael Municipal Code (Environmental and Design Review Permits) requires applications to include information on “natural features” including existing trees and other vegetation, and calls for providing information on the impact of proposed development on the existing site conditions. Detailed landscape plans would be prepared as part of each project undertaken under the Capital Improvements Project, and would include trees, shrubs, and groundcover species. Appropriate controls would be implemented to ensure that street trees and other landscape trees on the site to be retained in the vicinity of construction are adequately protected. The replacement landscaping provided as part of the Capital Improvements Project would serve to replace any trees and other landscaping removed to accommodate new structures and other improvements, and would serve to ensure that there are no major conflicts with General Plan 2040 policies and programs or Municipal Code requirements, to the extent feasible.

It should be noted that the District is exempt from requirements for full compliance with local regulations but would strive to meet the intent of this and other provisions in the Municipal Code.

Adherence to Mitigation Measure S-BIO-1 would ensure avoidance of any native bird nests in active use, and construction controls to protect mature trees and new landscaping provided as part of the project would serve to minimize adverse impacts on tree resources, consistent with the policies and programs in General Plan 2040. Therefore, the Capital Improvements Project would be considered to have a less-than-significant impact with regard to compliance with local plans and policies.

Potentially Significant Impacts and Mitigation Measures

Impact S-BIO-1: Development under the Capital Improvements Project may result in adverse impacts on nesting birds, if present on the site. (PS)

This impact and the recommended mitigation measure below are essentially the same as Impact BIO-1 and Mitigation Measure BIO-1 in the 2017 EIR, but revised so that they specifically address the project and changes in timing of pre-construction surveys for nesting birds, if required.

No special-status species are suspected to occur in the developed areas of the site, but there remains a potential for new bird nests that could be inadvertently destroyed or abandoned during construction. The mature trees, landscaping, and even the exterior of the existing buildings to be demolished or rehabilitated could be used for nesting by birds, including raptors and more common species. The MBTA prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior; this prohibition includes whole birds, parts of birds, and bird nests and eggs. Tree removal, building demolition, and other construction activities during the breeding season could result in the incidental loss of fertile eggs or nestlings or nest abandonment. This would be considered a potentially significant impact.

A standard method to address the potential for nesting birds is either to initiate construction during the non-nesting season, which in Marin County is typically from September 1 to January 31, or to conduct a nesting survey within 7 days (rather than 14 days as specified in the 2017 EIR) prior to initial tree removal, building demolition, and construction to determine whether any active nests are present that must be protected until any young have fledged and are no longer dependent on the nest. Protection of the nests, if present, would require that construction setbacks be provided during the nesting and fledging period, with the setback depending on the type of bird species, degree to which the individuals have already acclimated to other ongoing disturbance, and other factors. Without these controls, construction under the Capital Improvements Project could have a potentially significant impact on nesting birds.

Mitigation Measure S-BIO-1: Adequate measures shall be taken to avoid inadvertent take of raptor nests and other nesting birds protected under the Migratory Bird Treaty Act when in active use. This shall be accomplished by taking the following steps:

- *If construction is proposed during the nesting season (February through August), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 7 days prior to the onset of vegetation removal or construction, in order to identify any active nests on the project site and in the vicinity of proposed construction.*

- *If no active nests are identified during the survey period, or if development is initiated during the non-breeding season (September through January), construction may proceed with no restrictions.*
- *If bird nests are found, an adequate setback shall be established around the nest location and construction activities restricted within this no-disturbance zone until the qualified biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the California Department of Fish and Wildlife (CDFW), and may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated on the remainder of the development site. A report of findings shall be prepared by the qualified biologist and submitted to the District for review and approval prior to initiation of construction within the no-disturbance zone during the nesting season (February through August). The report either shall confirm absence of any active nests or shall confirm that any young within a designated no-disturbance zone have fledged and construction can proceed. (LTS)*

Cumulative Impacts

The new Capital Improvements Project would have the same cumulative impacts identified for the Master Facilities Long-Range Plan in the 2017 EIR. No cumulatively considerable impacts on biological resources are expected as a result of anticipated development on the site associated with the Capital Improvements Project. The site is largely developed, with only limited biological resources. Compliance with Mitigation Measure S-BIO-1 would serve to address potential impacts on nesting birds, and future landscaping would serve to replace any trees and other vegetation removed to accommodate new structures and other improvements. Thus, the Capital Improvements Project would not contribute to significant cumulative impacts on biological resources, and no mitigation measures for cumulative impacts are necessary.

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State of California, California Fish and Game Code, various dates. Section 1600, et seq, Section 2050-2069, Section 3500-3516, and Section 4700.

State Water Resources Control Board (State Water Board), 2019, State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State, Adopted April 2, 2019, and Revised April 6, 2021.

State of California, CEQA Guidelines, Title 14, Chapter 3, Section 15380 and Appendix G.

U.S. Fish and Wildlife Service (USFWS), Sacramento Endangered Species Division, 2016. Critical Habitat database accessed online on September 12, 2023.

U.S. Government, Clean Water Act, Section 401 and Section 404.

U.S. Government, Federal Code of Regulations, 2023, Title 33, Chapter II, Part 328, Definition of Waters of the United States. Current as of September 21, 2023.

U.S. Government, Federal Endangered Species Act of 1973, 16 U.S.C., Section 1531, et seq.

U.S. Migratory Bird Treaty Act, 16 U.S.C., Section 703, *et seq.*

U.S. Rivers & Harbors Act, 33 U.S.C. 403, Section 10.

4.4 GEOLOGY, SOILS, AND SEISMICITY

INTRODUCTION

This section of the Supplemental EIR (SEIR) describes the geologic, soils, and seismic setting of the San Rafael High School (SRHS) campus (project site), including the regional and local geology, seismicity, and paleontological setting, and the relevant regulatory framework. This section also evaluates potential environmental impacts of the project related to geology, seismicity, soils, and paleontological resources. Project-level and cumulative environmental impacts are explained and mitigation measures that would reduce or avoid the identified impacts are identified.

The analysis relies on published regional geologic resources from agencies such as the United States Geological Survey (USGS) and California Geological Survey (CGS) as well as a site-specific geotechnical reports (Miller Pacific Engineering Group, 2015, 2018, and 2019) performed for the SRHS campus.

ENVIRONMENTAL SETTING

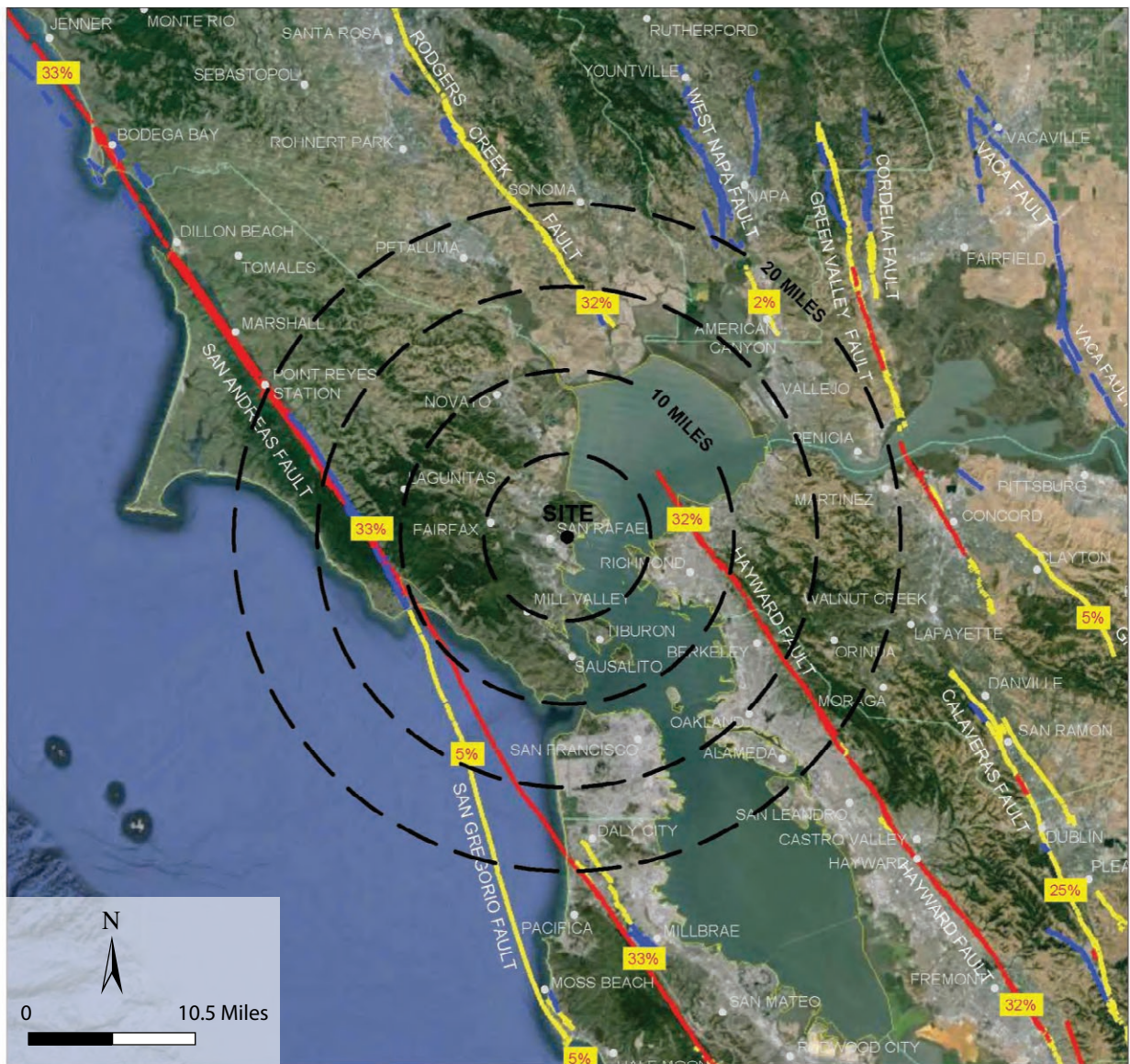
Summary of Environmental Setting from 2017 EIR

Regional Geology

The SRHS campus is located within the Coast Ranges geomorphic province of California. The Coast Ranges stretch from the Oregon border south to Santa Barbara County. Movement on the San Andreas Fault system over the last 30 million years (discussed in more depth below) has produced the northwest-trending structural and topographic geologic features typifying the Coast Ranges. The Coast Ranges are underlain by the Cretaceous- and Jurassic-age (70- to 200-million-year-old) rocks of the Franciscan Complex, overlain by younger sedimentary and volcanic formations, which are in turn overlain by still younger surficial deposits laid down in the last million years.

Regional Seismicity

The San Francisco Bay Area is a seismically active region. Numerous earthquakes have been recorded in the region in the past, and significant earthquakes can be expected to occur in the future. A number of active regional faults in the SRHS campus vicinity have been found by CGS under the Alquist-Priolo Earthquake Fault Zoning Act to be “active” (i.e., to have evidence of fault rupture in the past 11,000 years). The closest active faults to the SRHS campus are the Hayward Fault, located approximately 7.5 miles to the east, and the San Andreas Fault, located approximately 10 miles to the southwest (see **Figure 4.4-1**). Other faults in the SRHS campus vicinity with the potential to produce a significant earthquake include the San Gregorio and Rodgers Creek faults (see **Figure 4.4-1**).



SITE COORDINATES: LAT. 37.9702°, LON. -122.5123°

Legend

(Color indicates age of most recent known movement)

- **Historic (movement in last 150 years)**
- **Holocene-Latest to Pleistocene (less than 15,000 years old)**
- **Late Quaternary (less 1.0 million years)**
- 32% **Probability of at least one million less than 6.7 Earthquake between 2015 and 2045 for Faults Shown**

Data Source:

1) Working Group on California Earthquake Probabilities (WGCEP) (2014), "Long-Term Time-Dependent Probabilities for the Third Uniform California Earthquake Rupture Forecast (UCERF3), Bulletin of the Seismological Society of America (BSSA), Volume 105, No. 2A, 33pp, April 2015.

Figure 4.4-1

SOURCE: Miller Pacific Engineering Group, 2015

REGIONAL FAULTS

The main feature generating seismic activity in the region is the tectonic plate boundary between the North American and Pacific plates. Locally, this boundary is referred to as the San Andreas Fault Zone, and includes the fault as well as the area near the fault that could experience surface rupture during a seismic event.

In 2015, the USGS Working Group on California Earthquake Probabilities estimated a 72 percent chance of at least one magnitude 6.7 or greater earthquake in the San Francisco Bay Area over the next 30 years, including a 33 percent chance on the San Andreas Fault and a 32 percent chance on the Hayward-Rogers Creek fault (USGS, 2015a).

Groundshaking is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. The extent of groundshaking is controlled by the magnitude and intensity of the earthquake. Magnitude is a measure of the energy released by an earthquake, and is reported as moment magnitude (M_w).¹ The Modified Mercalli Intensity Scale, presented in **Table 4.4-1**, is a subjective measure of the perceptible effects of an earthquake at a given point and varies with distance from the epicenter and local geologic conditions. Intensity can also be quantitatively measured using accelerometers (strong motion seismographs) that record ground acceleration at a specific location. Acceleration is measured as a fraction or percentage of the acceleration of gravity (g).

SRHS Campus Setting

Site Topography

Most of the SRHS campus, including all currently developed areas, is relatively level. The 2017 EIR indicated that most of the SRHS campus has an elevation of approximately 10 feet above mean sea level; however, the elevation of 10 feet is actually referenced to the North American Vertical Datum of 1988 (NAVD88). Relatively steep slopes are present near the eastern boundary of the campus, with elevations reaching approximately 74 feet NAVD88 near the intersection of Mission Avenue and Embarcadero Way. Mission Avenue and Embarcadero Way slope down from east to west from this high point. Slopes are present near the northeastern site boundary, from north of the SRHS tennis courts to Embarcadero Way, and near the southeastern site boundary from Mission Avenue to the southeast corner of the stadium (USGS, 2015b).

Site Stratigraphy and Soils

Regional geologic mapping designates the level area of the SRHS campus as artificial fill over marine and marsh deposits, with areas to the north, west, and east mapped as Franciscan *mélange* (Blake et al, 2000). Soils in the eastern part of the SRHS campus were evaluated in a site-specific geotechnical investigation for the Stadium Project. The geotechnical investigation included installation of five shallow soil borings, one deep soil boring, and six cone penetrometer test borings. Soils in this part of the campus consist of 3 to 8 feet of sandy and clayey fill materials on top of a 3- to 20-foot-thick layer of soft compressible marine clay deposits known as Bay Mud. Underlying the Bay Mud is a 7- to 10-foot-thick layer of sandy clay alluvium over weathered

¹ M_w , as opposed to Richter Magnitude, is now commonly used to characterize seismic events. M_w is determined from the physical size (area) of the rupture of the fault plane, the amount of horizontal and/or vertical displacement along the fault plane, and the resistance to rupture of the rock type along the fault.

Table 4.4-1 Modified Mercalli Scale^a

Moment Magnitude (M _w) ^b	Intensity	Effects	v, ^c cm/s	g ^d
3	I.	Not felt. Marginal and long-period effects of large earthquakes.		
	II.	Felt by persons at rest, on upper floors, or favorably placed.		
	III.	Felt indoors. Hanging objects swing. Vibration—like passing of light trucks. Duration estimated. May not be recognized as an earthquake.		0.0035-0.007
4	IV.	Hanging objects swing. Vibration—like passing of heavy trucks; or sensation of a jolt like a heavy ball striking the walls. Standing motor cars rock. Windows, dishes, doors rattle. Glasses clink. Crockery clashes. In the upper range of IV wooden walls and frame creak.		0.007-0.015
	V.	Felt outdoors; direction estimated. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Shutters, pictures move. Pendulum clocks stop, start, change rate.	1-3	0.015-0.035
5	VI.	Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Knickknacks, books, etc., off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster and masonry D cracked. Small bells ring (church, school). Trees, bushes shaken visibly, or heard to rustle.	3-7	0.035-0.07
	VII.	Difficult to stand. Noticed by drivers of motor cars. Hanging objects quiver. Furniture broken. Damage to masonry D, including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices, unbraced parapets, and architectural ornaments. Some cracks in masonry C. Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.	7-20	0.07-0.15
6	VIII.	Steering of motor cars affected. Damage to masonry C; partial collapse. Some damage to masonry B; none to masonry A. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.	20-60	0.15-0.35
	IX.	General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. General damage to foundations. Frame structures, if not bolted, shifted off foundations. Frames racked. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluviated areas sand and mud ejected, "earthquake fountains" of sand and water, sand craters.	60-200	0.35-0.7
8	X.	Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.	200-500	0.7-1.2
	XI.	Rails bent greatly. Underground pipelines completely out of service.		>1.2
	XII.	Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into the air.		

Note:

Masonry A, B, C, D. To avoid ambiguity of language, the quality of masonry, brick or otherwise, is specified by the following lettering (which has no connection with the conventional Class A, B, C construction).

Masonry A: Good workmanship, mortar, and design, reinforced, especially laterally, and bound together by using steel, concrete, etc.; designed to resist lateral forces.

Masonry B: Good workmanship and mortar, reinforced, but not designed to resist lateral forces.

Masonry C: Ordinary workmanship and mortar; no extreme weaknesses such as non-tied-in corners, but masonry is neither reinforced nor designed against horizontal forces.

Masonry D: Weak materials, such as adobe; poor mortar; low standards of workmanship; weak horizontally.

^a Source: Based on Richter, 1958, *Elementary Seismology*.

^b Richter magnitude correlation.

^c Average peak ground velocity, centimeters per second (cm/s).

^d Average peak acceleration (away from source).

sandstone. The sandstone becomes significantly harder between 20 and 35 feet below the ground surface (bgs) (Miller Pacific Engineering Group, 2015).

A 2012 soil and groundwater investigation in the western portion of the SRHS campus, at the Maintenance Facility at 38 Union Street, found similar soils: 3 to 7.5 feet of fill material, with some thin sand layers, over Bay Mud (Arcadis, 2015). Soils in other parts of the campus had not been investigated at the time the 2017 EIR was prepared; however, based on the similar regional geologic mapping, it was considered likely that soils in other parts of the SRHS campus are similar to those identified in these previous investigations.

Seismic Hazards

Fault Rupture

Fault rupture of the surface typically occurs along existing faults that have ruptured the surface in the past. The closest active regional faults are the Hayward and San Andreas faults, located approximately 7.5 and 10 miles from the SRHS campus (see Figure 4.4-1). No known active faults are located within the SRHS campus, so the potential for fault rupture is low (Miller Pacific Engineering Group, 2015).

Groundshaking Hazards

Groundshaking is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage during seismic events. The extent of groundshaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions.

CGS has developed tools to determine the Peak Ground Acceleration (PGA) associated with earthquakes likely to affect a site over a 50-year period. The PGA analysis for the Stadium Project calculated the expected PGA at the Stadium Project site during a seismic event, with a 10 percent chance of being exceeded, of 0.44g. An earthquake of this magnitude would be expected at the project site once every 475 years (Miller Pacific Engineering Group, 2015). This corresponds to violent shaking (IX) on the Modified Mercalli scale (see Table 4.4-1). Violent groundshaking can create considerable damage even in specially designed structures; well-designed frame structures may be thrown out of plumb; damage may be great in substantial buildings, with partial collapse; and smaller buildings may be shifted off foundations (see Table 4.4-1).

Liquefaction Hazards

During strong groundshaking, liquefaction may occur in areas where soils with high moisture content are present. Liquefaction occurs when groundshaking transforms the subsurface material temporarily from a solid state to a liquid state. Liquefaction can be a serious hazard because buildings in areas that experience liquefaction may sink or suffer major structural damage. The types of soils subject to liquefaction can also cause additional hazards during seismic events, such as lateral spreading or cyclical densification, where loose, granular soil above the water table densify, resulting in settlement.

Based on regional mapping, the SRHS campus is mapped as having high to very high liquefaction susceptibility (ABAG, 2016). Site-specific investigation of soil layers at the SRHS campus for the Stadium Project determined that only relatively thin layers of liquefiable soil, in lenses between fill material and Bay Mud, were present at the site. Based on these data, the report classified the risk of liquefaction as low to moderate (Miller Pacific Engineering Group, 2015).

Geotechnical Hazards

Settlement and Subsidence

Settlement may occur when loads, such as structures or fill, are placed on compressible subsurface materials. Where soils beneath a structure do not have uniform engineering properties, soils could respond differently when placed under the load of buildings or other improvements, which could potentially result in differential settlement. The resulting uniform or differential compaction of the subsurface materials can result in changes to the final ground surface, which may adversely affect buildings, pavement, and other improvements at a site.

Soft compressible materials were observed during the subsurface exploration for the Stadium Project, and could potentially be present at other portions of the SRHS campus (Miller Pacific Engineering Group, 2015). The report concluded that improvements on these soils could result in settlement requiring special foundation design elements to mitigate settlement and differential settlement hazards (Miller Pacific Engineering Group, 2015).

Subsidence is a form of settlement, resulting in the lowering of the land surface elevation due to groundwater pumping and subsequent consolidation of loose aquifer sediments. The geotechnical report for the Stadium Project indicates that subsidence is considered a geologic hazard at the SRHS campus (Miller Pacific Engineering Group, 2015).

Expansive Soils

Expansive soils expand and contract in response to changes in soil moisture, most notably when near-surface soils change from saturated to a low moisture content condition and back again. These changes can result in damage to building foundations, pavement, and other structural elements. Soils at the SRHS campus include clayey fill, which is a type of soil that may be classified as expansive. However, site-specific testing at the Stadium Project site determined that these clayey soils do not exhibit expansive behavior (Miller Pacific Engineering Group, 2015). Additional site-specific testing would be necessary to reach the same conclusion for other areas of the SRHS campus.

Corrosive Soils

Soils may be classified as corrosive to metals and/or concrete. This classification depends on a variety of variables, including moisture, electrical conductivity, chloride content, pH, and dissolved salt content. Testing of soils at the Stadium Project site showed that these soils would not be classified as corrosive (Miller Pacific Engineering Group, 2015). Additional site-specific testing would be necessary to reach the same conclusion for other areas of the SRHS campus.

Landslides and Slope Stability

Slope failure can occur as either rapid movement of large masses of soil (landslide) or imperceptibly slow movement of soils on slopes (creep). The primary factors influencing the stability of a slope are the nature of the underlying soil or bedrock, the geometry of the slope (height and steepness), and rainfall. The presence of historic landslide deposits is a good indicator of future landslides. Landslides are commonly triggered by unusually high rainfall and the resulting soil saturation, by earthquakes, or a combination of these conditions.

Most of the SRHS campus is level, with the exception of the undeveloped area near the eastern campus boundary. An evaluation of potential slope stability hazards for the Stadium Project did not identify any evidence suggestive of significant slope instability or landsliding on the slopes adjacent to the southeast corner of the SRHS campus (Miller Pacific Engineering Group, 2015). The slope in the southeast corner of the SRHS campus is inclined approximately 2:1 (2 feet horizontal per 1-foot vertical). This is similar to the inclination of slopes along other portions of the northern and eastern SRHS campus boundary. For example, the slope between the tennis courts and Mission Avenue, near the northern SRHS campus boundary, has an approximately 25-foot rise in elevation over a 50-foot distance (USGS, 2015b) for a similar 2:1 inclination.

Paleontological Resources

Geologic maps indicate that the SRHS campus is situated on artificial fill overlying Holocene-age (~11,500 years B.P.) Bay Mud, which was deposited as a result of sea level rise beginning in the Late Pleistocene and Early Holocene; exposed Franciscan Complex material is at the northern edge of campus (Blake et al., 2000; Witter et al., 2006). The Holocene Bay Mud that underlies the project site is too recent to contain fossils of paleontological significance. Older Pleistocene surfaces and decomposing Franciscan Formation bedrock have been identified in the vicinity of the project site beneath Holocene Bay Mud (Kajankoski and Meyer, 2011). These older surfaces have the potential to contain significant fossils.

Changes in Environmental Setting Since 2017 EIR

Two additional geotechnical investigations were prepared for the SRHS campus after completion of the 2017 EIR: a 2018 geotechnical investigation for Phase 2 Improvements in the central and south-central portion of the SRHS campus (Miller Pacific Engineering Group, 2018), and a 2019 geotechnical investigation for the Science Technology Engineering Art & Math (STEAM) Building in the central portion of the SRHS campus (Miller Pacific Engineering Group, 2019).² New information from these geotechnical investigations and other documents released after preparation the 2017 EIR is discussed below.

Regional Seismicity

The Working Group on California Earthquake Probabilities and the USGS issued a revised earthquake forecast which predicted a 33 percent probability of a Mw 6.7 or greater earthquake on the Hayward Fault between 2014 and 2043 (1 percent higher than the previous forecast), and a

² These two additional geotechnical investigations did not address the new improvements proposed under the project.

22 percent chance on the San Andreas Fault during that time (11 percent lower than the previous forecast) (USGS, 2016).

SRHS Campus Setting

Site Stratigraphy and Soils

Soils in the central and south-central portion of the SRHS campus were evaluated in a site-specific geotechnical investigation for the Phase 2 Improvements (Miller Pacific Engineering Group, 2018), and soils in the central portion of the SRHS campus were evaluated in a site-specific geotechnical investigation for the STEAM Building (Miller Pacific Engineering Group, 2019). The geotechnical investigations included installation of soil borings and cone penetrometer test borings.

The southwest corner of the Madrone-Admin-Cafeteria-Kitchen (MACK) building is underlain by 5 feet of medium dense, clayey gravel fill overlying approximately 6 feet of soft compressible Bay Mud; followed by approximately 4 feet of medium stiff, medium plasticity clay. Weathered Shale bedrock was observed approximately 15 feet bgs in this area. The subsurface conditions in the remainder of the Phase 2 Improvements Project area generally consist of 2 to 9 feet of medium stiff, medium plasticity, sandy clay and medium dense sandy and clayey gravel fill, with weathered sandstone and shale observed underlying the fill. However, in one boring located between the MACK Building and STEAM Building, approximately 5 feet of dense clayey sand residual soil was observed underlying the fill and overlying bedrock. The geotechnical investigation for the Phase 2 Improvements Project indicated that the groundwater level could be as high as 2.5 feet bgs (Miller Pacific Engineering Group, 2018).

The area of the STEAM Building was found to be underlain by 3 to 6 feet of medium dense, clayey sand with gravel fill overlying approximately 5 to 24 feet of soft compressible Bay Mud. A stiff sandy clay colluvial layer varying in thickness between 10 to 20 feet underlies the Bay Mud. Weathered sandstone and shale bedrock were observed approximately 12 to 37 feet bgs. The geotechnical investigation for the STEAM Building indicated that the groundwater level could be as high as 4 feet bgs (Miller Pacific Engineering Group, 2019).

Soils in other areas of the SRHS campus that are proposed for improvements under the project have not been investigated; however, based on the similar regional geologic mapping and the results of multiple geotechnical investigations at the SRHS campus as discussed above, it is considered likely that soils in other parts of the SRHS campus are similar to those identified in these previous investigations. It is likely that there is less fill material and Bay Mud present along the eastern and northern boundaries of the SRHS campus based on the presence of bedrock outcroppings and hillsides along these areas.

Recent groundwater monitoring for the San Rafael City Schools Maintenance Facility located adjacent to the west of the SRHS campus has identified groundwater levels to be at or just below the ground surface (less than 1 foot deep) in the southwest corner of the site during the wet season (Antea Group, 2023).

Seismic Hazards

Groundshaking Hazards

The expected PGAs with a 10 percent chance of being exceeded were calculated for the Phase 2 Improvements and STEAM Building as 0.48g and 0.45g, respectively, and an earthquake of this magnitude would be expected at the project site once every 475 years (Miller Pacific Engineering Group, 2018 and 2019). This corresponds to violent shaking (IX) on the Modified Mercalli scale (see Table 4.4-1).

Liquefaction, Lateral Spreading, Seismic Settlement, and Cyclic Softening

Site-specific investigations of soil layers found that liquefiable soils were present beneath the Phase 2 Improvements and STEAM Building. The estimated liquefaction-induced settlement for the Phase 2 Improvements ranged from 1 to 2 inches and up to 1-inch of differential settlement over 30 feet (Miller Pacific Engineering Group, 2018). The estimated liquefaction-induced settlement for the STEAM Building ranged from 0.5 to 2.5 inches and up to 2 inches of differential settlement over 30 feet (Miller Pacific Engineering Group, 2019).

In addition to liquefaction-induced settlement, liquefaction-induced ground surface failure (or surface manifestation) such as ground fissures and sand boils can occur depending on the thickness of the liquefiable soil layer relative to the thickness of the overlying non-liquefiable material. The site-specific investigations calculated a moderate probability of surface manifestation settlement for the Phase 2 Improvements (Miller Pacific Engineering Group, 2018), and a low to moderate probability of surface manifestation for the STEAM Building (Miller Pacific Engineering Group, 2019).

Site-specific geotechnical investigations have not yet been performed at the project site; however, based on the presence of liquefiable soils identified in some areas of the SRHS campus, liquefiable soils could be present beneath the project site, and the project site could be susceptible to liquefaction-induced settlement or ground surface failure.

Lateral spreading is a form of horizontal displacement of soil toward an open channel or other "free" face, such as an excavation boundary. In a lateral spread failure, a layer of ground at the surface is carried on an underlying layer of liquefied material over a nearly flat surface toward a river channel or other bank. The lateral spreading hazard tends to mirror the liquefaction hazard for a site (assuming a free face is located nearby). The project site is relatively level and the closest free face that could be subject to lateral spreading is the shoreline of San Rafael Creek, which is approximately 400 feet south of the project site; therefore, the risk of lateral spreading affecting the project site is considered low.

Seismic settlement (also referred to as cyclic densification or differential compaction) can occur when non-saturated, cohesionless sand or gravel soil is densified by earthquake vibrations. When the degree of cyclic densification varies based on variations in soil types, differential settlement may occur which can result in greater damaging to improvements compared to relatively equal settlement. The site-specific geotechnical investigations prepared for the SRHS campus did not encounter loose or clean granular deposits above the groundwater level, and therefore seismically induced ground settlement was not considered a geologic hazard for the Stadium Project, Phase 2

Improvements, or STEAM Building (Miller Pacific Engineering Group, 2015, 2018, and 2019). Site-specific geotechnical investigations have not yet been performed at the project site, so it is not known whether the project site could be subject to seismic settlement.

Cyclic softening refers to a loss of shear strength within a sensitive, cohesive, fine-grained soil (silt and clay) during a seismic event. The effects of cyclic softening can result in a reduction of the soil undrained shear strength that subsequently can cause a significant loss of bearing capacity or slope failures. Soft clay soil was encountered at various depths in the borings for the STEAM Building and some of the Bay Mud was found to be potentially susceptible to cyclic softening. The site-specific investigation for the STEAM Building indicated that there is a moderate risk of damage to structures on a shallow foundation system. Site-specific geotechnical investigations have not yet been performed at the project site, so it is not known whether the project site could be subject to cyclic softening. However, based on the mapping of Bay Mud presented in the geotechnical investigation for the STEAM Building, it appears that the western and northwestern portions of the SRHS campus are underlain by Bay Mud (Miller Pacific Engineering Group 2019); therefore, these areas could be susceptible to cyclic softening.

Geotechnical Hazards

Settlement and Subsidence

Soft compressible Bay Mud was observed during the geotechnical investigations for the Phase 2 Improvements and STEAM Building. The geotechnical investigations indicated that new structural and/or fill loads applied in these areas would cause the underlying Bay Mud to consolidate, resulting in surface settlements that would be proportional to the degree of loading, thickness of Bay Mud, and site history (Miller Pacific Engineering Group, 2018 and 2019). Because Bay Mud was observed in only one boring for the Phase 2 Improvements, differential settlement was considered a significant risk. Site-specific geotechnical investigations have not yet been performed at the project site; however, it appears that the western and northwestern portions of the SRHS campus are underlain by Bay Mud (Miller Pacific Engineering Group 2019); therefore, these areas could be susceptible to settlement and differential settlement.

Subsidence is a form of settlement, resulting in the lowering of the land surface elevation due to groundwater pumping and subsequent consolidation of loose aquifer sediments. Subsidence may also be related to settlement as discussed above. Hazards associated with subsidence include increased risks of flooding and damage to underground utilities as well as above-ground structures. Other potential effects of subsidence include changes in the gradients of stormwater and sanitary sewer drainage systems for which the flow is gravity driven. Based on the presence of shallow groundwater, fill material, and Bay Mud underlying the project site, the project site could be susceptible to subsidence during groundwater dewatering.

Expansive Soils

The geotechnical investigations for the Phase 2 Improvements and STEAM Building did not encounter highly plastic or expansive soils within the upper 3 feet during the subsurface explorations, therefore, the risk of expansive soil affecting the improvements was considered low (Miller Pacific Engineering Group, 2018 and 2019). Additional site-specific testing would be

necessary to reach the same conclusion for other areas of the SRHS campus, including the project site.

Corrosive Soils

The geotechnical investigations for the Phase 2 Improvements and STEAM Building indicated that soils would not be classified as corrosive (Miller Pacific Engineering Group, 2018 and 2019). Additional site-specific testing would be necessary to reach the same conclusion for other areas of the SRHS campus, including the project site.

Landslides and Slope Stability

The geotechnical investigations for the Phase 2 Improvements and STEAM Building indicated that landslides and slope instability were not considered geologic hazards for these areas because the buildings and surrounding areas were relatively flat (Miller Pacific Engineering Group, 2018 and 2019). The project site and surrounding areas are relatively flat with the exception that the baseball field at the east side of the SRHS campus is located at the foot of the slope on the east side of the SRHS campus. An evaluation of potential slope stability hazards for the Stadium Project did not identify any evidence suggestive of significant slope instability or landsliding on the slopes adjacent to the southeast corner of the SRHS campus, although evidence of minor, localized soil creep was noted (Miller Pacific Engineering Group, 2015). Additional site-specific evaluation of potential slope stability hazards would be necessary to reach the same conclusion for the slopes adjacent to the baseball field.

Paleontological Resources

A search of paleontological localities in the fossil collections database maintained by the University of California Museum of Paleontology identified 369 fossil localities within Marin County, including plants, invertebrates, vertebrates, and microfossils. The precise locations of the fossil localities are not provided in the database, and for many of the localities there is no information provided to infer even the general location within the county; however, based on the available information, it appears there are several localities potentially located near the project site, including the following (University of California Museum of Paleontology, 2023):

- An invertebrate fossil locality identified as “San Rafael” of Quaternary age.
- An invertebrate fossil locality identified as “San Quentin” of Quaternary age.
- An invertebrate fossil locality identified as “San Pedro Point” of Quaternary age.
- Two invertebrate fossil localities identified as “China Camp” of Quaternary age.

The fill materials underlying the project site would not be expected to contain paleontological resources because fossils are not generally preserved in fill materials due to the highly disturbed nature of fill materials. Based on the presence of many previously discovered paleontological resources in Marin County and potentially near the project site, the native soils and bedrock that are at the ground surface or underlying the fill material and Bay Mud at the project site could potentially contain paleontological resources.

REGULATORY FRAMEWORK

Summary of Regulatory Framework from 2017 EIR

Federal Regulations

National Earthquake Hazards Reduction Program

The National Earthquake Hazards Reduction Program (NEHRP) was established by the U.S. Congress when it passed the Earthquake Hazards Reduction Act of 1977, Public Law (PL) 95-124 (42 U.S. Code Section 7701, et seq.). In establishing NEHRP, Congress recognized that earthquake-related losses could be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs. The four basic NEHRP goals are:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation.
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems.
- Improve earthquake hazards identification and risk assessment methods, and their use.
- Improve the understanding of earthquakes and their effects.

Several key federal agencies contribute to earthquake mitigation efforts, with four primary NEHRP agencies as follows:

- National Institute of Standards and Technology (NIST) of the Department of Commerce
- National Science Foundation (NSF)
- USGS of the Department of the Interior
- Federal Emergency Management Agency (FEMA) of the Department of Homeland Security

Implementation of NEHRP priorities is accomplished primarily through original research, publications, and recommendations to assist and guide state, regional, and local agencies in the development of plans and policies to promote safety and emergency planning.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 by the State of California legislature to mitigate the hazard of surface fault rupture by regulating structures designated for human occupancy near active faults. As required by the Alquist-Priolo Earthquake Fault Zoning Act, CGS has delineated Earthquake Fault Zones along known active faults in California (California Public Resources Code, Section 2621, et seq.).

California Building Code

The 2013 California Building Code (CBC), which referred to Part 2 of the California Building Standards Code in Title 24 of the California Code of Regulations, was based on the 2012 International Building Code. The 2013 CBC covered grading and other geotechnical issues,

building specifications, and non-building structures. The CBC requires that a site-specific geotechnical investigation report be prepared by a licensed professional for proposed developments of one or more buildings greater than 4,000 square feet to evaluate geologic and seismic hazards. Geologic engineering reports are also required for buildings less than or equal to 4,000 square feet, except for one-story, wood-frame and light-steel-frame buildings of Type V construction that are located outside of the Alquist-Priolo Earthquake Fault Zones.

New construction must comply with the CBC, and existing buildings must also be brought up to code if remodeling changes the occupancy or use of the building (Title 24, Section 3408.4). This may include a change that intensifies the building use, such as increasing the number of occupants.

The purpose of a site-specific geotechnical investigation is to identify seismic and geologic conditions that require project mitigation, such as surface fault rupture, groundshaking, liquefaction, differential settlement, lateral spreading, expansive soils, and slope stability. Requirements for the geotechnical investigation were presented in Chapter 16 “Structural Design” and Chapter 18 “Soils and Foundation” of the 2013 CBC.

Seismic Hazards Mapping Act

In 1990, following the 1989 Loma Prieta earthquake, the California legislature enacted the Seismic Hazards Mapping Act (SHMA) to protect the public from the effects of strong groundshaking, liquefaction, landslides, and other seismic hazards. The SHMA established a state-wide mapping program to identify areas subject to violent shaking and ground failure; the program is intended to assist cities and counties in protecting public health and safety. CGS is mapping SHMA Zones and has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, groundshaking, and landslides—primarily the San Francisco Bay area and Los Angeles basin. A geotechnical investigation for projects within seismic hazard zones must be conducted and appropriate mitigation measures incorporated into the project design before development permits will be granted. Mapping of hazard zones for the USGS San Rafael quadrangle, which includes the project site, is currently in preparation (CGS, 2016).

Field Act

The Field Act, contained in Education Code Sections 17280-17317 and 80030-81149, adds additional seismic safety requirements for California schools. The Field Act includes requirements for seismic design standards, plan review, construction inspections, and testing. The Division of the State Architect (DSA) oversees the implementation of the Field Act through plan review, permitting, and inspection of schools under construction. Among other provisions, the Field Act requires construction plans to be prepared by licensed structural engineers and architects, requires plans to be reviewed and approved by DSA, and requires continuous inspection during construction by qualified inspectors to verify compliance with the approved plans. Architects, engineers, inspectors, and contractors must certify that school construction complies with approved plans.

Local Regulations and Policies

San Rafael General Plan

The City of San Rafael has updated its general plan since the 2017 EIR was prepared. Therefore, the San Rafael General Plan discussion from the 2017 EIR is not relevant to the project. See “Changes in Regulatory Framework Since 2017 EIR” below for discussion of relevant policies and programs from the updated San Rafael General Plan.

San Rafael Municipal Code

Section 12.12.010 of the San Rafael Municipal Code previously adopted the 2013 CBC in its entirety, consisting of Volumes 1 and Volume 2, in its entirety, except that only the following appendices were adopted: Appendices C, H, and I, Minor City-specific amendments to the CBC were contained in Municipal Code Section 12.12.020.

Section 15.06.110 of the San Rafael Municipal Code contained standards for grading:

- (1) Grading shall be designed to create a natural appearance to the extent possible. Graded slopes shall be designed to transition to adjacent properties so as to limit abrupt changes in topography.
- (2) Graded slopes shall not exceed two to one (2:1), unless the city engineer determines that a steeper slope is justified to minimize the amount of grading or to reduce potential tree removal and, where it is determined that the soil and geologic conditions are suitable for and capable of accommodating a steeper slope.
- (3) The finished lot grading shall provide a building site and usable yard area that is compatible with the surrounding pattern of development.
- (4) Retaining walls and/or stepped foundations shall be encouraged in areas to reduce grading and tree removal. Retaining walls shall not exceed eight feet (8') in height, unless approved by the city design review board.

Changes in Regulatory Framework Since 2017 EIR

State Regulations

California Building Code

The 2022 CBC, which refers to Part 2 of the California Building Standards Code in Title 24 of the California Code of Regulations (CCR), is based on the 2021 International Building Code; it is the most current state building code and went into effect on January 1, 2023. The 2022 CBC covers grading and other geotechnical issues, building specifications, and non-building structures. Requirements of the 2022 CBC related to site-specific geotechnical investigations and design parameters are similar to the requirements of the 2013 CBC as discussed above.

Local Regulations and Policies

San Rafael General Plan 2040

Policies and Programs

The City's current General Plan (City of San Rafael, 2021) contains updated policies and programs pertaining to geology and soils that may be applicable to the project, as follows:

Policy CDP-5.15: Paleontological Resource Protection. Prohibit the damage or destruction of paleontological resources, including prehistorically significant fossils, ruins, monuments, or objects of antiquity, that could potentially be caused by future development.

Program CDP-5.15A: Paleontological Resource Mitigation Protocol. Prepare and adopt a list of protocols in accordance with Society of Vertebrate Paleontology standards that protect or mitigate impacts to paleontological resources, including requiring grading and construction projects to cease activity when a paleontological resource is discovered so it can be safely removed.

Policy S-2.1: Seismic Safety of New Buildings. Design and construct all new buildings to resist stresses produced by earthquakes. The minimum level of seismic design shall be in accordance with the most recently adopted building code as required by State law.

Program S-2.1A: Seismic Design. Adopt and enforce State building codes which ensure that new or altered structures meet the minimum seismic standards set by State law. State codes may be amended as needed to reflect local conditions.

Program S-2.1B: Geotechnical Review. Continue to require soil and geologic hazard studies and peer review for proposed development as set forth in the City's Geotechnical Review Matrix. These studies should determine the extent of geotechnical hazards, optimum design for structures and the suitability and feasibility of proposed development for its location, the need for special structural requirements, and measures to mitigate any identified hazards. Periodically review and update the Geotechnical Review Matrix to ensure that it supports and implements the Local Hazard Mitigation Plan by identifying potentially hazardous areas. Consider removing the procedures from the General Plan and instead adopting them as part of the Zoning Ordinance or through a separate resolution.

Program S-2.1C: Earthquake Hazard Study. As recommended by the Local Hazard Mitigation Plan, complete an Earthquake Hazard Study that examines geologic hazards in the city.

Policy S-2.2: Minimize the Potential Effects of Landslides. Development proposed in areas with existing or potential landslides (as identified by a Certified Engineering Geologist, Registered Geotechnical Engineer, or the LHMP) shall not be endangered by, or contribute to, hazardous conditions on the site or adjoining properties. Landslide mitigation should consider multiple options in order to reduce potential secondary impacts (loss of vegetation, site grading, traffic, visual). The City will only approve new development in areas of identified landslide hazard if the hazard can be appropriately mitigated, including erosion control and replacement of vegetation.

Policy S-2.3: Seismic Safety of Existing Buildings. Encourage the rehabilitation or elimination of structures susceptible to collapse or failure in an earthquake. Historic buildings shall be treated in

accordance with the Historic Preservation Ordinance and Historic Building Code (see also Program CDP-5.5A).

Program S-2.3A: Seismic Safety Building Reinforcement. Enforce State and local requirements for reinforcement of existing buildings, including the city's remaining unreinforced masonry (URM) buildings.

Policy S-2.4: Post-Earthquake Inspections. Require post-earthquake inspections of critical facilities and other impacted buildings and restrict entry into compromised structures as appropriate. Following a major earthquake, inspections shall be conducted as necessary in conjunction with other non-City public agencies and private parties to ensure the structural integrity of water storage facilities, storm drainage structures, sewer lines and treatment facilities, transmission and tele-communication facilities, major roadways, bridges, elevated freeways, levees, canal banks, and other important utilities and essential facilities.

Program S-2.4A: Inspection List. Develop and maintain a list of facilities that would be inspected after a major earthquake, including City-owned essential or hazardous facilities. Facilities on the list should be prioritized for inspection-scheduling purposes.

Policy S-2.5: Erosion Control. Require appropriate control measures in areas susceptible to erosion, in conjunction with proposed development. Erosion control measures should incorporate best management practices (BMPs) and should be coordinated with requirements for on-site water retention, water quality improvements, and runoff control.

Program S-2.5A: Erosion and Sediment Control Plans. Require Erosion and Sediment Control Plans (ESCPs) for projects meeting the criteria defined by the Marin County Stormwater Pollution Prevention Program, including those requiring grading permits and those with the potential for significant erosion and sediment discharges. Projects that disturb more than one acre of soil must prepare a Stormwater Pollution Prevention Plan, pursuant to State law.

Program S-2.5B: Grading During the Wet Season. Avoid grading during the wet season due to soil instability and sedimentation risks, unless the City Engineer determines such risks will not be present. Require that development projects implement erosion and/or sediment control measures and runoff discharge measures based on their potential to impact storm drains, drainageways, and creeks.

Geotechnical Review Requirements

Appendix F of the San Rafael General Plan 2040 outlines geotechnical review requirements for development projects and requires various geotechnical reports that are based on different types of proposed land uses and geologic/seismic characteristics of a site to be submitted to the City at different stages of project review. The types of geotechnical reports that may be required include a Preliminary Geotechnical Report, Geotechnical Investigation Report, Construction Observation Report, and Geotechnical Review. A Preliminary Geotechnical Report and/or Geotechnical Investigation Report are required during the planning and permitting stages of projects. A Geotechnical Review by the City's Geotechnical Review Consultant is required during the planning and permitting stages for certain projects that have higher geologic/seismic risks due to the proposed land use and/or geologic/seismic characteristics of a site. A Construction Observation

Report is required prior to the City issuing an Occupancy Permit or Notice of Completion for projects.

San Rafael Municipal Code

Section 9.30.140 of the Municipal Code requires construction-phase BMPs to include erosion and sediment controls and pollution prevention practices. Erosion control BMPs may include, but are not limited to, scheduling and timing of grading activities, timely revegetation of graded areas, the use of hydroseed and hydraulic mulches, and installation of erosion control blankets. Sediment control BMPs may include properly sized detention basins, dams, or filters to reduce entry of suspended sediment into the storm drain system and watercourses, and installation of construction entrances to prevent tracking of sediment onto adjacent streets. Section 9.30.150 of the Municipal Code requires an Erosion and Sediment Control Plan for any construction subject to a grading permit or that may have the potential for significant erosion. A Storm Water Pollution Prevention Plan (SWPPP) required by the Construction General Permit may be provided in lieu of the Erosion and Sediment Control Plan provided it meets the City's requirements.

Section 12.100 of the Municipal Code adopts the 2022 California Building Code, Chapters 2 through 28, 30, 31, 32, 33, and 35, and Appendices C, H, I, N, and O. Section 12.100.020 of the Municipal Code indicates that the local seismic design category is D/D2. Minor City-specific amendments to the California Building Code are contained in Section 12.200.

Section 14.16.170 of the Municipal Code requires geotechnical reports to be submitted with development applications consistent with the geotechnical report requirements in San Rafael General Plan 2040. The reports must assess hazards such as seismic hazards, liquefaction, landslides, mudslides, erosion, sedimentation and settlement, and hazardous soils conditions to determine the optimum location for structures. The geotechnical reports must also advise of special structural requirements and evaluate the feasibility and desirability of a proposed facility in a specific location.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Supplemental EIR Analysis Scope and Pertinent Changes

The Capital Improvements Project would include improvements in areas of the SRHS campus that can have different geologic conditions and geologic/seismic hazards from other areas of the SRHS campus that were previously evaluated as part of the 2017 EIR and in subsequent geotechnical investigations described above. Therefore, supplemental analysis of the potential impacts of the project related to geology, soils, and seismicity is warranted and presented below.

Significance Criteria

Significance Criteria from 2017 EIR

The 2017 EIR indicated that, based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant effect on geology, soils, and seismicity if it would:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: (1) rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (2) strong seismic ground shaking; (3) seismic-related ground failure, including liquefaction; and (4) landslides.
- b) Result in substantial soil erosion or the loss of topsoil.
- c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.
- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

Changes in Significance Criteria Since 2017 EIR

In the current CEQA Guidelines, significance criteria (a) and (d) above have been revised to read as follows:

- a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (1) rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (2) strong seismic ground shaking; (3) seismic-related ground failure, including liquefaction; and (4) landslides.
- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

In the current CEQA Guidelines, the following significance criterion (f) has been added to the topic of Geology and Soils, while it was previously discussed under the topic of Cultural Resources in the 2017 EIR:

- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Summary of Impacts and Mitigation Measures from 2017 EIR

Areas of No Impact from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would have no impact in relation to the following significance criteria:

- b) *Result in substantial soil erosion or the loss of topsoil.* Potential soil erosion impacts would be related to stormwater runoff entraining soils exposed during construction, and were analyzed in Section 4.8, Hydrology and Water Quality, of the 2017 EIR.
- e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of*

wastewater. As the SRHS campus is served by the San Rafael Sanitation District and no septic tanks or alternative wastewater disposal systems are proposed, there would be no impacts associated with septic tanks or alternative wastewater disposal systems, and this significance criterion was not discussed further in the 2017 EIR.

Less-than-Significant Impacts from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would result in less-than-significant impacts related to fault rupture and landslides because there are no faults that could result in surface rupture at or near the SRHS campus and no evidence suggestive of significant slope instability near the improvements that were proposed at the time. The 2017 EIR also concluded that the Stadium Project would result in less-than-significant impacts related to expansive or corrosive soils based on the results of site-specific soil testing.

Potentially Significant Impacts and Mitigation Measures from 2017 EIR

The table below summarizes potentially significant impacts and mitigation measures identified in the 2017 EIR.

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
Geology, Soils, and Seismicity			
<u>GEO-1</u> : During its design life, development under the Master Facilities Long-Range Plan would likely be subject to strong groundshaking from a seismic event, creating the potential for a significant risk to structures and human lives.	PS	<u>GEO-1</u> : The San Rafael City Schools Board of Trustees shall demonstrate that school building design and construction comply with applicable requirements of the Field Act, including design, oversight, and inspection provisions. This shall include incorporation of public school seismic design standards established by the Division of the State Architect (DSA), review of plans by DSA, and inspections throughout construction by independent qualified inspectors. Prior to occupancy of new development under the Master Facilities Long-Range Plan, San Rafael City Schools must receive a certification of compliance from DSA that oversight and inspection of construction was completed in accordance with Field Act and other DSA requirements in accordance with DSA Procedure 13-02.	LTS
<u>GEO-2</u> : The Master Facilities Long-Range Plan would have the potential to expose people or structures to substantial adverse effects involving seismic-related ground failure, including liquefaction.	PS	<u>GEO-2</u> : For each project under the Master Facilities Long-Range Plan, the District shall ensure compliance with Mitigation Measure GEO 1.	LTS
<u>GEO-3</u> : Expansive, potentially unstable, and corrosive soils at the project site could result in structural damage to Master Facilities Long-Range Plan project improvements, creating the potential for a significant risk to structures and human lives.	PS	<u>GEO-3</u> : For each project under the Master Facilities Long-Range Plan, the District shall ensure compliance with Mitigation Measure GEO-1.	LTS
<u>GEO-4</u> : During its design life, the Stadium Project would likely be subject to strong groundshaking from a seismic event, creating the potential for a significant risk to structures and human lives.	PS	<u>GEO-4</u> : For the Stadium Project, the District shall ensure compliance with Mitigation Measure GEO-1.	LTS
<u>GEO-5</u> : The Stadium Project would have the potential to expose people or structures to	PS	<u>GEO-5</u> : For the Stadium Project, the District shall ensure compliance with Mitigation Measure GEO-1.	LTS

<u>Impact</u>	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
substantial adverse effects involving seismic-related ground failure, including liquefaction.			
<u>GEO-6</u> : Potentially unstable soils at the Stadium Project site could result in structural damage to project improvements, creating the potential for a significant risk to structures and human lives.	PS	<u>GEO-6</u> : For the Stadium Project, the District shall ensure compliance with Mitigation Measure GEO-1.	LTS

Cumulative Impacts from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would not result in or contribute to any significant cumulative geology, soils, and seismicity impacts because the impacts associated with potential geologic hazards related to soil or other conditions are site-specific and would not be compounded by additional development.

Impacts of New Capital Improvements Project

Areas of No Impact

The following significance criterion would not apply to the project and is therefore excluded from further discussion in this impact analysis:

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

As noted in the 2017 EIR, the SRHS campus is served by the San Rafael Sanitation District and no septic tanks or alternative wastewater disposal systems are proposed; therefore, no impacts associated with septic tanks or alternative wastewater disposal systems would occur, and this significance criterion is not discussed further.

Less-than-Significant Impacts

Fault Rupture

The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving rupture of a known earthquake fault.

The project would have the same less-than-significant impact related to fault rupture identified for the Master Facilities Long-Range Plan in the 2017 EIR.

Erosion or Loss of Topsoil

The project would not result in substantial soil erosion or the loss of topsoil.

As noted in the 2017 EIR, potential soil erosion impacts of the project would be related to stormwater runoff entraining soils exposed during construction, which is analyzed in *Section 4.7*,

Hydrology and Water Quality, of this SEIR. As discussed in Section 4.7, compliance with Construction General Permit requirements would ensure that potential impacts from erosion during construction would be less than significant. The project would replace existing grass sports fields with artificial turf and would therefore result in the removal of topsoil. Because the existing topsoil in the sports fields is not used for agriculture and does not support natural habitat, its removal would be a less-than-significant impact.

Potentially Significant Impacts and Mitigation Measures

Impact S-GEO-1: During its design life, the project would likely be subject to strong groundshaking from a seismic event, creating the potential for a significant risk to structures and human lives. (PS)

This impact and the recommended mitigation measure below are essentially the same as Impact GEO-1 and Mitigation Measure GEO-1 in the 2017 EIR, but revised so that they specifically address the project.

The SRHS campus is located in a seismically active region, and there is a high chance for a significant seismic event to occur during the design life of the project. Groundshaking may be violent, with the potential for significant building damage (though not collapse), even in properly designed structures. Buildings at the SRHS campus must be constructed to minimize damage from an earthquake and protect the lives of future students and school workers.

Development at the SRHS campus would be subject to geotechnical review and inspections under the DSA School Facility Program in accordance with requirements of the Field Act. The DSA review process is intended to ensure that plans, specifications, and construction apply with all applicable requirements of the CBC. A design-level geotechnical report must be prepared in accordance with DSA Geohazard Report Requirements (DSA, 2021). Design plans must incorporate recommendations of the geotechnical report. A DSA-approved inspector must be present throughout construction to verifying the conformance of construction to the geotechnical recommendations.

Implementation of the following mitigation measure, which would ensure adherence to geotechnical report recommendations, CBC seismic design criteria, and Field Act school seismic safety provisions, would reduce this potential impact to a less-than-significant level.

Mitigation Measure S-GEO-1: The District shall demonstrate through obtaining Division of the State Architect (DSA) approval as set forth herein that school building design and construction comply with applicable requirements of the Field Act, including design, oversight, and inspection provisions. This shall include incorporation of public school seismic design standards established by the DSA, review of plans by DSA, and inspections throughout construction by independent qualified inspectors. Prior to occupancy of new development under the project, the District shall receive a certification of compliance from DSA that oversight and inspection of construction was completed in accordance with Field Act and other DSA requirements in accordance with DSA Procedure 13-02. (LTS)

Impact S-GEO-2: The project would have the potential to expose people or structures to substantial adverse effects involving seismic-related ground failure, including liquefaction. (PS)

This impact and the recommended mitigation measure below are essentially the same as Impact GEO-2 and Mitigation Measure GEO-2 in the 2017 EIR, but revised so that they specifically address the project.

The SRHS campus has been mapped as having high to very high potential for liquefaction hazards. Site-specific geotechnical reports performed for the Stadium Project (Miller Pacific Engineering Group, 2015), Phase 2 Improvements (Miller Pacific Engineering Group, 2018), and STEAM Building (Miller Pacific Engineering Group, 2019) have identified the potential for post-liquefaction settlement to occur at the SRHS campus. Similar liquefaction-induced settlement could occur at the locations of proposed project improvements. However, implementation of the following mitigation measure, which would ensure adherence to site-specific geotechnical report recommendations, CBC seismic design criteria, and Field Act school seismic safety provisions, would reduce this potential impact to a less-than-significant level.

Mitigation Measure S-GEO-2: Implement Mitigation Measure S-GEO-1. (LTS)

Impact S-GEO-3: Expansive, potentially unstable, and corrosive soils at the project site could result in damage to the project, creating the potential for a significant risk to structures and human lives. (PS)

This impact and the recommended mitigation measure below are similar to Impact GEO-3 and Mitigation Measure GEO-3 in the 2017 EIR, but revised so that they specifically address the project.

Site-specific geotechnical reports performed for the Stadium Project (Miller Pacific Engineering Group, 2015), Phase 2 Improvements (Miller Pacific Engineering Group, 2018), and STEAM Building (Miller Pacific Engineering Group, 2019) have identified clayey soils beneath the SRHS campus. While clayey soils can be expansive, the geotechnical investigations for the Stadium Project geotechnical report indicated that the clayey soils do not exhibit expansive behavior (Miller Pacific Engineering Group, 2015), and the geotechnical investigations for the Phase 2 Improvements and STEAM Building did not encounter highly plastic or expansive soils within the upper 3 feet during the subsurface explorations; therefore, the risk of expansive soil affecting these improvements was considered low (Miller Pacific Engineering Group, 2018 and 2019). Although expansive soil has not been identified in shallow soil in the areas that have been tested on the SRHS campus, expansive soils could potentially be present at the locations of proposed project improvements which could cause damage to proposed improvements.

The geotechnical investigations for the Stadium Project, Phase 2 Improvements, and STEAM Building indicated that soils would not be classified as corrosive (Miller Pacific Engineering Group, 2015, 2018, and 2019). Although corrosive soil has not been identified in the areas that have been tested on the SRHS campus, corrosive soils could potentially be present at the locations of proposed project improvements, which could cause damage to proposed improvements.

Extensive dewatering is not anticipated for the project; however, shallow groundwater is present at the SRHS campus, and localized and temporary excavation dewatering would likely be required during construction activities such as utility work, foundation work, and construction of the new swimming pool. Such localized and temporary dewatering would not be expected to result in significant subsidence.

Site-specific geotechnical reports performed for the Stadium Project, Phase 2 Improvements, and STEAM Building have identified compressible soils at the SRHS campus with the potential to result in settlement, differential settlement, and subsidence (Miller Pacific Engineering Group, 2015, 2018, and 2019). The geotechnical report for the STEAM Building indicates that the thickness of compressible Bay Mud increases toward the western portion of the SRHS campus (Miller Pacific Engineering Group, 2019). Therefore, the grass sports field located in the western portion of the SRHS campus may be particularly susceptible to settlement and subsidence under new loads. Unstable soils could also be present at the locations of other proposed project improvements. Construction of new improvements on unstable soil could result in damage to the proposed improvements and existing adjacent improvements (e.g., pavement surfaces, buildings, and utilities) due to settlement caused by the creation of new loads by the project, including placement of fill materials. Construction of the artificial turf fields on the project site could include raising the elevation of the sports fields by approximately 1 foot through the placement of fill material. Fill material may also be placed in the northwest portion of the SRHS campus to raise the ground surface elevation in the area where portable structures would be relocated, as this area is within a flood hazard zone (see Section 4.7, *Hydrology and Water Quality*, of this SEIR for discussion of flooding hazards). Raising of areas with fill material or building structures to be above the flood zone elevation must account for future settlement of unstable soil to ensure that improvements would remain adequately above the flood zone elevation. Vibration-generating construction activities (e.g., the use of a vibratory roller for compaction) can also result in settlement of unstable soils.

Implementation of the following mitigation measure would reduce this potential impact to a less-than-significant level by ensuring appropriate geotechnical evaluation of potential unstable soil, expansive soils, and corrosive soil; and adherence to geotechnical report recommendations, CBC seismic design criteria, and Field Act school safety provisions, as applicable.

***Mitigation Measure S-GEO-3:** For each proposed project improvement, the District shall ensure compliance with Mitigation Measure S-GEO-1. Site-specific geotechnical investigations shall also be prepared for the proposed conversion of the existing sports field to artificial turf and relocation of portable structures. The site-specific geotechnical investigations shall include recommendations to mitigate potential damage to proposed and existing improvements (e.g., structures, pavement surfaces, roadways, and utilities), both on and off the project site, that could result from settlement of existing unstable soil on and adjacent to the project site due to project construction (e.g., due to new loads from fill materials/structures or vibration generating activities). The geotechnical evaluation shall also account for potential settlement of unstable soil that could be generated by existing and planned improvements on properties adjacent to the project site. Geotechnical recommendations to address potential settlement may include use of light-weight fill materials, installation of bracing/underpinning, installation of flexible utility couplings, or relocation of utilities. (LTS)*

Impact S-GEO-4: Slopes in the eastern portion of the SRHS campus may be susceptible to landslides or slope instability that could affect the proposed baseball field or users of the proposed baseball field. (PS)

This impact and the recommended mitigation measure below are new (i.e., were not identified in the 2017 EIR).

The project would include replacement of the existing grass baseball field with the construction of a new artificial turf baseball field near the base of the slopes in the eastern portion of the project site. The northeast corner of the proposed baseball field is very close to the toe of the adjacent slope; therefore, construction activities could have the potential to affect slope stability. The evaluation of potential slope stability hazards for the Stadium Project did not identify any evidence suggestive of significant slope instability or landslides on the slopes adjacent to the southeast corner of the SRHS campus; however, evidence of minor, localized soil creep was noted (Miller Pacific Engineering Group, 2015). Additional site-specific evaluation of potential slope stability hazards would be necessary to ensure that the slopes adjacent to the proposed baseball field would not be susceptible to slope instability or landslides that could affect the proposed baseball field or users of the proposed baseball field.

Implementation of the following mitigation measure would reduce this potential impact to a less-than-significant level by ensuring appropriate geotechnical evaluation of potential slope instability and adherence to geotechnical report recommendations, CBC seismic design criteria, and Field Act school safety provisions, as applicable.

Mitigation Measure S-GEO-4: The District shall implement Mitigation Measure S-GEO-3. The site-specific geotechnical investigation for the proposed baseball field shall also include an evaluation of slope stability for the nearby slopes on the San Rafael High School campus, and shall include recommendations to address slope instability, if identified. (LTS)

Impact S-GEO-5: The project could directly or indirectly destroy a unique paleontological resource or site by unearthing or otherwise displacing fossils that may occur below Holocene landforms underlying the project site. (PS)

This impact and the recommended mitigation measure below are similar to Impact CULT-3 and Mitigation Measure CULT-3 in the 2017 EIR, but revised so that they specifically address the project.

Franciscan Formation bedrock is exposed at the SRHS campus and underlies the fill and Holocene Bay Mud at this location (Miller Pacific Engineering Group, 2015). The Franciscan Complex is known to be fossiliferous, most notably for the microscopic single-celled organisms known as radiolaria, which comprise the distinctive red and green radiolarian cherts associated with the Franciscan Complex. Although less common, extinct species of vertebrate marine fossils and shellfish have also been found in the Franciscan Complex (Bailey et al., 1964:116-117; Hilton, 2003:22).

The project includes actions that involve ground disturbance. These actions include grading and trenching for construction of new buildings, the new swimming pool, artificial turf fields, and various site improvements. These actions have the potential to unearth previously unidentified

paleontological resources associated with fossiliferous geologic formations that underlie project site fill and Holocene-age Bay Mud.

Mitigation Measure S-GEO-5: Should paleontological resources be encountered during project subsurface construction activities, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. For purposes of this mitigation, a "qualified paleontologist" shall be an individual with the following qualifications: 1) a graduate degree in paleontology or geology and/or a person with a demonstrated publication record in peer-reviewed paleontological journals; 2) at least two years of professional experience related to paleontology; 3) proficiency in recognizing fossils in the field and determining their significance; 4) expertise in local geology, stratigraphy, and biostratigraphy; and 5) experience collecting vertebrate fossils in the field. If the paleontological resources are found to be significant and project activities cannot avoid them, measures shall be implemented to the extent feasible to ensure that the project does not cause a substantial adverse change in the significance of the paleontological resource. Measures may include monitoring, recording the fossil locality, data recovery and analysis, a final report, and/or accessioning the fossil material and technical report to a paleontological repository. Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to the District for review. If paleontological materials are recovered, this report also shall be submitted to a paleontological repository such as the University of California Museum of Paleontology, along with significant paleontological materials. Public educational outreach may also be appropriate, to the extent feasible.

The District shall inform its contractor(s) of the sensitivity of the project site for paleontological resources and shall verify that the following directive has been included in the appropriate contract documents:

"The subsurface of the construction site may be sensitive for fossils. If fossils are encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any paleontological materials. Fossils can include plants and animals, and such trace fossil evidence of past life as tracks or plant imprints. Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Vertebrate land mammals may include bones of mammoth, camel, saber tooth cat, horse, and bison. Contractor acknowledges and understands that excavation or removal of paleontological material is prohibited by law and constitutes a misdemeanor under California Public Resources Code, Section 5097.5." (LTS)

Cumulative Impacts

Similar to the impacts described in the 2017 EIR, the potential impacts of the project related to geology, soils, seismicity, and paleontology would generally be site-specific and not result in cumulative impacts, with the exception of potential impacts related to settlement/subsidence of

unstable soil. Potential cumulative impacts associated with settlement or subsidence of unstable soil could occur if cumulative projects adjacent to the project site caused settlement from new loads, vibration generating construction activities, or subsidence from dewatering, which could impact existing and proposed improvements including structures, pavement/roadways, and utilities. The project would not make a cumulatively considerable contribution to settlement- and subsidence-related impacts because implementation of Mitigation Measure S-GEO-3 would ensure that the potential for settlement (which includes potential subsidence) from the project would be evaluated in the site-specific geotechnical investigations and geotechnical recommendations to address potential settlement would be incorporated into the design of the project, which would account for estimated settlement amounts developed for existing and planned improvements on surrounding properties. Therefore, cumulative impacts related to settlement or subsidence of unstable soil would be less than significant.

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4.5 GREENHOUSE GAS EMISSIONS

INTRODUCTION

This section describes the existing greenhouse gas (GHG) conditions in the vicinity of the San Rafael High School (SRHS) campus (project site), discusses the regulations and policies pertinent to GHGs, and assesses the potentially significant impacts on the environment that could result from implementation of the proposed project. The analysis in this section was prepared in accordance with the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines (CEQA Guidelines).

ENVIRONMENTAL SETTING

Summary of Environmental Setting from 2017 EIR

Climate Change and GHG Emissions

Existing GHGs allow about two-thirds of the visible and ultraviolet light from the sun to pass through the atmosphere and be absorbed by the Earth's surface. To balance the absorbed incoming energy, the surface radiates thermal energy back to space at longer wavelengths primarily in the infrared part of the spectrum. Much of the thermal radiation emitted from the surface is absorbed by the GHGs in the atmosphere and is re-radiated in all directions. Since part of the re-radiation is back toward the surface and the lower atmosphere, the global surface temperatures are elevated above what they would be in the absence of GHGs. This process of trapping heat in the lower atmosphere is known as the greenhouse effect.

An increase of GHGs in the atmosphere affects the energy balance of the Earth and results in a global warming trend. Increases in global average temperatures have been observed since the mid-20th century, and have been linked to observed increases in GHG emissions from anthropogenic sources. The primary GHG emissions of concern are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Other GHGs of concern include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆), but their contribution to climate change is less than 1 percent of the total by well-mixed¹ GHGs (Intergovernmental Panel on Climate Change [IPCC], 2013). Each GHG has a different global warming potential (GWP). For instance, CH₄ traps about 21 times more heat per molecule than CO₂. As a result, emissions of GHGs are reported in metric tons of "carbon dioxide equivalents" (CO₂e), where each GHG is weighted by its GWP relative to CO₂.

According to the IPCC, the atmospheric concentrations of CO₂, CH₄, and N₂O have increased to levels unprecedented in at least the last 800,000 years due to anthropogenic sources. In 2010, the concentrations of CO₂, CH₄, and N₂O exceeded the pre-industrial era (before 1750) by about 39, 158, and 18 percent, respectively (BAAQMD, 2015). The Earth's mean surface temperature in the

¹ GHGs that have atmospheric lifetimes long enough to be relatively homogeneously mixed in the troposphere.

Northern Hemisphere from 1983 to 2012 was likely the warmest 30-year period over the last 1,400 years (IPCC, 2013). 2014 ranks as Earth's warmest year since 1880 (NASA, 2015).

The global increases in CO₂ concentrations are due primarily to fossil fuel combustion, cement production, and land use change (e.g., deforestation). The dominant anthropogenic sources of CH₄ are from ruminant livestock, fossil fuel extraction and use, rice paddy agriculture, and landfills, while the dominant anthropogenic sources of N₂O are from ammonia for fertilizer and industry (IPCC, 2013). All emissions of HFCs, PFCs, and SF₆ are not naturally occurring and originate from industrial processes such as semiconductor manufacturing, use as refrigerants and other products, and electric power transmission and distribution (BAAQMD, 2015).

Existing GHG Emissions and Projections

In 2011, the California Air Resources Board (CARB) estimated that transportation was responsible for about 37 percent of California's GHG emissions, followed by industrial sources and electrical power generation at about 20 percent each (CARB, 2015). In 2011, 86.6 million metric tons of CO₂e were emitted from anthropogenic sources within the San Francisco Bay Area Air Basin (SFBAAB). The CO₂ emissions dominate the GHG inventory in the SFBAAB, accounting for about 90 percent of the total CO₂e emissions reported (BAAQMD, 2010a). The 2011 GHG emissions in the SFBAAB are summarized in **Table 4.5-1**.

TABLE 4.5-1 SAN FRANCISCO BAY AREA 2011 GREENHOUSE GAS (GHG) EMISSIONS INVENTORY

Pollutant	Percent	CO ₂ e (MMT/Year)
CO ₂	90.3	78.2
CH ₄	3.0	2.6
N ₂ O	1.7	1.5
HFC, PFC, SF ₆	4.9	4.3
Total	100	86.6

Notes: CO₂e = carbon dioxide equivalents; MMT = million metric tons
Source: BAAQMD, 2015.

In the absence of policy changes (also referred to as a "business as usual" scenario), the BAAQMD estimated that the 2011 SFBAAB GHG emissions would increase at an average rate of approximately 0.5 percent per year based on projected population growth and economic expansion (see **Table 4.5-2**).

Effects of GHG Emissions

According to the BAAQMD's *Bay Area 2010 Clean Air Plan* (BAAQMD, 2010a), some of the potential effects of increased GHG emissions and associated climate change may include loss in snow pack (affecting water supply), more frequent extreme weather events, more large forest fires, more drought years, and sea level rise. In addition, climate change may increase electricity

demand for cooling, decrease the availability of hydroelectric power, and affect regional air quality and public health.

TABLE 4.5-2 SAN FRANCISCO BAY AREA GREENHOUSE GAS (GHG) EMISSIONS TRENDS (MILLION METRIC TONS CARBON DIOXIDE EQUIVALENTS [CO₂E])

Category	2011	2014	2017	2020	2023	2026	2029
Transportation	34.3	33.9	32.5	30.4	30.8	30.8	31.2
Industrial/Commercial	31	32.6	34.3	36	37.6	39.3	40.8
Electricity/Co-Generation	12.1	12.9	12.6	12.3	12.4	12.5	12.7
Residential Fuel	6.6	6.7	6.8	6.9	7	7.1	7.2
Off-Road Equipment	1.3	1.3	1.4	1.3	1.4	1.5	1.6
Agriculture	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Total	86.6	88.7	88.8	88.2	90.5	92.4	94.8

Note: Emissions reported are based on a “business as usual” projection.
Source: BAAQMD, 2015.

Changes in Environmental Setting Since 2017 EIR

New information regarding GHG conditions at and near the SRHS campus is presented below.

Existing GHG Emissions and Projections

In 2019, CARB estimated that transportation was responsible for about 40 percent of California’s GHG emissions, followed by industrial sources and electrical power generation at about 21 percent and 14 percent, respectively (CARB, 2021). GHG emissions for 2020 were available but not used because 2020 was an outlier due to the global pandemic. In 2015, 85 million metric tons of CO₂e were emitted from anthropogenic sources within the SFBAAB. Emissions of CO₂ dominate the GHG inventory in the SFBAAB, accounting for about 90 percent of the total CO₂e emissions reported (BAAQMD, 2017). The 2015 GHG emissions in the SFBAAB are summarized in **Table 4.5-3**.

TABLE 4.5-3 SAN FRANCISCO BAY AREA 2015 GREENHOUSE GAS (GHG) EMISSIONS INVENTORY

Pollutant	Percent	CO ₂ e (MMT/Year)
CO ₂	90	76.5
CH ₄	4	3.4
N ₂ O	2	1.7
HFC, PFC, SF ₆	4	3.4
Total	100	85

Note: CO₂e = carbon dioxide equivalents; MMT = million metric tons
Source: BAAQMD, 2017.

The City of San Rafael’s GHG emissions inventories from 2005 through 2015 are summarized in **Table 4.5-4** for various land use sectors. As indicated in **Table 4.5-4**, the greatest sources of GHG emissions in San Rafael are from the Transportation, Residential Energy, and Non-Residential Energy sectors. The 2016 GHG emissions decreased for each land use sector compared to 2005 and the overall GHG emissions decreased by about 18 percent between 2005

and 2016. The largest overall reductions for GHG emissions over this same period were from the Transportation, Residential Energy, and Non-Residential Energy sectors (City of San Rafael, 2019a).

TABLE 4.5-4 CITY OF SAN RAFAEL GREENHOUSE GAS (GHG) EMISSION TRENDS (METRIC TONS CARBON DIOXIDE EQUIVALENTS [CO₂E])

Year	Residential Energy	Non- Residential Energy	Transportation	Waste	Water	Wastewater	Off-Road	Total Emissions
2005	91,303	87,336	269,163	17,827	4,710	2,181	856	473,378
2006	92,563	84,676	271,915	17,848	4,560	1,946	858	474,367
2007	100,441	99,888	269,712	16,348	4,410	2,386	866	494,051
2008	100,443	100,513	270,622	14,011	4,259	2,271	872	492,991
2009	97,995	90,724	264,703	12,022	4,109	2,144	877	472,574
2010	89,364	79,733	253,328	11,868	3,959	1,258	888	440,397
2011	88,755	78,271	252,303	11,574	3,934	747	894	436,479
2012	85,060	78,264	252,731	12,037	3,894	980	909	433,875
2013	81,245	77,320	250,309	12,266	3,843	1,138	922	427,044
2014	68,173	69,921	247,955	12,375	3,792	1,039	944	404,198
2015	68,487	68,785	244,795	12,878	3,694	789	924	400,351
2016	66,784	63,067	238,943	14,933	3,613	633	978	388,950
Net Change from 2005	-24,519	-24,270	-30,220	-2,894	-1,097	-1,548	121	-84,428
% Change	-27%	-28%	-11%	-16%	-23%	-71%	14%	-18%

Source: City of San Rafael, 2019a.

Effects of GHG Emissions

In October 2018, the IPCC published a special report on potential long-term climate change impacts based on the projected increases in temperature due to global climate change. The IPCC report found that the Earth is already seeing the consequences of global warming due to a 1-degree Celsius (°C) increase in pre-industrial levels, such as extreme weather, rising sea levels, and diminishing Arctic sea ice. Global warming is likely to reach 1.5°C above pre-industrial levels between 2030 and 2050 if it continues to increase at the current rate. Some of the impacts due to ongoing global warming could be avoided by limiting future global warming to 1.5°C compared to 2°C. For example, by limiting global warming to 1.5°C or lower, the likelihood of an Arctic Ocean free of sea ice in summer would be ten times lower compared to the likelihood under the scenario of 2°C increase. Beyond the 1.5°C threshold, there would be significant increases in the risk

associated with long-lasting or irreversible changes, such as the loss of ecosystems. The IPCC states that to limit the global warming to 1.5°C, rapid transitions are needed in land, energy, industry, building, transport, and urban sectors to reach the goal of carbon neutrality by 2050, which means that the Earth's anthropogenic GHG emissions each year would be removed completely through carbon offsetting, sequestration, or other means (IPCC, 2018).

REGULATORY FRAMEWORK

Summary of Regulatory Framework from 2017 EIR

Federal Regulations

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. In 2002, the United States announced a strategy to reduce the GHG intensity of the American economy by 18 percent over a 10-year period from 2002 to 2012. In 2015, the United States submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC, which targets to cut net GHG emissions by 26 to 28 percent below 2005 levels by 2025.

The U.S. Environmental Protection Agency (EPA) is responsible for enforcing the federal Clean Air Act and the 1990 amendments to it. The U.S. Supreme Court ruled on April 2, 2007, that CO₂ is an air pollutant as defined under the Clean Air Act, and that the EPA has the authority to regulate emissions of GHGs (*Massachusetts, et al. v. U.S. Env'tl. Prot. Agency, et al.* (2007) 549 U.S. 497.) The EPA made two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The current and projected concentrations of the six key well-mixed GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, these findings were a prerequisite for implementing GHG emissions standards for vehicles. In collaboration with the National Highway Traffic Safety Administration, the EPA finalized emission standards for light-duty vehicles (2012-2016 model years) in May 2010 and heavy-duty vehicles (2014-2018 model years) in August 2011.

State Regulations and Policies

The State of California is concerned about GHG emissions and their effect on global climate change. The State of California recognizes that there appears to be a close relationship between the concentration of GHGs in the atmosphere and global temperatures and that the evidence for climate change is overwhelming. The State of California has many areas of concern regarding climate change with respect to global warming.

Key state regulations involving GHGs and climate change are summarized below.

California Climate Action Goals

The State of California has established the following long-term climate action goals:

- Assembly Bill (AB) 32: Reduce GHG emissions to 1990 levels by 2020.
- Executive Order B-30-15 and Senate Bill (SB) 32: Reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Executive Order S-3-05: Reduce GHG emissions to 80 percent below 1990 levels by 2050.

It should be noted that executive orders are legally binding only on state agencies and have no direct effect on local government or the private sector.

California Vehicle Emission Regulations

The State of California has established statewide GHG emission and fuel economy regulations for vehicles that align with or supersede the national standards. The key state regulations related to GHG emissions from vehicles are as follows:

- The Pavley Regulations (AB 1493), as amended in 2009, required a 30 percent reduction in state GHG emissions from new passenger vehicles from 2009 through 2016.
- The Low-Carbon Fuel Standard (Executive Order S-1-07) requires a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020.
- SB 375 establishes regional GHG reduction targets from passenger vehicles for the years 2020 and 2035 by requiring metropolitan planning organizations (MPOs) to develop and implement Sustainable Communities Strategies that align regional transportation planning efforts with regional housing allocation needs.
- Low-Emission Vehicle regulations (LEV III), adopted by CARB in 2012 as part of the Advanced Clean Cars rulemaking package, established more stringent emission reduction standards for GHGs and criteria air pollutants from 2015 and subsequent model year passenger cars, light-duty trucks, and medium-duty vehicles. The LEV III program essentially expands the scope of the GHG emission standards established under the Pavley regulations.

California Energy Efficiency Regulations

The State of California has established statewide energy efficiency regulations, including programs that increase the statewide procurement of renewable energy. The key state regulations related to GHG emissions from energy use are as follows:

- The Renewable Portfolio Standard Program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030.
- Title 24 Building Efficiency Standards are updated every three years with the long-term vision to support zero-net energy for all new single-family and low-rise residential buildings by 2020 and new high-rise residential and nonresidential buildings by 2030.
- Title 24 California Green Building Standards, referred to as the CALGreen Code, aim to improve public health, safety and general welfare by enhancing the design and construction of

buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design, 2) energy efficiency, 3) water efficiency and conservation, 4) material conservation and resource efficiency, and 5) environmental air quality.

California Environmental Quality Act and Senate Bill 97

SB 97, signed in 2007, acknowledges that climate change is a prominent environmental issue requiring analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Natural Resources Agency (CNRA) guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA. In 2009, the CNRA adopted the state CEQA Guidelines amendments, which provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The amendments became effective in March 2010. The amendments added Sections 15126.4(c) and 15064.4 (discussed further below) to the CEQA Guidelines, which specifically pertain to the significance of GHG emissions, and provide guidance on measures to mitigate GHG emissions when such emissions are found to be significant.

Regional and Local Regulations

BAAQMD Climate Protection Program

The BAAQMD is the regional government agency that regulates sources of GHG emissions within the SFBAAB. The BAAQMD established a climate protection program that includes measures that promote energy efficiency, reduce regional vehicle miles travelled (VMT), and develop alternative sources of energy, all of which assist in reducing emissions of GHGs and in reducing air pollutants that affect the health of residents. The BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders. In June 2010, the BAAQMD adopted revised CEQA significance thresholds for GHG emissions to assist lead agencies in evaluating air quality and GHG impacts of projects and plans proposed in the SFBAAB (BAAQMD, 2010b).

BAAQMD Clean Air Plan

The BAAQMD and other air districts prepare clean air plans in accordance with the state and federal Clean Air Acts. The Bay Area 2010 Clean Air Plan (2010 CAP) is a comprehensive plan to improve Bay Area air quality and protect public health through implementation of a control strategy designed to reduce emissions and ambient concentrations of harmful pollutants (BAAQMD, 2010a). The CAP also includes measures designed to reduce GHG emissions.

San Rafael 2010 Climate Action Plan

In 2009 the City of San Rafael adopted the *Climate Change Action Plan* (CCAP) in response to AB 32, the California Global Warming Solutions Act. The CCAP includes strategies for transportation, waste reduction, land use, energy conservation, and sequestration that aim to reduce GHG emissions 25 percent by 2020 and 80 percent by 2050 relative to GHG emission levels in 2005. The CCAP was updated in 2011 to allow the City to use the CCAP as a quantified GHG Reduction

Strategy and streamline the analysis of future projects under CEQA. However, proposed improvements and student population growth at the SRHS campus were not accounted for in the future projections of GHG emissions analyzed in the CCAP.

San Rafael General Plan

The City of San Rafael has updated its general plan since the 2017 EIR was prepared. Therefore, the San Rafael General Plan discussion from the 2017 EIR is not relevant to the proposed Capital Improvements Project. See “Changes in Regulatory Framework Since 2017 EIR” below for discussion of relevant policies and programs from the updated San Rafael General Plan.

San Rafael City Schools Board Policy 3511

San Rafael City Schools (SRCS) recognizes the importance of minimizing the District's use of natural resources, providing a high-quality environment that promotes health and productivity, and effectively managing the District's fiscal resources. SRCS's conservation and management goals set forth in Board Policy (BP) 3511 include strategies for implementing effective and sustainable resource practices, exploring renewable and clean energy technologies, reducing energy and water consumption, minimizing utility costs, reducing the amount of waste of consumable materials, encouraging recycling and green procurement practices, and promoting conservation principles.

Changes in Regulatory Framework Since 2017 EIR

Federal Regulations

Federal Vehicle Emission Regulations

The EPA has established national GHG emission and fuel economy regulations for vehicles that would achieve substantial GHG emissions reductions along with reductions in other criteria pollutants. Some of the key EPA regulations related to GHG emissions from vehicles are as follows:

- In 2012, the EPA and NHTSA extended the CAFE and GHG emissions standards for light-duty vehicles for model years 2017 to 2025. Combined with the 2012 to 2016 standards, the regulation will result in vehicles emitting 50 percent less than 2010 levels in 2025.
- In 2016, the EPA and NHTSA finalized national GHG emission and fuel economy standards for medium- and heavy-duty vehicles that would cover model years 2018 to 2027 for certain trailers and model years 2021 to 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks.
- In 2020, the EPA and NHTSA finalized updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards, covering model years 2021 through 2026.
- In 2021, the EPA revised the GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026 to leverage advances in clean car technology.
- In 2022, the NHSTA revised the CAFE standards for passenger cars and light trucks for model years 2024 to 2026. These standards are expected to result in average fuel economy label values of 49 miles per gallon.

State Regulations and Policies

California Climate Action Goals

The State of California has established the following long-term climate action goal since the preparation of the 2017 EIR:

- AB 1279 (2022): Achieve carbon neutrality as soon as possible, but no later than 2045 and maintain net negative GHG emissions thereafter; and reduce GHG emissions to 85 percent below 1990 levels by 2045.

California Vehicle Emission Regulations

Updates to the key state regulations related to GHG emissions from vehicles since the preparation of the 2017 EIR are as follows:

- The Advanced Clean Cars Program extends the Pavley Regulations beyond 2016 and established a technology mandate for zero-emission vehicles.
- The Advanced Clean Cars II Program requires all new passenger cars, trucks, and sport utility vehicles sold in California to be zero-emission vehicles by 2035.
- The Low-Carbon Fuel Standard (Executive Order S-1-07), as amended in 2019, requires a 20 percent reduction in the carbon intensity of California's transportation fuels by 2030.

California Energy Efficiency Regulations

Updates to key state regulations related to GHG emissions from energy use since the preparation of the 2017 EIR are as follows:

- The Renewable Portfolio Standard Program, as updated in 2018 (SB 100), requires the state to procure 60 percent of its electricity from renewable sources by 2030 and 100 percent from carbon-free sources by 2045.
- SB 1020 expanded on SB 100 to require 90 percent of all retail electricity sales by 2035 and 95 percent of all retail electricity sales by 2040 to be supplied by renewable energy resources and zero-carbon resources.
- The 2022 California Building Code, which refers to Part 2 in Title 24 of the California Code of Regulations, is the most current state building code and went into effect on January 1, 2023.
- The 2022 California Green Building Standards Code, which refers to Part 11 in Title 24 of the California Code of Regulations, is the most current CALGreen Code and went into effect on January 1, 2023.

California Cap-and-Trade Program

The Cap-and-Trade Program is a key element of California's strategy to reduce GHG emissions from covered entities² that are responsible for about 85 percent of California's GHG emissions. The program establishes a declining limit on major sources of GHG emissions throughout California, and it creates a powerful economic incentive for significant investment in cleaner and

² The program's covered entities include electric power plants, fuel distributors (natural gas and petroleum), and large industrial facilities that emit more than 25,000 million metric tons of CO₂e per year.

more efficient technologies. CARB creates allowances equal to the total amount of permissible GHG emissions (i.e., the “cap”). Each year, fewer allowances are created and the annual cap declines. As a result, the annual auction reserve price for allowances increases, which creates a steady and sustained carbon price signal to incentivize actions to reduce GHG emissions and enable a smooth transition to a cleaner economy.

California’s Short-Lived Climate Pollutant Reduction Strategy

The Short-Lived Climate Pollutant (SLCP) Reduction Strategy is California’s plan for reducing emissions of high global-warming potential gases with short atmospheric lifetimes (CARB, 2017a). SLCPs include methane, HFCs, and anthropogenic black carbon. In accordance with SB 1383, the SLCP Reduction Strategy has set the following targets for statewide reductions in SLCP emissions:

- 40 percent below 2013 levels by 2030 for methane and HFCs.
- 50 percent below 2013 levels by 2030 for anthropogenic black carbon.

The SLCP Reduction Strategy also provides specific direction for reductions from dairy and livestock operations and from landfills by diverting organic materials.

California’s Climate Change Scoping Plan

In December 2008, CARB adopted the Climate Change Scoping Plan to identify how the state can achieve its 2020 climate action goal under AB 32. In 2017, CARB updated the Scoping Plan to identify how the state can achieve its 2030 climate action goal under SB 32, and substantially advance toward its 2050 climate action goal under Executive Order S-3-05. The 2017 Scoping Plan includes the regulatory programs identified above, such as the Advanced Clean Cars Program, Low-Carbon Fuel Standard, Renewable Portfolio Standard Program, energy efficiency standards, SLCP Reduction Strategy, and Cap-and-Trade Program (CARB, 2017b).

In December 2022, CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan), which outlines a roadmap to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045 (CARB, 2022). Building on the 2017 Scoping Plan, the 2022 Scoping Plan evaluates the progress made toward meeting the 2030 GHG reduction target established in SB 32 and identifies a technologically feasible, cost-effective, and equity-focused path to achieve carbon neutrality by 2045. The 2022 Scoping Plan presents an approach for an aggressive reduction of fossil fuels and a rapid transition to renewable energy resources and zero-emission vehicles. The 2022 Scoping Plan identifies actions and outcomes such as rapidly moving to zero-emission transportation; electrifying cars, buses, trains, and trucks; phasing out the use of fossil gas used for heating homes and buildings; clamping down on chemicals and refrigerants; providing communities with sustainable options for walking, biking, and public transit; building out clean, renewable energy resources (such as solar arrays and wind turbine capacity) to displace fossil-fuel fired electrical generation; and scaling up new options such as renewable hydrogen and biomethane. Appendix D of the 2022 Scoping Plan includes recommendations for local government to take actions that align with the state’s climate goals, with a focus on local climate action plans and local authority over new residential and mixed-use development. Appendix D of the 2022 Scoping Plan recommends for local jurisdictions to focus on three priority areas when preparing a climate action plan: transportation electrification, VMT reduction, and building decarbonization.

Regional and Local Regulations

BAAQMD 2017 Clean Air Plan

The BAAQMD and other air districts prepare clean air plans in accordance with the state and federal Clean Air Acts. In April 2017, the BAAQMD adopted the 2017 Clean Air Plan: Spare the Air, Cool the Climate (2017 CAP), which is a comprehensive plan to improve Bay Area air quality and protect public health through implementation of a control strategy designed to reduce emissions and ambient concentrations of harmful pollutants. The 2017 CAP also includes measures designed to reduce GHG emissions.

City of San Rafael Climate Action Plan

On May 6, 2019, the City adopted the Final Draft Climate Change Action Plan 2030 (CCAP 2030), which is an update the 2009 CCAP and establishes a new interim target of reducing GHG emissions by 40 percent below 1990 levels by 2030, and outlines the steps that residents, businesses, and the City can take to reach that goal (City of San Rafael, 2019b). The CCAP 2030 has been prepared pursuant to CEQA Guidelines Section 15183.5 and is considered a Qualified Greenhouse Gas Reduction Plan for streamlining CEQA analysis.

San Rafael General Plan 2040

The City's current General Plan (City of San Rafael, 2021) contains updated policies and programs that pertain to greenhouse gas emissions and may be applicable to the project, as follows:

Policy C-4.1: Renewable Energy. Support increased use of renewable energy and remove obstacles to its use.

Program C-4.1A: Marin Clean Energy Targets. Support Marin Clean Energy (MCE) efforts to reach the goal of providing energy that is 100 percent GHG free by 2025.

Program C-4.1C: Regulatory Barriers. Continue efforts to remove regulatory barriers and provide creative incentives for solar energy installations, such as rooftop solar systems and parking lot canopies. The installation of renewable energy systems that are consistent with the Climate Change Action Plan should be encouraged and accelerated.

Program C-4.1D: Reducing Natural Gas Use. Pending further financial analysis and community input, implement electrification of building systems and appliances in new buildings and those that currently use natural gas. This should be achieved by requiring new or replacement furnaces and appliances to be electric and utilize fossil free energy.

Policy C-4.2: Energy Conservation. Support construction methods, building materials, and home improvements that improve energy efficiency in existing and new construction.

Program C-4.2B: Green Building Standards. Implement State green building and energy efficiency standards for remodeling projects and new construction. Consider additional measures to incentivize green building practices, low carbon concrete, and sustainable design.

Program C-4.2C: Energy Efficiency Incentives. Provide financial incentives, technical assistance, streamlined permitting processes, and partnerships to encourage energy-efficiency

upgrades in new and existing buildings. Typical improvements include the use of energy-efficient windows, lighting, and appliances, induction and convection cooking, insulation of roofs and exterior walls, higher-efficiency heating and air conditioning (including electrical heat pump systems), and other projects that lower electricity and natural gas consumption.

Program C-4.2E: Cool Roofs and Pavement. Encourage the use of materials that minimize heat gain on outdoor surfaces such as parking lots, roadways, roofs and sidewalks.

Policy C-4.5: Resource Efficiency in Site Development. Encourage site planning and development practices that reduce energy demand and incorporate resource- and energy-efficient infrastructure.

Program C-4.5A: Solar Site Planning. Use the development review process to:

- a) Encourage opportunities for passive solar building design and the use of photo-voltaic materials and devices.
- b) Review proposed site design for energy efficiency, such as shading of parking lots and summertime shading of south-facing windows.

Policy C-5.1: Climate Change Action Plan (CCAP). Maintain and periodically update a CCAP that includes programs to reduce greenhouse gas emissions and metrics for monitoring success.

Program C-5.1A: CCAP Updates. Conduct complete updates of the CCAP at least once every 10 years, adjusting programs to achieve updated GHG goals. These goals should align with those adopted by Drawdown Marin, including reductions of 40% below 1990 levels by 2030, 60% below 2005 levels by 2040, and levels conforming to Executive Orders S-03-05 and B-55-18 by 2050. More aggressive goals may be adopted.

Program C-5.1B: Progress Reports. Prepare annual CCAP progress reports, including a list of priority actions. Local climate goals should align with regional goals, including those set through Drawdown Marin.

Program C-5.1C: Quarterly Forum. Continue to hold the CCAP Quarterly Forum, which provides oversight on the implementation progress of sustainability and GHG reduction programs.

Program C-5.1D: Funding. Identify funding sources for recommended actions, and pursue local, regional, state, and federal grants. Investigate creation of a local carbon fund or other permanent source of revenue.

Policy C-5.2: Consider Climate Change Impacts. Ensure that decisions regarding future development, capital projects, and resource management are consistent with San Rafael's CCAP and other climate goals, including greenhouse gas reduction and adaptation.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Supplemental EIR Analysis Scope and Pertinent Changes

The project would include improvements that are not addressed in the 2017 EIR, such as the Aquatic Center, the new Performing Arts Plaza, and the new artificial turf for the Athletic Fields. In addition, the project would include the demolition of the existing AR Building and the existing swimming pool and pool deck at the Aquatics Center. Therefore, supplemental analysis of the potential impacts of the project related to GHG emissions is warranted and presented below. It is to be noted that the construction and the operation of the new AR Building has already been evaluated in the 2017 EIR and therefore is not discussed in this Supplemental EIR (SEIR).

Significance Criteria

Significance Criteria from 2017 EIR

The 2017 EIR indicated that, based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant effect on GHG emissions if it would:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, or
- b) Conflict with an applicable plan, policy or regulation adopted for reducing the emissions of greenhouse gases.

The BAAQMD's project-level thresholds of significance were used in the 2017 EIR to evaluate the project's potential impacts (BAAQMD, 2010b). These thresholds were developed to ensure compliance with the AB 32 GHG reduction goals for the year 2020. The BAAQMD's project-level thresholds of significance used in the 2017 EIR are:

- An emissions threshold of 1,100 metric tons of CO₂e per year; or
- An emission efficiency standard of 4.6 metric tons of CO₂e per year per service population.

Changes in Significance Criteria Since 2017 EIR

Climate change is not caused by any individual emissions source but by a large number of sources around the world emitting GHGs that collectively create a significant cumulative impact. CEQA requires agencies in California to analyze such impacts by evaluating whether a proposed project would make a "cumulatively considerable" contribution to the significant cumulative impact on climate change. The BAAQMD's current recommended thresholds of significance for GHG emissions are intended to assist public agencies in determining whether proposed projects would make a cumulatively considerable contribution to global climate change, as required by CEQA. The thresholds identify design elements that an individual project needs to incorporate to do its "fair share" in achieving the state's goals to reduce GHG emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045. The GHG thresholds for land use projects include two options, as follows (BAAQMD, 2023):

Option 1. Projects must include, at a minimum, the following project design elements:

Buildings

- a) The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
- b) The project will not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

Transportation

- a) Achieve compliance with electric vehicle (EV) requirements in the most recently adopted version of CALGreen Tier 2.
- b) Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
 - i. Residential projects: 15 percent below the existing VMT per capita.
 - ii. Office projects: 15 percent below the existing VMT per employee.
 - iii. Retail projects: no net increase in existing VMT.

Option 2. Be consistent with local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

A proposed project that meets the thresholds for at least one of these options would do its fair share to support the state's ability to achieve its climate goals and thus would have a less-than-significant impact on GHG emissions. In this analysis, the project's impact was evaluated against Option 1 listed above. Option 2 is not used because the District is not subject to the City of San Rafael's climate action plans and policies.

It should be noted that the BAAQMD's GHG thresholds of significance described under Option 1 were developed for typical residential and commercial land use projects. Consistent with the 2022 Scoping Plan, the BAAQMD's Option 1 design element for building decarbonization is applicable to residential and commercial land uses. In this SEIR, the project's consistency with the building decarbonization design element is evaluated for the proposed new buildings such as the new athletic club house proposed for the Aquatics Center, but not for sport facilities such as the swimming pool which are not considered buildings nor typical residential or commercial land uses. Similarly, the BAAQMD's Option 1 design element for transportation is not applicable to the project because the project generated VMT reduction targets do not include school uses.

Summary of Impacts and Mitigation Measures from 2017 EIR

Areas of No Impact from 2017 EIR

The 2017 EIR did not identify any areas for which the Master Facilities Long-Range Plan, including the Stadium Project, would have no GHG emissions impact.

Less-than-Significant Impacts from 2017 EIR

The 2017 EIR concluded that implementation of the Master Facilities Long-Range Plan, including the Stadium Project, would result in less-than-significant impacts related to generation of GHG emissions and conflict with GHG plans, policies, or regulations.

Potentially Significant Impacts and Mitigation Measures from 2017 EIR

The table below summarizes potentially significant impacts and mitigation measures identified in the 2017 EIR. The 2017 EIR concluded that no potentially significant impacts related to GHG emissions would result from the project.

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
Greenhouse Gas Emissions			
<i>The project would not result in any potential significant greenhouse gas impacts.</i>			

Cumulative Impacts from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would not result in or contribute to any significant cumulative GHG emissions impacts.

Impacts of New Capital Improvements Project

Areas of No Impact

There are no areas for which the project would have no GHG emissions impact.

Less-than-Significant Impacts

The project would have the same less-than-significant impacts identified for the Master Facilities Long-Range Plan, including the Stadium Project, in the 2017 EIR.

Generation of Greenhouse Gas Emissions

The project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Emissions from Project Construction

Construction activities would generate GHG emissions from several sources, such as the operation of on-site heavy construction equipment and off-site construction vehicle trips, vendor vehicle trips, and worker commute trips. The BAAQMD does not recommend a threshold of significance for GHG emissions during construction because there is not sufficient evidence to determine a level at which temporary construction emissions are significant. A construction contractor would also have no incentive to waste fuel during construction and, therefore, it is generally assumed that GHG emissions during construction would be minimized to the maximum extent feasible. Therefore, GHG emissions from construction of the project would have a less-than-significant impact on the environment.

Emissions from Project Operations

The project's consistency with the BAAQMD's recommended design elements (Option 1 thresholds) is evaluated in **Table 4.5-5**. As presented in **Table 4.5-5**, the project is designed to incorporate the applicable design elements. Therefore, the project would contribute its "fair share" to achieve the state's climate goals and have a less-than-significant GHG emissions impact.

Conflict with Greenhouse Gas Plans, Policies, or Regulations

The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

As discussed above, the project includes the applicable BAAQMD-recommended design elements that an individual project needs to incorporate to do its "fair share" in achieving the state's goals to reduce GHG emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045. The project includes key attributes that are consistent with the priority GHG reduction strategies identified in Appendix D of the 2022 Scoping Plan. The project would support building decarbonization by using electric heat pumps for building heating and cooling on campus to reduce energy usage. As discussed above, improvements included in the project would result in more efficient mechanical and electrical systems. All new buildings included in the project would provide infrastructure for photovoltaic panels, supporting the displacement of fossil-fuel fired electrical generation with renewable energy resources. The project would increase the overall availability for bicycle parking, supporting VMT reduction by increasing access to clean mobility options. Under the development program analyzed in the 2017 EIR, 231 parking spaces would have been provided on the SRHS campus. At the time of preparation of this SEIR, there are currently 236 existing parking spaces on the SRHS campus. Upon completion of the proposed project, there would be 234 parking spaces, which would be substantially similar to what was analyzed in the 2017 EIR. Therefore, the project would not result in a substantial increase in vehicle trips and, hence, the BAAQMD's recommended transportation design elements do not apply to the project. In summary, the project would not conflict with the 2022 Scoping Plan and this impact would be less than significant.

Potentially Significant Impacts and Mitigation Measures

No potentially significant impacts related to GHG emissions would result from the project.

TABLE 4.5-5 PROJECT CONSISTENCY WITH BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD) DESIGN ELEMENTS FOR GREENHOUSE GAS (GHG) EMISSIONS

Design Element	Project Consistency	
Building	No Natural Gas	<p>Consistent. According to the District, electric heat pumps would be used for heating and cooling of occupied spaces of the campus, except for the new swimming pool which would be heated with two natural gas boilers with 1.75 MM BTU/hr input rating. As mentioned above, this design element was developed for residential and commercial land uses (buildings) and does not apply to sport facilities such as swimming pools. Because the school buildings would not include natural gas uses, the project is consistent with this design element.</p> <p>It should be noted that the natural gas boilers for the new swimming pool are not considered new sources because the existing swimming pool is also heated with a natural gas boiler (2 MM BTU/hr input rating). The potential increase in natural gas usage and GHG emissions due to the operation of a bigger pool would likely be offset by the other campus improvements included in the project, which would result in reduced energy usage and associated GHG emissions.</p>
	No Wasteful, Inefficient, or Unnecessary Energy Usage	<p>Consistent. The project would be required to comply with state and locally mandated energy efficiency/conservation measures. In addition, the facilities proposed in the project would be designed with efficient heating and cooling systems to maximize natural winter heat gain and minimize summer heat gain, and with skylights and clerestory windows to provide natural lighting. As mentioned above, electric heat pumps are proposed for heating/cooling of occupied spaces to reduce energy demands. In addition, new buildings included in the project would provide infrastructure for photovoltaic panels. All campus improvements would result in more efficient mechanical and electrical systems. Therefore, operation of the project would not result in inefficient, wasteful, or unnecessary energy usage.</p>
Transportation	California Green Building Standards (CALGreen) Tier 2 Electric Vehicle Requirement	<p>Not Applicable. Under the development program analyzed in the 2017 EIR, 231 parking spaces would have been provided at the SRHS campus. At the time of preparation of this SEIR, there are currently 236 existing parking spaces on the SRHS campus. The project includes repaving and reconfiguration of the existing parking lots. Upon completion of the project, there would be 234 parking spaces, which would be substantially similar to what was analyzed in the 2017 EIR. As there would be no substantial net change in parking spaces, this design element is not applicable to the project.</p>

TABLE 4.5-5 PROJECT CONSISTENCY WITH BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD) DESIGN ELEMENTS FOR GREENHOUSE GAS (GHG) EMISSIONS

Design Element	Project Consistency
Project-Generated Vehicle Miles Traveled (VMT) Reduction	<p>Not Applicable. As discussed above, project-generated VMT reduction targets included in this design element do not apply to school land use. Therefore, this design element is not applicable to the project.</p> <p>As discussed in <i>Section 4.9, Transportation and Traffic</i>, the project would result in an estimated increase of 12.9 daily vehicle trips due to increased use of the Aquatics Center and Athletics Fields and would have a less-than-significant VMT transportation impact.</p>

Notes: MM BTU/hr = million British Thermal Units per hour
Source: BAAQMD, 2023.

Cumulative Impacts

The project would have the same cumulative impacts identified for the Master Facilities Long-Range Plan in the 2017 EIR. As discussed above, GHG impacts are, by their nature, cumulative impacts because one project by itself cannot significantly contribute to or cause significant environmental effects. The project would not result in or contribute to any significant cumulative GHG impacts because it would not generate GHG emissions that may have a significant impact on the environment or fundamentally conflict with applicable plans and policies.

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4.6 HAZARDS AND HAZARDOUS MATERIALS

INTRODUCTION

This section describes the hazards and hazardous materials¹ setting at the San Rafael High School (SRHS) campus (project site), and summarizes the pertinent federal, state, and local regulations related to these issues. The section also evaluates potential environmental impacts of the project related to hazards and hazardous materials, and identifies project-level and cumulative environmental impacts. The analysis also explains how application of existing permits, regulatory requirements, and mitigation measures would reduce or avoid the identified impacts. This evaluation is made in the context of the 2017 San Rafael High School Master Facilities Long-Range Plan and Stadium Project EIR (2017 EIR), and addresses changes to the environmental setting, regulatory setting, and significance criteria since 2017 and identifies potential impacts and associated mitigation measures of the currently proposed Capital Improvements Project.

ENVIRONMENTAL SETTING

Summary of Environmental Setting from 2017 EIR

Conditions related to hazards and hazardous materials at and near the SRHS campus at the time the 2017 EIR was prepared are described below.

Hazardous Materials Use, Storage, Disposal, and Releases

SRHS was founded in 1888 at a site on B Street and moved to the current campus location in 1924. No other historical land uses were known for the project site. Adjoining land uses include commercial and light industrial uses to the south, across 3rd Street, and west, along Union Street, and residential uses to the north and east.

A review of available regulatory databases did not identify SRHS on any hazardous material site lists (SWRCB, 2016). Based on typical school uses, hazardous materials at the SRHS campus include maintenance, landscaping, and custodial supplies and small quantities of laboratory chemicals used in chemistry and biology classrooms. As San Rafael City Schools has a Maintenance Facility at 38 Union Street, immediately west of the SRHS campus, it is likely that activities involving more significant quantities of hazardous materials, such as vehicle fueling and maintenance, would occur at that location and not the SRHS campus.

¹ As used in this section, the term “hazardous materials” is defined by the California Health and Safety Code (H&SC) Section 25501 as: “... any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. ‘Hazardous materials’ include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.”

Two active hazardous material release sites were identified within a 1,000-foot radius of the SRHS campus, including the adjoining Maintenance Facility site (SWRCB, 2016). Available information at the time of the 2017 EIR regarding the two sites is provided below.

San Rafael City Schools Maintenance Facility, 38 Union Street

The San Rafael City Schools Maintenance Facility is located adjacent to the west of the SRHS campus. A 1,000-gallon gasoline underground storage tank (UST) was historically operated at the Maintenance Facility, with the UST located immediately west of the SRHS campus (see **Figure 4.6-1**). In March 1997, fuel-affected soils and floating petroleum on top of the shallow groundwater were observed during excavation near the UST location. Later that month, approximately 175 cubic yards of gasoline-contaminated soil were removed from an area south of the UST location under oversight from the City of San Rafael Fire Department. The UST, piping, and surrounding soils were removed in November 1997 (Arcadis, 2015).

The Maintenance Facility site was placed under the oversight of the San Francisco Bay Regional Water Quality Control Board (RWQCB) Leaking Underground Storage Tank (LUST) program. Under RWQCB oversight, additional soil and groundwater investigations were conducted in April-May 1998, January 1999, April 2012, and January 2013. A second soil removal action, in November 1998, removed an additional 200 to 250 cubic yards of gasoline-contaminated soil from an area northwest of the former UST location (Arcadis, 2015).

In January 2013, case closure was requested from the RWQCB, but was denied because residual contamination of soils and groundwater in the vicinity of the UST exceeded RWQCB cleanup goals. The three contaminants of concern are gasoline related compounds: benzene, methyl tertiary-butyl ether (MTBE), and total petroleum hydrocarbons in the gasoline range (TPH-g).

In January 2015, a Conceptual Site Model/Corrective Action Plan was developed for the Maintenance Facility site to evaluate potential remedial options for the residual contamination. The chosen option, enhanced aerobic bioremediation, was implemented in October 2015. A hydraulic direct-push rig was used to inject 3,417 pounds of a calcium peroxide solution into shallow soils and groundwater at 25 locations in the Maintenance Facility parking lot (Arcadis, 2015). The calcium peroxide releases oxygen to soil and groundwater, which enhances the activity of naturally occurring bacteria, which can speed up the natural biological breakdown of gasoline-related contaminants.

Groundwater monitoring was conducted to monitor the effectiveness of the remedial efforts. Data from the June 2016 monitoring event report showed that groundwater contamination related to the former UST extends about 150 feet from the former UST location, with the longest plumes to the east and south. Figure 4.6-1 shows the extent of benzene contamination in June 2016; MTBE and TPH-g contamination were similar in extent. This groundwater contamination had migrated to the SRHS campus and had affected groundwater underlying the athletic field in the western part of the SRHS campus (Antea Group, 2016).

Marin/Sonoma Mosquito Abatement District, 201 3rd Street

The former Marin/Sonoma Mosquito Abatement District site is a 0.65-acre parcel located south of the SRHS campus, between 3rd Street and San Rafael Creek. From 1939 to 1981, various

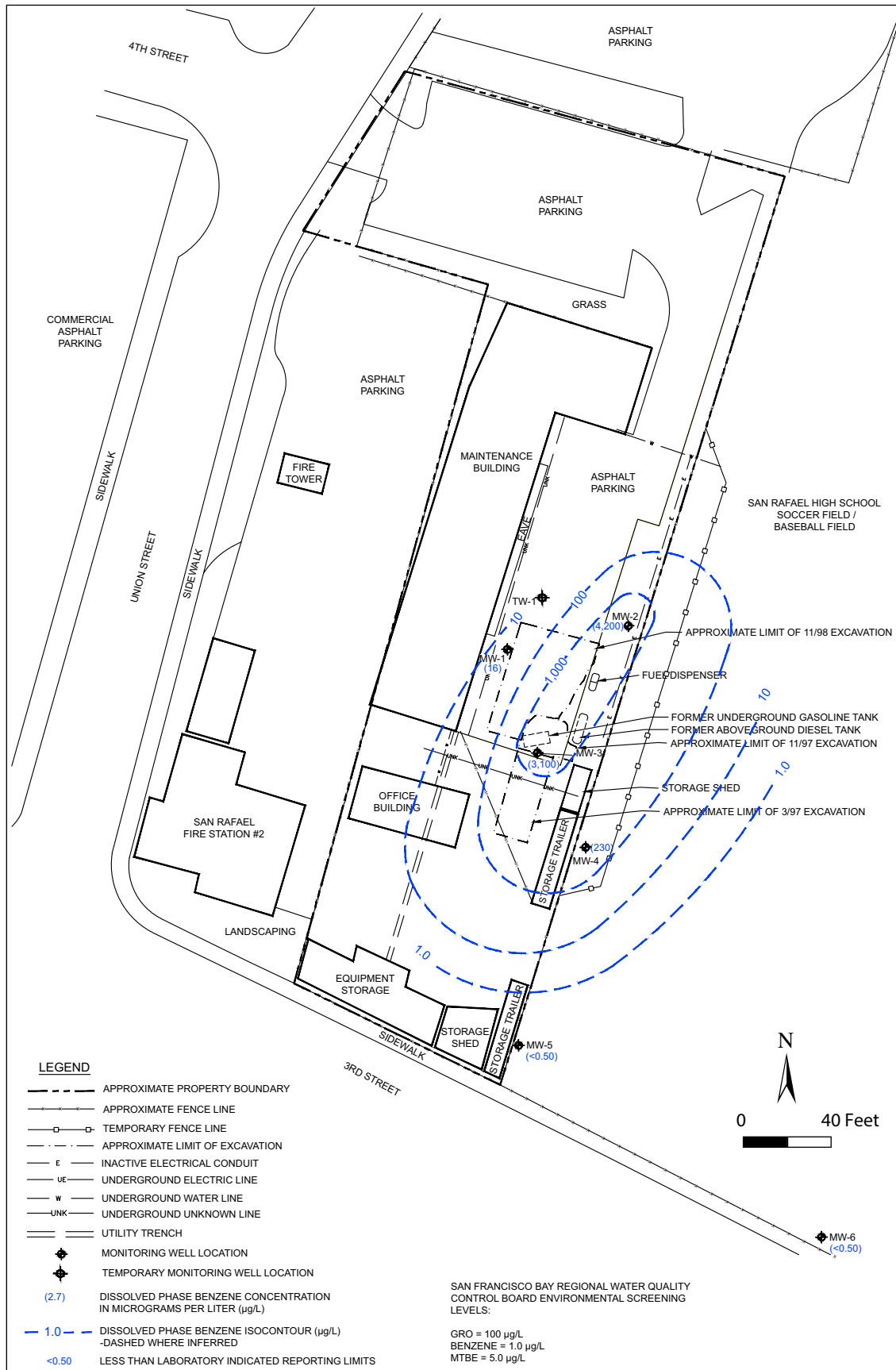


Figure 4.6-1

BENZENE IN GROUNDWATER SAN RAFAEL CITY SCHOOLS MAINTENANCE FACILITY

SOURCE: Antea Group, 2016

pesticides were used, mixed, and stored at this location (DTSC, 2003). Environmental investigations determined that elevated concentrations of pesticides, including DDT, as well as petroleum hydrocarbons in the diesel and motor oil were present in soil and groundwater at the site (DTSC, 2003). In April 1992, approximately 5,400 tons of pesticide- and petroleum-contaminated soils were removed from the site and replaced with clean backfill and an asphalt cap (HLA, 1995). A land use covenant that prohibits use of the site for residences, hospitals, schools, or day care centers was recorded for the property in 2003 (DTSC, 2003). Groundwater monitoring at the site in July 2016 showed total petroleum hydrocarbons in the diesel range (TPH-d) were present in groundwater at the site, but the contamination did not extend off the site (PES, 2016). Since this groundwater contamination was limited to the 201 3rd Street site and does not extend north to the SRHS campus, historical releases from this site would not be expected to affect soil or groundwater at the SRHS campus.

Hazardous Materials Related to SRHS Campus Buildings

Based on the date of development of the SRHS campus, buildings at the campus may contain asbestos-containing materials, lead-based paint, pesticides used for termite treatment, and polychlorinated biphenyls (PCBs) used in electrical equipment and caulking.

Asbestos-Containing Building Materials

Prior to the 1980s, building materials often contained asbestos fibers, which are a known human carcinogen. Asbestos, used to provide strength and fire resistance, was frequently incorporated into insulation, roofing, and siding, textured paint, and patching compounds used on wall and ceiling joints, vinyl floor tiles and adhesives, and water and steam pipes.

Lead-Based Paint

Prior to 1978, lead compounds were commonly used in exterior and interior paints. Lead is a suspected human carcinogen (i.e., may cause cancer), a known teratogen (i.e., causes birth defects), and a reproductive toxin (i.e., can cause sterility). In addition, exposure of children to lead may cause irreversible learning deficits and other neurological and physical disorders. Damaged exterior lead-based paint can flake off painted surfaces and contaminate nearby soils.

Pesticides from Termite Treatment

Chlordane, an organochlorine pesticide, was used for termite treatment of buildings from 1948 until 1988, when it was banned by the U.S. Environmental Protection Agency (EPA). Chlordane is a suspected carcinogen and may cause adverse effects on the liver, blood, lungs, and central nervous system. While chlordane use was legal, soils were often drenched with chlordane as a preventative measure prior to building construction, and additional chlordane was typically applied to building foundations and near surface soils for treatment following construction.

Polychlorinated Biphenyls

PCBs are heavy, oily liquids that were typically used as an insulator in electrical equipment and a plasticizer in other materials from 1927 to 1977, when their manufacture was banned by the EPA. PCBs may be present in many items manufactured prior to 1977, such as fluorescent lighting

fixtures and caulking. PCBs are a suspected carcinogen and may cause adverse effects on the immune, reproductive, nervous, and endocrine system. Historic leaks or damage to transformers or other electrical equipment can result in PCB contamination in nearby soils. PCBs may also be released from other items, such as lighting fixtures and caulking, during demolition activities.

Mitigation of Hazardous Materials Related to Buildings

Under normal circumstances, hazardous materials in buildings would not be expected to create a significant health risk, but during building renovation and demolition, these materials can be exposed or dispersed into the air where they can affect construction workers and nearby members of the general public. Abatement of asbestos-containing materials is required prior to building demolition and abatement is highly regulated under state laws and regulations.

The remaining hazardous materials concerns (lead from lead-based paint, pesticides from termite treatment, and PCBs) are not as highly regulated. As these concerns are often present at school redevelopment sites, the Department of Toxic Substances Control (DTSC) has developed guidance for the evaluation of these hazards at school sites as part of its School Property Evaluation and Cleanup Program (DTSC, 2006), described in more detail under *Regulatory Framework*, below. The guidance includes recommended sampling plans for each hazard, as well as screening concentrations for the laboratory data to determine if additional investigation or remediation is required (DTSC, 2006).

Emergency Response

The Marin County Office of Emergency Services (OES) coordinates emergency operation activities among agencies and jurisdictions in Marin County, including the City of San Rafael Police and Fire Departments. At the time of the 2017 EIR, the OES had developed the 2012 Local Hazard Mitigation Plan (OES, 2012) which included strategies and risk assessment for major and minor disasters, such as earthquakes, fires, floods, and terrorism.

Aviation Hazards

The SRHS campus is not located within an airport land use plan. The nearest public use airport is Marin County Airport, also known as Gnos Field, located approximately 12 miles north of the SRHS campus. The nearest private airport is the San Rafael Airport, located approximately 3 miles north of the SRHS campus. No airstrips are located in the SRHS campus vicinity.

Wildfire Hazards

The SRHS campus is located in an urbanized area and is not located within wildlands or the wildland-urban interface. Based on mapping by the California Department of Forestry and Fire Protection (CalFIRE), the SRHS campus is not located within a wildfire hazard zone (CalFIRE, 2008).

Changes in Environmental Setting Since 2017 EIR

New information regarding hazards and hazardous materials conditions at and near the SRHS campus is presented below.

Hazardous Materials Releases

San Rafael City Schools Maintenance Facility

Groundwater monitoring has been performed for the leaking gasoline UST case at the San Rafael City Schools Maintenance Facility located at 38 Union Street adjacent to the southwestern corner of the SRHS campus since the 2017 EIR was prepared. Groundwater monitoring results from 2020 through 2023 indicate that elevated concentrations of contaminants including TPH-g, benzene, and MTBE remain in groundwater near the western boundary of the SRHS campus (Antea Group, 2023). As discussed in *Section 4.7, Hydrology and Water Quality*, the extent of groundwater contamination that may be present beneath the western athletic field of the SRHS campus has not been defined.

SRHS Campus

Limited Soil Characterization

In 2017, Millennium Consulting Associates (Millennium) performed sampling of surface soil from locations adjacent to former Buildings I through O on the SRHS campus for analysis of lead and naturally occurring asbestos (NOA) in support of planned demolition and construction activities. Three out of eight samples had lead concentrations that exceeded the DTSC modified screening level of 80 milligrams per kilogram (mg/kg) for direct exposure to lead in soil (residential-use scenario). The highest reported lead concentration was 950 mg/kg and was detected in soil between the southern side of former Building L and the parking lot (Millennium, 2017a).

Three soil samples were analyzed for NOA, and asbestos was detected in one sample collected along the northern side of former Building O at a concentration of 0.2 percent. The concentration of NOA was below the Bay Area Air Quality Management District (BAAQMD) regulatory threshold level of 0.25 percent. However, since a detectable level of asbestos was found in the soil sample, Millennium indicated that construction work involving excavation of soil containing NOA would be required to comply with the California Occupational Safety and Health Administration (Cal/OSHA) regulations for asbestos, and soil stockpiles containing detectable levels of NOA would need to be disposed of at a landfill authorized to accept asbestos materials (Millennium, 2017a).

Phase I Environmental Site Assessment

Millennium prepared a Phase I Environmental Site Assessment (ESA) for the SRHS campus and San Rafael City Schools Maintenance Facility in 2017 to evaluate the presence or likely presence of any hazardous substances or petroleum products that indicate an existing release, a past release, or a material threat of a release. A summary of environmental conditions identified by the Phase I ESA at the SRHS campus is as follows (Millennium, 2017b):

- The presence of soil and groundwater contaminated with benzene, TPH-g, and MTBE from a gasoline UST historically located at the San Rafael City Schools Maintenance Facility located on the western boundary of the SRHS campus was identified. Due to the location and extent of the soil and groundwater contamination, this issue was not anticipated to affect the planned demolition activities at the time and no further action was recommended for this issue.
- Soils with lead concentrations up to 950 mg/kg were identified adjacent to former Buildings L, M, and O. The source of the lead contamination was unidentified.

- A former auto shop located in former Building M had been in operation since prior to 1950. It was considered likely that soil beneath the auto shop was contaminated with total petroleum hydrocarbons (TPH) as motor oil (TPH-mo), hydraulic oil, and solvents, and soil vapor beneath former Building M could potentially be contaminated with solvents.
- A former metal shop located in former Building O had been in operation since prior to 1950. It was considered likely that soil beneath the metal shop was contaminated with TPH-mo and solvents, and soil vapor beneath former Building O could potentially be contaminated with solvents.

The Phase I ESA recommended that the following actions be completed at the SRHS campus prior to demolition activities:

- Site soils adjacent to buildings that were planned to be demolished be sampled for heavy metals;
- Sub-slab soil be collected from beneath former Buildings M and O and analyzed for TPH, semi-volatile organic compounds (SVOCs), and volatile organic compounds (VOCs); and
- Sub-slab soil vapor be collected from beneath former Buildings M and O and analyzed for VOCs.

The Phase I ESA did not identify any evidence of former or existing USTs within the SRHS campus; however, the Sanborn fire insurance maps dated between 1950 and 1970 presented in Appendix B of the Phase I ESA (Millennium, 2017b) indicate that the SRHS campus had fuel oil. Oil was historically used to fuel boilers for heating buildings, and the fuel oil was typically stored in USTs or aboveground storage tanks (ASTs) that were often located near boilers.

In 2018, an underground tank was located during the demolition of the former auto shop, and the underground tank was later identified as a 4-foot-diameter sump based on as-built drawings. The liquid in the sump was sampled and the laboratory testing results indicated that the liquid should be classified as non-hazardous waste. The liquid sample contained concentrations of VOCs including acetone, 2-butanone (MEK), methylene chloride, and toluene; SVOCs including 4,6-dinitro-2-methylphenol and 3 & 4-methylphenol (m,p-cresol); TPH-g, TPH-mo, and TPH-d; and various metals. Millennium indicated that because a sump is not a UST and the sump liquid was characterized as non-hazardous, it was Millennium's opinion that the Certified Unified Program Agency (CUPA; County of Marin Public Works) did not need to be notified to remove the sump. Millennium recommended that following removal of the sump, surrounding concrete, and any ancillary piping, Millennium would conduct a visual inspection for malodorous or stained soils, and if evidence of contamination was observed, Millennium would collect soil samples for testing (Millennium, 2018). Additional information regarding the removal of the sump or the condition of surrounding soil was not presented in Millennium's 2018 abatement report.

Hazardous Materials Abatement Related to SRHS Campus Buildings

In 2018, Millennium performed monitoring of abatement of hazardous building materials at former Buildings K, L, M, and O. The abatement included the removal of asbestos containing materials (ACMs), asbestos-contaminated soil, fluorescent light tubes, light ballasts, and miscellaneous lead-related construction debris (e.g., various wood, plaster, and metal finishes with lead containing paint). Underground asbestos insulated piping was left to remain beneath former Building K. This

pipng was visually observed only up to 5 linear feet, and may be extensive through the site of former Building K (Millennium, 2018).

Emergency Response

An updated Local Hazard Mitigation Plan was prepared for Marin County in 2018 (OES, 2018). The 2018 Marin County Multi-Jurisdictional Local Hazard Mitigation Plan (MCM LHMP) assesses risks posed by natural hazards and includes mitigation strategies for reducing the County's risks. Several jurisdictions and special districts participated in the creation of the MCM LHMP, including the City of San Rafael. The risks and mitigations in the MCM LHMP are broad and encompassing of the entirety of Marin County. The MCM LHMP incorporates each local jurisdiction's individual LHMP as appendices to ensure jurisdiction-specific information supplements the vulnerability mitigation included in the MCM LHMP. The City of San Rafael LHMP is incorporated into the MCM LHMP as Appendix P.

Two streets adjacent to the SRHS campus are identified by Marin County as evacuation routes; 3rd Street is identified as a primary evacuation route and Embarcadero Way is identified as a secondary evacuation route (Marin County, 2023).

Wildfire Hazards

Based on the current Wildland Urban Interface map prepared by the City of San Rafael, the SRHS campus is not located within the Wildland Urban Interface; however, the residential area adjacent to the north of the eastern portion of the SRHS campus is within the Wildland Urban Interface (City of San Rafael, 2023). Based on recently updated mapping of the State Responsibility Area (SRA) by CalFIRE, the SRHS campus is not located within or near a Very High Fire Hazard Severity Zone in the SRA (CalFIRE, 2023).

REGULATORY FRAMEWORK

Summary of Regulatory Framework from 2017 EIR

Federal

The United States EPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials and hazardous waste. The federal regulations are primarily codified in Title 40 of the Code of Federal Regulations (40 CFR). The legislation includes the Resource Conservation and Recovery Act of 1976 (RCRA), the Superfund Amendments and Reauthorization Acts of 1986 (SARA), and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). The EPA provides oversight for site investigation and remediation projects, and has developed protocols for sampling, testing, and evaluation of solid wastes.

State

Four state agencies, described below, have roles in the regulation of hazardous materials and waste that may occur on or around the SRHS campus.

Department of Toxic Substances Control

In California, DTSC is authorized by the EPA to enforce and implement federal hazardous materials laws and regulations. California regulations pertaining to hazardous materials are equal to or exceed the federal regulation requirements. Most state hazardous materials regulations are contained in Title 22 of the California Code of Regulations (CCR). DTSC generally acts as the lead agency for soil and groundwater cleanup projects that affect public health, and establishes cleanup levels for subsurface contamination that are equal to, or more restrictive than, federal levels.

As required by Education Code Section 17213.1, DTSC's School Property Evaluation and Cleanup Division is responsible for oversight of hazardous materials investigation and remediation for proposed new school sites and school redevelopment projects. All proposed school projects that will receive state funding for acquisition or construction are required to go through a rigorous environmental review and cleanup process under DTSC's oversight.

DTSC oversight begins after a school district submits a Phase I ESA to the division for review. DTSC evaluates the Phase I ESA to determine if hazardous materials at the school site could potentially present a risk to human health or the environment. If so, DTSC requires a Preliminary Environmental Assessment (PEA) be performed, including testing of soil, soil vapor, and/or groundwater, to evaluate the potential hazardous materials issues. DTSC has a PEA guidance manual (DTSC, 2015) and has provided specialized guidance for sampling and evaluating common hazardous materials issues at schools, including agricultural chemical residues (DTSC, 2008), naturally occurring asbestos (DTSC, 2004), and lead-based paint, termiticides, and PCBs from electrical transformers (DTSC, 2006).

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) enforces, among other regulations, those regulations pertaining to implementation of UST programs. It also allocates monies to eligible parties who request reimbursement of state funds to clean up soil and groundwater pollution from UST leaks. The SWRCB also enforces the Porter-Cologne Water Quality Act of 1969 through its nine regional boards, including the RWQCB, described below.

California Air Resources Board

The California Air Resources Board (CARB) is responsible for coordination and oversight of state and local air pollution control programs in California, including implementation of the California Clean Air Act of 1988. CARB has developed state air quality standards, and is responsible for monitoring air quality in conjunction with the local air districts.

California Department of Education

The California Department of Education oversees school site selection for public school districts in California and requires review to address potential hazardous materials concerns. Prior to acquisition of a new school property, Education Code Section 17213(B) requires school district consultation with the local hazardous materials agency and air district to evaluate potential sources that emit hazardous air emissions or handle hazardous or extremely hazardous materials, substances, or waste within 0.25 mile of the school. This applies to the selection of a new school

site, and does not apply to other school construction or redevelopment projects. Other parts of the school selection process related to hazardous materials are implemented by the DTSC School Property Evaluation and Cleanup Division, described above.

California Fire Code and Division of the State Architect

The California Fire Code is Part 9 of Title 24, CCR, also referred to as the California Building Standards Code. The California Fire Code incorporates the latest International Fire Code of the International Code Council with necessary California amendments. The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises; and to provide safety and assistance to firefighters and emergency responders during emergency operations.

California Fire Code Chapter 33 contains requirements for construction activities, including the development and implementation of a site safety plan establishing a fire prevention program. In addition, California Fire Code Chapter 35 contains specific requirements for welding and other hot work under Chapter 35. The requirements are intended to maintain the required levels of fire protection, limit fire ignition and spread, establish the appropriate operation of equipment, and promote prompt response to fire emergencies. Regulated features include fire protection systems, firefighter access, water supply, means of egress, hazardous materials storage and use, and temporary heating equipment and other ignition sources.

The Division of the State Architect (DSA) implements the plan review, permitting, and inspection of schools under construction. DSA ensures that schools are constructed according to requirements of the California Fire Code.

Regional

San Francisco Bay Regional Water Quality Control Board

The RWQCB can act as a responsible agency to provide oversight of sites where the quality of groundwater or surface waters is threatened, and has the authority to require investigations and remedial actions. For the San Rafael Schools Maintenance Facility, the RWQCB is the lead agency overseeing cleanup related to releases from the former gasoline UST.

Bay Area Air Quality Management District

The BAAQMD has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products (which are the responsibility of the EPA and CARB). The BAAQMD is responsible for preparation of attainment plans for non-attainment criteria pollutants, control of stationary air pollutant sources, management of volatile organic compound (VOC) containing soils (District Rule 8-40), and the issuance of permits for activities including asbestos demolition and renovation activities (District Rule 11-2).

Marin County Certified Unified Program Agency

The Marin County Department of Public Works is the Certified Unified Program Agency (CUPA) for Marin County and enforces state and local regulations pertaining to hazardous waste generators and risk management prevention programs. Programs administered under the CUPA program include the California Accidental Release Program (CalARP), Hazardous Materials Business Plans (HMBPs), Hazardous Waste and Hazardous Waste Treatment Programs, Underground Storage Tanks, and Medical Waste Programs.

Local

San Rafael General Plan

The City of San Rafael has updated its general plan since the 2017 EIR was prepared. Therefore, the San Rafael General Plan discussion from the 2017 EIR is not relevant to the proposed Capital Improvements Project. See “Changes in Regulatory Framework Since 2017 EIR” below for discussion of relevant policies and programs from the updated San Rafael General Plan.

Changes in Regulatory Framework Since 2017 EIR

State

California Assembly Bill (AB) 1423 and California Health and Safety Code Chapter 12.6

In September 2023, the State California passed AB 1423, which enacted and added Chapter 12.6 (commencing with Section 108948) to Part 3 of Division 104 of the Health and Safety Code. AB 1423 addresses the presence of perfluoroalkyl and polyfluoroalkyl substances (a class of chemicals known as “PFAS” that are highly toxic and highly persistent in the environment) in artificial turf. AB 1423 indicates that PFAS are routinely used in the production and manufacturing of artificial turf and are emitted as part of the dust as the fields age and degrade due to use and exposure to the elements. AB 1423 indicates that children are uniquely at risk to exposure to PFAS playing on artificial turf or synthetic grass as their height leads them to more readily inhale, ingest, and come in dermal contact with dust emitted from the fields, and that adults are also exposed to PFAS when playing on these fields. The California Health and Safety Code now indicates that artificial turf containing regulated PFAS² cannot be purchased or installed at schools after January 1, 2026.

Local

San Rafael Municipal Code

Section 14.16.180 of the Municipal Code indicates that new development on lots filled prior to 1974 or on lots which were used for auto service uses, industrial uses or other land uses that may have involved hazardous materials shall be evaluated for the presence of toxic or hazardous materials

² Regulated PFAS include either PFAS that a manufacturer has intentionally added to a product and that has a functional or technical effect in the product or the presence of PFAS in a product or product component at or above 20 parts per million, as measured in total organic fluorine. Presence shall be based upon testing after the manufacturing process but before installation.

prior to development approvals, and the requirements for review are set forth in the geotechnical review matrix in the General Plan.

San Rafael General Plan

The City of San Rafael General Plan 2040 (City of San Rafael, 2021) contains policies and programs related to hazards and hazardous materials as follows:

Policy S-1.1: Local Hazard Mitigation Plan (LHMP). The San Rafael LHMP is adopted by reference into the General Plan. Policies and actions throughout the General Plan shall be consistent with the LHMP and support its goals and objectives.

Program S-1.1A: LHMP Mitigation Action Plan. Implement the Mitigation Action Plan in the LHMP. The City will consider opportunities to advance each action through operating procedures, development approvals, budgets, public education, and capital improvement projects.

Program S-1.1B: Mitigation Program Funding. Develop an overall funding strategy to prioritize and pursue mitigation projects, including identification and tracking of grants and regular coordination with FEMA and State hazard mitigation agencies.

Program S-1.1C: LHMP Updates. Periodically update the Local Hazard Mitigation Plan to reflect new data, technology, available resources, partnership opportunities, and state and federal requirements.

Policy S-5.2: Hazardous Materials Storage, Use and Disposal. Enforce regulations regarding proper storage, labeling, use and disposal of hazardous materials to prevent leakage, potential explosions, fires, or the escape of harmful gases, and to prevent individually innocuous materials from combining to form hazardous substances, especially at the time of disposal.

Program S-5.2A: CUPA Program. Continue to participate in the Certified Unified Program Agency (CUPA) program. The CUPA's responsibilities shall include overseeing the investigation and closure of contaminated underground storage tank sites.

Policy S-5.4: Development on Formerly Contaminated Sites. Ensure that the necessary steps are taken to clean up residual hazardous materials on any contaminated sites proposed for redevelopment or reuse. Properties that were previously used for auto service, industrial operations, agriculture, or other land uses that may have involved hazardous materials should be evaluated for the presence of toxic or hazardous materials in the event they are proposed for redevelopment with a sensitive land use.

Program S-5.4A: Use of Environmental Databases in Development Review. When development is proposed, use environmental and hazardous materials data bases (such as the State GeoTracker data base) to determine whether the site is contaminated as a result of past activity. As appropriate, require studies and measures to identify and mitigate identified hazards.

Program S-5.4B: Hazardous Soils Clean-Up. Work with appropriate agencies to require remediation and clean-up prior to development of sites where hazardous materials have impacted soil or groundwater. The required level of remediation and clean-up shall be determined by the

Certified Unified Program Agency based on the intended use of the site and health risk to the public.

Program S-5.4C: Environmental Site Management Plan (ESMP). Require the preparation of an ESMP in consultation with the San Francisco Bay Regional Water Quality Control Board and/or the Department of Toxic Substance Control (DTSC), for proposed development on sites with known contamination of hazardous materials pursuant to Government Code Section 65962.5. This includes, but is not limited to, sites in the on-line DTSC EnviroStor Data Base and the State GeoTracker Data base.

Program S-5.4D: Soil Vapor Intrusion Assessment. For sites with potential residual soil or groundwater contamination that are planned for redevelopment with an overlying occupied building, a soil vapor intrusion assessment shall be performed by a licensed environmental professional. If the results indicate the potential for significant vapor intrusion into the building, project design shall include vapor controls or source removal as appropriate in accordance with regulatory agency requirements.

Policy S-5.5: Transportation of Hazardous Materials. Enforce Federal, State and Local requirements and standards regarding the transportation of hazardous materials. As appropriate, support legislation that strengthens these requirements.

Program S-5.5A: Safe Transport of Hazardous Materials. Support California Highway Patrol's efforts to ensure the safe transport of hazardous materials.

Policy S-6.1: Disaster Preparedness Planning. Conduct disaster prevention and preparedness planning in cooperation with other public agencies and public interest organizations.

Program S-6.1A: Mutual Aid Agreements. Continue, and where feasible expand, mutual aid agreements that augment public safety personnel in times of emergency.

Program S-6.1B: Standardized Emergency Management System (SEMS). Maintain a SEMS-based emergency plan that provides direction and identifies responsibilities after a disaster. Continue to train all City employees and officials in SEMS procedures.

Program S-6.1C: Emergency Preparedness Plan. Update and publicize the City's emergency preparedness plan in conformance with State guidelines, including information on evacuation routes and shelter locations. The City's Emergency Operations Center Handbook also should be updated.

Program S-6.1D: Urban Search and Rescue Techniques. Continue to ensure that Urban Search and Rescue techniques remain current. Provide opportunities for trained volunteers to participate as appropriate.

Policy S-6.3: Improving Evacuation Capacity. Improve local evacuation capacity by identifying and improving escape routes for areas with unique hazards or at-risk populations and identifying safe assembly locations for evacuees.

Program S-6.3A: Evacuation-Related Capital Projects. Identify key capital improvements needed to facilitate the orderly evacuation of at-risk areas and the ability of designated assembly points to handle evacuees.

Policy S-6.5: Post-Disaster Recovery Planning. Incorporate post-disaster recovery planning in the City's emergency management programs. Recovery planning should include measures to mitigate the potential for further damage.

Program S-6.5A: Essential Services Following Disasters. Make provisions to continue essential emergency public services during and after natural disasters and other catastrophes.

Program S-6.5B: Employee Transportation. To ensure adequate safety personnel in an emergency, explore ways to transport first responders from outlying areas when damaged infrastructure prevents them from driving to San Rafael.

Program S-6.5C: Incentives for Disaster Response and Essential Worker Personnel. Support state legislation and City initiatives that would provide incentives for staff with roles in disaster response to live in San Rafael, so they may be readily available if a disaster should occur.

Program S-6.5D: Rapid Reconstruction Ordinances. Explore model ordinances and best practices to facilitate rapid reconstruction and recovery, including issues such as temporary housing and modular construction. Reconstruction should achieve code compliance, while advancing green building practices where feasible.

Policy CSI-3.2: Mitigating Development Impacts. Engage the Police and Fire Departments in the review of proposed development and building applications to ensure that public health and safety, fire prevention, and emergency access and response times meet current industry standards.

Program CSI-3.2B: Emergency Response Time. Use the development review process to identify appropriate measures to reduce fire hazards and ensure emergency response capacity that is consistent with National Fire Protection Association standards.

Appendix F of the City's General Plan outlines geotechnical review requirements for development projects and also requires preparation of a preliminary hazardous materials evaluation for development projects located on artificial fill or on land which has been used by businesses. If the preliminary evaluation identifies evidence of hazardous materials, a Hazardous Waste Investigation Report would be required. The Hazardous Waste Investigation should include the following:

- Installation of ground water and/or vadose zone monitoring wells.
- Laboratory analysis of fills, unconsolidated deposits, water samples and/or gas samples for hazardous waste contamination.
- Periodic monitoring of gases and/or water samples.
- Preparation of a written report which includes the following as judged necessary by the geotechnical consultant:
 - a) Chemical analysis results of soil, ground water, and/or gas samples (Including values for normal or allowable ranges.)

- b) Boring logs with a description of subsurface materials.
- c) Subsurface permeability test results.
- d) Potentiometric map of ground water in the site vicinity.
- e) A map showing the concentrations, lateral extent, and thickness of the contamination zone if ground contamination exists.
- f) A discussion about water supplies that may be affected by contaminated sites.
- g) Recommended mitigation measures for contaminated sites.
- h) Suitability assessment of existing or proposed waste dump sites.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Supplemental EIR Analysis Scope and Pertinent Changes

The project would include improvements in an area of the SRHS campus that has groundwater contamination issues, and new information regarding known and potential soil and groundwater contamination and hazardous building materials has been generated since the 2017 EIR was prepared. Therefore, supplemental analysis of the potential impacts of the project related to hazards and hazardous materials is warranted and presented below.

Significance Criteria

Significance Criteria from 2017 EIR

The 2017 EIR indicated that, based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant effect on hazards and hazardous materials if it would:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school;
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- e) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan;
- f) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;

- g) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area; or
- h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires.

Changes in Significance Criteria Since 2017 EIR³

Per the current CEQA Guidelines, significance criterion g) above has been removed and significance criteria (f) and (h) have been revised as follows:

- f) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area;
- h) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Summary of Impacts and Mitigation Measures from 2017 EIR

Areas of No Impact from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would have no impact in relation to the following significance criteria:

- c) *Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances or Waste within 0.25 Mile of an Existing or Proposed School.* Public Resources Code Section 21151.4 requires consultation with the local school district if a proposed project would be reasonably anticipated to emit hazardous air emissions or handle extremely hazardous substances within 0.25 mile of a school. The 2017 EIR indicated that the Master Facilities Long-Range Plan does not include any components that would result in significant hazardous emissions or handle significant quantities hazardous or acutely hazardous materials, substances, or waste.
- e) *Impair Implementation of, or Physically Interfere With, an Adopted Emergency Response Plan or Emergency Evacuation Plan.* The Master Facilities Long-Range Plan includes development within the existing SRHS campus, and no components would restrict external vehicular or pedestrian traffic. Vehicular access within the SRHS campus would be improved through the addition of a new driveway access point on 3rd Street. The 2017 EIR indicated that there would be no potential impairment or interference with emergency response or evacuation plans.
- f, g) *Result in an Aviation Safety Hazard Related to a Public Airport, Private Use Airport, or Private Airstrip.* San Rafael Airport is located approximately 3 miles to the north of the SRHS campus and a private heliport is located approximately 2 miles to the southeast. The SRHS campus is not located within an airport use plan, or near a public airport, public use airport, or private

³ In , significance criteria for wildfire impacts were added to Appendix G of the CEQA Guidelines for projects located in or near state responsibility areas or lands classified as very high fire hazard severity zones. As discussed above, such criteria are not applicable to the proposed project as it is not located in such an area or zone. However, wildfire criteria (a) and (d) are addressed in this chapter under hazards criteria (f) and (g), respectively. Likewise, when the proposed project is evaluated under wildfire criteria (b) and (c), the project would have no impact in relation to these criteria because the project does not require the installation of infrastructure that would exacerbate fire risk, or otherwise involve factors that would exacerbate fire risk.

airstrip, and thus would not result in a safety hazard for people residing or working in the project area.

- h) *Expose People or Structures to Wildland Fire Hazards.* The 2017 EIR indicated that the SRHS campus was not located in a wildland fire hazard area.

Less-than-Significant Impacts from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would result in less-than-significant impacts related to the routine transport, use, or disposal of hazardous materials because crumb rubber infill material would not be used in the new field for the Stadium Project, and compliance with existing hazardous materials programs administered by Marin County CUPA is required at the SRHS campus. The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would result in less-than-significant impacts related to being located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, because the SRHS campus is not located on any hazardous materials site lists or databases. The 2017 EIR indicated that an adjoining site, the San Rafael Schools Maintenance Facility, is on the RWQCB Leaking UST Program database due to releases from a former gasoline UST that have affected soil and groundwater quality; and although the San Rafael School Maintenance Facility property has a 38 Union Street address, it is located on Assessor’s Parcel Number (APN) 14-101-09, the same legal parcel as the SRHS campus. The 2017 EIR indicated that because none of the development under the Master Facilities Long-Range Plan, including the Stadium Project, would be located near the area of affected groundwater and groundwater would not be used by the high school, the Master Facilities Long-Range Plan would not be affected by this hazardous materials site.

Potentially Significant Impacts and Mitigation Measures from 2017 EIR

The table below summarizes potentially significant impacts and mitigation measures identified in the 2017 EIR.

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
Hazards and Hazardous Materials			
<u>HAZARDS-1:</u> Development of the Master Facilities Long-Range Plan could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions, as demolition of existing structures could expose students and other members of the general public to hazardous materials related to building materials.	PS	<u>HAZARDS-1:</u> The San Rafael City Schools shall comply with provisions of the Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup Program for development under the Master Facilities Long-Range Plan. This compliance shall include evaluation of potential hazards related to building materials in accordance with DTSC’s Preliminary Endangerment Assessment Guidance Manual (Guidance Manual) and DTSC’s Interim Guidance for Evaluation of School Sites With Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers (Interim Guidance). This compliance shall include an assessment of the potential for lighting fixtures and caulking in buildings constructed prior to 1977 to contain polychlorinated biphenyls (PCBs), and the abatement of any	LTS

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
HAZARDS-2: Development of the Stadium Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions, as demolition of existing structures has the potential to expose students and other members of the general public to hazardous materials related to building materials.	PS	materials containing PCBs above risk-based thresholds in the Guidance Manual. This compliance shall also include soil sampling in accordance with methodology in the Interim Guidance. Any contaminants identified above concentrations in the Data Interpretation and Assessment section of the Interim Guidance shall require remedial action under DTSC oversight. HAZARDS-2: Implement Mitigation Measure HAZARDS-1.	LTS

Cumulative Impacts from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would not result in or contribute to any significant cumulative hazards and hazardous materials impacts. The 2017 EIR indicated that hazards and hazardous materials impacts are generally site-specific and/or have limited mobility, and therefore cumulatively considerable effects beyond the SRHS campus would not be expected. Development of properties near the SRHS campus could increase the potential exposure of persons to hazardous materials, including hazardous building materials such as those potentially present at the SRHS campus; however, the use, storage, and disposal of hazardous materials are regulated by federal, state, and local laws and regulations. Implementation of Mitigation Measure HAZARDS-1 would ensure that lead, termiticides, and PCBs in soils near Master Facilities Long-Range Plan development are abated properly in accordance with applicable guidance, and as a result any contribution to cumulative hazardous materials risks would not be significant. For these reasons, the Master Facilities Long-Range Plan would not result in or contribute to any significant cumulative hazards or hazardous materials impacts.

Impacts of New Capital Improvements Projects

Areas of No Impact

The following significance criterion would not apply to the project and is therefore excluded from further discussion in this impact analysis:

- f) *Aviation Hazards/Noise*. As noted in the 2017 EIR, the SRHS campus is not located within an airport use plan, or near a public airport, public use airport, or private airstrip, and therefore the project would not result in aviation safety hazards or exposure to excessive aviation noise.

Less-than-Significant Impacts

Routine Transport, Use, and Disposal of Hazardous Materials

The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

The project would have the same less-than-significant impacts related to the routine transportation, use, and disposal of hazardous materials identified for the Master Facilities Long-Range Plan, including the Stadium Project, in the 2017 EIR.

Emergency Response and Evacuation Plans

The project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

The project would not impair or interfere with implementation of the MCM LHMP (OES, 2018). The project includes development within the existing SRHS campus and would not permanently alter external vehicular or pedestrian routes. The City's General Plan contains many policies and programs related to local planning and development decisions to ensure compliance with existing emergency response and evacuation plans, as discussed under *Regulatory Framework* above. Implementation of the City's General Plan policies and programs would ensure that the City maintains an effective emergency response program that accounts for development of the project.

Construction of the project could require temporary closure of traffic lanes on roadways adjacent to the project site during construction activities (e.g., for utility connections). This could impede the implementation of emergency response and evacuation plans; however, any construction activities that would result in temporary roadway closures would be required to obtain traffic permits from the City and preparation of a traffic control plan, which would maintain emergency response and evacuation access through appropriate traffic control measures and detours.

Based on the above considerations, potential impacts of the project related to impairing or interfering with the emergency response or evacuation plans would be less than significant.

Wildfire Hazards

The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

The SRHS campus is not located within or near a Very High Fire Hazard Severity Zone mapped by CalFIRE (CalFIRE, 2008 and 2023) or within the Wildland Urban Interface area mapped by the City of San Rafael; however, areas adjacent to the north of the eastern portion of the SRHS campus are located within the Wildland Urban Interface (City of San Rafael, 2023). The design and construction of the project would be reviewed and inspected by DSA to ensure compliance with the requirements of the California Fire Code. Compliance with the California Fire Code would ensure that the project would not increase the likelihood of starting fires during construction and would be constructed according to current fire and life safety standards. Therefore, potential impacts related to wildland fires would be less than significant.

Potentially Significant Impacts and Mitigation Measures

Impact S-HAZARDS-1: The project could create a significant hazard to the public or the environment through the accidental release of hazardous materials. (PS)

This impact and the recommended mitigation measure below are similar to Impact HAZARDS-1 and Mitigation Measure HAZARDS-1 in the 2017 EIR, but revised so that they specifically address the project.

As discussed in the 2017 EIR and under *Environmental Setting* above, based on the age of buildings on the SRHS campus, the buildings that would be demolished or renovated as part of the project and surrounding/underlying soils could contain asbestos-containing materials, lead-based paint, chlordane (an organochlorine pesticide used for termite treatment), and/or PCBs from electrical equipment and/or caulking. These contaminants may have been released to soils near building foundations in the past or may be released during building demolition or renovation.

As discussed under *Environmental Setting* above, asbestos-containing materials and lead paint were identified and abated from former buildings that were demolished on the SRHS campus after preparation of the 2017 EIR. BAAQMD Regulation 11-2 requires that prior to commencement of any demolition or renovation, the owner or operator must thoroughly survey the affected structure or portion thereof for the presence of ACMs. The survey must be performed by a person who is certified by the Division of Occupational Safety and Health, and who has taken and passed an EPA-approved Building Inspector course and who conforms to the procedures outlined in the course. The survey must include sampling and analysis of asbestos to report the asbestos content of all suspected ACMs. This survey must be made available, upon request by the Air Pollution Control Officer, prior to the commencement of any regulated ACM removal or any demolition. If ACMs are identified, the disturbance/removal and management of ACMs under the project must be performed in accordance with BAAQMD Regulations under Rule 11-2, which would ensure that asbestos would not be released into the environment.

The stabilization and/or removal of lead paint prior to demolition or renovation of structures under the project would be required in accordance with applicable laws and regulations, including but not limited to Cal/OSHA's Construction Lead Standard, Title 8 CCR Section 1532.1, and Department of Health Services (DHS) regulation 17 CCR Sections 35001 through 36100, as may be amended, which would ensure that lead paint would not be released into the environment.

While the testing and abatement of asbestos and lead paint prior to building demolition or renovation are addressed by existing regulations discussed above, other hazardous materials (e.g., PCBs) could remain on buildings; and contamination from pesticides, lead, asbestos, and PCBs could be present in soil, which could pose a health risk to workers and students at the SRHS campus.

Although manufacturing of PCBs has been banned in the United States since 1979, they may still be found in older electrical equipment and other building materials such as light ballasts and caulking. PCBs or PCBs-contaminated items require proper off-site transport and disposal at a facility that can accept such wastes, in accordance with the Toxic Substances Control Act (TSCA) and other federal and state regulations. PCBs in manufactured materials such as caulking may also move directly into adjoining materials, particularly porous materials such as wood, concrete,

and other types of masonry (EPA, 2015a). The EPA has indicated that there was potential widespread use of PCB-containing building materials in buildings built or renovated between about 1950 and 1979. Prior to removal, EPA recommends PCB testing of caulk and other building materials that are going to be removed to determine what protections are needed during removal and to determine proper disposal requirements (EPA, 2015b).

Electrical and lighting equipment that may contain hazardous materials such as mercury and PCBs can be readily identified and, therefore, would be appropriately managed/disposed of in accordance with applicable regulations including TSCA, DTSC hazardous waste rules, and other federal and state regulations; however, PCB-containing building materials such as caulks/sealants, rubber window seals/gaskets, specialized paints, mastics, and other adhesives cannot be readily identified and require testing to evaluate whether these materials contain PCBs. There are no existing regulations that require testing to identify PCBs in building materials prior to demolition or renovation activities in the City of San Rafael. If testing for PCBs in building materials is not performed prior to demolition or renovation activities, the improper handling of potential PCB-containing materials could result in the release of PCBs into the environment. This would be a potentially significant impact.

As discussed under *Environmental Setting* above, soil sampling and a Phase I ESA performed at the SRHS campus after preparation of the 2017 EIR identified soil contamination from lead and asbestos near former buildings that have since been demolished and replaced, and the potential for soil and soil vapor contamination from petroleum hydrocarbons and solvents was identified for the former auto shop and metal shop buildings (Millennium, 2017b). As discussed under *Environmental Setting* above, Sanborn fire insurance maps dated between 1950 and 1970 presented in Appendix B of the Phase I ESA (Millennium, 2017b) indicate that the SRHS campus had fuel oil; therefore, the potential for fuel oil contamination exists at the SRHS campus if releases of fuel oil occurred from storage tanks or associated piping.

The project would include replacement of the existing softball field in the southwest portion of the SRHS campus and the existing baseball field in the east portion of the campus with an artificial turf softball field and baseball field, respectively. As stated in *Chapter 3, Project Description*, the artificial turf material would not contain crumb rubber; therefore, potential hazards associated with crumb rubber would not be of concern. As discussed above under *Changes in Regulatory Framework Since 2017 EIR*, the State of California has acknowledged that artificial turf commonly contains PFAS that can present risks to human health and the environment, and the purchase or installation of artificial turf containing regulated PFAS will be banned for schools beginning on January 1, 2026. As stated in *Chapter 3, Project Description*, the installation of artificial turf at the athletic fields would not occur until 2027 to 2028; therefore, required compliance with existing regulations would ensure that the artificial turf on the athletic fields would not contain PFAS. Smaller areas of artificial turf are proposed to be installed in areas at the New Aquatic Center, which is proposed to be constructed prior to 2026; therefore, artificial turf containing PFAS could potentially be used at the New Aquatic Center. Use of artificial turf containing PFAS could result in exposure of the public and environment to PFAS, which would be a potentially significant impact.

Construction activities in the southwest portion of the SRHS campus could encounter contaminated soil and groundwater from the former Leaking UST at the San Rafael City Schools Maintenance Facility. The Leaking UST has affected soil and groundwater quality beneath the western portion of the SRHS campus, as discussed under *Environmental Setting* above.

Potential water quality impacts related to dewatering of contaminated groundwater, migration of contaminated groundwater, and installation of artificial turf subsurface drainage systems through areas of contaminated groundwater are identified and addressed in *Section 4.7, Hydrology and Water Quality*, of this Supplemental EIR (SEIR). As discussed in *Section 4.7*, Mitigation Measure S-HYDRO-1a requires further investigation of the extent of contamination extending beneath the SRHS campus, appropriate management of soil and groundwater, and project design modifications, if necessary, under the oversight of the RWQCB, as applicable. This measure would ensure that potential impacts on water quality would be less than significant.

The disturbance of contaminated soil or groundwater during construction activities could result in impacts on construction workers, the public, and the environment as dust or vapors containing hazardous materials can be released into the environment, movement of contaminated soil can spread contamination to new areas, and construction of landscaping (and in particular stormwater treatment/infiltration features) over areas of contaminated soil or groundwater could increase the leaching of contaminants from soil into groundwater or the migration of contaminated groundwater. Construction of buildings and utilities in areas with elevated VOCs in soil vapor could create health hazards for future occupants of the project site due to vapor intrusion of VOCs to indoor air. Therefore, the potential release of subsurface hazardous materials into the environment during construction and operation of the project would be a potentially significant impact.

Implementation of the following mitigation measure would address the potential for PCBs to be released from building materials during demolition and renovation activities, PFAS to be released from artificial turf, and the potential for the release of subsurface contaminated soil or groundwater into the environment during construction and operation of the project and would reduce the potential impacts to a less-than-significant level.

***Mitigation Measure S-HAZARDS-1:** To the extent practical and feasible, the District shall ensure that all artificial turf purchased and installed at the San Rafael High School campus is manufactured without perfluoroalkyl and polyfluoroalkyl substances (PFAS). The District shall hire a qualified environmental professional to perform a comprehensive Hazardous Building Materials Survey (HBMS) for the structures to be demolished or renovated under the project. The HBMS shall document the presence or lack thereof of asbestos-containing materials, lead paint, polychlorinated biphenyls (PCBs)-containing equipment and materials, and any other hazardous building materials. The HBMS shall include abatement specifications for the stabilization and/or removal of the identified hazardous building materials in accordance with all applicable laws and regulations. The District shall implement the abatement specifications and shall submit evidence of completion of abatement activities to applicable regulatory agencies, as necessary.*

The District shall hire a qualified environmental professional to perform an investigation of potential soil and groundwater contamination in accordance with the Department of Toxic Substances Control's (DTSC's) Preliminary Endangerment Assessment Guidance Manual and DTSC's Interim Guidance for Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers. If any contaminants are identified in soil, soil vapor, or groundwater at concentrations above applicable regulatory thresholds (e.g., the most current DTSC-modified Screening Levels or San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels

for residential scenarios), the contamination shall be remediated to reduce contaminant levels to be below the applicable regulatory thresholds or a site-specific risk assessment shall be performed to further evaluate whether the contamination poses an unacceptable risk to human health or the environment. If the site-specific risk assessment concludes that the contamination poses an unacceptable risk to human health or the environment, remediation of the contamination shall be performed to reduce contaminant levels to be below the applicable regulatory thresholds, to the extent feasible. If residual contamination exceeding applicable regulatory thresholds remains on the project site, appropriate engineering controls (e.g., capping of soil or installation of vapor mitigation systems) shall be recommended by the qualified environmental professional and implemented by the District to ensure that occupants of the project site would not be exposed to contaminants at levels exceeding applicable regulatory thresholds. The investigation activities/results, risk assessment (if performed), remediation plans, and implementation of remedial actions (if necessary) shall be reviewed/overseen by a third-party qualified environmental professional hired by the District or by appropriate regulatory agencies if required by applicable laws and regulations. To the extent feasible, the District shall implement any recommendations/requirements for investigation/remediation as recommended by the third-party qualified environmental professional or requested by a regulatory agency.

The District shall require that any soil or other fill material that would be imported to the project shall be sampled and analyzed to ensure that it is free of contamination prior to being imported to the project site. The sampling and analysis shall be performed in accordance with DTSC's Information Advisory Clean Imported Fill Material. The District shall review the fill material testing results, compare them to applicable regulatory thresholds (e.g., the most current DTSC-modified Screening Levels or San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels for residential scenarios), and determine whether the fill material is suitable for use at the project site or whether additional testing or an alternative source of fill material is required. (LTS)

Impact S-HAZARDS-2: The project would handle hazardous materials and waste within 0.25 mile of an existing school. (PS)

This impact and the recommended mitigation measure below are new (i.e., were not identified in the 2017 EIR).

As discussed under *Environmental Setting* and in Impact S-HAZARDS-1 above, soil and groundwater contamination from hazardous materials has been identified at the SRHS campus, including petroleum-related contamination from a former leaking UST and lead and asbestos contamination in shallow soil; and the potential for previously unidentified subsurface contamination has also been identified based on historical uses of the SRHS campus. Hazardous building materials are also likely to be present in buildings that would be demolished or renovated under the project.

As discussed in Impact S-HAZARDS-1 above, the disturbance of soil or groundwater contamination or hazardous building materials could result in the release of hazardous materials into the environment. Such hazardous materials releases could affect receptors at schools located within a 0.25 mile of the project, including the SRHS campus and the Canal Child Care Center (a

pre-school and day care) located adjacent to the northwest corner of the SRHS campus at 215 Mission Avenue.

Implementation of the following mitigation measure would address the potential for releases of hazardous materials to affect schools within 0.25 mile of the project and would reduce the potential impacts to a less-than-significant level.

Mitigation Measure S-HAZARDS-2: Implement Mitigation Measures S-HYDRO-1a and S-HAZARDS-1. (LTS)

Impact S-HAZARDS-3: The project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment. (PS)

This impact and the recommended mitigation measure below are new, i.e., were not identified in the 2017 EIR.

As discussed above, the San Rafael City Schools Maintenance Facility, located adjacent to the San Rafael High School campus boundary, is listed in the SWRCB's Leaking UST database due to releases from a former gasoline UST that have affected soil and groundwater quality; and this Leaking UST site is on the same legal parcel as the SRHS campus (albeit at a separate address) and has affected soil and groundwater quality beneath the western portion of the SRHS campus. Sites that are in the Leaking UST database are included on the list of hazardous materials release sites compiled pursuant to Government Code Section 65962.5 (California Environmental Protection Agency, 2023).

The project would include replacement of the existing softball field in the southwest portion of the SRHS campus with an artificial turf softball field, and construction activities in this area could disturb contaminated soil and groundwater from the Leaking UST site and release hazardous materials into the environment. Implementation of the following mitigation measure would address the potential for the release of subsurface hazardous materials into the environment during construction and operation of the project and would reduce the potential impacts to a less-than-significant level.

Mitigation Measure S-HAZARDS-3: Implement Mitigation Measures S-HYDRO-1a and S-HAZARDS-1. (LTS)

Cumulative Impacts

The new Capital Improvements Project would have similar cumulative impacts identified for the Master Facilities Long-Range Plan, including the Stadium Project, in the 2017 EIR. As discussed in the 2017 EIR, hazards and hazardous materials impacts are generally site-specific and/or have limited mobility, and therefore cumulatively considerable effects beyond the SRHS campus would not be expected. Implementation of Mitigation Measure S-HAZARDS-1 would ensure that the project would use artificial turf that is not manufactured with PFAS and therefore would not contribute to potential cumulative impacts related to PFAS exposure. Potential cumulative impacts on water quality related to hazardous materials are identified and addressed in *Section 4.7, Hydrology and Water Quality*, of this SEIR. As discussed in *Section 4.7*, implementation of

Mitigation Measures S-HYDRO-1a and S-HYDRO-4 would ensure that the project would not have a cumulatively considerable contribution to water quality impacts related to release of hazardous materials; therefore, the cumulative impact would be less than significant.

Development of properties near the SRHS campus could increase the potential exposure of persons to hazardous materials, including hazardous building materials such as those potentially present at the SRHS campus; however, the use, storage, and disposal of hazardous materials are regulated by federal, state, and local laws and regulations. Implementation of Mitigation Measures S-HYDRO-1a and S-HAZARDS-1 would ensure that potential soil and groundwater contamination on the SRHS campus would be investigated and remediated, as necessary, and hazardous building materials would be abated prior to demolition or renovation. As a result, any contribution to cumulative hazardous materials risks would not be cumulatively considerable; therefore, the cumulative impact would be less than significant.

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4.7 HYDROLOGY AND WATER QUALITY

INTRODUCTION

This section describes the hydrology and water quality setting of the San Rafael High School (SRHS) campus (project site), including conditions related to climate, drainage, surface waters, groundwater resources, and flooding conditions. The section also evaluates potential environmental impacts of the project related to hydrology and water quality, identifies project-level and cumulative environmental impacts, and explains how application of existing permits, regulatory requirements, and mitigation measures would reduce or avoid the identified impacts.

ENVIRONMENTAL SETTING

Summary of Environmental Setting from 2017 EIR

Conditions related to hydrology and water quality at and near the SRHS campus at the time the 2017 EIR was prepared are described below.

Climate

The SRHS campus and vicinity have a mild Mediterranean climate with long, dry, warm summers and cooler, rainy winters. The vast majority of precipitation occurs between October and May. Based on historical weather data from 1894 through 2016, the mean annual precipitation in San Rafael is 35.6 inches. The mean daily high temperature is around 70 degrees Fahrenheit (°F) with the mean daily low temperature around 48 °F (Western Regional Climate Center, 2016).

Surface Waters

The SRHS campus is located in the San Francisco Bay Central Hydrologic Planning Area, as defined in the San Francisco Bay Basin Water Quality Control Plan (Basin Plan) prepared by the San Francisco Bay Regional Water Quality Control Board (RWQCB) (RWQCB, 2015). The nearest surface water body to the SRHS campus is San Rafael Creek, located between 100 and 450 feet south of the campus. The 2017 EIR (San Rafael City Schools, 2017) indicated that San Rafael Creek drains to San Pablo Bay approximately 1 mile east of the SRHS campus.

Groundwater

The SRHS campus is not located within a mapped groundwater basin, and therefore is assumed not to be underlain by a substantial groundwater aquifer (RWQCB, 2015). Previous environmental and geotechnical investigations indicate that shallow groundwater is present at the project site within the fill material that overlies Bay Mud to a depth of around 8 feet below the ground surface (bgs). These investigations have identified groundwater at the project site at depths ranging from 1.7 to 6.0 feet bgs (Arcadis, 2015; Miller Pacific Engineering Group, 2015). This shallow groundwater would be expected to flow to the south, toward San Rafael Creek, based on surface topography. However, the measured shallow groundwater flow direction has ranged from

northwest to east during monitoring at the San Rafael City Schools Maintenance site near the southwestern corner of the SRHS campus (Arcadis, 2016).

Flood Hazards

Mapped Flood Hazard Zones

The entire SRHS campus is located within flood hazard zones mapped by the Federal Emergency Management Agency (FEMA). Most of the campus has been mapped as having a 0.2 percent chance of a flood event per year, referred to as the 500-year flood zone, as flooding would be expected to occur every 500 years. Some areas of the SRHS campus, including a parking lot along 3rd Street and portions of the athletic fields, have been mapped as having a 1 percent chance of a flood event per year, referred to as the 100-year flood zone. The 2017 EIR indicated that the base flood elevation has been determined to be 10 feet above mean sea level; however, the base flood elevation of 10 feet is actually referenced to the North American Vertical Datum of 1988 (NAVD88) (FEMA, 2016); portions of the campus with an elevation below 10 feet NAVD88 therefore have the potential to be inundated during the 100-year flood event.

Localized Flooding

Localized flooding has been reported in the northeastern portion of the SRHS campus, near the gymnasium building (see Figure 3-2). A drainage channel between two residences at 124 and 136 Mission Avenue, immediately north of the campus, discharges stormwater runoff to this part of the campus, which can result in ponding of water during severe storms. Approximately 7 years prior to preparation of the 2017 EIR, stormwater entered the SRHS gymnasium through the gym doors. As a precautionary measure, SRHS maintenance places sandbags near the gym doors prior to winter storm events (Zaich, 2016).

Sea Level Rise

A predicted rise in sea levels will exacerbate coastal flooding hazards in the SRHS campus vicinity over the next century. The San Francisco Bay Plan from the San Francisco Bay Conservation and Development Commission (BCDC) anticipates a rise in Bay waters of 16 inches by 2050 and 55 inches by 2100. Mapping by BCDC has indicated that flooding hazards at the SRHS campus could increase due to sea level rises of these magnitudes (BCDC, 2011). This mapping is based on elevation and existing flood hazard zone data and does not predict specific flooding issues at the project site or the ability of federal, state, and local governments to address higher sea levels. However, it does indicate that additional measures may be required in the SRHS campus vicinity to address flooding hazards in the future.

In January 2014, the City of San Rafael prepared the “Climate Adaptation – Sea Level Rise” white paper to evaluate the challenges presented by sea level rise and develop a strategy to address this hazard through monitoring, vulnerability assessment, and coordination with other agencies (City of San Rafael, 2014). As noted in *Regulatory Framework*, below, recommendations of this white paper were incorporated into San Rafael General Plan policies.

Dam Failure Inundation Areas

The SRHS campus is not located in a mapped dam failure inundation area (Clearwater Hydrology, 2005).

Seiche, Tsunami, and Mudflows

A seiche is the oscillation of a body of water, occurring most frequently in enclosed or semi-enclosed basins such as lakes, bays, or harbors. In an otherwise still body of water, a seiche can be triggered by strong winds, changes in atmospheric pressure, earthquakes, tsunamis, or tides. Seiches are not considered a hazard in San Francisco Bay because of physical characteristics of the Bay, which makes it unlikely that oscillations of the magnitude that would result in inundation hazards would occur (Borrero, 2006).

Tsunamis are long-period water waves caused by underwater seismic events, volcanic eruptions, or undersea landslides. Tsunamis entering San Francisco Bay through the relatively narrow Golden Gate would tend to dissipate as the energy of the wave spreads out as the Bay becomes wider and shallower (Borrero, 2006). The California Emergency Management Agency has produced tsunami inundation maps to aid emergency response planning for areas along the state's coastline, including San Rafael. The 2009 Tsunami Inundation Map for the San Rafael and San Quentin Quadrangle designated the area adjacent to San Rafael Creek, including the southern portion of the SRHS campus, as part of the tsunami inundation area (CalEMA, 2009). Evaluation of tsunami hazards as part of the San Rafael General Plan update determined that the predicted flooding from a 100-year tsunami would affect only low-lying portions of San Rafael (City of San Rafael, 2004). The 2017 EIR indicated that because the entire SRHS campus is at an elevation of 10 to 74 feet NAVD88 (USGS, 2015), no inundation from the 100-year tsunami event would be anticipated.

The 2017 EIR indicated that mudflows are a type of landslide, which were discussed in the Geology and Soils section of the 2017 EIR, and that no significant landslide hazards were identified for the SRHS campus.

Water Quality

San Rafael Creek, along with 36 other Bay Area urban creeks, were designated as impaired water bodies under the federal Clean Water Act Section 303(d) due to diazinon and other pesticides. A Water Quality Attainment Strategy, including establishment of Total Maximum Daily Loads (TMDLs) for contaminants, was established for these creeks (RWQCB, 2005).

San Pablo Bay was also listed as an impaired water body. In addition to pesticides, San Pablo Bay was affected by dioxins and furans, polychlorinated biphenyls (PCBs), mercury, selenium, and invasive species (EPA, 2012). A TMDL was established for mercury and was in preparation for other causes of impairment (EPA, 2012).

Groundwater near a former gasoline underground storage tank (UST) at the San Rafael City Schools Maintenance Facility, at 38 Union Street near the southwestern corner of the SRHS campus, has been affected by historical releases of gasoline. The 38 Union Street site is located on Assessor's Parcel Number 14-101-09, the same legal parcel as the SRHS campus, but is a

separate and distinct facility from the high school campus, separated by fencing. The extent of the contamination and the cleanup activities at this site were discussed in the Hazards and Hazardous Materials section of the 2017 EIR.

Changes in Environmental Setting Since 2017 EIR

New information regarding hydrology and water quality conditions at and near the SRHS campus is presented below.

Surface Waters

The 2017 EIR indicated that San Rafael Creek drains to San Pablo Bay approximately 1 mile east of the SRHS campus; however, San Rafael Creek actually drains to Central San Francisco Bay near the mouth of San Pablo Bay (RWQCB, 2023).

Water Supply

The City of San Rafael, including the SRHS campus, receives its municipal water supply from the Marin Municipal Water District (MMWD). Most of MMWD's water supply comes from a network of seven local, rain-fed reservoirs. This supply is supplemented with water from Sonoma Water, which provides surface water from the Russian River and to a lesser extent groundwater from the Santa Rosa Plain Subbasin of the Santa Rosa Valley Basin. Groundwater is not currently used or planned to be used as a water supply source directly by MMWD. Groundwater is used primarily by Sonoma Water as a drought period supply, or when Russian River supplies are otherwise constrained. Groundwater is projected to make up 3 percent of Sonoma Water's supplies in normal year conditions through 2045. It cannot be discerned what specific amount of Sonoma Water's water supply provided to MMWD consists of groundwater; however, it is assumed to be proportionate to the overall percentage of groundwater used within Sonoma Water's system. MMWD does not currently use, nor does it plan to use, water for saline water intrusion barriers, groundwater recharge, or conjunctive use (EKI Environment & Water, Inc., 2021).

Groundwater

There are three groundwater monitoring wells located within the southwest portion of the western athletic field of the SRHS campus that are associated with the investigation of groundwater contamination being performed for a leaking gasoline UST case at the San Rafael City Schools Maintenance Facility adjacent to the west of the SRHS campus. Recent groundwater monitoring activities have revealed that during the rainy season shallow groundwater levels can be at the ground surface or just below it (approximately 1 foot deep or less) in the southwest portion of the western athletic field of the SRHS campus (Antea Group, 2023). Groundwater flow direction in this area has historically ranged from east-northeast to east-southeast toward the SRHS campus and appears to be tidally influenced (Antea Group, 2022).

Flood Hazards

Sea Level Rise

The global sea level (including in San Francisco Bay) is rising and is expected to continue to rise even with existing efforts to mitigate global warming through reduction of greenhouse gas (GHG) emissions (BCDC, 2011). In 2018, the California Ocean Protection Council (OPC) released an update to the State of California Sea-Level Rise Guidance (OPC, 2018). The Sea-Level Rise Guidance presents the following likely ranges (66 percent probability) of sea level rise for the area of San Francisco:

- 0.3 to 0.5 feet by 2030.
- 0.6 to 1.1 feet by 2050.
- 1.0 to 2.4 feet by 2100 (with low future GHG emissions).
- 1.6 to 3.4 feet by 2100 (with high future GHG emissions).

The Sea-Level Rise Guidance also presents lower probability sea level rise projections that could be considered for situations with medium to high risk aversion or extreme risk aversion. For San Francisco, the medium to high risk aversion projection (0.5 percent probability) is 5.7 feet (low future emissions) to 6.9 feet (high future emissions) by 2100, and the extreme risk aversion projection is 10.2 feet by 2100.

BCDC has completed sea level rise mapping for the San Francisco Bay Area (BCDC, 2023). The mapping illustrates areas and levels of flooding anticipated based on estimated sea level rise, topographic features, King Tide events,¹ and storm surge events.² The mapping illustrates sea level rise above the Mean Higher High Water (MHHW)³ tide elevation, which is approximately 6.08 feet NAVD 88 in the vicinity of the project site (AECOM, 2016). The mapping indicates that 1 foot of sea level rise combined with a 5-year storm surge would result in minor flooding of the SRHS campus, which would include inundation of the southeast portion of the western athletic field and the western portion of the southern parking lot. The mapping indicates that 1 foot of sea level rise combined with a 50-year king tide or 2 feet of sea level rise combined with a 5-year storm surge would result in more extensive flooding of the SRHS campus, which would include inundation of much of the western athletic field, southern parking lot, and stadium areas. The mapping indicates that 2 feet of still water (i.e., no storm surge) sea level rise would not result in flooding of the SRHS campus, and 3 feet of still water sea level rise would result in minor flooding of the SRHS campus. The mapping indicates that 3 feet of sea level rise combined with a 2-year storm surge or 25-year king tide would result in more extensive flooding of the SRHS campus (BCDC, 2023).

¹ King Tides are exceptionally high tides that occur occasionally throughout the year and currently affect roads and properties throughout the San Francisco Bay area. As sea level rises, the extent of impact of the King Tides will increase.

² Storm surge events are storm-driven wind events producing wave surges that would travel across the Bay toward the shore and are driven by wind and atmospheric pressure conditions. This is different from the 100-year storm event flooding mapped by FEMA, which estimates flooding due to peak runoff from the surrounding watershed traveling downstream toward the San Francisco Bay. The BCDC sea level rise inundation estimates account for storm surge events but do not account for runoff that could be generated by precipitation events.

³ MHHW is the average of the higher of the two daily high-water elevations.

Tsunami

According to recent mapping prepared by the California Geologic Survey and the California Governor's Office of Emergency Services, the majority of the SRHS campus is located within a tsunami hazard area (California Geological Survey, 2022).

Water Quality

In addition to San Rafael Creek and San Pablo Bay, Central San Francisco Bay is listed as an impaired water body under the federal Clean Water Act Section 303(d). Central San Francisco Bay is impaired by several pollutants, including multiple pesticides (dichlorodiphenyltrichloroethane [DDT], chlordane, dieldrin), mercury, PCBs, dioxin and furan compounds, invasive species, trash, and selenium. TMDLs have been established for mercury, PCBs, and selenium in San Francisco Bay and these TMDLs also apply to San Pablo Bay (SWRCB, 2018a).

Groundwater monitoring has been performed for the leaking gasoline UST case at the San Rafael City Schools Maintenance Facility near the southwestern corner of the SRHS campus since the 2017 EIR was prepared. Groundwater monitoring results from 2020 through 2023 indicate that elevated concentrations of contaminants including total petroleum hydrocarbons as gasoline (TPHg), benzene, and methyl-tert-butyl-ether (MTBE) remain in groundwater near the western boundary of the SRHS campus (Antea Group, 2023). Groundwater flow direction in this area has historically ranged from east-northeast to east-southeast toward the SRHS campus and appears to be tidally influenced (Antea Group, 2022). There are three groundwater monitoring wells located on the SRHS campus that are located approximately 50 and 150 feet to the south and 250 feet to the southeast of the groundwater contamination source area where the most elevated contaminant concentrations have been detected at the San Rafael City Schools Maintenance Facility. The contaminant concentrations detected in the on-site monitoring wells have been substantially lower than in the monitoring wells closer to the groundwater contamination source area; however, the extent of groundwater contamination has not been well defined. Based on the predominantly eastward groundwater flow direction, groundwater contamination may extend to the east of the contamination source area and beneath the western athletic field of the SRHS campus in an area where groundwater quality has not been evaluated; therefore, the extent of groundwater contamination that may be present beneath the western athletic field of the SRHS campus has not been defined.

REGULATORY FRAMEWORK

Summary of Regulatory Framework from 2017 EIR

Federal and State

The federal Clean Water Act (CWA) is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. In general, the CWA prohibits discharges to surface waters unless specifically authorized by a permit. These permits are administered by federal and state agencies, including the U.S. Army Corps of Engineers, State Water Resources Control Board (SWRCB), and RWQCB.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 provides California legislative authority for the protection of water quality for the use and enjoyment of the people. The Act, which has been incorporated in Division 7 of the California Water Code, includes jurisdiction over streams, groundwater, isolated wetlands, and other bodies that are not under the federal jurisdiction of the CWA. The Act also authorizes the SWRCB and RWQCB to issue and enforce waste discharge requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permits, and other approvals.

Stormwater Discharge Requirements

Pursuant to Section 402 of the CWA and the California Porter-Cologne Water Quality Control Act, municipal stormwater discharges at the SRHS campus are regulated under the statewide NPDES General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit). Locally, the NPDES program is overseen by the RWQCB. Development projects in San Rafael are subject to compliance with requirements of the Small MS4 Permit issued in February 2013 by SWRCB Order 2013-0001-DWQ. The Marin County Stormwater Pollution Prevention Program (MCSTOPPP) assists cities, towns, and Marin County with coordination and consistency of approaches across the County in implementing the Small MS4 Permit requirements.

Section E.12 of the Small MS4 Permit addresses requirements for retention and treatment of stormwater generated by development projects. Section E.12 requires preparation of a Stormwater Control Plan (SCP) for regulated projects. The SCP must include measures to capture and treat runoff from impervious surfaces. The SCP must incorporate site design measures to reduce project site runoff, such as porous pavement, green roofs, or vegetated swales. The Bay Area Stormwater Management Agencies Association (BASMAA), which includes MCSTOPPP, has developed Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties (BASMAA, 2014) to assist in compliance with Section E.12.

Additional stormwater requirements apply to construction sites. The SWRCB adopted an NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009-DWQ, NPDES No. CAR000002) on September 2, 2009, as amended by Orders No. 2010-0014-DWQ and 2012-0006-DWQ. To obtain coverage under the Construction General Permit, a discharger must submit to the SWRCB, a Notice of Intent, a Storm Water Pollution Prevention Plan (SWPPP), and other documents required by Attachment B of the Construction General Permit.

Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as grubbing or excavation, that result in soil disturbances of at least 1 acre of total land area (or smaller sites that are part of a common plan of development or sale that disturbs more than 1 acre of land surface). A SWPPP must be prepared by a Qualified SWPPP Practitioner (QSP) that meets the certification requirements in the Construction General Permit. The purpose of the SWPPP is 1) to help identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges, and 2) to describe and ensure the implementation of best management practices (BMPs) to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity.

The Construction General Permit mandates certain requirements based on the risk level of the project (Level 1, Level 2, or Level 3), which is based on the risk of sediment discharge and the receiving water risk.

The SWPPP must also include a Construction Site Monitoring Program. The monitoring program includes, depending on the project risk level, visual observations of site discharges, water quality monitoring of site discharges (pH, turbidity, and non-visible pollutants, if applicable), and receiving water monitoring (pH, turbidity, suspended sediment concentration, and bioassessment).

Local

San Rafael Municipal Code

Section 9.30 of the San Rafael Municipal Code contains the City of San Rafael Urban Runoff Pollution Prevention Ordinance, which adopts requirements of the CWA, the Basin Plan, and the MS4 Permit (Section 9.30.050). BMPs are required for all construction within the city (Section 9.30.140). An erosion and sediment control plan is required for any construction subject to a grading permit or that may have the potential for significant erosion (Section 9.30.150). The sediment and erosion plan must follow the most recent version of the MCSTOPPP Construction Erosion and Sediment Control Plan Applicant Package. New development must comply with land development standards in the MS4 Permit, including submission and development of a SCP where required by the MS4 Permit or otherwise required by the City (Section 9.30.151).⁴

Section 18 of the San Rafael Municipal Code contains provisions for protection of flood hazard areas. It requires a development permit for construction within any flood hazard area (Section 18.40.010). Construction standards apply to all construction within flood hazard areas (Section 18.40.050) and are not permitted to unnaturally divert flood waters or increase flood hazards in other areas (Section 18.10.040). Residential buildings must be constructed so that the lowest floor is above the base flood elevation, taking into account predicted 30 years settlement. Non-residential construction must meet similar standards or be certified to be watertight with structural components capable of resisting pressures from floodwaters and buoyancy effects (Section 18.50.010).

San Rafael General Plan

The City of San Rafael has updated its general plan since the 2017 EIR was prepared. Therefore, the San Rafael General Plan discussion from the 2017 EIR is not relevant to the proposed Capital Improvements Project. See “Changes in Regulatory Framework Since 2017 EIR” below for discussion of relevant policies and programs from the updated San Rafael General Plan.

⁴ On October 23, 2023, San Rafael City Schools adopted Resolution No. 2324-17 which exempts the District from local land use controls. However, this exemption does not apply to stormwater requirements established by the state.

Changes in Regulatory Framework Since 2017 EIR

State

Division of the State Architect and California Building Code

The Division of the State Architect (DSA) implements the plan review, permitting, and inspection of schools under construction. DSA requires specific code prescribed requirements for the design of projects proposed to be located in designated flood hazard areas. If located in a flood hazard area, the project must comply with flood hazard area documentation requirements. This provision also applies to installation of temporary relocatable buildings and to open structures supported only on columns, such as canopies, lunch shelters or carports, on sites with the potential for high velocity water flow, or where the scope of work includes electrical elements that do not meet the waterproofing requirements of the American Society of Civil Engineers (ASCE) 24, Section 7.2 (e.g., solar carports). For projects located in a flood hazard zone, the following information must be shown directly on the site plans and/or civil drawings:

- The flood zone designation.
- The Flood Insurance Rate Map (FIRM) panel designation.
- Effective date of the FIRM.
- Base Flood Elevation (BFE).
- Applicable community ordinance section.

The California Building Code (CBC) mandates flood design and reporting for new projects under the jurisdiction of DSA. The CBC and its referenced standards provide information on flood resistant design and construction. DSA documentation and reporting requirements for projects located in a designated flood hazard area are set forth in this procedure (DSA, 2017).

Municipal Stormwater Discharge Requirements

Development and redevelopment projects in San Rafael are subject to compliance with requirements of the current Small MS4 Permit, which became effective on January 1, 2019 (SWRCB, 2018b). Section E.12 of the Small MS4 Permit addresses requirements for retention and treatment of stormwater generated by development projects. Projects that create and/or replace more than 5,000 square feet of impervious surface must comply with the post-construction stormwater management measures described in the Small MS4 Permit, such as Low Impact Development (LID) design standards. LID employs principles such as preserving and recreating natural landscape features and minimizing impervious surfaces to create functional and appealing site drainage that treats stormwater as a resource, rather than as a waste product. LID measures provide effective stormwater treatment by filtering pollutants and sequestering them within soils. Additionally, some pollutants may be rendered less toxic through biological action in the soil. Section E.12 of the Small MS4 Permit also addresses hydromodification management requirements for projects that create and/or replace one acre or more of impervious surface and result in an increase in impervious surface area over the pre-project condition. The hydromodification management standard requires that post-project runoff does not exceed estimated pre-project flow rate for the 2-year, 24-hour storm (SWRCB, 2018b).

BASMAA has developed an updated *Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties*, (BASMAA, 2019) to assist in compliance with Section E.12 of the of the Small MS4 Permit.

Construction General Permit

A new Construction General Permit (Order No. WQ 2022-0057-DWQ, NPDES No. CAS000002) became effective on September 1, 2023. The new Construction General Permit includes the same requirements discussed under the 2017 EIR for the previous Construction General Permit. The previous and new Construction General Permit also include requirements related to groundwater dewatering as discussed below.

The Construction General Permit allows non-stormwater discharge of groundwater dewatering effluent if the water is properly filtered and treated to remove sediment and pollutants using appropriate technologies (e.g., filtration, settling, coagulant application with no residual coagulant discharge, minor odor or color removal with activated carbon, small-scale peroxide addition, or other minor treatment). Testing of receiving waters would also be required prior to and during the discharge. The discharge of dewatering effluent is authorized under the Construction General Permit if the following conditions are met:

- The discharge does not cause or contribute to a violation of any water quality standard.
- The discharge does not violate any other provision of the Construction General Permit.
- The discharge is not prohibited by the applicable Basin Plan.
- The discharger has included and implemented specific Best BMPs required by the Construction General Permit to prevent or reduce the contact of the non-stormwater discharge with construction materials or equipment.
- The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants.
- The discharge is monitored and meets the applicable numeric action levels.
- The discharger reports the sampling information in the annual report.

If any of the above conditions are not satisfied, the discharge of dewatering effluent is not authorized by the Construction General Permit. If the dewatering activity is deemed by the RWQCB not to be covered by the Construction General Permit or other NPDES permit, and discharge of groundwater to the storm drain system is planned, then the discharger would be required to prepare a Report of Waste Discharge, and if approved by the RWQCB, be issued site-specific Waste Discharge Requirements (WDRs) under NPDES regulations.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) requires local agencies to form groundwater sustainability agencies (GSAs) for high and medium-priority basins and develop and implement groundwater sustainability plans (GSPs) to avoid undesirable results, mitigate overdraft, and reach sustainability within 20 years of implementing their sustainability plans. The California Department of Water Resources (DWR) is charged with classifying groundwater basins in California as either high, medium, low, or very low priority. As mentioned above, the SRHS campus

is not located within a designated groundwater basin. As discussed above under *Water Supply*, MMWD's water supply is supplemented with water from Sonoma Water, which includes some groundwater from the Santa Rosa Plain Subbasin. DWR has designated the Santa Rosa Plain Subbasin as a medium-priority basin, which is therefore subject to the requirements of the SGMA (EKI Environment & Water, Inc., 2021).

Regional and Local

RWQCB VOC and Fuel General Permit

If a dewatering activity is deemed by the RWQCB not to be covered by the Construction General Permit due to contamination from fuels or volatile organic compounds (VOCs), the discharge may be allowed under NPDES Permit No. CAG912002 (VOC and Fuel General Permit) that was issued by the RWQCB under Order No. R2-2017-0048 (RWQCB, 2019), which covers the discharge or reclamation of extracted and treated groundwater resulting from the cleanup of groundwater polluted by VOCs, fuel leaks, fuel additives, and other related wastes.

Santa Rosa Plain GSA and GSP for the Santa Rosa Plain Subbasin

The Santa Rosa Plain GSA was formed in June 2017 through a Joint Powers Agreement entered into by Sonoma Water and several municipalities, water suppliers, and resource conservation districts. Because MMWD does not directly pump groundwater, it does not coordinate with any GSAs. However, Sonoma Water is a member of the Santa Rosa Plain GSA, and MMWD has coordinated with Sonoma Water on its demand projections through 2045 (EKI Environment & Water, Inc., 2021). The Santa Rosa Plain GSA developed the GSP for the Santa Rosa Plain Subbasin (Sonoma Water, 2021).

Marin Municipal Water District Urban Water Management Plan and Code

The MMWD developed the 2020 Urban Water Management Plan (EKI Environment & Water, Inc., 2021), which is a foundational document and source of information about MMWD's historical and projected water demands, water supplies, supply reliability and potential vulnerabilities, water shortage contingency planning, and demand management programs. Title 13 of MMWD's Code, *Water Service Conditions and Water Conservation Measures*, includes a section on water waste prohibitions (Section 13.04.020). This section was updated in 2021 to explicitly state that the waste of water is to be prohibited. The section prohibits nonessential uses, places restrictions on irrigation watering times, limits days per week of allowed irrigation and reverse-osmosis units, and includes prohibitions on single-pass cooling systems.

Central Marin Sanitation Agency Sewer Use Ordinance

The Central Marin Sanitation Agency (CMSA) manages and treats sanitary sewer discharges in the central area of San Rafael, including the SRHS campus. The CMSA's Sewer Use Ordinance describes permitting requirements and discharge prohibitions, standards and limitations, including specific requirements related to the discharge of contaminated groundwater (CMSA, 2018).

San Rafael General Plan 2040

The City of San Rafael General Plan 2040 (City of San Rafael, 2021) contains policies and programs pertaining to hydrology and water quality as follows:

Policy C-1.9: Enhancement of Creeks and Drainageways. Conserve or improve the habitat value and hydrologic function of creeks and drainageways so they may serve as wildlife corridors and green infrastructure to improve stormwater management, reduce flooding, and sequester carbon. Require creek enhancement and associated riparian habitat restoration/creation for projects adjacent to creeks to reduce erosion, maintain storm flows, improve water quality, and improve habitat value where feasible.

Program C-1.9A: Watercourse Protection Regulations. Maintain watercourse protection regulations in the San Rafael Municipal Code. These regulations should be periodically revisited to ensure that they adequately protect creeks and drainageways. Consider specific measures or guidelines to mitigate the destruction or damage of riparian habitat from roads, development, and other encroachments.

Policy C-3.1: Water Quality Standards. Continue to comply with local, state and federal water quality standards.

Program C-3.1A: Interagency Coordination. Coordinate with the local, state, and federal agencies responsible for permitting discharges to San Rafael's creeks and surface waters, monitoring water quality, and enforcing adopted water quality standards and laws.

Policy C-3.2: Reduce Pollution from Urban Runoff. Require Best Management Practices (BMPs) to reduce pollutants discharged to storm drains and waterways. Typical BMPs include reducing impervious surface coverage, requiring site plans that minimize grading and disturbance of creeks and natural drainage patterns, and using vegetation and bioswales to absorb and filter runoff.

Program C-3.2A: Countywide Stormwater Program. Continue to participate in the countywide stormwater pollution prevention program and comply with its performance standards.

Program C-3.2B: Reducing Pollutants in Runoff. Continue to reduce the discharge of harmful materials to the storm drainage system through inspections, enforcement programs, reduced use of toxic materials, and public education.

Program C-3.2C: Construction Impacts. Continue to incorporate measures for stormwater runoff control, management, and inspections in construction projects and require contractors to comply with accepted pollution prevention planning practices. Provisions for post-construction stormwater

Policy C-3.5: Groundwater Protection. Protect San Rafael's groundwater from the adverse effects of urban uses and impacts from sea level rise. Encourage opportunities for groundwater recharge to reduce subsidence and water loss, and support water-dependent ecosystems.

Program C-3.5A: Underground Tank Remediation. Continue efforts to remediate underground storage tanks and related groundwater hazards. Avoid siting new tanks in areas where they may pose hazards, including areas prone to sea level rise.

Policy C-3.8: Water Conservation. Encourage water conservation and increased use of recycled water in businesses, homes, and institutions. Local development and building standards shall require the efficient use of water.

Program C-3.8A: Water Conservation Programs. Work with Marin Municipal Water District and other organizations to promote water conservation programs and incentives and ensure compliance with state and MMWD regulations, including the provisions of the Urban Water Management Plan (see Policy CSI-4.8 for additional guidance).

Program C-3.8C: Reclaimed Water Use. Support the extension of recycled water distribution infrastructure by Las Gallinas Valley Sanitary and MMWD, along with programs to make the use of recycled water more feasible.

Program C-3.8D: Graywater and Rainwater. Encourage the installation of graywater and rainwater collection systems. Explore revisions to building codes that would facilitate such projects where obstacles currently exist.

Program C-3.8E: Reducing Municipal Water Use. Reduce water use for municipal operations through water-efficient landscaping, maintenance of irrigation equipment, replacement of inefficient plumbing fixtures, and using recycled water where available and practical.

Policy C-3.9: Water-Efficient Landscaping. Encourage—and where appropriate require—the use of vegetation and water-efficient landscaping that is naturalized to the San Francisco Bay region and compatible with water conservation, fire prevention and climate resilience goals.

Policy S-3.4: Mitigating Flooding and Sea Level Rise Impacts. Consider and address increased flooding and sea level rise impacts in vulnerable areas (see Figure 8-3) in development and capital projects, including resiliency planning for transportation and infrastructure systems.

Program S-3.4A: Development Projects. Where appropriate, require new development, redevelopment projects, and substantial additions to existing development to consider and address increased flooding and sea level rise impact, and to integrate resilience and adaptation measures into project design.

Program S-3.4B: Capital Projects and Roadways. Prepare a guidance document to address increased flooding, sea level rise impacts, and adaptation measures into the City's capital projects and planning process. This should include strategies to identify and evaluate the costs, benefits and potential revenue sources for elevating or redesigning low-lying roadways and critical infrastructure. If the life of a public improvement in a vulnerable area extends beyond 2050, adaptation measures should be incorporated.

Program S-3.4C. Coordination with Utilities and Services. Coordinate with the utilities and services that have infrastructure and facilities in vulnerable areas (for example: wastewater treatment plants) to ensure that sea level rise information and goals are consistent with the City's goals, and that infrastructure/utilities projects address and plan for increased flooding and sea level rise.

Policy S-3.5: Minimum Elevations. For properties in vulnerable areas, ensure that new development, redevelopment, and substantial additions to existing development meets a minimum required construction elevation. Minimum elevations and other architectural design strategies should provide protection from the potential impacts of a 100-year flood (a flood with a one percent chance of occurring in any given year), the potential for increased flooding due to sea level rise, and the ultimate settlement of the site due to consolidation of bay mud from existing and new loads and other causes.

Program S-3.5A: Code Amendments for Floor Elevation. Update and adopt zoning, building and public works code requirements to establish and mandate a minimum finished floor elevation for new development, redevelopment and substantial additions to existing development. Consider adopting a minimum, finished floor elevation requirement of +3 feet above the FEMA 100-year flood elevation requirement.

Program S-3.5B: Ground Elevation Surveys. Perform periodic ground elevation surveys in the Sea Level Rise vulnerability zone. The result of the surveys should be considered when developing projects to reduce coastal flooding potential.

Program S-3.5C: Title 18 Flood Protection Standards. Evaluate and revise Title 18 of the Municipal Code (Protection of Flood Hazard Areas) to address anticipated sea level rise, increases in rainfall intensities, and any changes related to Federal or regional flood reduction criteria.

Program S-3.5D: National Flood Insurance Program (NFIP). Continue to comply with the federal NFIP by maintaining a flood management program and flood plain management regulations. In addition, develop and periodically update a Community Rating System (CRS) to notify residents of the hazards of living in a flood area, thereby reducing local flood insurance rates.

Policy S-3.6: Resilience to Tidal Flooding. Improve San Rafael's resilience to coastal flooding and sea level rise through a combination of structural measures and adaptation strategies.

Program S-3.6A: Sea Level Rise Adaptation Plan. Prepare and adopt an adaptation plan addressing increased flooding and sea level rise. The adaptation plan shall include the following components:

- a) Sea Level Rise Projection Map, to be used as the basis for adaptation planning.
- b) Coordination with local, county, state, regional and federal agencies with bay and shoreline oversight, major property owners, and owners of critical infrastructure and facilities in the preparation of the adaptation plan.
- c) An outreach plan to major stakeholders and all property owners within the vulnerable areas.
- d) An inventory of potential areas and sites suitable for mid- to large-scale adaptation projects (see Appendices D and E for more information)
- e) A menu of adaptation measures and approaches that could include but not be limited to:
 - Managed retreat, especially on low-lying, undeveloped and underdeveloped sites; in areas that are permanent open space; and in areas that are environmentally constrained. Transfer of development rights from such areas should be encouraged.

- Innovative green shoreline protection and nature-based adaptation measures such as wetlands and habitat restoration, and horizontal levees where most practical and feasible.
 - Hard line armoring measures (sea walls, levees, breakwater, locks, etc.) in densely developed areas to minimize the potential for displacement of permanent residents and businesses.
 - Elevating areas, structures, and infrastructure to reduce risks.
- f) The appropriate timing and “phasing” of adaptation planning and implementation.
- g) Potential financing tools and opportunities.
- h) Coordination or incorporation into the San Rafael Local Hazard Mitigation Plan.

Program S-3.6B: Partnerships. Foster, facilitate and coordinate partnerships with the County of Marin, other effected agencies and utilities, property owners, and neighborhood groups/organizations on planning for and implementing adaptation projects.

Program S-3.6C: Countywide Agency/Joint Powers Authority. Work with the County of Marin to facilitate the formation of a centralized countywide agency or joint powers authority to oversee adaptation planning, financing and implementation.

Policy S-3.7: Shoreline Levees. Improve and expand San Rafael’s shoreline levee system. When private properties are developed or redeveloped, require levee upgrading as appropriate, based on anticipated high tide and flood conditions.

Program S-3.7A: Levee Improvement Plans. Assess existing levees, berms, and flood control systems to identify reaches with the greatest vulnerability. Develop improvement plans based on existing conditions and projected needs, as documented in adaptation plans. This should include improvement studies for the Spinnaker Point levee, as recommended by the LHMP, and the Canalways levee along San Rafael Bay.

Program S-3.7B: Financing Levee Improvements. Coordinate with property owners; residents and businesses; federal, state, and regional agencies; utilities; and other stakeholders to evaluate potential methods of improving levees and funding ongoing levee maintenance, including assessment or maintenance districts. The cost and fiscal impacts of levee improvements should be evaluated against potential benefits and costs and consequences of inaction.

Policy S-3.8: Storm Drainage Improvements. Require new development to mitigate potential increases in runoff through a combination of measures, including improvement of local storm drainage facilities. Other measures, such as the use of porous pavement, bioswales, and “green infrastructure” should be encouraged.

Program S-3.8A: Storm Drainage Improvements. Consistent with Countywide and regional stormwater management programs, require new development with the potential to impact storm drainage facilities to complete hydrologic studies that evaluate storm drainage capacity, identify improvements needed to handle a 100-year storm, and determine the funding needed to complete those improvements.

Program S-3.8B: Green Infrastructure Guidelines. Evaluate potential measures to more sustainably manage stormwater, erosion, and improve water quality associated with urban runoff. This includes improvements such as rain gardens and permeable pavement, which attenuate flooding downstream and provide ecological benefits.

Policy S-3.9: Flood Control Improvements Funding. Pursue financing and funding opportunities to fund short-term and long-term flood control and adaptation projects. Funding tools and opportunities would include, among others tax or bond measures, assessment districts, geologic hazard abatement districts and grants. The City will also support legislation that provides regional, state, and federal funding for these projects, and will pursue such funding as it becomes available.

Program S-3.9A: Incremental Flood Control Improvements. Where needed and possible, new development/redevelopment projects shall include measures to improve area flood protection. Such measures would be identified and required through the development review process.

Program S-3.9B: Flood Hazard Mitigation Projects. Undertake flood hazard mitigation projects as outlined in the Local Hazard Mitigation Plan, including sewer relocation and replacement, pump station rehabilitation, corrugated metal pipe replacement, and improvements to flood-prone streets such as Beach Drive.

Program S-3.9C: Restoration and Dredging Projects. Implement restoration and dredging projects that will increase stormwater drainage capacity and reduce flood hazards. As noted in the LHMP, this could include restoration of the Freitas Parkway flood channel and dredging of Gallinas Creek and the San Rafael Canal.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Supplemental EIR Analysis Scope and Pertinent Changes

The project would include improvements in areas of the SRHS campus that have different drainage conditions, flooding hazards, groundwater conditions, and groundwater contamination issues from other areas of the SRHS campus that were previously evaluated as part of the 2017 EIR. Therefore, supplemental analysis of the potential impacts of the project related to hydrology and water quality is warranted and presented below.

Significance Criteria

Significance Criteria from 2017 EIR

The 2017 EIR indicated that, based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant effect on hydrology and water quality if it would:

- a) Violate any water quality standards or waste discharge requirements;
- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a

- level which would not support existing land uses or planned uses for which permits have been granted);
- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
 - d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
 - e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
 - f) Otherwise substantially degrade water quality;
 - g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
 - h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
 - i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding of as a result of the failure of a levee or dam; or
 - j) Expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.

Changes in Significance Criteria Since 2017 EIR

Per the current CEQA Guidelines, the significance criteria above have been revised to read as follows:

- a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would;
 - i. result in substantial erosion or siltation on- or off-site;
 - ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
 - iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - iv. impede or redirect flood flows;
- d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or

- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Summary of Impacts and Mitigation Measures from 2017 EIR

Areas of No Impact from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would have no impact in relation to the following significance criteria:

- b) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.* No significant groundwater resources are located at the project site. None of the Master Facilities Long-Range Plan development would use groundwater or significantly interfere with groundwater recharge.⁵
- h) *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.* No housing is proposed by the Master Facilities Long-Range Plan.

Less-than-Significant Impacts from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would result in less-than-significant impacts related to water quality, erosion and siltation, polluted runoff, exceedance of storm drain capacity, and flooding associated with altering drainage patterns based on required compliance with existing permit requirements including the Construction General Permit, Small MS4 Permit, and City requirements. The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would result in less-than-significant impacts related to placing structures in a 100-year flood hazard area because DSA and City requirements for construction within flood hazard areas would prohibit any significant impedance or redirection of flood waters. The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would result in less-than-significant impacts related to flooding, including flooding of as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow based on compliance with DSA and City requirements for construction in flood hazard zones and because the SRHS campus is not located in a dam inundation area or an area subject to significant risks of inundation from seiche, tsunami, or mudflow.

Potentially Significant Impacts and Mitigation Measures from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, would not have any potentially significant hydrology or water quality impacts.

Cumulative Impacts from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan, including the Stadium Project, could have the potential to contribute to cumulative water quality impacts related to stormwater runoff and cumulative flooding impacts related to sea level rise.

⁵ The 2017 EIR erroneously used the term discharge rather than recharge.

The 2017 EIR indicated that stormwater discharged from past and existing projects within the Master Facilities Long-Range Plan vicinity has contained pollutants that have contributed to impairment of the water quality of receiving waters, including San Francisco Bay. Stormwater regulations have become progressively more stringent since the passing of the federal CWA, and current requirements now require new developments to manage and treat all significant sources of stormwater pollutants; in particular, stormwater runoff from past, present, and existing development is treated in accordance with Construction General Permit and Small MS4 Permit requirements. As such, a reduction in overall pollutant loads in stormwater is anticipated over time. Therefore, no significant adverse impacts would be expected from cumulative water quality conditions, as these conditions would be expected to cumulatively improve.

The 2017 EIR indicated that the SRHS campus is located in a low-lying coastal area that is expected to be subject to exacerbated flooding impacts as a result of sea level rise. The City of San Rafael has adopted General Plan policies designed to evaluate and assess potential vulnerabilities and to coordinate with Marin County and other local, state, and federal agencies in planning for long-term adaptation. Development of the Master Facilities Long-Range Plan would have no effect on the magnitude and extent of sea level rise, which is caused by global climate change, and adherence to DSA and City flood hazard zone construction requirements would ensure that developments under the SRHS Master Facilities Long-Range Plan do not impede flood water flows or otherwise contribute to potential cumulative flooding hazards created by sea level rise. Therefore, the Master Facilities Long-Range Plan would not result in or contribute to any significant cumulative flooding or other hydrology and water quality impacts.

Impacts of New Capital Improvements Project

Areas of No Impact

The following significance criterion would not apply to the project and is therefore excluded from further discussion in this impact analysis:

- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

As noted in the 2017 EIR, the SRHS campus is not located within a designated groundwater basin; therefore, no significant groundwater supply resources are located beneath the SRHS campus that could be affected by the project. Although the 2017 EIR indicated that the Master Facilities Long-Range Plan development would not use groundwater, a small portion of MMWD's water supply includes groundwater supplied by Sonoma Water from the Santa Rosa Plain Subbasin. The project would decrease water usage at the SRHS campus by converting grass athletic fields to artificial turf fields. Additionally, modern irrigation systems would be installed at other capital improvements projects, such as the Aquatic Center and Arts Building and Performing Arts Plaza, in conjunction with low-water landscaping, which would reduce water usage as well. Therefore, the project would have no impacts related to groundwater supplies.

Less-than-Significant Impacts

The project would have the same less-than-significant impact related to erosion and siltation identified for the Master Facilities Long-Range Plan, including the Stadium Project, in the 2017 EIR.

Potentially Significant Impacts and Mitigation Measures

Impact S-HYDRO-1: The project could violate water quality standards or otherwise substantially degrade surface or ground water quality. (PS)

This impact and the recommended mitigation measures below are new (i.e., were not identified in the 2017 EIR).

Project Construction

Similar to the Master Facilities Long-Range Plan analyzed in the 2017 EIR, the project would involve construction activities such as excavation and grading, which can increase the potential for erosion and sedimentation from stormwater runoff and for the leaching/transport of potential contaminants from disturbed soil. Construction activities would also involve the use of construction materials, equipment, and hazardous materials that can be sources of stormwater and groundwater pollution. If stormwater contacts disturbed soil and/or improperly stored hazardous materials, sediments and contaminants could be entrained in stormwater runoff that could reach waterways and degrade water quality, potentially resulting in a violation of water quality standards.

As discussed in the 2017 EIR, a project that would disturb more than 1 acre of land would be required to comply with the requirements of the Construction General Permit. In accordance with the Construction General Permit requirements, a SWPPP would be developed and implemented to identify all potential pollutants and their sources, including a list of site-specific BMPs to reduce discharges of construction-related stormwater pollutants. The SWPPP would include a detailed description of controls to reduce pollutants and outline maintenance and inspection procedures. The SWPPP would be required to be kept on site and be made available to RWQCB inspectors. Typical sediment and erosion BMPs include protecting storm drain inlets, establishing and maintaining construction exits, and perimeter controls. The SWPPP would also define proper building material staging areas, paint and concrete washout areas, proper equipment/vehicle fueling and maintenance practices, controls for equipment/vehicle washing, and allowable non-stormwater discharges, and would include a spill prevention and response plan. If a new capital improvement project would disturb less than 1 acre of land, the project would still be required to comply with the City's requirements for preparation and implementation of an erosion and sediment control plan and pollution prevention BMPs as outlined in Municipal Code Section 9.30.140. The City must implement a construction site storm water runoff control program for all construction sites as required by Section E.10 of the Small MS4 Permit. Although the District is exempt from the Municipal Code, including local zoning, the District cannot exempt itself from City oversight of grading and stormwater requirements. Compliance with the Construction General Permit and City requirements for protections of stormwater runoff at construction sites would ensure that stormwater runoff from the project during construction would not result in erosion/siltation or create other sources of polluted runoff that could degrade groundwater or receiving water quality.

Based on the shallow depth of groundwater at the SRHS campus, groundwater dewatering may be required for subsurface construction activities. Dewatering effluent could have high turbidity (suspended sediment) and could contain other contaminants. Turbid or contaminated groundwater could cause degradation of the receiving water quality if discharged directly to storm drains without treatment. Any groundwater dewatering discharge would be subject to permits from the CMSA or the RWQCB depending on whether the discharge would be to the sanitary sewer or storm drain system, respectively.

Under existing state law, it is illegal to allow unpermitted non-stormwater discharges to receiving waters. Chapter 9.030 of the Municipal Code also prohibits discharges to the City's storm drain systems other than rainfall runoff, except for discharges in compliance with an NPDES permit issued for the discharge, or discharges that are not prohibited as listed in Section 9.30.070 of the Municipal Code, including uncontaminated pumped groundwater.

As stated in the Construction General Permit, non-stormwater discharges directly to receiving waters or the storm drain system have the potential to negatively affect water quality. The discharger must implement measures to control all non-stormwater discharges during construction, including from dewatering activities associated with construction. Discharging any pollutant-laden water from a dewatering site or sediment basin into any receiving water or storm drain that would cause or contribute to an exceedance of water quality objectives is prohibited (SWRCB, 2009).

The Construction General Permit allows the discharge of non-contaminated dewatering effluent if the water is properly filtered or treated using appropriate technology. These technologies include, but are not limited to, retention in settling tanks (where sediments settle out prior to the discharge of water) and filtration using gravel and sand filters (to mechanically remove the sediment). If the dewatering activity is deemed by the RWQCB not to be covered by the Construction General Permit due to contamination from VOCs or fuels, the discharge may be allowed under the VOC and Fuel General Permit (NPDES Permit No. CAG912002, issued by the RWQCB under Order No. R2-2017-0048), which covers the discharge or reclamation of extracted and treated groundwater resulting from the cleanup of groundwater polluted by VOCs, fuel leaks, fuel additives, and other related wastes (RWQCB, 2019).

If the discharge is not covered by any existing general NPDES permits, then the discharger could potentially prepare a Report of Waste Discharge, and if approved by the RWQCB, be issued site-specific WDRs under the NPDES regulations. Site-specific WDRs contain rigorous monitoring requirements and performance standards that, when implemented, ensure that receiving water quality is not substantially degraded.

If it is infeasible to meet the requirements of the Construction General Permit or other general NPDES permit, acquire site-specific WDRs, or meet the CMSA's requirements, the construction contractor would be required to transport the dewatering effluent off site for treatment sufficient to meet discharge requirements. Required compliance with existing permit requirements for the discharge of groundwater during construction dewatering would ensure that construction dewatering activities would result in less-than-significant impacts on surface water quality.

Excavation dewatering activities can also affect groundwater quality by drawing contaminated groundwater towards previously uncontaminated areas. As discussed under *Water Quality* above, elevated concentrations of contaminants including TPHg, benzene, and MTBE remain in

groundwater near the western boundary of the SRHS campus (Antea Group, 2023), and the extent of groundwater contamination that may be present beneath the western athletic field of the SRHS campus has not been defined. If groundwater dewatering is required for construction activities within or near the western athletic field (e.g., for construction of utilities or foundation features), dewatering activities could spread groundwater contamination to previously uncontaminated areas. Although groundwater beneath the SRHS campus is not used as a drinking water resource, groundwater contamination can result in other environmental impacts such as vapor intrusion into buildings, which can affect indoor air quality. Due to the proximity of the SRHS campus to San Rafael Creek, drawing contaminated groundwater toward San Rafael Creek or preferential pathways that lead to San Rafael Creek (e.g., storm drains/ utility trenches) could increase the likelihood of contaminated groundwater being discharged to San Rafael Creek, which could affect water quality.

Construction of new subsurface utilities through areas of groundwater contamination can also create preferential pathways for the migration of contaminated groundwater. The proposed artificial turf fields would include subsurface drainage systems including perforated drainage pipes within trenches filled with permeable drain rock around the perimeter of the fields which would connect to storm drains. As discussed under *Groundwater Resources* above, groundwater levels at the western athletic field of the SRHS campus can be at the ground surface or just below it during the rainy season (Antea Group, 2023); therefore, the proposed artificial turf drainage system in the western athletic field could create a preferential pathway for contaminated groundwater to be discharged directly to San Rafael Creek, which could impact water quality.

Implementation of the following mitigation measure would address the potential for migration of contaminated groundwater due to construction dewatering and installation of subsurface utilities/drainage systems through areas of potential groundwater contamination and would reduce this potential impact to a less-than-significant level.

Mitigation Measure S-HYDRO-1a: The District shall further investigate the extent of soil and groundwater contamination beneath the western athletic field of the San Rafael High School campus, which shall include the collection of soil and groundwater samples to the east and southeast of monitoring well MW-2 and the former gasoline underground storage tank (UST) and fuel dispenser at the San Rafael City Schools Maintenance Facility. The investigation shall be performed under the oversight of the San Francisco Bay Regional Water Quality Control Board (RWQCB). The District shall notify the RWQCB of planned construction activities within and near the western athletic field of the San Rafael High School campus, including any excavation and construction dewatering activities that may be required. The District shall provide the designs for improvements within the western athletic field of the San Rafael High School campus to the RWQCB for review so that the RWQCB can evaluate whether installation of utilities or drainage systems could create preferential pathways for the migration of contaminated groundwater. Based on the findings of the investigation and the RWQCB's review of proposed construction activities and project designs, the District shall implement any measures requested by the RWQCB to ensure appropriate management of soil and groundwater and prevent the migration of contaminated groundwater, if necessary, such as limiting the extent and duration of construction dewatering activities to the maximum extent feasible, remediating the source of the contaminated groundwater, or altering the design of the proposed subsurface drainage system. (LTS)

Project Operation

Similar to the Master Facilities Long-Range Plan analyzed in the 2017 EIR, the project must include source controls, site design measures, and stormwater management and treatment measures to reduce pollutant loads in runoff in accordance with Section E.12 of the Small MS4 Permit. A SCP must be prepared that describes how runoff would be routed to LID stormwater treatment facilities that are sized and designed using either volumetric or flow-based criteria specified in the Small MS4 Permit, and the SCP must be approved by the City. Inspection and maintenance of stormwater treatment facilities must also be performed.

LID stormwater treatment facilities such as bioretention areas are anticipated to be installed as part of the project; however, stormwater control plans have not yet been developed for the project. As discussed in *Section 4.6, Hazards and Hazardous Materials*, construction of landscaping (and in particular stormwater treatment/infiltration features) over areas of contaminated soil or groundwater could increase the leaching of contaminants from soil into groundwater or the migration of contaminated groundwater; however, implementation of Mitigation Measures S-HYDRO-1a and S-HAZARDS-1 would ensure that subsurface contamination on the project site would be properly investigated and remediated, if necessary.

While stormwater runoff from various surfaces requires treatment, pervious areas of landscaping or grass may sometimes be considered “self-treating areas” that do not require separate treatment. The Small MS4 Permit does not specifically address runoff from artificial turf fields, and the District does not consider the proposed artificial turf fields to be impervious surfaces; therefore, it is not clear whether treatment of runoff from the proposed artificial turf fields would be required by the City. Runoff from artificial turf fields can contain contaminants such as microplastics from the deterioration of turf infill materials or the turf itself. Turf infill material can also be washed away in heavy rain/runoff, and other contaminants that can gather on the turf surface (e.g., debris and particulates) can add heavy metals and sediment to the pollutant load in the runoff. Artificial turf drainage systems can include integrated stormwater treatment systems that can be installed around subsurface perforated drainage pipes. If stormwater treatment systems are not installed for the proposed artificial turf fields, runoff from the artificial turf fields could potentially degrade water quality.

Implementation of the following mitigation measure would address the potential for runoff from artificial turf fields to degrade water quality and would reduce this potential impact to a less-than-significant level.

Mitigation Measure S-HYDRO-1b: The District shall include stormwater management and treatment systems for the proposed artificial turf fields in the Stormwater Control Plans to be submitted to the Division of the State Architect (DSA) for review and approval. The Stormwater Control Plans shall include systems to treat water that would be captured in the subsurface drainage system of the fields, and systems that would capture and treat any additional surface runoff from the fields. The District shall hire a qualified Professional Civil Engineer to perform a detailed hydraulic analysis for the proposed artificial turf fields to evaluate the volumes and durations of stormwater drainage and runoff that would be generated by the artificial turf fields and discharged into the storm drain system. This hydraulic analysis shall account for the potential for shallow groundwater to seep into the

subsurface drainage systems of the artificial turf fields, which shall account for depth to groundwater information generated by the groundwater monitoring activities at the San Rafael City Schools Maintenance Facility at the southwestern corner of the San Rafael High School campus. The design of the artificial turf fields shall include measures to prevent groundwater seepage into the subsurface drainage systems and/or stormwater retention systems, as necessary, to ensure that the subsurface drainage systems and stormwater treatments systems would function properly during periods of heavy rain and high groundwater and prevent the exceedance of storm drain capacity and flooding on- or off-site due to increased discharge of water from the proposed artificial turf fields to the storm drain systems. The hydraulic analysis and stormwater management and treatment system designs for the proposed artificial turf fields shall be provided to the DSA for review and approval prior to construction to ensure that the artificial turf fields would be appropriately designed to retain and treat runoff. (LTS)

Impact S-HYDRO-2: The project would alter the existing drainage pattern of the site in a manner that could result in exceedance of storm drain capacity, polluted runoff, and/or flooding on- or off-site. (PS)

This impact and the recommended mitigation measure below are new (i.e., were not identified in the 2017 EIR).

The project would alter existing impervious surfaces including buildings, driveways, pathways, parking areas, and the swimming pool/pool deck. The project would also alter existing pervious surfaces including alterations to areas of landscaping, conversion of existing sports fields to artificial turf, and placement of portable buildings on the western athletic field of the SRHS campus. The project would replace over 1 acre of impervious surfaces, and the placement of portable buildings on the western athletic field would result in an increase in impervious surfaces on the SRHS campus by approximately 30,000 square feet compared to existing conditions. As discussed under Impact S-HYDRO-1, the project would be required to comply with Section E.12 of the Small MS4 Permit. This would ensure that the project would include source controls, site design, stormwater management and treatment, and hydromodification management measures to reduce runoff and pollutants in runoff from new or replaced impervious surfaces. Compliance with Section E.12 of the Small MS4 Permit would ensure that the project would not result in a significant increase in runoff or polluted runoff from new or replaced impervious surfaces.

Designs for the proposed artificial turf fields and stormwater control plans have not yet been developed for the project. Based on preliminary planning, the proposed artificial turf fields are not anticipated to be underlain by an impervious liner or layer, and therefore the artificial turf would not be considered an impervious surface. Construction of the artificial turf fields would require compaction of the soil subgrade and would include subsurface drainage systems as described under "Project Construction" in Impact S-HYDRO-1 above. The presence of very shallow and potentially contaminated groundwater beneath the western athletic field of the SRHS campus could require installation of an impermeable liner or layer beneath the proposed artificial turf to prevent the discharge of contaminated groundwater into the storm drain system as discussed under Impact S-HYDRO-1. If an impermeable liner or layer is not installed beneath the artificial turf fields, shallow groundwater could infiltrate the subsurface drainage systems and contribute additional water to the storm drain system. Runoff from artificial turf fields could also contain pollutants as

discussed under Impact S-HYDRO-1. Therefore, drainage/runoff characteristics of the existing sports fields would be altered and could potentially result in increases in stormwater runoff and pollutants in runoff compared to the existing conditions on the SRHS campus. Increased runoff from the SRHS campus could result in significant impacts related to the exceeding the capacity of storm drain systems or contributing to increased flooding risks on- or off-site.

Implementation of the following mitigation measure would address the potential for increases in runoff and pollutants in runoff from artificial turf fields and would reduce this potential impact to a less-than-significant level.

Mitigation Measure S-HYDRO-2: Implement Mitigation Measure S-HYDRO-1b. (LTS)

Impact S-HYDRO-3: The project could impede or redirect flood flows. (PS)

This impact and the recommended mitigation measure below are new (i.e., were not identified in the 2017 EIR).

Portions of the SRHS campus are located within a 100-year flood hazard zone with a base flood elevation of 10 feet NAVD88 (FEMA, 2016). The project improvements that would be located within the 100-year flood hazard zone include much of the artificial turf softball field, the southwest portion of the artificial turf baseball field, the area where portable buildings would be relocated to in the northwest portion of the SRHS campus, and the northwest portion of the existing science building which would be modernized. The project may include other improvements within the 100-year flood hazard zone such as replacement of existing and/or installation of new dugouts or storage buildings; removal and/or relocation of storage containers; paving; landscaping; and installation of campus traffic control, security, and sports field fencing. A significant impact would occur if construction of the project would impede or redirect flood flows and increase flooding conditions in other areas.

As discussed in the 2017 EIR and under *Regulatory Framework* above, DSA requirements for school construction design include procedures for construction in flood hazard zones, and Section 18 of the San Rafael Municipal Code regulates development within the 100-year flood zone. As described in Section 18.10.040 of the San Rafael Municipal Code, methods and provisions to reduce flood losses include the following:

- A. Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
- B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
- D. Control filling, grading, dredging, and other development which may increase flood damage; and
- E. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

The Municipal Code requires a development permit verifying adherence to these flood hazard zone design requirements to be submitted and approved prior to any construction within the 100-year flood hazard zone. The 2017 EIR indicated that adherence to existing flood hazard area construction requirements would reduce potential impacts related to impeding or redirecting flood flows to a less-than-significant level; however, the District is not actually subject to the San Rafael Municipal Code requirements related to flooding. While DSA review of project designs would ensure that structures and associated improvements would be constructed to resist damage from flooding, DSA review would not ensure that construction of the project would not increase flooding conditions in other areas.

Modernization of the existing science building would not change the building footprint and therefore would have no impact on flooding conditions. Construction of the artificial turf fields would include raising the existing sports fields by approximately 1 foot. Depending on local topography and the flooding sources and flow conditions, placement of fill material, structures (new field house, portable relocation, etc.), and other improvements (e.g., fencing, curbs/sidewalks, storage containers, Performing Arts Plaza) within the 100-year flood zone as part of the project could potentially impede/redirect flood flows and/or displace flood water storage such that flooding hazards increase in surrounding areas.

Implementation of the following mitigation measure would address the potential for increasing flooding hazards and would reduce this potential impact to a less-than-significant level.

***Mitigation Measure S-HYDRO-3:** The District shall hire a qualified Professional Civil Engineer to prepare a Hydraulic Study to evaluate how the project would affect flooding conditions on the San Rafael High School campus and surrounding areas during a 100-year flood event. The Hydraulic Study shall account for changes to drainage patterns and placement of fill material, structures, and other improvements within the 100-year flood hazard area and evaluate whether such changes under the project would result in an increase in the base flood elevation in any areas within the San Rafael High School campus or surrounding areas of the city when combined with changes in flooding conditions from other existing and anticipated development that could affect these areas. If the Hydraulic Study finds that the project would increase flooding conditions, the project designs shall be modified to ensure that flooding conditions would not be increased by the project. Such modifications could include reducing the placement of fill material or modifying the design of improvements to ensure that adequate flood flows may pass through or around the improvements. The Hydraulic Study shall be submitted to the Division of the State Architect (DSA) for review and approval prior to the start of construction for any improvements intersected by a 100-year flood hazard area. (LTS)*

Impact S-HYDRO-4: The project would risk release of pollutants due to project inundation from flood hazard, tsunami, or seiche zones. (PS)

This impact and the recommended mitigation measure below are new (i.e., were not identified in the 2017 EIR).

As discussed under *Environmental Setting* above and in the 2017 EIR, the SRHS campus is not located in an area subject to significant risks of inundation from a seiche, and therefore potential impacts related to inundation from a seiche would be less than significant. As discussed under

Environmental Setting above, the majority of the SRHS campus is located within a tsunami hazard area (California Geological Survey, 2022), and portions of the SRHS campus are located within a 100-year flood hazard zone (FEMA, 2016). Based on the relatively flat topography of the tsunami hazard area mapped at the SRHS campus, it appears that potential tsunami inundation at the SRHS campus would be relatively minor (e.g., 1 to 2 feet of flooding). Similarly, the 100-year flood hazard zone base flood elevation of 10 feet NAVD88 at the SRHS campus is similar to much of the existing ground surface elevation at the SRHS campus, and therefore potential 100-year flooding inundation on the SRHS campus would also be expected to be relatively minor.

As discussed in *Section 4.6, Hazards and Hazardous Materials*, hazardous materials would be stored on the SRHS campus during construction of the project, and operation of the project would include the storage of some hazardous materials at the SRHS campus including pool treatment chemicals, science laboratory chemicals, and cleaning products. If inundation by a 100-year flood or tsunami caused hazardous materials to be released from the project during construction or operation, this would be a significant impact. Although potential flooding at the SRHS campus would be anticipated to be relatively minor, if hazardous materials are stored on or near the ground surface in areas subject to flooding and in containers that could be mobilized or damaged by flood waters, then hazardous materials could be released into surface waters, which would be a significant impact. In addition, if the proposed artificial turf fields were subject to flooding and if lightweight infill material were used, the infill material could be washed away and released into surface waters, which would be a significant impact.

Implementation of the following mitigation measure would address the potential for the release of pollutants due to tsunami or flooding inundation and would reduce this potential impact to a less-than-significant level.

Mitigation Measure S-HYDRO-4: All construction contractors shall store hazardous materials in containers that are appropriately located and secured to ensure that they would not be mobilized, damaged, or leak as a result of flooding inundation. All hazardous materials storage areas that would be used during operation of the project shall be appropriately designed to resist inundation from flooding or shall have hazardous materials stored in containers that are appropriately located, designed, and secured to ensure that they would not be mobilized, damaged, or leak as a result of flooding inundation. Infill material used on the artificial turf fields shall be of adequate density to resist being washed away during potential flooding inundation. (LTS)

Impact S-HYDRO-5: The project could conflict with a water quality control plan or sustainable groundwater management plan. (PS)

This impact and the recommended mitigation measure below are new (i.e., were not identified in the 2017 EIR).

As discussed under *Areas of No Impact* above, the SRHS campus is not located within a designated groundwater basin; therefore, no significant groundwater supply resources are located beneath the SRHS campus and there are no GSPs for the area of the SRHS campus. A small portion of MMWD's water supply includes groundwater supplied by Sonoma Water from the Santa Rosa Plain Subbasin. The project would decrease water usage at the SRHS campus through conversion of grass athletic fields to artificial turf fields. Additionally, modern irrigation systems

would be installed at the location of other proposed project improvements, such as the Aquatic Center and Arts Building and Performing Arts Plaza, in conjunction with low water landscaping, which would reduce water usage as well. Therefore, the project would not conflict with or obstruct implementation of the GSP for the Santa Rosa Plain Subbasin.

As discussed under Impact S-HYDRO-1 above, the project has the potential to cause migration of contaminated groundwater and the discharge of contaminated groundwater into surface water. Also as discussed under Impact S-HYDRO-1 above, the discharge of runoff/drainage water from artificial turf fields proposed under the project has the potential to degrade water quality. As discussed under Impact S-HYDRO-4 above, the project has the potential to release pollutants into surface water due to inundation from tsunami or flooding. These potential impacts on water quality discussed above could conflict with the water quality objectives of the Basin Plan; however, implementation of Mitigation Measures S-HYDRO-1a, S-HYDRO-1b, and S-HYDRO-4 would ensure that potential impacts on water quality would be less than significant. Therefore, implementation of the following mitigation measure would ensure that the proposed project would result in less-than-significant impacts related to conflicting with or obstructing implementation of a water quality control plan.

Mitigation Measure S-HYDRO-5: Implement Mitigation Measures S-HYDRO-1a, S-HYDRO-1b, and S-HYDRO-4. (LTS)

Cumulative Impacts

The geographic areas of concern for cumulative hydrology and surface water quality impacts are the storm drains and surface waters that receive runoff from the project and cumulative projects, and the 100-year flood hazard zone that intersects the project and surrounding areas. The geographic areas of concern for cumulative groundwater quality and supply impacts are groundwater underlying the project site and the Santa Rosa Plain Subbasin.

Groundwater Supplies and Sustainable Management

As discussed above, the project would result in no impacts related to groundwater supplies or sustainable management of a groundwater basin; therefore, the project would result in no cumulative impacts related to these topics.

Erosion and Sedimentation

Compliance with the Construction General Permit and the City's requirements for erosion control, as required by the Small MS4 Permit and the San Rafael Municipal Code, would ensure that cumulative impacts related to erosion/sedimentation during construction of the project and cumulative projects would not be cumulatively considerable; therefore, the cumulative impact would be less than significant. During operation, the project and cumulative projects would not be susceptible to erosion.

Water Quality

Stormwater runoff and groundwater dewatering from the project site and cumulative projects could result in degradation of surface water and groundwater quality if appropriate management of

stormwater runoff and groundwater dewatering are not performed. As discussed under Impact S-HYDRO-1 above, the project has the potential to result in the direct discharge of contaminated groundwater to storm drains due to installation of a subsurface drainage system under the proposed artificial turf softball field on the southwest side of the SRHS campus. Stormwater discharges from past and existing projects within the project vicinity have contained pollutants that have contributed to impairment of the water quality of San Rafael Creek, Central San Francisco Bay, and San Pablo Bay, which is a cumulative impact.

As discussed in the 2017 EIR, stormwater regulations have become progressively more stringent since the passing of the federal Clean Water Act, and current regulations require new developments to manage and treat all significant sources of stormwater pollutants, which includes potential erosion and siltation. As discussed under Impact S-HYDRO-1 above, stormwater and groundwater discharges from the project would be managed and treated in accordance with applicable NPDES permit requirements including the Construction General Permit and Small MS4 Permit, and implementation of Mitigation Measures S-HYDRO-1a and S-HYDRO-1b would further ensure that the project would result in less-than-significant impacts on water quality.

Other current and probable future projects would also be subject to existing regulations that protect stormwater and groundwater quality, including applicable NPDES permit requirements and San Rafael Municipal Code. Implementation of the City of San Rafael's General Plan policies discussed under *Regulatory Framework* above would further ensure that stormwater runoff from cumulative projects would not contribute to degradation of water quality. As a result, the contribution of the project to the degradation of water quality or conflicting with a water quality control plan would not be cumulatively considerable; therefore, the cumulative impact would be less than significant.

Altering Drainage Patterns

Current and probable future projects could result in changes to drainage patterns and/or increases in impervious surfaces, which could result in cumulative increases in stormwater discharges that can exceed the capacity of storm drain systems and contribute to flooding. Implementation of the City of San Rafael's General Plan policies discussed under *Regulatory Framework* above would ensure that new developments mitigate potential increases in runoff and contribution to flooding. Current and probable future projects would also be subject to existing stormwater regulations and policies that encourage increased retention and infiltration of stormwater runoff, including the Small MS4 Permit and the San Rafael Municipal Code. As discussed under Impact S-HYDRO-2 above, the project would increase impervious surfaces on the SRHS campus compared to the existing condition and would alter drainage from the existing grass sports fields by installing artificial turf fields; however, compliance with the Small MS4 Permit and implementation of Mitigation Measure S-HYDRO-2 (which requires implementation of Mitigation Measure S-HYDRO-1b) would ensure that the project would result in less-than-significant impacts related to flooding or exceeding the capacity of existing stormwater drainage systems due to the alteration of drainage patterns. As a result, the project would not alter drainage or increase runoff in a manner that could contribute to exceeding the capacity of storm drain systems or flooding; therefore, the cumulative impact would be less than significant.

Impeding or Redirecting Flood Flows

As discussed under Impact S-HYDRO-3 above, the project has the potential to impede or redirect flood flows through placement of fill, structures, and other improvements within 100-year flood hazard zones. Cumulative projects located in flood hazard zones can have a similar potential to contribute to changes in flooding conditions, which can increase flooding at surrounding properties. Implementation of Mitigation Measure S-HYDRO-3 would ensure that the project would not have a cumulatively considerable contribution to the impeding or redirecting of flood flows; therefore, the cumulative impact would be less than significant.

Release of Pollutants Due to Inundation

As discussed under Impact S-HYDRO-4 above, the project has the potential to release pollutants into surface water due to inundation from tsunami or flooding. Cumulative projects located in flood or tsunami hazard zones can have a similar potential to release pollutants if inundated. Implementation of Mitigation Measure S-HYDRO-4 would ensure that the project would not have a cumulatively considerable contribution to the release of pollutants due to inundation; therefore, the cumulative impact would be less than significant.

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4.8 NOISE

INTRODUCTION

This section of the Supplemental EIR (SEIR) describes the noise and vibration environmental setting at the San Rafael High School (SRHS) campus (project site) and its vicinity; discusses the regulations and policies pertinent to noise and vibration; and assesses the potentially significant impacts on the environment that could result from implementation of the project. This section addresses changes to the environmental setting, regulatory setting, and significance criteria since 2017; identifies potential project-level and cumulative environmental impacts; and describes how the application of mitigation measures would reduce or avoid the identified impacts of the currently proposed Capital Improvements Project.

ENVIRONMENTAL SETTING

Summary of Environmental Setting from 2017 EIR

Conditions related to noise and vibration at and near the SRHS campus at the time of the 2017 EIR are described below.

General Information on Noise

Noise is commonly defined as unwanted sound that annoys or disturbs people and can have an adverse psychological or physiological effect on human health. The effects of noise on people can be grouped into three general categories: 1) subjective effects of annoyance, nuisance, and dissatisfaction; 2) interference with such activities as speech and sleeping; and 3) physiological effects, such as hearing loss.

Sound is measured in decibels (dB), which is a logarithmic scale. Decibels describe the purely physical intensity of sound based on changes in air pressure, but they cannot accurately describe sound as perceived by the human ear since the human ear is only capable of hearing sound within a limited frequency range. Therefore, the frequency of a sound must be taken into account when evaluating the potential human response to sound. For this reason, a frequency-dependent weighting system is used to account for the relative loudness perceived by the human ear. This system is referred to as A-weighted decibels (dBA). Decibels and other technical terms are defined in **Table 4.8-1**, below.

In unconfined space, such as outdoors, noise attenuates with distance according to the inverse square law. Noise levels at a known distance from point sources are reduced by 6 dBA for every doubling of that distance for hard surfaces, such as cement or asphalt surfaces, and 7.5 dBA for every doubling of distance for soft surfaces, such as undeveloped or vegetative surfaces (Caltrans, 1998). Noise levels at a known distance from line sources (such as traffic noise) theoretically decrease at a rate of 3 dBA for every doubling of the distance for hard surfaces and 4.5 dBA for every doubling of distance for soft surfaces (Caltrans, 1998). Greater decreases in noise levels can result from the presence of intervening structures, buffers, or topography. Typical A-weighted noise levels at specific distances are shown for different noise sources in **Table 4.8-2**.

TABLE 4.8-1 DEFINITION OF ACOUSTICAL TERMS

Term	Definitions
Decibel (dB)	A unit describing the amplitude of sound on a logarithmic scale. Sound described in decibels is usually referred to as sound or noise "level." This unit is not used in this analysis because it includes frequencies that the human ear cannot detect.
Vibration Decibel (VdB)	A unit describing the amplitude of vibration on a logarithmic scale.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
Noise	Unwanted sound.
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during the measurement period. For this California Environmental Quality Act (CEQA) evaluation, L_{eq} refers to a one-hour period unless otherwise stated.
L_{max}	The maximum A-weighted sound level during the measurement period.
L_n	The sound pressure level exceeded for n percent of the time. For n percent of the time, the fluctuating sound pressure levels are higher than the L_n level.
Day/Night Noise Level (L_{dn})	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured during the night between 10:00 PM and 7:00 AM.
Community Noise Equivalent Level (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 to 10:00 PM and after addition of 10 decibels to sound levels during the night between 10:00 PM and 7:00 AM.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Peak Particle Velocity (PPV)	The maximum instantaneous peak of a vibration signal.
Root Mean Square (RMS) Velocity	The average of the squared amplitude of a vibration signal.

Source: Charles M. Salter Associates, 1998; Federal Transit Administration, Office of Planning and Environment. 2006..

A typical method for determining a person's subjective reaction to a new noise is by comparing it to existing conditions. The following describes the general effects of noise on people (Charles M. Salter Associates, 1998):

- A change of 1 dBA cannot typically be perceived, except in carefully controlled laboratory experiments;
- A 3-dBA change is considered a just-perceivable difference;
- A minimum of a 5-dBA change is required before any noticeable change in community response is expected; and
- A 10-dBA increase is subjectively perceived as approximately a doubling in loudness.

TABLE 4.8-2 TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT AND INDUSTRY

Noise Source (Distance in Feet)	A-Weighted Sound Level (dBA)
Jet Takeoff (200)	112
Subway Train (30)	100
Truck/Bus (50)	85
Vacuum Cleaner (10)	70
Automobile (50)	65
Normal Conversation (3)	65
Whisper (3)	42

Source: Charles M. Salter Associates, 1998.

It should be noted that because decibels are based on a logarithmic scale, they cannot be added or subtracted in the usual arithmetical way. For instance, if one noise source emits a sound level of 90 dBA, and a second source, placed beside the first, emits a sound level of 90 dBA, the combined sound level is 93 dBA, not 180 dBA. When the difference between two co-located sources of noise is 10 dBA or more, the higher noise source dominates and the lower noise source makes no perceptible difference in what can be heard or measured. For example, if the noise level is 95 dBA, and another noise source is added that produces a noise level of 80 dBA, the noise level will still be 95 dBA.

General Information on Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Several different methods are used to quantify vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors to vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment. Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal. PPV is appropriate for evaluating potential damage to buildings, but it is not suitable for evaluating human response to vibration because it takes the human body time to respond to vibration signals. The response of the human body to vibration is dependent on the average amplitude of a vibration. The RMS of a signal is the average of the squared amplitude of the signal and is more appropriate for evaluating human response to vibration. PPV and RMS are normally described in units of inches per second (in/sec), and RMS is also often described in vibration decibels (VdB).

Sensitive Receptors

Sensitive receptors are defined as land uses where noise-sensitive people may be present or where noise-sensitive activities may occur. Examples of noise-sensitive land uses include residences, schools, hospitals, and retirement homes. Examples of noise-sensitive activities are those that occur in locations such as churches and libraries. There are potential sensitive receptors

located both on-campus and off-site. On-campus sensitive receptors are SRHS classrooms. Off-site sensitive receptors include 1) residences along Mission Avenue and Embarcadero Way, located approximately 40 feet at the closest distance to the north and east of the campus; and 2) retirement homes on 4th Street (San Rafael Commons), located approximately 60 feet at the closest distance to the west of the campus. Commercial land uses are located approximately 90 feet south of the campus on 3rd Street and approximately 60 feet west on Union Street but are not considered noise-sensitive receptors because noise-sensitive activities do not occur at these locations.

Ambient Noise and Vibration

The primary sources of noise in San Rafael are traffic on highways and local roadways, the Sonoma-Marin Area Rail Transit (SMART) corridor, airports/heliports, and the San Rafael Rock Quarry. The primary sources of noise at the SRHS campus are 1) traffic on Mission Avenue, which runs east to west adjacent to the northern boundary of the campus; 2) traffic on 3rd Street, which runs east to west adjacent to the southern boundary of the campus; and 3) traffic on Highway 101, which runs north to south and is located approximately 1,600 feet west of the campus. There are no identified sources of perceptible vibration on or near the campus.

Based on the estimated 2001 and 2020 traffic noise level contours presented in Appendices G and H of the San Rafael General Plan (City of San Rafael, 2013), both current and future noise levels at the SRHS campus from traffic on Highway 101 range from between 60 dBA L_{dn} at the northern and eastern portions of the campus (those farthest from Highway 101) to 65 dBA L_{dn} at the southern and western portions of the campus (those closest to Highway 101). Current and estimated future noise levels from traffic on 3rd Street are approximately 75 dBA L_{dn} within 40 feet of 3rd Street; current and future noise levels from traffic on 3rd street at the nearest classroom to 3rd Street (Building L in Figure 3-4 in *Chapter 3, Project Description*, of this EIR) are approximately 65 dBA L_{dn} . Mission Avenue east of Mary Street borders the campus to the north, and Embarcadero Way borders the campus to the east; these roads are not considered major roadways, and therefore noise contours are not provided for them in the San Rafael General Plan.

The ambient noise environment surrounding the SRHS campus is dominated by traffic along local roadways and Highway 101, except during the periods when the stadium and the existing swimming pool are used for events that draw crowds and require the use of the public address (PA) system. During these events, the stadium is the dominant noise source in the vicinity of the campus. Outside of these events, the activities at the campus consist of students travelling to and from the campus by foot, bike, car, and bus; students attending classes; and students participating in after-school programs. These activities are not a substantial source of noise outside of the campus because the number of students that travel to and from school by car or bus make up only a small fraction of vehicular and bus traffic on surrounding roadways, particularly 3rd Street, which is a major roadway and the access road to the largest SRHS parking lot. In addition, most school activities take place indoors and are not audible outside of the buildings in which they occur. Lastly, outdoor activities that do not require the use of the PA system or draw large crowds, such as students moving between buildings and students participating in sports practices, are dominated by people talking, with some yelling and the use of whistles, and these are not sources of noise that would make a substantial contribution to the noise environment outside of the campus, particularly relative to the surrounding traffic-generated noise levels.

The SMART corridor is not a primary source of noise at the SRHS campus because the campus is located approximately 0.3 mile east of the SMART corridor and is separated from the SMART corridor by Highway 101, as well as multiple rows of buildings. The San Rafael Airport is located approximately 3 miles north of the campus, and a heliport is located approximately 2 miles southeast of the campus. The campus is located outside of the 60 dBA L_{dn} contour line of both San Rafael Airport and the heliport (City of San Rafael, 2013). The San Rafael Rock Quarry is located approximately 3 miles northeast of the campus. Because the campus is more than 2 miles from the quarry, and because existing topographical features could potentially serve to attenuate noise generated by quarry operations, quarry operations are not expected to be audible at the campus.

Changes in Environmental Setting Since 2017 EIR

New information regarding noise and vibration conditions at and near the SRHS campus is presented below.

General Information on Noise

Traffic noise levels are often expressed in terms of the hourly dBA. The noise levels generated by vehicular sources mainly depend on traffic volume, the speed, and the percent of trucks within the fleet. Increases in these three factors will lead to higher noise levels. As mentioned above, doubling the number of sources, such as traffic volume, increases the noise level by approximately 3 dBA due to the logarithmic nature of noise levels (Federal Highway Administration, 2018).

Ambient Noise and Vibration

Based on the estimated 2020 and 2040 traffic noise level contours presented in Appendices I of the San Rafael General Plan 2040 (City of San Rafael, 2021), both current and future noise levels at the SRHS campus from traffic on Highway 101 and 3rd street range between 60 dBA L_{dn} at the northern and eastern portions of the SRHS campus to 65 dBA L_{dn} at the southern and western portions of the SRHS campus. The estimated ambient noise levels from traffic in the campus vicinity were the same as those discussed in the 2017 EIR. The campus is located outside of the 60 dBA L_{dn} contour line of both San Rafael Airport and the heliport.

REGULATORY FRAMEWORK

Summary of Regulatory Framework from 2017 EIR

Federal Regulations

Federal regulations establish noise limits for medium and heavy trucks weighing more than 4.5 tons (gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205(B). Under this regulation, the truck pass-by noise standard is 80 dBA at 15 meters from the vehicle pathway center line. These controls are implemented through regulatory controls on truck manufacturers.

State Regulations

California Noise Control Act

Sections 46000 to 46080 of the California Health and Safety Code codify the California Noise Control Act (CNCA) of 1973. The CNCA established the Office of Noise Control under the California Department of Health Services. The CNCA required that the Office of Noise Control adopt, in coordination with the Office of Planning and Research, guidelines for the preparation and content of noise elements for general plans. The most recent guidelines are contained in General Plan Guidelines, published by the California Office of Planning and Research in 2003 (OPR, 2003). The document provides guidelines for cities and counties to use in their general plans to reduce conflicts between land use and noise.

California Occupational Safety and Health Administration (Cal/OSHA)

Noise exposure of construction workers is regulated by the California Occupational Safety and Health Administration (Cal/OSHA). Title 8, Subchapter 7, Group 15, Article 105 of the California Code of Regulations (Control of Noise Exposure) sets noise exposure limits for workers and requires employers who have workers who may be exposed to noise levels above these limits to establish a hearing conservation program, make hearing protectors available, and keep records of employee noise exposure measurements.

Appendix G of the California Environmental Quality Act (CEQA) Guidelines has been updated since the 2017 EIR was prepared. Noise impact on construction workers is no longer analyzed under the CEQA process. Therefore, the Cal/OSHA regulations discussed in the 2017 EIR are not relevant to the proposed Capital Improvements Project.

Local Regulations

San Rafael General Plan

The City of San Rafael has updated its general plan since the 2017 EIR was prepared. Therefore, the San Rafael General Plan discussion from the 2017 EIR is not relevant to the proposed Capital Improvements Project. See “Changes in Regulatory Framework Since 2017 EIR” below for discussion of relevant policies and programs from the updated San Rafael General Plan.

San Rafael Municipal Code

The San Rafael Municipal Code contains the following relevant requirements (presented in summary form here):

- **Chapter 8.13 – Noise**

Section 8.13.040 – General Noise Limits. Subject to the exceptions and exemptions set forth in Sections 8.13.050 and 8.13.060, the general noise limits set forth in this section shall apply. A summary of the general noise limits not to be exceeded at the property plane of the receiving property types or zones is presented in **Table 4.8-3**.

TABLE 4.8-3 GENERAL NOISE LIMITS ESTABLISHED BY SAN RAFAEL MUNICIPAL CODE

Property Type or Zone	Daytime Limits	Nighttime Limits
Residential	60 dBA Intermittent 50 dBA Constant	50 dBA Intermittent 40 dBA Constant
Mixed-Use	65 dBA Intermittent 55 dBA Constant	55 dBA Intermittent 45 dBA Constant
Multi-Family Residential (Interior Sound Source)	40 dBA Intermittent 35 dBA Constant	35 dBA Intermittent 30 dBA Constant
Commercial	65 dBA Intermittent 55 dBA Constant	65 dBA Intermittent 55 dBA Constant
Public Property	Most restrictive noise limit applicable to adjoining private property	Most restrictive noise limit applicable to adjoining private property

Notes: "Daytime" means the period between 7:00 AM and 9:00 PM Sunday through Thursday and between 7:00 AM and 10:00 PM on Friday and Saturday. "Nighttime" means the period between 9:00 PM and 7:00 AM Sunday through Thursday and between 10:00 PM and 7:00 AM on Friday and Saturday.

Intermittent sound is defined as L_{max} and constant sound is defined as L_{eq} .

Source: San Rafael Municipal Code Section 8.13.040.

Section 8.13.050 – Standard exceptions to general noise limits. A summary of the applicable standard exceptions provided in this section is set forth in **Table 4.8-4**.

TABLE 4.8-4 STANDARD EXCEPTIONS TO GENERAL NOISE LIMITS ESTABLISHED BY SAN RAFAEL MUNICIPAL CODE

Type of Activity	Maximum Noise Level	Days/Hours Permitted
Construction	90 dBA (at any point outside of the construction property plane) ^a	Monday-Friday 7:00 AM-6:00 PM Saturday 9:00 AM-6:00 PM Sunday, Holiday—prohibited or as otherwise set by city approval
Sound Performances	80 dBA measured 50 feet or more from property plane, or as excepted by permit approval	Every day 10:00 AM-10:00 PM, or as excepted by permit approval

^a Property plane means a vertical plane including the property line that determines the property boundaries in space.

Source: San Rafael Municipal Code Section 8.13.050.

Section 8.13.060 – Exceptions allowed with permit. In addition to the standard exceptions permitted pursuant to Section 8.13.050, the director of community development or his designee may grant a permit allowing an exception from any or all provisions of this chapter where the applicant can show that a diligent investigation of available noise abatement techniques indicates that immediate compliance with the requirements of this chapter would be impractical or unreasonable, or that no public detriment will result from the proposed exception.

Section 8.13.070 – Exemptions. Uses established through any applicable discretionary review process containing specific noise conditions of approval and/or mitigation measures.

▪ **Chapter 14.16 – Site and Use Regulations**

Section 14.16.260 – Noise standards. Any new development located in a “conditionally acceptable” or “normally unacceptable” noise exposure area, based on the land use compatibility chart standards in the general plan, shall require an acoustical analysis. Noise mitigation features shall be incorporated where needed to assure consistency with general plan standards. New construction is prohibited in noise exposure areas where the land use compatibility chart indicates the noise exposure is “clearly unacceptable.”

Section 14.16.260 also provides performance standards for noise from new nonresidential development consistent with General Plan Policy N-4, and traffic noise standards consistent with General Plan Policy N-5, which requires projects that are located in residential areas where ambient noise levels are 65 dBA L_{dn} or greater, and that have the potential to increase traffic noise levels by more than 3 dBA L_{dn} , to implement reasonable noise mitigation measures.

Applicability of Local Regulations

Pursuant to California Government Code Section 53094, the governing board of a school district may render city or county zoning ordinances and general plan requirements inapplicable to a proposed classroom facilities project. Even though the District adopted Resolution No. 169.1, dated June 27, 2016, and Resolution No. 2324-17, dated October 23, 2023, pursuant to Section 53094 exempting the project and the SRHS campus from any zoning ordinances or regulations of the City of San Rafael including, without limitation, the San Rafael Municipal Code, the City’s General Plan, and related ordinances and regulations that otherwise would be applicable, the 2017 EIR evaluates the project’s consistency with local regulations and policies for the purposes of CEQA compliance, and also because it is the District’s goal that local policies and regulations be acknowledged and adhered to as much as feasible.

Changes in Regulatory Framework Since 2017 EIR

Federal Regulations

Federal Transit Administration

The Federal Transit Administration (FTA) has developed a general construction noise threshold of 90 dBA L_{eq} at the nearest noise-sensitive receptor (FTA, 2006). According to the FTA, if the combined noise level in 1 hour from the two noisiest pieces of equipment exceeds the 90 dBA threshold at a residential land use (or other noise-sensitive receptors), then there may be a substantial adverse reaction.

FTA has developed vibration thresholds based on PPV values to evaluate the potential impact of construction vibration on structures (FTA, 2018). Construction vibrations that are equal to or exceed the vibration thresholds could result in potential damage to structures. For vibration generated during construction, FTA recommends thresholds of 0.3 in/sec to prevent potential damage to engineered concrete and masonry (no plaster) buildings.

In addition, FTA has developed vibration thresholds to prevent disturbances to (i.e., annoyance of) building occupants based on the frequency of a vibration event. Vibrations that are equal to or

exceed the vibration thresholds could result in potential disturbance to people or activities. For infrequent vibration events, such as construction, FTA recommends thresholds of 80 VdB and 83 VdB to prevent potential disturbance to residences and buildings where people normally sleep and to institutional land uses with primarily daytime use, respectively.

Local Regulations and Policies

San Rafael General Plan 2040

The City's Current General Plan (City of San Rafael, 2021) contains updated policies and programs pertaining to noise that may be applicable to the project, as follows:

Policy N-1.1: Land Use Compatibility Standards for Noise. Protect people from excessive noise by applying noise standards in land use decisions. The Land Use Compatibility standards in Table 9-2 of the General Plan are adopted by reference as part of this General Plan and shall be applied in the determination of appropriate land uses in different ambient noise environments.

Program N-1.1A: Residential Noise Standards. Maintain a maximum noise standard of 70 dB L_{dn} for backyards, decks, and common/usable outdoor spaces in residential and mixed-use areas. As required by Title 24 insulation requirements, interior noise levels shall not exceed 45 L_{dn} in all habitable rooms in residential units.

Policy N-1.2: Maintaining Acceptable Noise Levels. Use the following performance standards to maintain an acceptable noise environment in San Rafael:

- (a) New development shall not increase noise levels by more than 3 dB L_{dn} in a residential area, or by more than 5 dB L_{dn} in a non-residential area.
- (b) New development shall not cause noise levels to increase above the "normally acceptable" levels shown in Table 9-2 of the General Plan.
- (c) For larger projects, the noise levels in (a) and (b) should include any noise that would be generated by additional traffic associated with the new development.
- (d) Projects that exceed the thresholds above may be permitted if an acoustical study determines that there are mitigating circumstances (such as higher existing noise levels) and nearby uses will not be adversely affected.

Program N-1.2B: Approval Conditions. Establish conditions of approval for activities with the potential to create significant noise conflicts and enforce these conditions once projects become operational.

Policy N-1.3: Reducing Noise Through Planning and Design. Use a range of design, construction, site planning, and operational measures to reduce potential noise impacts.

Program N-1.3A: Site Planning. Where appropriate, require site planning methods that minimize potential noise impacts. By taking advantage of terrain and site dimensions, it may be possible to arrange buildings, parking, and other uses to reduce and possibly eliminate noise conflicts. Site planning techniques include:

- (a) Maximizing the distance between potential noise sources and the receiver.

- (b) Placing non-sensitive uses such as parking lots, maintenance facilities, and utility areas between the source and receiver.
- (c) Using non-sensitive uses such as garages to shield noise sensitive areas.
- (d) Orienting buildings to shield outdoor spaces from noise sources.
- (e) Incorporating landscaping and berms to absorb sound.

Program N-1.3B: Architectural Design. Where appropriate, reduce the potential for noise conflicts through the location of noise-sensitive spaces. Bedrooms, for example, should be placed away from freeways. Mechanical and motorized equipment (such as air conditioning units) should be located away from noise-sensitive rooms. Interior courtyards with water features can mask ambient noise and provide more comfortable outdoor spaces.

Program N-1.3D: Noise Reduction through Construction Materials. Where appropriate, reduce noise in interior spaces through insulation and the choice of materials for walls, roofs, ceilings, doors, windows, and other construction materials.

Policy N-1.9: Maintaining Peace and Quiet. Minimize noise conflicts resulting from everyday activities such as construction, sirens, yard equipment, business operations, night-time sporting events, and domestic activities.

Program N-1.9A: Noise Ordinance. Maintain and enforce the noise ordinance, which addresses common noise sources such as amplified music, mechanical equipment use, and construction. Updates to the ordinance should be periodically considered in response to new issues (for example, allowing portable generators during power outages).

Program N-1.9B: Construction Noise. Establish a list of construction best management practices (BMPs) for future projects and incorporate the list into San Rafael Municipal Code Chapter 8.13 (Noise). The City Building Division shall verify that appropriate BMPs are included on demolition, grading, and construction plans prior to the issuance of associated permits.

Policy N-1.11: Vibration. Ensure that the potential for vibration is addressed when transportation, construction, and non-residential projects are proposed, and that measures are taken to mitigate potential impacts.

Program N-1.11A: Vibration-Related Conditions of Approval. Adopt Standard conditions of approval in San Rafael Municipal Code Chapter 8.13 (Noise) that apply Federal Transit Administration (FTA) criteria for acceptable levels of groundborne vibration for various building types. These conditions should:

- (a) Reduce the potential for vibration-related construction impacts for development projects near sensitive uses such as housing, schools, and historically significant buildings.
- (b) Reduce the potential for operational impacts on existing or potential future sensitive uses such as uses with vibration-sensitive equipment (e.g., microscopes in hospitals and research facilities) or residences.

Vibration impacts shall be considered as part of project level environmental evaluation and approval for individual future projects. If vibration levels exceed FTA limits, conditions of approval shall identify construction and operational alternatives that mitigate impacts.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Supplemental EIR Analysis Scope and Pertinent Changes

The project would include improvements that are not addressed in the 2017 EIR, such as the Aquatics Center, the new Performing Arts Plaza, and the new artificial turf for the Athletic Fields. In addition, the project would include the demolition of the existing swimming pool and pool deck at the Aquatics Center. Therefore, supplemental analysis of the potential impacts of the project related to noise and vibration is warranted and presented below.

Significance Criteria

Significance Criteria from 2017 EIR

The 2017 EIR indicated that, based on Appendix G of the CEQA Guidelines, implementation of the proposed project would have a significant effect on noise if it would:

- a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- b) Expose persons to or generate excessive ground-borne vibration or ground-borne noise levels;
- c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; or
- f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

The CEQA significance criteria above are qualitative guidelines and do not provide quantitative thresholds against which noise and vibration impacts can be evaluated. The thresholds described below were used in the 2017 EIR to evaluate the significance of environmental noise and vibration resulting from the implementation of the Master Facilities Long-Range Plan, including the Stadium Project.

Construction Noise Thresholds

A significant noise impact would be identified if construction occurred outside of the hours specified in the San Rafael Municipal Code or if exterior noise levels at the SRHS campus would 1) exceed 90 dBA L_{max} at any point outside of the construction property plane, and 2) exceed 70 dBA L_{eq} at noise-sensitive land uses.¹

Operational Noise Thresholds

A significant land use compatibility impact would be identified if exterior noise would exceed 75 dBA L_{dn} at outdoor spectator sport facilities, or if exterior noise would 1) exceed 60 dBA L_{dn} levels at SRHS campus classrooms, and (2) interior noise would exceed 45 dBA L_{dn} inside of classrooms.

A significant noise impact to nearby receptors would be identified if sound-generating devices or instruments used in outdoor events would exceed a noise level of 80 dBA at a distance of 50 feet or more from the property plane, or are used between the hours of 10:00 PM and 10:00 AM.

Based on the results of the noise level survey and the noise levels contours presented in the San Rafael General Plan, ambient noise levels in the vicinity of the SRHS campus meet or exceed both the constant and intermittent noise level threshold in Table 4.10-5 (Table 4.8-3 of this SEIR). Noise levels are equal to approximately 60 dBA L_{dn} at existing residential areas to the north and east of the SRHS campus and approximately 65 dBA L_{dn} at commercial and mixed-use areas to the south and west of the SRHS campus. San Rafael Municipal Code Chapter 8.13 indicates that nonresidential development should not increase noise levels to more than 60 dBA L_{dn} at residential areas or more than 65 dBA L_{dn} at commercial or mixed-use areas. Therefore, a significant noise impact would be identified if the proposed project would generate a perceptible increase in noise levels.

Where exterior noise levels are 65 dBA L_{dn} or greater, a significant noise impact would be identified if the proposed project would increase traffic noise levels by more than 3 dBA L_{dn} .

Vibration Thresholds

A significant vibration impact would be identified if the project would generate vibration levels that exceed the following FTA recommended vibration thresholds to prevent disturbance to people and damage to buildings (FTA, 2006):

- 83 VdB at any SRHS campus classrooms and off-site commercial receptors;
- 80 VdB at any off-site sensitive receptors; or
- 0.3 in/sec PPV because of the potential to result in cosmetic damage to buildings of normal conventional construction.

¹ In the 2017 EIR analysis, interior noise levels of 45 dBA L_{eq} are considered normally acceptable for school buildings and residential rooms. A typical building facade with windows closed provides a noise level reduction of approximately 25 dBA (Charles M. Salter Associates, 1998). Therefore, exterior construction-generated noise levels of 70 dBA L_{eq} are considered normally acceptable for school buildings and residential rooms.

Changes in Significance Criteria Since 2017 EIR

In the current CEQA Guidelines, previous significance criterion (a) has been removed, and previous criterion (b) has been revised. Previous criteria (c) and (d) were revised and merged into a single criterion, and the same was done for previous criteria (e) and (f). The revised significance criteria read as follows:

- a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?
- c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Because previous criterion (a) has been removed from the current CEQA Guidelines, the 2017 EIR Land Use Compatibility threshold of significance is not applicable to the analysis in this SEIR. The other thresholds of significance used in this SEIR remain the same as the 2017 EIR.

Summary of Impacts and Mitigation Measures from 2017 EIR

Areas of No Impact from 2017 EIR

The 2017 EIR did not identify any areas for which the Master Facilities Long-Range Plan, including the Stadium Project, would have no noise impact.

Less-than-Significant Impacts from 2017 EIR

The plan-level analysis in the 2017 EIR concluded that the operation of the Master Facilities Long-Range Plan would result in less-than-significant impacts related to the exposure of persons to or the generation of excessive ground-borne vibration or ground-borne noise levels, and the exposure of persons to excess noise levels from aircraft. The project-level analysis in the 2017 EIR also concluded that the operation of the Stadium Project would result in less-than-significant impacts related to the exposure of persons to or the generation of permanent noise increases, the exposure of persons to or the generation of excessive ground-borne vibration or ground-borne noise levels, and the exposure of persons to excess noise levels from aircraft.

Potentially Significant Impacts and Mitigation Measures from 2017 EIR

The table below summarizes potentially significant impacts and mitigation measures identified in the 2017 EIR.

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
Noise			
<p><u>NOISE-1:</u> Development under the Master Facilities Long-Range Plan could expose persons to or generate a permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</p>	PS	<p><u>NOISE-1:</u> San Rafael City Schools shall use mechanical equipment selection and acoustical shielding to ensure that noise levels from the installation/modification of heating, ventilation, and air conditioning (HVAC) systems do not exceed 45 dBA L_{eq} inside of the nearest on-campus buildings, and do not exceed 60 dBA L_{max}/50 dBA L_{eq} during the daytime and 50 dBA L_{max}/45 dBA L_{eq} during the nighttime at the nearest residential receptors. Controls that would typically be incorporated to attain this outcome include locating equipment indoors or in less noise-sensitive areas, when feasible; selecting quiet equipment; and providing sound attenuators on fans, sound attenuator packages for cooling towers and emergency generators, acoustical screen walls, and equipment enclosures.</p>	LTS
<p><u>NOISE-2:</u> Development under the Master Facilities Long-Range Plan could generate periodic increases in ambient noise levels in the project vicinity and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</p>	PS	<p><u>NOISE-2:</u> San Rafael City Schools shall consult a qualified acoustical engineer in the design and selection of the new public address (PA) system for the Stadium Project. The qualified acoustical engineer shall confirm that sound is directed toward the field in a manner that reduces noise levels generated by the use of the PA system at approximately 50 feet outside the fence line of the school to below 80 dBA L_{max} to the maximum extent practicable (but in no case shall the new PA system increase noise levels relative to the existing system).</p>	LTS
<p><u>NOISE-3:</u> Construction of the facilities proposed under the Master Facilities Long-Range Plan could generate temporary increases in ambient noise levels in the project vicinity and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</p>	PS	<p><u>NOISE-3a:</u> To the maximum extent practicable, San Rafael City Schools shall schedule construction activities during periods when classes are not in session, such as summer, school breaks, and after class dismissal. San Rafael City Schools shall not allow the use of heavy construction equipment during established testing periods (e.g., finals week).</p> <p><u>NOISE-3b:</u> For each project under the Master Facilities Long-Range Plan, a Construction Noise Management Plan shall be prepared by a qualified acoustical consultant and included in all contractor specifications. The Construction Noise Management Plan shall contain a set of site-specific noise attenuation measures to further reduce construction noise impacts at the nearby on-campus buildings and off-site residential receptors. If appropriate based on the circumstances, multiple projects can be addressed under one Construction Noise Management Plan. The site-specific noise attenuation measures shall be designed to reduce noise levels at the nearest on-campus and off-site receptors to below 70 dBA L_{eq}, as practical. The nearest on-campus receptors may be located adjacent to construction and demolition locations. If it is not feasible to reduce noise at the nearest on-campus receptors to below 70 dBA L_{eq} due to their proximity to the nearest construction and demolition locations, the school shall relocate students to classrooms with interior noise levels below 45 dBA</p>	LTS

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p><i>L_{eq}</i>. At a minimum, the following measures shall be included in the Construction Noise Management Plan:</p> <ul style="list-style-type: none"> ▪ Construct or use temporary noise barriers, as needed, to shield on-campus construction and demolition noise from noise-sensitive areas to the extent feasible. To be most effective, the barrier should be placed as close as possible to the noise source or the sensitive receptor. Examples of barriers include portable acoustically lined enclosure/housing for specific equipment (e.g., jackhammer and pneumatic-air tools, which generate the loudest noise), temporary noise barriers (e.g., solid plywood fences or portable panel systems, minimum 8 feet in height), and/or acoustical blankets, as feasible. ▪ To the extent feasible, establish construction staging areas at locations that would create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. ▪ Ensure that construction equipment and trucks use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible. ▪ Use “quiet” models of air compressors and other stationary noise sources where technology exists. ▪ Prohibit all unnecessary idling of internal combustion engines and equip all internal combustion engine-driven equipment with an operating muffler or baffling system that are in good condition and appropriate for the equipment. ▪ Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from noise-sensitive land uses. Muffle the stationary equipment, and enclose within temporary sheds or surround by insulation barriers, if feasible. <p><u>NOISE-3c</u>: San Rafael City Schools shall develop a set of procedures for responding to and tracking complaints received pertaining to construction noise and shall implement the procedures during construction of projects implemented under the Master Facilities Long-Range Plan. Contractor specifications shall include these procedures. At a minimum, the procedures shall include:</p> <ol style="list-style-type: none"> a) Designation of a construction complaint and enforcement manager for the project; b) Protocols specific to receiving, responding to, and tracking received complaints; and c) Maintenance of a complaint log that records received complaints and how complaints were 	

Impact	Level of Significance Without Mitigation		Mitigation Measure addressed.	Level of Significance After Mitigation
	Level of Significance Without Mitigation	Level of Significance Without Mitigation		
			The contact information of the construction complaint and enforcement manager shall be posted in conspicuous locations at the construction site. <u>NOISE-3d</u> : Residences located within 250 feet of a project implemented under the Master Facilities Long-Range Plan shall be provided with written notice of construction activity within at least 10 days before work begins, except in the case of an emergency. The notice shall state the date of planned construction activity in proximity to that residence and the range of hours during which maximum noise levels are anticipated. The notice shall also include the contact information of the construction complaint and enforcement manager identified in Mitigation Measure NOISE 3c.	
<u>NOISE-4</u> : Development under the Master Facilities Long-Range Plan could expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.	PS		<u>NOISE-4</u> : Mitigation Measures NOISE-3a through NOISE-3d shall be implemented.	LTS
<u>NOISE-5</u> : Development of the proposed Stadium Project could generate periodic increases in ambient noise levels in the project vicinity above levels existing without the project and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	PS		<u>NOISE-5</u> : Mitigation Measure NOISE-2 shall be implemented.	LTS
<u>NOISE-6</u> : Construction of the proposed Stadium Project could generate a temporary increase in ambient noise levels in the project vicinity above levels existing without the project and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	PS		<u>NOISE-6</u> : Mitigation Measures NOISE-3a through NOISE-3d shall be implemented.	LTS
<u>NOISE-7</u> : Development of the proposed Stadium Project could expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.	PS		<u>NOISE-7</u> : Mitigation Measures NOISE-3a through NOISE-3d shall be implemented.	LTS

Cumulative Impacts from 2017 EIR

The 2017 EIR concluded that construction and operation of Master Facilities Long-Range Plan, including the Stadium Project, would not result in or contribute to any significant cumulative noise impacts.

Impacts of New Capital Improvements Project

Areas of No Impact

Under the current significance criteria, there are no areas for which the project would have no noise impact.

Less-than-Significant Impacts

Operation of project would have less-than-significant impacts related to the generation of excessive ground-borne vibration or ground-borne noise levels, and the exposure of people to excess noise levels from aircraft; these impacts would be the same as the impacts identified for the Master Facilities Long-Range Plan, including the Stadium Project, in the 2017 EIR.

Airport/Airstrip Noise

The project would not result in any noise impacts from airports or private airstrips.

San Rafael Airport is located approximately 3 miles north of the SRHS campus and a heliport is located approximately 2 miles southeast of the SRHS campus. As described in the 2017 EIR, the SRHS campus is located outside of the 60 dBA L_{dn} contour line of both San Rafael Airport and the heliport. Noise from San Rafael Airport and the heliport was not audible during the noise monitoring survey. Therefore, the potential for implementation of the project to expose people residing or working in the project area to excessive noise levels from airports or private airstrips is less than significant.

Excessive Ground-Borne Vibration and Ground-Borne Noise During Project Operation

Operation of the project would not result in excessive ground-borne vibration or ground-borne noise levels.

Operation of school facilities on the SRHS campus would not involve equipment or activities that generate excessive ground-borne vibration or ground-borne noise levels. Therefore, project operation would not generate excessive ground-borne vibration or ground-borne noise in the project vicinity, and this impact would be less than significant.

Potentially Significant Impacts and Mitigation Measures

Impact S-NOISE-1: Operation of the project could generate a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance. (PS)

This impact is similar to Impact NOISE-1 and Impact NOISE-2 in the 2017 EIR, and the recommended mitigation measures are similar to Mitigation Measures NOISE-1 and NOISE-2 in the 2017 EIR but revised so that they specifically address the new Capital Improvements Project.

The primary operation period noise generation sources from the proposed project would include the use of stationary sources such as heating, ventilation, and air conditioning (HVAC) systems, athletics fields activities, Aquatics Center activities, and vehicle traffic on nearby roadways.

Traffic Noise Impact

According to the 2017 EIR, 3rd Street is the only roadway near the SRHS campus where average traffic noise levels are 65 dBA L_{dn} or greater. As mentioned above, a doubling in traffic volumes would be required to result in a perceptible increase of 3 dBA in noise levels. As discussed in Section 4.9, *Transportation and Traffic*, of this SEIR, the project would increase the number of

after-school events hosted at the Aquatics Center, Softball Field, and Baseball Field. Although the project would increase the number of facility utilization days per year, the number of trips generated per after-school event would not increase compared to existing conditions because the project would not change the average number of participants and spectators at each event. However, the increased facility use would occur on days that do not currently host after-school events, resulting in an average net increase of 12.9 daily vehicle trips. The project would not have the potential to double the traffic volumes and generate a perceptible increase in traffic noise. Therefore, the noise from an increase in traffic due to implementation of the project would be less than significant.

Stationary Sources

Operation of the project would include the use of new and/or modified HVAC systems. Information regarding the noise-generating characteristics and locations of these HVAC systems was not available at the time this analysis was conducted. Noise from typical commercial-scale HVAC system units can range from approximately 65 to 75 dBA at 50 feet. The HVAC systems located on or adjacent to the project buildings have the potential to generate noise levels above the constant noise limit threshold of 50 dBA established in the San Rafael Municipal Code (as presented in Table 4.8-3) at the nearest residential receptor located approximately 90 feet north of the SRHS campus. Implementation of Mitigation Measure S-NOISE-1a would reduce this potential impact to a less-than-significant level. It should be noted that the HVAC system for the temporary construction trailers that would be used as the contractors' offices during construction would not need to comply with Mitigation Measure S-NOISE-1a.

Mitigation Measure S-NOISE-1a: San Rafael City Schools shall use mechanical equipment selection and acoustical shielding to ensure that noise levels from the installation/modification of heating, ventilation, and air conditioning (HVAC) systems do not exceed 45 dBA L_{eq} inside of the nearest on-campus buildings, and do not exceed 60 dBA $L_{max}/50$ dBA L_{eq} during the daytime and 50 dBA $L_{max}/45$ dBA L_{eq} during the nighttime at the nearest residential receptors. Controls that would typically be incorporated to attain this outcome include locating equipment indoors or in less noise-sensitive areas, when feasible; selecting quiet equipment; and providing sound attenuators on fans, sound attenuator packages for cooling towers and emergency generators, acoustical screen walls, and equipment enclosures. The foregoing requirements shall be included in the appropriate contract documents with the contractor.

Athletic Fields Activity

The project would install artificial turf at the Baseball Field and the Softball Field, without adding new lighting or changing the sound-amplifying equipment. As discussed above, the project would increase the after-school events hosted at the Baseball Field and Softball Field but the total number of average participants and spectators at each event would remain the same. The crowd-generated noise levels per after-school event would be substantially the same as the existing condition. Moreover, the project would not change the hours of operation of the athletic fields. As stated in *Chapter 3, Project Description*, games would mostly occur from 3:00 PM to 9:30 PM, within the hours permitted by the San Rafael Municipal Code (as presented in Table 4.8-4). Therefore, the noise from athletic fields activities during project operation would be substantially the same as the existing condition. Noise from athletic fields activities on the project site would not

generate a substantial permanent increase in ambient noise levels in the project vicinity, and this impact would be less than significant.

Aquatics Center Activity

The project would demolish the existing swimming pool and construct a new competition-level Aquatics Center. As discussed above, the project would increase the after-school events hosted at the Aquatics Center, but the total number of average participants and spectators at each event and the hours of operation would remain the same. The crowd-generated noise levels per after-school event would be substantially the same as the existing condition. Operation of the Aquatics Center would not go beyond 10:00 PM, which is in compliance with the permitted hours established in the San Rafael Municipal Code (as presented in Table 4.8-4).

The project would replace the existing timing and announcing system at the Aquatics Center with a new public address (PA) system. As the new PA system would be designed to be louder and clearer than the existing system due to the increased pool deck area, operation of Aquatics Center would have the potential to generate noise levels above the 80 dBA threshold for sound performances established in the San Rafael Municipal Code (as presented in Table 4.8-4) at the nearest residential receptor located approximately 240 feet north of the proposed new Aquatics Center, requiring mitigation. For example, if the PA system is operated at a sound level of 95 dBA at 60 feet, then the noise level at a receptor located 240 feet away and within the direct line of sight of the PA system (i.e., no barriers) would be about 83 dBA because noise levels are reduced by at least 6 dBA every time the distance from the noise source is doubled (as described in *Environmental Setting* above). The noise levels can be readily reduced by the positioning and angling of the PA system speakers, the presence of barriers (e.g., building walls), and/or operation of the PA system at a lower level. Implementation of Mitigation Measure S-NOISE-1b would reduce this potential impact to a less-than-significant level.

Mitigation Measure S-NOISE-1b: San Rafael City Schools shall consult a qualified acoustical engineer in the design and selection of the new public address (PA) system for the Aquatics Center. The qualified acoustical engineer shall confirm that sound is directed toward the pool area in a manner that reduces noise levels generated by the use of the PA system at approximately 50 feet outside the fence line of the school to below 80 dBA L_{max} to the maximum extent practicable and to the extent feasible.

If reliable complaints related to the PA system are received by San Rafael City Schools during Aquatics Center activities, noise levels shall be measured by a qualified acoustical professional at approximately 50 feet outside the fence line of the school near the location where the noise complaints originated. If the measured noise levels exceed 80 dBA L_{max} , then a qualified acoustical professional shall identify additional noise reduction measures for the District's consideration to reduce noise levels to below 80 dBA L_{max} to the maximum extent practicable and to the extent feasible. (LTS)

Impact S-NOISE-2: Construction of the project could generate temporary increases in ambient noise levels in the project vicinity and in excess of standards established in the local general plan or noise ordinance. (PS)

This impact is similar to Impact NOISE-3 in the 2017 EIR, and the recommended mitigation measures are similar to Mitigation Measures NOISE-3a through 3d in the 2017 EIR but revised so that they specifically address the new Capital Improvements Project.

Construction activities would temporarily increase noise levels in the vicinity of the SRHS campus. The primary source of noise during construction would be off-road equipment activities on the project site. Construction noise levels would vary from day to day, depending on the number and type of equipment being used, the types and duration of activity being performed, the distance between the noise source and the receptor, and the presence or absence of barriers, if any, between the noise source and receptor. Pile driving, which can generate extreme levels of noise, is not proposed as part of the project.

Construction durations for the new Aquatics Center, new Visual Arts Building and Performing Arts Plaza, and Athletic Fields Turf and Storage Project are expected to be approximately 18 months, 18 months and 19 months, respectively. Construction activities associated with the project would be conducted between 7:00 AM and 6:00 PM Monday through Friday and between 9:00 AM and 6:00 PM on Saturdays. The construction hours would ensure that the generation of construction noise would be limited to less noise-sensitive times of the day. It is to be noted that the project and the SRHS campus are exempted from the City of San Rafael Noise Ordinance construction hour requirements. However, construction activities could still generate noise levels exceeding ambient noise levels at nearby sensitive receptors.

The types of construction equipment that would be used on the project site for the Aquatics Center, the Performing Arts Plaza, and the athletic fields were provided by the District. In accordance with guidance from FTA (FTA, 2018), construction noise impacts were evaluated by quantifying the maximum noise levels that would result from the simultaneous operation of the two noisiest pieces of equipment near the perimeter of the project site closest to a sensitive receptor. The types of construction equipment that would be used at the project site and the associated noise calculations are included in **Appendix F**.

As shown in **Table 4.8-5**, the project's construction noise levels were estimated at the nearest off-site noise-sensitive receptors for the Aquatics Center, the Performing Arts Plaza, and the athletic fields, which include single-family residences about 55 feet across Mission Avenue to the west, about 88 feet across Mission Avenue to the north, and about 130 feet across Embarcadero Way to the south, respectively. Based on this analysis, project construction would generate noise levels that exceed the 70 dBA L_{eq} threshold at nearest off-site noise-sensitive receptors but not the 90 dBA L_{max} threshold at any point outside of the construction property plane. In addition, construction of the project would occur adjacent to on-campus buildings. The potential for the project to generate a substantial temporary increase in ambient noise levels in the project vicinity is considered a potentially significant impact. Implementation of Mitigation Measures S-NOISE-2a through S-NOISE-2d would reduce the potentially significant impact during project construction to a less-than-significant level.

Mitigation Measure S-NOISE-2a: To the maximum extent practicable, San Rafael City Schools shall schedule construction activities during periods when classes are not in session, such as summer, school breaks, and after class dismissal.

TABLE 4.8-5 POTENTIAL NOISE IMPACT FROM PROJECT CONSTRUCTION EQUIPMENT

Project Development	Potential Noise Levels at Nearest Sensitive Receptor		Threshold (dBA L _{eq})	Threshold Exceeded?	Threshold (dBA L _{max})	Threshold Exceeded?
	(dBA L _{eq})	(dBA L _{max})				
New Aquatics Center	84	89		Yes		No
Visual Arts Building and Performing Arts Plaza	79	83	70	Yes	90	No
Athletic Fields Turf and Storage Project	76	80		Yes		No

Source. Noise calculations are included in **Appendix F**.

Mitigation Measure S-NOISE-2b: For each of the campus improvements evaluated in the Supplemental Environmental Impact Report (SEIR) (including the new Aquatics Center, Visual Arts Building and Performing Arts Plaza, and the Athletic Fields Turf and Storage Project), a Construction Noise Management Plan shall be prepared by a qualified acoustical consultant and included in all contractor specifications. The Construction Noise Management Plan shall contain a set of site-specific noise attenuation measures to further reduce construction noise impacts at the nearby on-campus buildings and off-site residential receptors. If appropriate based on the circumstances, multiple improvements can be addressed under one Construction Noise Management Plan. The site-specific noise attenuation measures shall be designed to reduce noise levels at the nearest on-campus and off-site receptors to below 70 dBA L_{eq}, as practical. If it is not feasible to reduce noise at the nearest on-campus receptors to below 70 dBA L_{eq} due to their proximity to the nearest construction and demolition locations, the school shall relocate students to classrooms with interior noise levels below 45 dBA L_{eq}. At a minimum, the following measures shall be included in the Construction Noise Management Plan:

- *Construct or use temporary noise barriers, as needed, to shield on-campus construction and demolition noise from noise-sensitive areas to the extent feasible. To be most effective, the barrier should be placed as close as possible to the noise source or the sensitive receptor. Examples of barriers include portable acoustically lined enclosure/housing for specific equipment (e.g., jackhammer and pneumatic-air tools, which generate the loudest noise), temporary noise barriers (e.g., solid plywood fences or portable panel systems, minimum 8 feet in height), and/or acoustical blankets, as feasible.*
- *To the extent feasible, establish construction staging areas at locations that would create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.*
- *Prohibit all unnecessary idling of internal combustion engines and equip all internal combustion engine-driven equipment with an operating muffler or baffling system that is in good condition and appropriate for the equipment.*
- *Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from noise-sensitive land uses, as feasible. Muffle the stationary equipment and enclose within temporary sheds or surround by insulation barriers, if feasible.*

Mitigation Measure S-NOISE-2c: San Rafael City Schools shall develop a set of procedures for responding to and tracking complaints received pertaining to construction noise and shall implement the procedures during construction of the project. Contractor specifications shall include these procedures. At a minimum, the procedures shall include:

- a) Designation of a construction complaint and enforcement manager for the project;*
- b) Protocols specific to receiving, responding to, and tracking received complaints; and*
- c) Maintenance of a complaint log that records received complaints and how complaints were addressed.*

The contact information of the construction complaint and enforcement manager shall be posted in conspicuous locations at the construction site.

Mitigation Measure S-NOISE-2d: Residences located within 250 feet of the campus improvements evaluated in the SEIR (including the new Aquatics Center, Visual Arts Building and Performing Arts Plaza, and Athletic Fields Turf and Storage Project) shall be provided with written notice of construction activity before work begins, except in the case of an emergency. The notice shall include the contact information of the construction complaint and enforcement manager identified in Mitigation Measure S-NOISE-2c. (LTS)

Impact S-NOISE-3: Construction of the proposed project could generate excessive ground-borne vibration. (PS)

This impact is similar to Impact NOISE-4 in the 2017 EIR, and the recommended mitigation measure is similar to Mitigation Measure NOISE-4a in the 2017 EIR but revised so that it specifically addresses the new Capital Improvements Project.

Construction can result in varying degrees of ground vibration depending on the type of equipment and activity. The primary types of equipment that could generate substantial ground vibration during project construction and the associated vibration calculations are included in **Appendix F**. To evaluate the project's potential vibration effects on nearby sensitive receptors, a buffer distance that would be needed to avoid exceeding the FTA (2018) construction vibration thresholds was estimated for each type of equipment. It was conservatively assumed that the equipment that could generate substantial ground vibration would be used near the project boundaries. The nearest off-site vibration-sensitive receptors for the Aquatics Center, the Performing Arts Plaza, and the athletic fields are single-family residences about 55 feet across Mission Avenue to the west, about 88 feet across Mission Avenue to the north, and about 130 feet across Embarcadero Way to the south, respectively. The nearest on-site vibration-sensitive receptors are students at the adjacent on-campus buildings.

Annoyance from Vibration

For off-site vibration-sensitive receptors, vibration annoyance impacts (i.e., sleep disturbance) on people within residential buildings would not occur because construction activities would not be performed during the nighttime. The estimated buffer distances to avoid potential disturbance to on-site institutional land uses (i.e., classrooms) are summarized in **Table 4.8-6**. For on-site receptors, the construction equipment that would require the largest buffer distance to avoid generating vibration levels that could disturb institutional land uses is the vibratory roller. Vibration

from a vibratory roller could exceed the 83 VdB threshold at institutional land uses located within 58 feet. The on-site receptors, which would be the students at the adjacent on-campus buildings, would be located within the 58 feet of project construction activities, and therefore could be exposed to excessive vibration levels that could potentially disturb the normal school operations. Implementation of Mitigation Measure S-NOISE-3, which would require construction to be scheduled to avoid disrupting classroom activities, would reduce the potentially significant vibration impact during project construction to a less-than-significant level.

TABLE 4.8-6 POTENTIAL VIBRATION DISTURBANCE DURING CONSTRUCTION

Equipment	Vibration Threshold (VdB)	Buffer Distance to Disturbance Threshold (feet)
Vibratory Roller	83	58
Large Bulldozer		34
Loaded Trucks		31
Small Bulldozer		4

Note: The following FTA threshold was used to calculate the buffer distances from construction equipment: People – Maximum vibration threshold of 83 VdB for institutional land uses from infrequent construction events.

Source: Vibration calculations are included in **Appendix F**.

Mitigation Measure S-NOISE-3: Mitigation Measures S-NOISE-2a shall be implemented. (LTS)

Structural Damage from Vibration

The estimated buffer distances for avoid potential structural damage to buildings is summarized in **Table 4.8-7**. The largest buffer distance to avoid generating vibration levels that could cause damage to older residential buildings is 20 feet for the vibratory roller. The closest residential receptors are the single-family residences located about 55 feet across Mission Avenue to the southwest of the new Aquatics Center, which is outside of the applicable 20-foot buffer zone. Therefore, project construction would not generate vibration levels above the building damage thresholds at off-site sensitive receptors, and this impact would be less than significant.

TABLE 4.8-7 POTENTIAL VIBRATION DAMAGE TO BUILDINGS DURING CONSTRUCTION

Equipment	Vibration Threshold (in/sec)	Buffer Distance to Damage Threshold (feet)	Distance to Closest Off-Site Receptor (feet)	Threshold Exceeded?
Vibratory Roller	0.3	20	55	No
Large bulldozer		11		No
Loaded trucks		10		No
Small bulldozer		1		No

Source: Vibration calculations are included in **Appendix F**.

As discussed in the 2017 EIR, consideration of damage to buildings on a developer's own property is a standard part of the design and review process for a development. This process would ensure that existing buildings remain in good condition both during and after the construction of the project. Therefore, the potential of construction-generated vibration to result in damage to on-campus buildings is not further discussed in the SEIR and is considered less than significant.

Cumulative Impacts

This analysis evaluates whether the impacts of the proposed project, together with the impacts of other pending projects in the vicinity, would result in a cumulatively significant impact with respect to noise or vibration. This analysis then considers whether the incremental contribution of the impacts associated with implementation of the proposed project would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of a significant impact. Noise and vibration dissipate with increased distance from the source; therefore, cumulative noise and vibration impacts would not be expected unless new sources are located in close proximity to each other. Therefore, the geographic scope for assessing cumulative impacts related to noise and vibration includes sources on and adjacent to the project site.

Similar to the Master Facilities Long-Range Plan and Stadium Project evaluated in the 2017 EIR, the Capital Improvements Project would be subject to the noise limits specified in the San Rafael Municipal Code. Compliance with the San Rafael Municipal Code requirements and the implementation of Mitigation Measures S-NOISE-1a, S-NOISE-1b, S-NOISE-2a through S-NOISE-2d, and S-NOISE-3 would reduce potential cumulative noise and vibration impacts to a less-than-significant level.

REFERENCES

- California Department of Transportation (Caltrans), 1998. Technical Noise Supplement: A Technical Supplement to the Traffic Noise Analysis Protocol.
- California Office of Planning and Research (OPR), 2003. General Plan Guidelines.
- Charles M. Salter Associates, 1998. Acoustics – Architecture, Engineering, the Environment. William Stout Publishers.
- City of San Rafael, 2013. City of San Rafael General Plan 2020. Amended and reprinted January 18.
- City of San Rafael, 2021. San Rafael General Plan 2040, August 2.
- Federal Highway Administration (FHWA), 2018. Techniques for Reviewing Noise Analyses and Associated Noise Reports.
- Federal Transit Administration (FTA), Office of Planning and Environment, 2006. Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06.
- Federal Transit Administration (FTA), 2018. Transit Noise and Vibration Impact Assessment Manual, FTA Report No.0123, September.

4.9 TRANSPORTATION AND TRAFFIC

INTRODUCTION

This section describes existing transportation conditions near the San Rafael High School (SRHS) campus, summarizes applicable jurisdictional laws and regulations associated with transportation, and presents the significance criteria for transportation-related environmental impacts. This section describes the analysis methodology and identifies the potential transportation effects of the SRHS Capital Improvements Project. This section summarizes the project's conformance with adopted plans and policies relating to the circulation network and vehicle miles traveled (VMT) thresholds of significance, and the project's potential to result in geometric design hazards or impacts on emergency access. This evaluation is made in the context of the 2017 Environmental Impact Report (EIR) (San Rafael City Schools, 2017), which assessed the potential environmental impacts for the SRHS Master Facilities Long-Range Plan and Stadium Project using significance criteria in place at the time for the California Environmental Quality Act (CEQA). This section addresses changes to the environmental setting, regulatory setting, and significance criteria since 2017 and identifies potential impacts and associated mitigation measures of the currently proposed Capital Improvements Project.

ENVIRONMENTAL SETTING

Summary of Environmental Setting from 2017 EIR

The environmental setting described in the 2017 EIR for the SRHS campus remains largely unchanged. The campus is situated within the City of San Rafael and is bordered by Mission Avenue to the north, 3rd Street to the south, Embarcadero Way to the east, and Union Street to the west. Key roadways providing access to the site include U.S. Highway 101, Mission Avenue, 3rd Street, 2nd Street, Grand Avenue, Union Street, Hetherton Street, Irwin Street, and Embarcadero Way. Pedestrian facilities such as sidewalks, curb ramps, and crosswalks exist, but not all features meet the Public Rights-of-Way Accessibility Guidelines (PROWAG) requirements. Limited bicycle routes with shared road markings ("sharrows") are present along certain streets. Public transit options are accessible, with the San Rafael Transit Center less than 1 mile away, serving local and regional transit, including Marin Transit bus lines. Baseline conditions for the 2017 EIR were 233 existing parking spaces on the SRHS campus in three surface parking lots—one at the south end of the campus for students (with access from 3rd Street) and two small parking areas at the north end of the campus (with access from Mission Avenue) (see Figure 3-3 in *Chapter 3, Project Description*). Of the 233 spaces, a total of 12 Americans with Disabilities Act (ADA) parking spaces were on the campus.

Changes in Environmental Setting Since 2017 EIR

The parking supply has been slightly altered from the description in the 2017 EIR. Current conditions include a total of 236 parking spaces on the SRHS campus, 13 of which are ADA parking spaces.

Local bus service to and from the SRHS campus provided by Marin Transit remains as described in the 2017 EIR, except for the following changes in bus routes:

- Route 23, Shoreline Parkway (San Rafael) – Sir Francis Drake Boulevard and Claus Drive (Fairfax). Service to the area is provided approximately once every 30 minutes between 6:00 AM and 9:00 PM during weekdays and between 7:00 AM and 8:00PM on weekends and holidays.
- Route 36, Kerner Boulevard and Larkspur Street (San Rafael) – Donahue Street and Terners Drive (Marin City). Service to the area is provided approximately once every 30 minutes, between 6:00 AM to 8:00 PM Monday through Friday, and 7:30 AM to 7:00 PM on weekends and holidays.
- Route 35, Kerner Boulevard and Larkspur Street (San Rafael) – Redwood Boulevard and Olive Avenue (Novato). Service to the area is provided approximately once every 30 minutes, between 5:30 AM and 2:30 AM every day of the week.
- Route 233, San Rafael Transit Center (San Rafael) – Venodola Drive and Estancia Way (Santa Venetia). Service to the area is provided approximately once every hour between 7:00 AM and 7:30 PM Mondays through Fridays, and 8:00 AM and 5:30 PM on weekends and holidays.

REGULATORY FRAMEWORK

Applicable state, regional, and local agency laws, regulations, plans, policies, and orders that could pertain to project-related transportation issues are presented below.

Summary of Regulatory Framework from 2017 EIR

State Regulations

The California Department of Transportation (Caltrans) is the agency tasked with overseeing California's State Highway System, which includes the management, planning, design, construction, operation, and maintenance of highways throughout the state.

The Caltrans *Guide for the Preparation of Traffic Impact Studies* (Caltrans, 2002) provides guidance on the analysis of the potential impacts of a project on the State Highway System. A traffic analysis is warranted if:

- The project would generate 100 peak hour trips assigned to a State Highway System;
- The project would generate 50 to 100 peak hour trips assigned to a state highway facility, and the affected highway facilities are experiencing a noticeable delay approaching unstable traffic flow (level of service [LOS] C or D) conditions; or
- The project would generate 1 to 49 peak hour trips assigned to a state highway facility, and the affected highway facilities are experiencing significant delay, unstable or forced traffic flow (LOS E or F conditions) (Caltrans, 2002).

There has been a significant shift in how transportation and environmental impact assessments are conducted in California due to Senate Bill 743, which became law in 2013. This legislation

mandated a fundamental change in the CEQA Guidelines. See “Change in Regulatory Framework Since 2017 EIR” below for discussion on relevant changes.

Regional Policies

Metropolitan Transportation Commission Plan Bay Area

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area. The MTC prepares a 25-year Regional Transportation Plan that guides funding priorities for regional development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

Local Plans and Policies

Transportation Authority of Marin

The Transportation Authority of Marin (TAM) is a Joint Powers Agency established between Marin County and all cities and towns within the county, including the City of San Rafael, to address Marin’s unique transportation issues and to fulfill the legislative requirements of California Propositions 111 and 116 (approved in June 1990). As the Congestion Management Agency (CMA) for Marin County, TAM maintains the Congestion Management Plan (CMP) (Transportation Authority of Marin, 2015).

As required by state legislation, TAM maintains a travel demand model to forecast proposed changes to the transportation network. The CMP is updated every 3 years. As per TAM CMP Guidelines, any proposed general plan update, amendment, or major development that is projected to result in a net increase of 100 vehicle trips during the PM (afternoon) peak hour necessitates the submission of a congestion management analysis to TAM. Local jurisdictions are tasked with determining which projects meet this threshold.

TAM funds and manages the Marin County Safe Routes to School program, designed to reduce congestion around schools by encouraging and facilitating the use of “green trips” (e.g., walking, bicycling, transit, and carpooling) for travel to and from schools. Since the countywide program was established in 2000, San Rafael High School has intermittently participated (Marin Safe Routes to School Program, 2016).

San Rafael General Plan

The City of San Rafael has updated its general plan since the 2017 EIR was prepared. Therefore, the San Rafael General Plan discussion from the 2017 EIR is not relevant to the proposed Capital Improvements Project. See “Changes in Regulatory Framework Since 2017 EIR” below for discussion of relevant policies and programs from the updated San Rafael General Plan.

San Rafael Bicycle and Pedestrian Master Plan

The City of San Rafael’s Bicycle/Pedestrian Master Plan (adopted April 2011) outlines goals, objectives, and policy actions to guide and facilitate the City in the implementation, maintenance, and upgrade of the bicycle and pedestrian infrastructure in San Rafael (City of San Rafael, 2011). Relevant policies provided by the Bicycle/Pedestrian Master Plan include the following:

Policy C-1. Complete missing connections to establish direct routes for walking.

Policy C-2. Identify and mitigate impediments and obstacles to walking to school, such as through a Safe Routes to Schools program.

Policy C-4. Support the installation of appropriate pedestrian facilities as part of all new transportation improvements, development projects and transit facilities.

An update of the plan was released in 2018, and the goals and objectives remain largely consistent with the 2011 document.

San Rafael Municipal Code

The San Rafael Municipal Code, including the Zoning Code, contains sections related to transportation, bicycle facilities, and parking. Chapter 14.18 of the Zoning Code outlines parking standards for new construction, while Section 14.18.090 specifies bicycle parking requirements. Additionally, Chapter 5.8.1 of the Municipal Code sets trip reduction and travel demand requirements for large employers. Although the District is exempt from city zoning ordinances and regulations, as per Government Code Section 53094, the 2017 EIR evaluated the project's consistency with these policies.¹

Changes in Regulatory Framework Since 2017 EIR

State Regulations

Senate Bill 743, which was signed into law in 2013, mandated a change in the CEQA Guidelines to use VMT as opposed to vehicle delay or traffic congestion as a metric for assessing project impacts, in line with goals of helping to achieve climate commitments, improving health and safety, and prioritizing co-located land uses. After the California Governor's Office of Planning and Research (OPR) issued the updated Technical Advisory on Evaluating Transportation Impacts in CEQA in 2018, CEQA analysis that met this framework became mandatory on July 1, 2020, for proposed land use projects; therefore, the 2017 EIR did not include the VMT analysis.

Regional Policies

Plan Bay Area 2050 was adopted by the MTC in October 2021 as an update to Plan Bay Area 2040 and serves as the official long-range plan for the nine-county Bay Area region transportation system as well as housing, economy, and the environment.

Local Plans and Policies

Transportation Authority of Marin

TAM, as per the updated Congestion Management Plan (CMP) in 2021, identifies regional roadways within the SRHS campus vicinity that are part of the CMP network. Despite the updated

¹ On October, 23, 2023, San Rafael City Schools adopted Resolution No. 2324-17 to exempt the District from local land use controls.

CMP, there have been no significant changes to the designated roadways or their assessments of arterial level of service in the project area.

San Rafael General Plan

The San Rafael General Plan (City of San Rafael, 2021a) contains goals, policies, and programs that guide the City's land use and development policy. The updated San Rafael General Plan was released and adopted in August 2021. The Mobility Element of the San Rafael General Plan contains a range of policies and implementation programs designed to maintain or improve transportation circulation within the city.

Relevant policies and programs provided by the San Rafael General Plan are as follows:

Policy M-3.2: Using VMT in Environmental Review. Require an analysis of projected vehicle miles traveled (VMT) as part of the environmental review process for projects with the potential to significantly increase VMT. As appropriate, this shall include transportation projects and land use/policy plans as well as proposed development projects.

Program M-3.2A: Screening Criteria for VMT Analysis. Adopt and maintain screening criteria for different land uses and project types to determine when a VMT analysis is required as part of the environmental review process. Screening criteria should be revisited over time to ensure that they are appropriate. The criteria should include exemptions for projects with substantial VMT benefits, such as mixed use and infill development in Downtown San Rafael.

Program M-3.2B: Thresholds for Determining a Significant VMT Impact. Adopt and maintain thresholds to determine if a VMT impact may be considered "significant" under the California Environmental Quality Act (CEQA).

Program M-3.2C: Mitigation Measures for VMT Impacts. Develop and implement mitigation measures that can be applied to projects with potentially significant VMT impacts in order to reduce those impacts to less than significant levels.

Program M-3.2D: Overriding Considerations for Projects with Unavoidable VMT Impacts. Require the adoption of specific overriding consideration findings before approving a project that would result in significant unavoidable impacts on VMT.

Program M-3.3B: Support for TDM. Work cooperatively with governmental agencies, non-profits, businesses, institutions, schools, and neighborhoods to provide and support TDM programs.

Program M-3.3D: Shifting Peak Hour Trips. Support efforts to limit traffic congestion by shifting peak hour trips to non-peak hour, modifying school hours to stagger start and end times, and encouraging flexible work schedules. The long-term impacts of remote work on potential TDM strategies should be considered.

Policy M-3.5: Alternative Transportation Modes. Support efforts to create convenient, cost-effective alternatives to single passenger auto travel. Ensure that public health, sanitation, and user safety is addressed in the design and operation of alternative travel modes.

Policy M-5.1: Traffic Calming. Protect residential areas from the effects of speeding traffic from outside the neighborhood through appropriate traffic calming solutions such as speed humps, bulb-outs, speed limits, stop signs, and chicanes. Traffic calming measures shall not conflict with emergency response capabilities.

Program M-5.1A: Traffic Calming Program. Maintain a neighborhood traffic calming program under the direction of the City Traffic Engineer and seek funding for its implementation. Ensure neighborhood participation in the development and evaluation of potential traffic calming solutions.

Policy M-5.5: School-Related Traffic. Actively encourage public and private schools to reduce congestion caused by commuting students and staff through improved provisions for pick-up and drop-off, parking management, staggered start and end times, and trip reduction.

Program M-5.5A: School Transportation. Implement measures to improve the safety of students walking, bicycling, or taking the bus to school. Examples include pedestrian crossing enhancements, transit passes or reduced rates for students, locating transit stops near school campuses, supporting increased funding for school buses and crossing guards, and staggering school hours.

Policy M-6.1: Encouraging Walking and Cycling. Wherever feasible, encourage walking and cycling as the travel mode of choice for short trips, such as trips to school, parks, transit stops, and neighborhood services.

Program M-6.2D: Safe Routes Programs. Work collaboratively with local schools to implement Safe Routes to School programs.

Downtown San Rafael Precise Plan

Within the framework of the citywide Draft General Plan 2040, the Draft Downtown Precise Plan, adopted in June 2021, offers a focused vision for the Downtown area over a 20-year span from 2020 to 2040. Unlike the broader General Plan 2040, this precise plan provides detailed guidance for the development and revitalization of the Downtown district. It addresses specific urban planning, land use, and transportation considerations tailored to the downtown environment. This plan is relevant to SRHS, which is located near the Downtown area, as the plan helps shape the urban landscape and infrastructure surrounding the school. It ensures that the school, as a vital community institution, is situated within a dynamic and thoughtfully planned urban context that aligns with the city's long-term vision for sustainable growth and development. The following are two relevant policies of the Downtown San Rafael Precise Plan:

Policy 3C. Enhance bicycle and pedestrian infrastructure to improve connectivity within Downtown and to other parts of San Rafael.

Policy 3E. Optimize the use of Downtown's existing parking supply and promote a "park once and walk" strategy.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Supplemental EIR Analysis Scope and Pertinent Changes

Overview

The Capital Improvements Project would result in additional usage of SRHS facilities during after-school hours. Projected anticipated timing and net change in after-school sporting events as a result of the project are addressed in *Chapter 3, Project Description* (Table 3-4). This section evaluates potential transportation impacts associated with the change due to the project, performed in accordance with the City of San Rafael *Transportation Analysis Guidelines*.

Project Trip Generation

The City of San Rafael *Transportation Analysis Guidelines* require each project to document the estimated number of trips it would generate in order to determine the level of transportation impact analysis required to be conducted. Vehicle trips generated by the project were estimated using school facility information for project components that would result in additional attendees compared to existing conditions. Projected after-school events are included in Table 3-4, which shows the anticipated timing and net change in after-school sporting events with the project.

As displayed in **Table 4.9-1**, the project would result in increased use of the Aquatics Center, Softball Field, and Baseball Field. While the total number of average participants and spectators at each event are not forecast to increase, the number of facility utilization days per year would increase. The increase in use is assigned principally to community organizations with minor increases by SRHS sports programs, as it is assumed that facilities are already used by the latter group to sufficiently train and perform in organized athletic events within the designated athletic seasons.

Vehicle trip generation reflects travel mode and vehicle occupancy assumptions both to and from the project facilities, accounting for differences between participant and spectators for the Aquatics Center, Softball Field, and Baseball Field with respect to age, travel distance, and type of participating community organizations. As the project would generate vehicle trips on varied days of the weeks and seasons, vehicle trip generation from all project facilities is summed and calculated as daily averages in order to compare against the relevant VMT screening criteria. Project vehicle trip generation estimates are summarized below in Table 4.9-1.

The project would result in a net increase of 12.9 daily vehicle trips from increased days of use of the Aquatics Center, Softball Field, and Baseball Field. However, all additional trips are generated on days that do not currently host after-school events. As the total number of average participants and spectators at each facility use session would not increase, the number of trips generated per after-school event would not increase compared to existing conditions. Accordingly, associated traffic conditions and circulation network use would not change as a result of the project.

TABLE 4.9-1 OVERALL PROJECT VEHICLE TRIP GENERATION RESULTS

Facility	Average Vehicle Trips Generated per Event			Events per Year			Average Daily Project-Generated Vehicle Trips
	In	Out	Total	Existing	Proposed	Net Change	
Aquatics Center – Weekday Use – Practices	24	41	65	152	16	168	2.85
Aquatics Center – Weekday Use – Competitions	64	64	128	43	5	48	1.75
Aquatics Center – Weekend Use – Practices	43	43	86	5	1	16	0.24
Aquatics Center – Weekend Use – Competitions	226	226	452	10	2	12	2.48
Softball Field – Practices	15	29	44	92	16	108	1.93
Softball Field – Competitions	59	59	118	23	4	27	1.29
Baseball Field – Practices	15	29	44	117	14	131	1.69
Baseball Field – Competitions	59	59	118	13	2	15	0.65
Total Project							12.9

Source: Parametrix, 2023.

Significance Criteria

Significance Criteria from 2017 EIR

The 2017 EIR indicated that, based on Appendix G of the CEQA Guidelines, implementation of the proposed project would have a significant effect on transportation and traffic if it would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and nonmotorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Changes in Significance Criteria Since 2017 EIR

OPR has published guidelines for agencies to establish CEQA thresholds for significance and VMT screening thresholds that the agency uses in the determination of the significance of environmental impacts. Accordingly, the City of San Rafael incorporates this guidance, and includes the following significance criteria, screening criteria, and thresholds of significance in its *Transportation Analysis Guidelines (2021)*.

The project would have a significant effect on the environment if it would:

- a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian paths;
- b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3 (Subdivision (b)(1)) regarding VMT;
- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- d) Result in inadequate emergency access.

VMT Screening Criteria

The City's Transportation Impact Analysis Guidelines (City of San Rafael, 2021b) prescribe VMT screening criteria and VMT thresholds of significance for VMT analysis. VMT screening thresholds help to identify projects expected to cause a less-than-significant impact. If projects meet any of the City's six VMT screening criteria, they are "screened-out"; it is presumed that their VMT impacts would be less than significant, and a detailed VMT analysis is not required for CEQA analysis purposes.

Projects are presumed to have a less-than-significant transportation impact if they meet any of the following screening criteria:

1. Transit Priority Areas
2. Affordable Housing
3. Small Projects
4. Locally Serving Public Facility
5. Neighborhood-Serving Retail Project
6. Residential and Offices Projects in Low VMT Areas

VMT Thresholds of Significance

If a project is not "screened-out" against VMT screening criteria, a detailed VMT analysis using the City of San Rafael General Plan Model is required to determine if there would be a significant VMT impact (City of San Rafael, 2021b). The impact analysis includes two types of VMT:

7. Project-generated VMT per resident, employee, or service population (where the service population is the sum of residents and employees). The project-generated VMT method relies on tracking trips to/from an individual project.
8. Project effect on VMT compares how the project would change VMT on the network, looking at total citywide VMT per service population. This VMT applies what is known as the boundary

method, which captures all VMT on a network within a defined boundary (i.e., Marin County or the Bay Area region).

Summary of Impacts and Mitigation Measures from 2017 EIR

Areas of No Impact from 2017 EIR

The 2017 EIR did not identify any areas for which the Master Facilities Long-Range Plan, including the Stadium Project, would have no transportation impact.

Less-than-Significant Impacts from 2017 EIR

The 2017 EIR concluded that the Master Facilities Long-Range Plan would have less than significant impacts on the TAM CMP, change in air traffic patterns, emergency access, and public transit.

Potentially Significant Impacts and Mitigation Measures from 2017 EIR

The table below summarizes potentially significant impacts and mitigation measures identified in the 2017 EIR.

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
Transportation and Traffic			
<p><u>TRANS-1</u>: Assuming student travel mode shares and vehicle trip distribution patterns remain consistent with those under existing conditions, implementation of the Master Facilities Long-Range Plan would increase single-occupancy vehicular travel as well as overall vehicular traffic levels along key access roadways, including Mission Avenue and 3rd Street. The addition of these Long-Range Plan-related vehicular trips would degrade traffic flows along these key access roadways. Maintaining the existing student travel mode shares and the resulting increase in single-occupancy vehicular travel would conflict with the city-wide policies and programs established to manage congestion and improve mobility as documented in the San Rafael General Plan. These Long-Range Plan-related conditions would particularly conflict with Program C-11e (Reduction of Single Occupant Vehicles) and Program C-13a (School Transportation).</p>	<p>PS</p>	<p><u>TRANS-1a</u>:^{Note 2} San Rafael City Schools shall develop a Transportation Demand Management (TDM) program for San Rafael High School that focuses on reducing vehicle trips and improving traffic flow by implementing a series of measures including, but not limited to, the following:</p> <ul style="list-style-type: none"> ▪ Updating and enforcing elements of the school's transportation measures in the School Handbook, such as requiring on-site parking permits; instructing parents and students on expected travel routes to use, drop-off/pick-up locations, and appropriate driver behaviors; and providing bus stop and bus route information. ▪ Working with the San Rafael High School Athletic Department to ensure that sports-related drop-offs and pick-ups are directed to use the school parking lots accessible via 3rd Street. ▪ Providing wayfinding signage and informational material (e.g., flyers, emails, etc.) to visitors prior to major sports and/or special events that would direct traffic to the 3rd Street driveways. ▪ Considering promotion of carpool trips, and designating specific on-site parking spaces for carpool use only. ▪ Enrolling and actively participating in Marin County's Safe Routes to School program to take advantage of resources focused on reducing single-student occupant vehicle trips and to promote walking, bicycling, use of public transit, and carpooling. 	<p>LTS</p>

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
<p><u>TRANS-2:</u> The addition of project-generated vehicular traffic onto local roadways would increase traffic congestion, particularly on Mission Avenue due to increased drop-off and pick-up activities. This would deteriorate traffic flow along Mission Avenue, which lacks adequate loading and unloading zones. This would also present a safety hazard as it would increase potential conflicts between vehicular traffic and pedestrian and bicycle traffic. These impacts would conflict with the San Rafael General Plan Program C-4a (Street Pattern and Traffic Flow).</p>	PS	<ul style="list-style-type: none"> ▪ Providing personnel (trained using the American Automobile Associate School Safety Patrol curriculum) to monitor and facilitate drop-off and pick-up activities along Mission Avenue. ▪ Conducting periodic monitoring of traffic, including single-student occupant vehicles and carpools, pedestrian and bicycle trips, and school trips made by public transit to gauge success and promote appropriate measures to reduce vehicle trips. <p><u>TRANS-1b:</u> ^{Note 2} To the extent feasible, San Rafael City Schools shall work with the City of San Rafael to update the listed address of San Rafael High School such that the school's main access point is identified with a 3rd Street address rather than its current designated 185 Mission Avenue address. The implementation of this mitigation measure would encourage some traffic, including sports events traffic and freight traffic, away from neighborhood streets north of the SRHS campus and onto 3rd Street. Successful implementation of a TDM program that retains current traffic levels, or reduces traffic levels, with the addition of up to 200 additional students would reduce Impact TRANS 1 to a less-than-significant level.</p>	SU
		<p><u>TRANS-2a:</u> ^{Note 2} San Rafael City Schools shall, as feasible, work with the City of San Rafael to extend westward the existing passenger loading zone by up to 300 feet, for a new passenger loading zone spanning the length of the south side of Mission Avenue between Alice Street and Park Street.</p> <p>The extension of the loading zone would be accomplished either by painting the adjacent roadway curb white or moving the roadway's curb and sidewalk south, if feasible. Accompanying signage would also be installed that would designate the area as a passenger loading zone. The loading zone extension would result in the loss of about 12 vehicular parking spaces. However, the zone would enhance roadway safety by increasing the designated area of drop-off, allowing vehicles to pull over for drop-off and pick-up activities and avoid hindering traffic flow along Mission Avenue.</p> <p><u>TRANS-2b:</u> The District shall consider the implementation of a remote drop-off and pick-up program. The program would designate off-site passenger loading location to divert school-related vehicle trips to locations within a one-quarter-mile radius of the site. This would reduce traffic congestion along neighborhood streets adjacent to the school site and promote student health by allowing students to walk the distance between the off-site location and the school campus. The mitigation measure would support San Rafael General Plan Program C-4a (Street Pattern and Traffic Flow) and Program C-13a (School Transportation).</p>	

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
<p><u>TRANS-3</u>: The addition of project-generated vehicular traffic would increase average vehicular delay by more than 5 seconds at two intersections— Union Street/Mission Avenue, and San Rafael High School Driveway (West)/3rd Street—under near-term (year 2020) plus Master Facilities Long-Range Plan conditions, and at two intersections— Union Street/Mission Avenue and San Rafael High School Driveway (West)/3rd Street—under cumulative (year 2040) plus Master Facilities Long-Range Plan conditions. The additional average vehicular delay under near-term (year 2020) plus Master Facilities Long-Range Plan conditions would degrade intersection operating conditions from level of service (LOS) D to LOS F at one intersection. The additional average vehicular delay and degradation of level of service operations would represent a significant impact as defined by City of San Rafael significance thresholds.^{Note 1}</p>	PS	<p>The roadway curb and potential remote drop-off and pick-up locations fall under the jurisdiction of the City of San Rafael, and therefore the changes recommended in this mitigation measure would be subject to approval by the City’s Public Works Department. Implementation of this measure would reduce Impact TRANS-2 to a less-than-significant level, but because the mitigation measure requires coordination with the City of San Rafael, its implementation cannot be assured. The impact is therefore considered significant and unavoidable.</p> <p><u>TRANS-3a</u>: As feasible, San Rafael City Schools shall work with the City of San Rafael to implement the reconfiguration of the Union Street/Mission Avenue intersection to provide two lanes in the westbound direction (a left-turn lane, and a shared through and right-turn lane) and two lanes in the northbound direction (a shared through and left-turn lane, and a right-turn lane). The additional lanes could be introduced by restriping the existing roadway to provide the additional lane markings within the existing right-of-way.</p> <p>The intersection reconfiguration would require use of the roadway’s existing width to accommodate the additional lanes. This would be achieved by removing up to 160 feet of parking along both sides of westbound Mission Avenue, causing the loss of approximately eight parking spaces on both sides of the street, including the passenger loading zone on the south side of Mission Avenue. However, as detailed in the parking study (provided in Appendix F-7 of this EIR), the adjacent streets are operating at under 70 percent occupancy levels and could accommodate the parking demand from the displaced parking spaces.</p> <p>If feasible, and to the extent that California Department of Education (CDE)-mandated school site size requirements (CDE Guide to School Site Analysis and Development 2000 Report) would not be violated, an alternative roadway reconfiguration could include potentially moving the roadway curb and sidewalk southerly (onto District property) to provide the extra lane width and minimize the loss of parking along Mission Avenue.</p> <p>The new lane reconfiguration would potentially reduce vehicular queue lengths along the westbound direction of Mission Avenue to under 100 feet in near-term (year 2020) plus Master Facilities Long-Range Plan conditions and under 120 feet in cumulative (year 2040) plus Master Facilities Long-Range Plan conditions.</p> <p><u>TRANS-3b</u>: There is no feasible measure to mitigate the intersection impacts at the two San Rafael High School driveway intersections along 3rd Street.</p> <p>Vehicles turning left from the driveway south of the San Rafael High School driveway (west)/3rd Street intersection would experience an increase of up to about 46 seconds of delay under the Cumulative</p>	SU

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p>(year 2040) plus Master Facilities Long-Range Plan conditions. Under this scenario, this movement is projected to be about 11 vehicles during the morning peak hour. These vehicles would have to wait for sufficient gaps in traffic to make the left turn. While the additional delay would inconvenience these vehicles, it would only occur during the very short peak hours of school-related vehicular trip generation and would dissipate thereafter.</p> <p>Implementation of Mitigation Measure TRANS-3a would reduce the impact at the Union Street/Mission Avenue intersection to a less-than-significant level. However, the improvement's design and construction would be subject to approval and implementation by the City of San Rafael Public Works Department, and therefore its implementation cannot be assured. There is no feasible mitigation for impacts at the two San Rafael High School driveway impacts on 3rd Street. Impact TRANS-3 would therefore remain significant and unavoidable.</p>	
<p><u>TRANS-4</u>: Implementation of the Master Facilities Long-Range Plan would increase the number of students walking and bicycling along key routes, including roadways and sidewalks, and across curb ramps and crosswalks. Many of the existing pedestrian and bicycle facilities serving the San Rafael High School campus do not adequately accommodate the existing levels of pedestrian traffic and would be further degraded with the addition of pedestrian and bicycle traffic generated by the Long-Range Plan. The increased traffic would decrease the overall performance and safety of these facilities.</p>	PS	<p><u>TRANS-4a</u>: As feasible, San Rafael City Schools shall work with the City of San Rafael to implement the design and construction of the following school-area improvements:</p> <ul style="list-style-type: none"> ▪ Upgrading all school area traffic controls in accordance with Chapter 7 (Controls for School Areas) of the California Manual of Uniformed Traffic Control Devices (MUTCD). For the District, upgrades would include increasing school-related signage (e.g., School Ahead, School Crosswalk, etc.) and pavement markings (e.g., Slow School Xing), and refreshing crosswalks and pavement stencils along roadways serving the campus (i.e., Mission Avenue between Mary Street and Belle Avenue, Union Street between 3rd Street and Mission Avenue, and Mary Street Between 3rd Street and Mission Avenue). ▪ Constructing about 100 feet of sidewalk along the north side of Mission Avenue just east of Belle Avenue, to fill a sidewalk gap at a well-trafficked intersection. ▪ Reconstructing non-compliant curb ramps, as appropriate, to meet Americans with Disabilities Act (ADA) ^{Note 3} standards at intersection locations peripheral to the school e.g., San Rafael High School Driveway (East)/3rd Street, Mission Avenue/Belle Avenue, Mission Avenue/Alice Street, and Mission Avenue/Union Street. ▪ Providing enhanced crosswalks (e.g., rectangular rapid flashing beacons, pedestrian hybrid beacon, and/or lighting), if considered warranted by the City of San Rafael Public Works Department, at the 3rd Street's crosswalk at Embarcadero Way and at Union Street's crosswalk at 4th Street. ▪ Endorsing the City of San Rafael's efforts to improve pedestrian conditions along the south side of Mission Avenue between Belle Avenue and Embarcadero Way. Future improvements 	SU

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p>could include, but would not be limited to, providing earthwork and/or structural fill along the hillside, a continuous pedestrian walkway, and additional supply of on-street parking.</p> <p><u>TRANS-4b:</u> As feasible, San Rafael City Schools shall work with the City of San Rafael to implement the design and construction of an enhanced crosswalk across 3rd Street at the San Rafael High School Driveway (West)/3rd Street intersection. As feasible and necessary, the crosswalk would include a pedestrian refuge island and rectangular rapid flashing beacons to facilitate pedestrian crossing at this intersection.</p> <p><u>TRANS-4c:</u> San Rafael City Schools shall enroll and actively participate in Marin County’s Safe Routes to School program and host educational programs that inform students of pedestrian behavior that would enhance safety when walking to and from school.</p> <p>These mitigation measures would improve pedestrian and bicyclist facilities serving the San Rafael High School campus. The measures would enhance pedestrian and bicyclist safety within the vicinity of the campus by increasing visibility and reducing potential points of conflict with vehicular traffic. The measures would comply with the City of San Rafael’s Bicycle/Pedestrian Master Plan Policy C-1 (Complete missing connections to establish direct routes for walking), Policy C-2 (Identify and mitigate impediments and obstacles to walking to school, such as through a Safe Routes to School program), and Policy C-4 (Support the installation of appropriate pedestrian facilities as part of all new transportation improvements, development projects and transit facilities).</p> <p>Implementation of the above measures would reduce Impact TRANS-4 to a less-than-significant level. However, since the design and implementation of the above measures shall be subject to approval and implementation by the City of San Rafael Public Works Department, their implementation cannot be assured. Impact TRANS-4 would therefore remain significant and unavoidable.</p>	
<p><u>TRANS-5:</u> Implementation of the Master Facilities Long-Range Plan would increase the number of students bicycling along key routes, including roadways and sidewalks, and across crosswalks. Since none of these roadways are wide enough to include separated bicycle lanes, cyclists would be required to share vehicular travel lanes or ride along sidewalks. These conditions would discourage the use of alternative modes of transportation and conflict with the San Rafael General Plan Policy C-11 (Alternative Transportation Mode Users).</p>	<p>PS</p>	<p><u>TRANS-5a:</u>^{Note 2} San Rafael City Schools shall increase the capacity of the on-campus bicycle parking facility to safely and securely accommodate up to 100 bicycles.</p> <p><u>TRANS-5b:</u> San Rafael City Schools shall work with the City of San Rafael and Marin County’s Safe Routes to Schools program in efforts to obtain a grant to conduct a study on the feasibility of implementing a new bicycle and pedestrian pathway to serve the San Rafael High School campus. The pathway could provide access to the school from either the intersection of Union Street/4th Street, along the south of Mission Avenue just east of Park Street, along the north side of 3rd Street, or at other locations to be identified upon further study. The</p>	<p>SU</p>

Impact	Level of Significance Without Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p>intent of the path would be to directly link to campus walking paths and bicycle parking. The study shall identify potential pathway alignments, impacts, and connection details, as well as circulation along 4th Street to the west and Mission Avenue to the north. The feasibility study, funded by grant funds as available, shall be conducted in coordination with the City of San Rafael Public Works Department. If feasible, the pathway shall be constructed and shall be coordinated with implementation of the Master Facilities Long-Range Plan.</p> <p><u>TRANS-5c</u>: San Rafael City Schools shall enroll and actively participate in Marin County’s Safe Routes to School program and (among other activities) host educational and encouragement programs that inform students of the benefits of bicycling to and from school.</p> <p>The implementation of these measures (except the provision of additional bicycle parking recommended in Mitigation Measure TRANS-5a) requires the involvement of the City of San Rafael and Marin County’s Safe Routes to Schools program. Furthermore, it is not known if this pathway can be constructed, or if grant money would be available. Therefore, implementation of Mitigation Measures TRANS-5b and TRANS-5c is not assured, and Impact TRANS-5 would be significant and unavoidable.</p>	
<p><u>TRANS-6</u>: The construction of components of the Master Facilities Long-Range Plan would add construction-related vehicle trips to City of San Rafael and other jurisdictional roadways, creating temporary traffic hazards. These conditions would conflict with San Rafael General Plan Program C-4a (Street Pattern and Traffic Flow).</p>	<p>PS</p>	<p><u>TRANS-6</u>: Development under the Master Facilities Long-Range Plan shall abide by the City of San Rafael’s provisions regarding transportation and parking management during demolition and construction activities. In addition, San Rafael City Schools shall develop a demolition/construction traffic management plan defining hours of operation, specified truck routes, and construction parking provisions. The District shall ensure that any parking losses associated with construction vehicles does not affect parking availability on campus. To the greatest extent possible, the District shall direct all construction truck traffic to travel to and from the campus via 3rd Street. Implementation of this measure would reduce Impact TRANS-6 to a less-than-significant level.</p>	<p>LTS</p>
<p><u>TRANS-7</u>: The construction of components of the Project would add construction-related vehicle trips to City of San Rafael and other jurisdictional roadways, creating temporary traffic hazards. These conditions would conflict with San Rafael General Plan Program C-4a (Street Pattern and Traffic Flow).</p>	<p>PS</p>	<p><u>TRANS-7</u>: The Project shall abide by the City of San Rafael’s provisions regarding transportation and parking management during demolition and construction activities. In addition, San Rafael City Schools shall develop a demolition/ construction traffic management plan defining hours of operation, specified truck routes, and construction parking provisions. Implementation of this measure would reduce Impact TRANS-7 to a less-than-significant level.</p>	<p>LTS</p>

Notes : Note 1 – This impact mentioned in the 2017 EIR does not conflict with the currently-applicable significance criteria, as these have changed since 2017. Note 2 – The mitigation measure mentioned in the 2017 EIR has been implemented, as described in Traffic Demand Management Plan for San Rafael High School (San Rafael High School, updated 2023). Note 3 – PROWAG (Public Right-of-Way Accessibility Guidelines) is the currently applicable guideline.

Cumulative Impacts from 2017 EIR

The 2017 EIR evaluated cumulative impacts as part of the 2040 transportation scenarios. Impacts of these scenarios were included within the potentially significant impacts listed above.

Impacts of the SRHS Capital Improvements Project

Areas of No Impact

There are no areas for which the project would have no transportation impact.

Less-than-Significant Impacts

Consistency with Programs, Plans, Ordinances, or Policies Addressing the Circulation System

The Capital Improvements Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian paths.

Transportation aspects of land use projects are shaped by adopted plans and policies at various levels of government and agencies. This analysis compared the proposed project elements against local plans and policies that aim to minimize potential environmental impact. The project would comply with the following relevant provisions and therefore would have a less-than-significant impact in relation to this significance criterion.

CEQA Statute and Guidelines

The project would comply with the CEQA Statute and OPR Technical Advisory by following the City of San Rafael's *Transportation Analysis Guidelines*, which incorporates VMT screening criteria and VMT thresholds of significance in alignment with the SB 743 mandate.

TAM Congestion Management Plan

The project would comply with TAM CMP requirements, as requirements of the San Rafael *Transportation Analysis Guidelines* were used as part of this evaluation. Major developments that generate a net increase of more than 100 PM peak hour vehicle trips are subject to a CMP analysis and traffic impact study according to TAM requirements. As shown in Table 4.9-1, the project would generate fewer than 11 total daily trips, and a CMP analysis is not required.

San Rafael General Plan

The project transportation evaluation integrates the San Rafael *Transportation Analysis Guidelines*, which incorporates VMT screening thresholds and detailed VMT analysis requirements as outlined in the updated San Rafael General Plan 2040 Mobility Element (2021). The project would not conflict or be inconsistent with the City's VMT policies, as described in "Consistency with CEQA Guidelines Section 15064.3 (Subdivision (b)(1)) Regarding VMT" below, and the project would not result in increased traffic volume or circulation network impacts, as described in "*Project Trip Generation*" above. As such, the project is aligned with the mobility principles outlined in the General Plan.

San Rafael Bicycle and Pedestrian Master Plan

The 2017 EIR identified mitigation measures addressing bicycle or pedestrian facilities as a result of the Master Facilities Long-Range Plan. The Capital Improvements Project would result in increased days of use of school facilities but would not result in increased traffic volume or circulation network impacts, as described in *Project Trip Generation* above, and would not conflict with goals listed in the San Rafael Bicycle and Pedestrian Master Plan.

Consistency with CEQA Guidelines Section 15064.3 (Subdivision (b)(1)) Regarding VMT

The Capital Improvements Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3 (Subdivision (b)(1)) regarding VMT.

The project would be consistent with this CEQA Guidelines provision and would have a less-than-significant impact in relation to this significance criterion. The VMT assessment is described in detail below.

Vehicle Miles Traveled Screening

A land use project needs to meet only one of the VMT screening criteria listed in the City of San Rafael *Transportation Impact Guidelines* to determine that the project would result in a less-than-significant impact. The results of the VMT screening assessment are displayed in **Table 4.9-2**, and associated description for each screening criteria result are included in this section.

TABLE 4.9-2 VEHICLE MILES TRAVELED (VMT) SCREENING ANALYSIS RESULTS

Screening Criteria	Screening Criteria Description	Screening Criteria Met?
Transit Priority Areas	Project is located within 0.5 mile of major transit stop	No
Affordable Housing	Projects with 100 percent affordable housing	N/A
Small Projects	Project generates 110 or fewer average daily vehicle trips	Yes
Locally Serving Public Facility	Government, civic, cultural, health, and infrastructure uses which contribute to and support community needs	Yes
Neighborhood-Serving Retail Project	Retail projects consisting of less than 50,000 square feet and serve the immediate neighborhoods	N/A
Residential and Office Projects in Low VMT Areas	Project is located within a low VMT area for its land use based on information from the TAM model.	No

N/A = not applicable
Source: Parametrix, 2023.

Transit Priority Areas VMT Screening. Projects located within a 0.5-mile walkshed around the Downtown San Rafael and Civic Center SMART Stations in San Rafael would meet the VMT screening criteria and may be assumed to cause a less-than-significant transportation impact. Though the project Softball Field is within this distance, the rest of the academic buildings, Aquatic Center, and Baseball Field are outside of this walkshed distance. As the Softball Fields account for less than 20 percent of project-generated vehicle trips, it is determined that this VMT screening is not met.

Affordable Housing VMT Screening. Projects with 100 percent affordable housing are considered to have a less-than-significant impact on VMT. As the project does not contain affordable housing, this screening criterion is not applicable to the project.

Small Project VMT Screening. Projects that generate fewer than 110 vehicle trips per day generally may be assumed to cause a less-than-significant transportation impact. Trip generation analysis for the project is discussed above under *Project Trip Generation*. The project would result in an estimated increase of 12.9 daily vehicle trips. In accordance with City guidelines, as the project would generate fewer than 110 net vehicle trips per day, the project meets the small project screening criteria and is considered to have a less-than-significant transportation impact on VMT.

Locally Serving Public Facility. Locally serving public facilities that support community needs are presumed to have a less-than-significant transportation impact. Examples of such facilities listed in the *Transportation Impact Guidelines* include police stations, fire stations, passive parks, branch libraries, community centers, public utilities, and neighborhood public schools.

The proposed project scope takes place entirely within the SRHS public school site. As such, the project meets the Locally Serving Public Facility VMT screening criteria and is considered to have a less-than-significant impact on VMT.

Residential and Office Projects in Low VMT Areas Screening. Projects located in an area with low VMT as determined by TAM travel demand model (TAMDM) in comparison to the VMT thresholds of significance and incorporating similar characteristics of land use and compatibility with the existing built environment, and not leading to residential displacement, can be presumed to cause a less-than-significant transportation impact.

For VMT screening purposes, the project analysis applies to the employment aspect of the school, and VMT per worker is used for screening. Comparison of existing VMT for the transportation analysis zone (TAZ) encompassing the project site is made with the VMT threshold of significance based on the nine-county Bay Area average VMT data available in the 2015 baseline year TAMDM. Average daily VMT per employee for the Bay Area region and the proposed project is included in **Table 4.9-3** below.

TABLE 4.9-3 RESULTS FOR LOW-VEHICLE MILES TRAVELED (VMT) AREA SCREENING CRITERIA

Project Location	VMT/Employee		
	Bay Area Average	Threshold of Significance	Project Site
San Rafael High School TAMDM TAZ 800.156	16.4	13.9	16.8

Source: Transportation Authority of Marin and Parametrix, 2023.

The 2015 average daily VMT per worker at the project site is 16.8 miles, which is above the threshold of significance (15 percent below the regional average) of 13.9 miles. As such, the project does not meet screening criteria based on location within a low-VMT area.

VMT Screening Results Summary

The project meets the Small Project and the Locally Serving Public Facility VMT screening criteria based on total daily project vehicle trips generated and the proposed land use. As the project meets at least one of the City's VMT screening criteria listed in its *Transportation Analysis Guidelines*, this assessment concludes that the project would have a less-than-significant VMT transportation impact, and a detailed VMT analysis is not required.

Substantially Increased Hazards Due to a Geometric Design Feature

The Capital Improvements Project would not substantially increase hazards due to a geometric design feature.

On-site improvements would include repairs and re-paving of surface parking lots and drive aisles on the north side of campus accessed from Mission Avenue. The existing driveway entrances to the parking lots would remain the same. The project's design does not involve any modifications to the off-site transportation network that could potentially introduce sharp curves or other geometric hazards. The project is situated near existing schools and residential areas, and its transportation design aligns with the existing facilities and land use, ensuring compatibility without conflicting uses. Additionally, there are no anticipated geometric hazards associated with the project's implementation.

Furthermore, the project's compatibility with the existing Neighborhood Mixed Use Zone land use designation means that there is no need for alterations to off-site road geometric designs. As a result, the project's impact is considered less than significant.

Emergency Access

The Capital Improvements Project does not propose any features that would result in inadequate emergency access.

The emergency access requirements applicable to the project are governed by the City of San Rafael Fire Code, which incorporates the California Fire Code, 2022 Edition with specific amendments, and requires that a fire access road of at least 20 feet in unobstructed width must be provided within 150 feet of all exterior building walls. As per the proposed project plans, emergency access travelways would be available throughout and around the campus that allow for direct access to within 150 feet of all on-campus buildings and facilities, as displayed on Figure 3-6.

Emergency access to the project site would be an integral component of the fire safety plan, ensuring that adequate provisions are made for fire apparatus access. Any potential impacts on roadway emergency access during the construction phase would be addressed in the construction traffic control plan. Each of these plans would undergo review and approval processes by the relevant City departments as required by the City's established permitting process.

Given that the project would adhere to the City of San Rafael Fire Code requirements and undergo review by local fire officials as part of the design review process, the project would have a less-than-significant impact on emergency access.

Potentially Significant Impacts and Mitigation Measures

The Capital Improvements Project would not result in any potentially significant transportation impacts.

Cumulative Impacts

The OPR Technical Advisory (OPR, 2018) describes technical considerations in assessing cumulative VMT impacts accounting for the project's influence in context of effects of other past, present, and future developments. If a project's transportation impact analysis determines that a project meets VMT screening criteria or that a VMT efficiency metric such as VMT per resident falls below the threshold of significance, and if the project is aligned with long-term environmental goals, it should be concluded that the project "would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact (page 6)." This analysis determines that the project meets City of San Rafael VMT screening criteria and results in a less-than-significant impact, which would lead to a reduction in greenhouse gas emissions and is aligned with long-term environmental goals. Hence, the cumulative VMT impacts of the project are less than significant.

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5. ALTERNATIVES

The California Environmental Quality Act (CEQA) Guidelines (Section 15126.6) require that an Environmental Impact Report (EIR) describe and evaluate the comparative merits of a range of reasonable alternatives to the project, or to the location of the project, that could feasibly attain most of the basic objectives of the project. The CEQA Guidelines further require that the discussion focus on potentially feasible alternatives capable of avoiding or substantially lessening any of the significant effects of the project, including the “No Project” Alternative. Furthermore, if the environmentally superior alternative is the “No Project” Alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives (CEQA Guidelines Section 15126.6(e)).

There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the “rule of reason” (CEQA Guidelines Section 15126.6(a)). The “rule of reason” requires that an EIR set forth only those alternatives necessary to permit a reasoned choice, and shall be limited to realistic alternatives that the lead agency determines could feasibly obtain most of the basic project objectives while avoiding or substantially lessening one or more of the significant effects (CEQA Guidelines Section 15126.6). The scope of alternatives comprising a reasonable range is in the lead agency’s discretion, and will vary from case to case depending on the nature of the project under review (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 566). Pursuant to the CEQA Guidelines, “An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative” (CEQA Guidelines Section 15126.6(f)(3)).

The requirement that an EIR evaluate alternatives to the proposed project or its location is broad. The description or evaluation of alternatives does not need to be exhaustive, nor is the same level of detail as the proposed project required (CEQA Guidelines Sections 15126.6(a), (c), and (d)). Alternatives need be environmentally superior to the proposed project in only some respects (*Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 547).

The project objectives are discussed in *Chapter 3, Project Description*, of this Supplemental EIR (SEIR). The discussion in this chapter will focus on feasible alternatives that could address potentially significant impacts. The SEIR identifies potentially significant impacts that can be reduced to less-than-significant levels with implementation of mitigation measures. No impacts were found to be significant and unavoidable.

Three alternatives to the project are evaluated in this chapter:

- Alternative 1: No Project with No Change from Existing Conditions
- Alternative 2: No Project with Buildout Under 2015 Master Plan
- Alternative 3: Reduced Scope Alternative

These alternatives were identified as a reasonable range of alternatives for discussion in this SEIR based on the following factors:

- The extent to which the alternative would accomplish most of the basic project objectives and purposes;

- The extent to which the alternative would reduce or eliminate one or more of the significant environmental effects of the project;
- The feasibility of the alternative, including whether the alternative could be accomplished in a successful manner within a reasonable period of time, taking into account site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and economic, environmental, legal, social, and technological factors (CEQA Guidelines Sections 15364 and 15126.6(f); Public Resources Code Section 21061.1);
- The extent to which the alternative would contribute to a “reasonable range” of alternatives necessary to permit a reasoned choice; and
- The requirement under the CEQA Guidelines to consider a No Project Alternative and to identify an “environmentally superior” alternative in addition to the No Project Alternative (14 CCR Section 15126.6(e)).

Alternatives that were considered but rejected as infeasible are discussed in *Section 5.1* below.

The objectives for the project are the following:

- 1 Provide functional instructional and administrative space to meet program requirements.
- 2 Provide upgrades to the existing SRHS campus to serve the population in this area.
- 3 Modernize classrooms and laboratories to meet contemporary standards of education to ensure all students are well prepared for success in the 21st century.
- 4 Implement modern technology for the campus.
- 5 Replace outmoded teaching equipment.
- 6 Upgrade buildings for fire safety, energy conservation, seismic safety, ADA compliance, and campus security.
- 7 Provide an upgraded new Aquatics Center to improve SRHS’s physical education and athletic program for its students and other students in the District who use the Aquatics Center.
- 8 Address increasing enrollment while providing students and faculty with a learning environment that reflects the District’s strategic plan for the future.
- 9 Improve disabled access.
- 10 Implement “green building” practices in all capital improvement projects.
- 11 Improve safety for athletic programs.
- 12 Implement District-Wide Target Initiatives applicable to the District’s high schools and San Rafael High School campus.

5.1 ALTERNATIVE CONSIDERED BUT REJECTED

In addition to the on-site alternatives included in *Section 5.2*, an off-site alternative was also considered for the project. However, an off-site alternative would not meet the needs of San Rafael City Schools (the District) because an off-site location for the campus does not exist and dividing

the campus into two locations would not meet the educational or administrative needs of the students or the District. San Rafael City Schools currently has two high school campuses: the SRHS campus in central San Rafael, and Terra Linda High School in northern San Rafael. A third campus has not been found to be necessary, and the infrastructure for a successful high school is already in place at the SRHS campus location. In consideration of these factors, the off-site alternative for the project was considered but rejected.

5.2 SUMMARY OF ALTERNATIVES

- Alternative 1: No Project with No Change from Existing Conditions
- Alternative 2: No Project with Buildout Under 2015 Master Plan
- Alternative 3: Reduced Scope Alternative

ALTERNATIVE 1: NO PROJECT WITH NO CHANGE FROM EXISTING CONDITIONS

Setting

The existing environmental setting for this alternative would be the same as discussed in the “Environmental Setting” section for all topics addressed in *Chapter 4, Environmental Setting, Impacts, and Mitigation Measures*, of this SEIR.

Characteristics

This alternative would entail no change from existing conditions. No remodeling or new construction would occur on the campus.

Impacts

Aesthetics

No new lighting, as identified for the proposed Aquatics Center, would occur on the campus. Thus, there would be no potential for light and glare for nearby residents. No removal of trees or new landscaping would occur.

Air Quality

No new impacts related to air quality would occur as there would be no change from existing conditions.

Biological Resources

No new impacts would occur under this alternative, including construction of new buildings and removal of existing trees to accommodate improvements. No new replacement trees and other landscaping would be provided. No risk to nesting birds would occur under this alternative and Mitigation Measure S-BIO-1 would not be required to ensure avoidance of any active bird nests as no tree removal would occur under this alternative.

Geology, Soils, and Seismicity

No impacts related to geology, soils, and seismicity would occur as there would be no change from existing conditions.

Greenhouse Gas Emissions

No impacts related to greenhouse gas emissions would occur as there would be no change from existing conditions. However, the No Project Alternative would not allow the opportunity for campus improvements that would result in more efficient mechanical and electrical systems to reduce energy demands.

Hazards and Hazardous Materials

No impacts related to hazards and hazardous materials would occur as there would be no change from existing conditions.

Hydrology and Water Quality

No impacts related to hydrology and water quality would occur as there would be no change from existing conditions. However, the No Project Alternative would not allow for the construction of artificial turf fields that would reduce water use (and associated groundwater use) at the project site compared to the existing condition.

Noise

No impacts related to noise and vibration would occur as there would be no change from existing conditions.

Transportation and Traffic

No impacts related to transportation would occur as there would be no change from existing conditions.

Ability to Meet Project Objectives

This alternative would not meet any of the project objectives since no changes would occur on the campus.

ALTERNATIVE 2: NO PROJECT WITH BUILDOUT UNDER 2015 MASTER PLAN

Setting

The setting for this alternative would be the same as discussed for all topics in *Chapter 4, Environmental Setting, Impacts, and Mitigation Measures*, of this SEIR. A number of changes to the SRHS campus have taken place since the District's 2015 Master Facilities Long-Range Plan (2015 Master Plan) was adopted. as discussed below.

Characteristics

The 2015 Master Plan was addressed in the 2017 EIR (see **Figure 5-1**). However, not all of the components of the 2015 Master Plan have been completed to date. The following projects that were part of the 2017 EIR evaluation have been completed:

- Stadium improvements (new bleachers, new field, restrooms, changing rooms; new lights).
- New Student Commons/Cafeteria (in the 2015 Master Plan this was originally shown as “CTE/Art”—see Figure 5-1).
- New Science, Technology, Engineering, Art, and Math (STEAM) Building (this was originally shown as Admin/Kitchen/Student Commons—see Figure 5-1).

The following components of the 2015 Master Plan have not been completed (numbers in parens refer to numbers on Figure 5-1):

- New Visual Arts Building (4)
- New Science Building (1)
- Restrooms/Changing Rooms (6 and 8)
- New Wrestling/Dance/Classrooms Building (7)

The Aquatics Center evaluated in this SEIR was not included in the 2015 Master Plan, nor were the artificial turf improvements for the softball field and baseball field, or the Performing Arts Plaza. Relocation of portables was also not included in the 2015 Master Plan.

Impacts

Aesthetics

This alternative would have the same visual impacts as identified in the 2017 EIR and the same mitigation measures would apply. This alternative would have slightly reduced impacts compared to the Capital Improvements Project because no Aquatics Center improvements would occur and no new lighting on taller poles would be constructed for swim events.

Air Quality

This alternative would have the same air quality impacts as identified in the 2017 EIR and the same mitigation measures would apply. This alternative would have slightly reduced impacts from construction compared to the Capital Improvements Project because the construction of the new Aquatics Center, Performing Arts Plaza, and Athletic Fields Turf and Storage Project would not occur. In addition, operational air pollutant emissions due to the increased vehicle trips generated by the improved sports facilities would not occur.

Biological Resources

This alternative would have the same biological impacts as identified in the 2017 EIR and the same mitigation measures would apply. Some of the trees identified for removal in the 2017 EIR have already been removed as facilities have been upgraded, although additional trees would still be removed to accommodate construction of the new Visual Arts Building, new Science Building, and other improvements. This alternative would have reduced impacts compared to the Capital

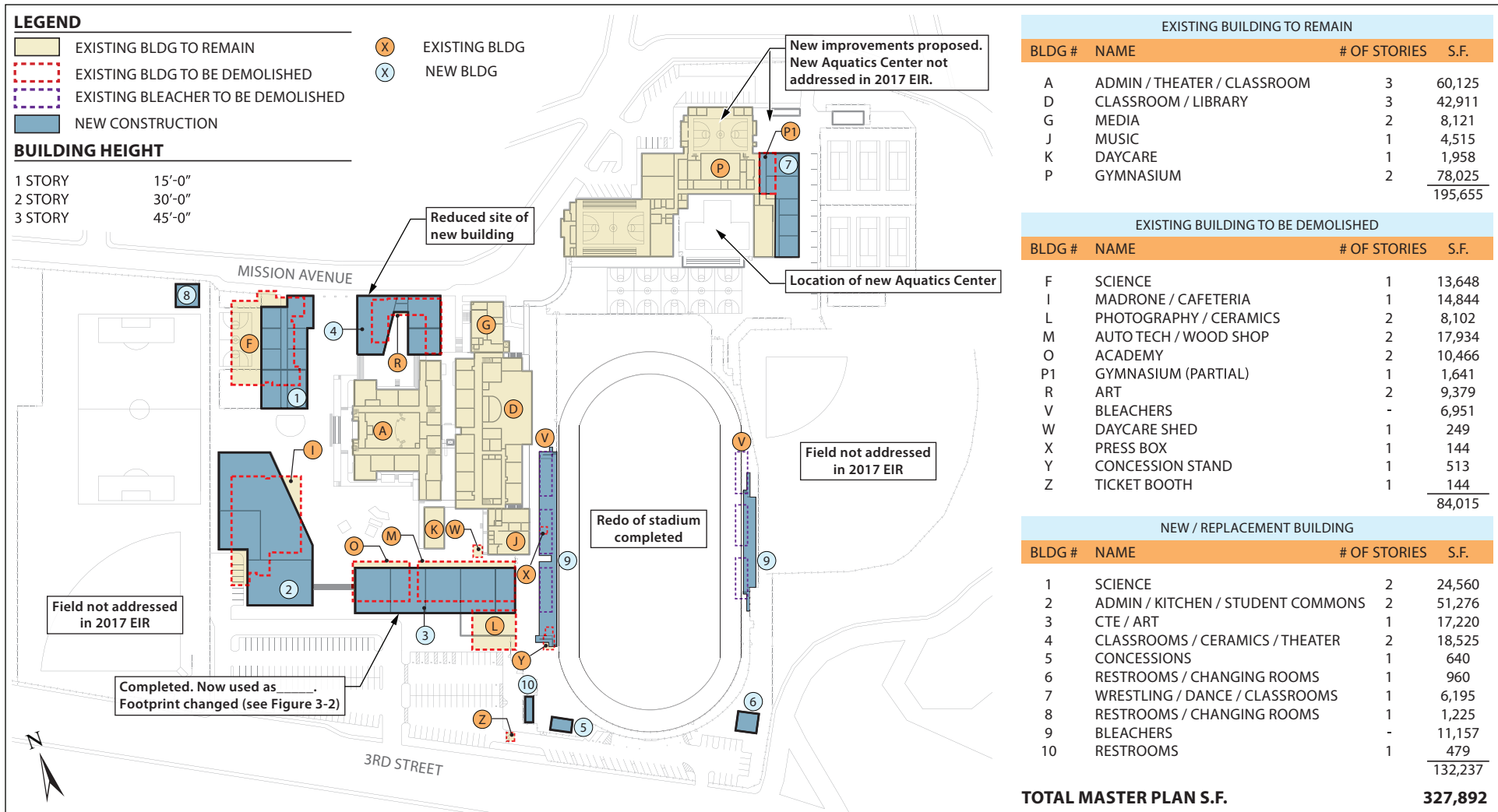


Figure 5-1

SOURCE: HY Architects, 2016

2015 MASTER FACILITIES LONG-RANGE PLAN

Improvements Project because some tree removal anticipated as part of the Aquatics Center and field improvements would not occur. However, this would not be considered a new significant impact as new trees and other landscaping would serve to replace any trees removed, and mitigation measures called for in the 2017 EIR would ensure avoidance of any bird nests in active use.

Geology, Soils, and Seismicity

This alternative would have the same geology, soils, and seismicity impacts as identified in the 2017 EIR and the same mitigation measures would apply. This alternative would have reduced impacts compared to the Capital Improvements Project because (1) no fill material would be placed to raise the sports fields for conversion to artificial turf, and therefore potential settlement impacts due to placement of fill in these areas would not occur; and (2) no construction would occur near the slopes adjacent to the baseball field, and therefore no impacts related to potential slope instability would occur.

Greenhouse Gas Emissions

This alternative would have the same greenhouse gas emissions impacts as identified in the 2017 EIR. This alternative would have impacts similar to those of the Capital Improvements Project because the Visual Arts Building proposed under this alternative would be larger and replacement of the existing Science Building with a new and larger building would occur, but the operation of the new Aquatics Center with a bigger pool would not occur.

Hazards and Hazardous Materials

This alternative would have the same hazards and hazardous materials impacts as identified in the 2017 EIR and the same mitigation measures would apply. This alternative would have reduced impacts compared to the Capital Improvements Project because (1) disturbance of contaminated soil and groundwater under the western sports field would not occur, (2) use of artificial turf that could contain perfluoroalkyl and polyfluoroalkyl substances (a class of chemicals known as "PFAS" that are highly toxic and highly persistent in the environment) would not occur, and (3) less disturbance of hazardous building materials would occur, due to decreased building demolition and renovation.

Hydrology and Water Quality

This alternative would have the same hydrology and water quality impacts as identified in the 2017 EIR and the same mitigation measures would apply. This alternative would have increased water use (and associated groundwater use) compared to the Capital Improvements Project because construction of artificial turf fields at the project site would not occur. This alternative would have reduced impacts compared to the Capital Improvements Project based on the following:

- Subsurface drainage pipes for artificial turf would not be installed in the area of contaminated groundwater under the western sports field; therefore, the potential for the direct discharge of contaminated groundwater into the storm drain system would not occur.
- Dewatering or installation of other utilities near the contaminated groundwater would not be required, and therefore increased migration of contaminated groundwater would not occur.

- Stormwater pollutants associated with runoff from artificial turf (e.g., microplastics from the deterioration of turf, infill materials, and other debris/particulates) would not occur.
- Placement of fill material, portable classrooms, and other improvements within a 100-year flood zone, which could impede or redirect flood flows, would not occur.
- The release of pollutants associated with artificial turf into floodwater from a 100-year flood or tsunami would not occur.

Noise

This alternative would have the same noise and vibration impacts as identified in the 2017 EIR and the same mitigation measures would apply. This alternative would have slightly reduced impacts compared to the Capital Improvements Project because no construction of the new Aquatics Center, no replacement of the existing timing and announcing system with a louder and clearer public address (PA) system at the Aquatics Center, and no increased vehicle trips generated by the improved sports facilities would occur.

Transportation and Traffic

This alternative would have the same transportation impacts as identified in the 2017 EIR and the same mitigation measures would apply. This alternative would have slightly reduced impacts compared to the Capital Improvements Project because no minor increased vehicle trips generated by the improved sports facilities would occur.

Ability to Meet Project Objectives

This alternative would meet all project objectives except the objective to improve the Aquatics Center.

ALTERNATIVE 3: REDUCED SCOPE ALTERNATIVE

Setting

The setting for this alternative would be the same as discussed for all topics in *Chapter 4, Environmental Setting, Impacts, and Mitigation Measures*, of this SEIR. Since the 2015 Master Plan was adopted, a number of changes to the SRHS campus have taken place as discussed for Alternative 2 above.

Characteristics

This alternative would include no artificial turf for the baseball field and the softball field. Natural grass would remain on those fields. No other changes to the project would be included.

Impacts

Aesthetics

This alternative would have visual impacts similar to those identified for the Capital Improvements Project.

Air Quality

This alternative would have air quality impacts similar to those identified for the Capital Improvements Project.

Biological Resources

This alternative would have biological impacts similar to those identified in the 2017 EIR and for the Capital Improvements Project in this SEIR. The existing natural grass fields are heavily managed facilities on the site and provide only limited wildlife habitat values. Retaining them as natural grass fields under this alternative would not substantially reduce potential impacts on biological resources in comparison to the Capital Improvements Project. Mitigation to ensure avoidance of any bird nests in active use would still apply under this alternative and would serve to mitigate this potentially significant impact to less than significant.

Geology, Soils, and Seismicity

This alternative would have reduced impacts compared to the Capital Improvements Project because no fill material would be placed to raise the sports fields for conversion to artificial turf; therefore, potential settlement impacts due to placement of fill in these areas would not occur. Because no construction would occur near the slopes adjacent to the baseball field, no impacts related to potential slope instability would occur.

Greenhouse Gas Emissions

This alternative would have greenhouse gas emission impacts similar to those identified for the Capital Improvements Project.

Hazards and Hazardous Materials

This alternative would have reduced impacts compared to the Capital Improvements Project because disturbance of contaminated soil and groundwater under the western sports field would not occur.

Hydrology and Water Quality

This alternative would have increased water use (and associated groundwater use) compared to the Capital Improvements Project because construction of artificial turf fields at the project site would not occur. This alternative would have reduced impacts compared to the Capital Improvements Project based on the following:

- Subsurface drainage pipes for artificial turf would not be installed in the area of contaminated groundwater under the western sports field, and therefore the potential for the direct discharge of contaminated groundwater into the storm drain system would not occur.
- Dewatering or installation of other utilities near the contaminated groundwater would not be required, and therefore increased migration of contaminated groundwater would not occur.
- Stormwater pollutants associated with runoff from artificial turf (e.g., microplastics from the deterioration of turf, infill materials, and other debris/particulates) would not occur.
- The release of pollutants associated with artificial turf into floodwater from a 100-year flood or tsunami would not occur.

Noise

This alternative would have noise and vibration impacts similar to those identified for the Capital Improvements Project.

Transportation and Traffic

This alternative would have transportation impacts similar to those identified in the Capital Improvements Project, as the number of vehicle trips generated by improved sports facilities would be similar to those generated by the Capital Improvements Project.

Ability to Meet Project Objectives

This alternative would meet the project objectives, except possibly the objective for improved athletic safety, since artificial turf can, for example, reduce injuries associated with gopher holes on natural turf.

5.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The No Project Alternative would be the environmentally superior alternative as there would be no change from existing conditions. However, the objectives for the project would not be met with this alternative. If the environmentally superior alternative is the No Project Alternative, the CEQA Guidelines require that the EIR also identify an environmentally superior alternative from among the other alternatives. The Reduced Scope Alternative would therefore be considered the environmentally superior alternative because it would meet the project objectives (except possibly the objective for improved athletic safety) and would entail a minor change to remove artificial turf from the project design.

5.4 REFERENCES

California Public Resources Code, Section 21061.1.

CEQA Guidelines, Sections 15364 and 15126.6.

6. CEQA CONSIDERATIONS

As required by the California Environmental Quality Act (CEQA), this chapter of the Supplemental Environmental Impact Report (Supplemental EIR or SEIR) identifies significant irreversible effects, significant unavoidable impacts, growth inducement, and cumulative impacts that may result from the project.

6.1 SIGNIFICANT IRREVERSIBLE EFFECTS

The CEQA Guidelines (Section 15126.2(d)) state that impacts associated with a proposed project may be considered to be significant and irreversible for the following reasons:

- Uses of non-renewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes the removal or non-use thereafter unlikely;
- Primary impacts and, particularly, secondary impacts (such as a highway improvement that provides access to a previously inaccessible area) generally commit future generations to similar uses; or
- Irreversible damage can result from environmental accidents associated with the project.

Pursuant to the CEQA Guidelines, irretrievable commitments of resources should also be evaluated to ensure that such current consumption is justified (CEQA Guidelines Section 15126.2(d)).

The proposed structures and facilities comprising the project at the San Rafael High School (SRHS) campus would be permanent buildings and facilities; therefore, their installation would constitute an irreversible use of these lands, as it is unlikely that the buildings or facilities would be removed. However, the project site is located on an already developed and operating high school campus. The Capital Improvements Project would irretrievably commit materials to the construction and maintenance of the new and renovated buildings and facilities. Non-renewable resources such as sand, gravel, and steel, and renewable resources such as lumber, would be consumed during project construction. In addition, the construction and operation of development allowed by the Capital Improvements Project would result in the use of energy, including electricity and fossil fuels. While the consumption of such resources associated with construction would end upon completion of the Capital Improvements Project, the consumption of such resources associated with operation would represent a long-term commitment of those resources. However, continued use of such resources is consistent with the anticipated growth.

The Capital Improvements Project is not expected to result in any activities likely to result in accidents that could lead to irreversible environmental damage. While construction of proposed facilities could result in the use, transport, storage, and disposal of hazardous materials, all activities would comply with applicable laws related to hazardous materials, which would significantly reduce the likelihood and severity of accidents that could result in irreversible environmental damage.

6.2 SIGNIFICANT UNAVOIDABLE IMPACTS

All potential impacts identified for the Capital Improvements Project could be mitigated to a less-than-significant level.

6.3 GROWTH INDUCEMENT

The CEQA Guidelines require that an EIR evaluate the growth-inducing impacts of a proposed action (CEQA Guidelines Section 15126.2(e)). A growth-inducing impact is defined as:

[T]he ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth...It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project actually induced or required that additional actions or projects be implemented. An example would be a new housing development that requires the construction of new utility lines and roads to serve the development. Indirect growth inducement would occur if the project would remove an obstacle to additional growth and development. An example would be a major expansion of a public service facility that increases service capability in the area.

The proposed Capital Improvements Project would be developed on an existing high school campus, which is located in an urbanized portion of San Rafael. Services are readily available in this area. The project site is surrounded by existing residential development, public service/government facilities, and commercial development. The Capital Improvements Project would not require wastewater or water lines that would cross undeveloped lands and create the potential for new development. No major road improvements would be associated with the project. For these reasons, the Capital Improvements Project is not expected to result in growth inducement. Off-campus land uses in the vicinity would continue to be regulated by adopted zoning.

6.4 CUMULATIVE IMPACTS

Cumulative impacts have been addressed in *Chapter 4, Environmental Setting, Impacts, and Mitigation Measures*, for each topic covered in this SEIR. Overall, all cumulative impacts would either be less than significant or could be mitigated through mitigation measures recommended in this SEIR. The only major development proposed in the general vicinity of the high school would be (1) the proposed improvements at Aldersly, a senior living facility and assisted living units about 0.3 mile west of the high school at 308 Mission Avenue; and (2) the San Rafael City Schools (District) Maintenance & Operations Yard Reconfiguration & Improvements Project (approved in 2023) at 38 Union Street immediately west of the SRHS campus. The Aldersly project would include the demolition of 34 units, the renovation of 8 units, and the creation of 50 units, resulting in a net gain of 16 units. In addition, a new service building would be added to link two buildings and a new trash room would be added. An expansion of the outdoor garden for memory care would be included. The proposed Aldersly project and the District's Maintenance & Operations Yard Reconfiguration &

Improvements Project are not projects of the same type in the same place as the proposed Capital Improvements Project, and as further set forth in *Chapter 4*, any cumulative impacts that might result would either be less than significant or could be mitigated through mitigation measures set forth herein.

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APPENDIX A
NOTICE OF PREPARATION AND NOP COMMENTS

RECEIVED

JUN 23 2023

MARIN COUNTY
CLERK

NOTICE OF PREPARATION OF A SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
FOR THE
SAN RAFAEL HIGH SCHOOL CAMPUS CAPITAL IMPROVEMENTS PROJECT
June 23, 2023

San Rafael City Schools ("District") is preparing a Supplemental Environmental Impact Report ("Supplemental EIR") for the proposed expansion and reconstruction at the San Rafael High School campus ("Project") located at 150 Third St., San Rafael, California 94901. The California Environmental Quality Act (Pub. Res. Code, § 21000, et seq.) and its interpreting regulations (Cal. Code Regs., tit. 14, § 15000, et seq.) (collectively, "CEQA") requires that the District conduct environmental review of the proposed Project, which has the potential to result in physical changes in the environment. The District is the "Lead Agency" for the Project and is the public agency with the principal responsibility for approving and carrying out the Project. The District has determined that a Supplemental EIR will be the required CEQA document for the Project. An Environmental Impact Report ("2017 EIR") was prepared and certified by the District's Board of Education in 2017 for the original San Rafael High School Master Facilities Long-Range Plan and Stadium Project, which considered environmental impacts of projects identified in the District's 2014 Master Facilities Long-Range Plan ("2014 Master Plan") at a program level. Subsequently, in 2022, a "District-Wide Capital Improvement Projects" report ("2022 Report") was prepared to identify the progress made toward realizing the vision set forth in the 2014 Master Plan in light of district-wide target initiatives reflective of current thinking, which identifies updates to campus projects, including the San Rafael High School campus Project discussed below. This Supplemental EIR will tier off the 2017 EIR to address minor additions and changes to the 2017 EIR necessary to apply to the project changes and circumstances.

The District is issuing this Notice of Preparation ("NOP") to invite comments on the scope and content of the Supplemental EIR prior to its preparation. This NOP is being sent to local agencies, nearby residents, and other interested parties. When the Draft Supplemental EIR is published, it will be sent to all parties who timely respond to this NOP or who otherwise indicate that they would like to receive a copy of the Draft Supplemental EIR.

RESPONDING TO THIS NOP: Responses to this NOP and any related questions or comments regarding the scope or content of the Draft EIR, must be directed in writing to: **Mr. William Savidge, San Rafael City Schools, 310 Nova Albion Way, San Rafael, CA 94903** or by email to bsavidge@k12schoolfacilities.org.

Comments on the NOP must be received at the above mailing or e-mail address within 30 days of issuance of this notice, or **before Monday, July 24, 2023, at 5:00 p.m.** Please reference the project title shown above in all correspondence.

Responses to this NOP should focus, specific to this Project, on the potentially significant environmental effects that the Project may have on the physical environment, ways in which those effects might be minimized, and potential alternatives to the Project that should be addressed in the Supplemental EIR. This focus aligns with the purpose of the Supplemental EIR to inform the public about these factors of the Project.

EXISTING CONDITIONS: The Project site is a fully developed and operating high school campus. Existing buildings on the San Rafael High School campus are generally concentrated in the central and northeastern portion of the campus, with a large expanse of asphalt outdoor areas and turf playing fields located in the eastern and western portions of the campus. The existing high school currently has an enrollment of 1,379 students. Existing campus buildings are one to

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POSTED 6/23/23 TO 7/24/23

three stories in height and include a total of over 270,000 square feet of building area. The project site is adjoined by residential uses to the north and east, 3rd Street and commercial business to the south, and commercial and residential uses to the west.

PROJECT DESCRIPTION: San Rafael City Schools (District) proposes building demolitions, renovations, and new construction for the campus. The following key Project components are proposed:

- New Aquatics Center with demolition of existing pool; construction of competition-level aquatics center with low-level lights on 50-foot poles; replacement pool deck, replacement bleachers, and improved access to locker rooms.
- Modernization and improvements to main and small gyms (8,000 square feet), and reconfigurations and renovations of PE support spaces (20,000 square feet), including locker room expansion, wrestling/dance space and classrooms remodel (6,195 square feet), and construction of a new cheer/PE building (7,900 sf) with new team lockers, and restrooms and storm drainage upgrades including new higher capacity underground storm drain lines, improvements to bioswales and other rainwater retention areas (reduction in scope from 2017 EIR, which contemplated partial demolition of existing gym building and construction of new classrooms).
- Replacement of Arts Building (AR) with 10,000-square-foot Arts Building (smaller than addressed in original 2017 EIR), to include a new black box theater, visual arts spaces, music classrooms and Special Education classroom.
- Construction of new Performing Arts Plaza (6,000 sf), and redevelopment of access corridor between Admin/Theater/Classroom (AD) Building and Classrooms and Library Building (LA) (tree removal, regrading, landscaping, and new hardscape) (changed scope from 2017 EIR).
- Renovation of existing lower level of AD Building (4,000 square feet) (this is primarily internal and is an additional component of the modernization scope addressed in the 2017 EIR); and improvements to Hayes Theater for code compliance (505 seats) (8,000 square feet).
- Window replacements for energy efficiency in LA, TE, MU, and AD buildings.
- Installation of rooftop HVAC screens at the Science Classroom Wing (vs. replacement discussed in 2017 EIR).
- Modernization of Technology (TE) Building (including window replacement, flooring, energy, efficient lighting, corridors, selective finishes and counters, classroom technology, restrooms, security, and fire alarm system upgrades) and Music Building (MU) including flooring, efficient lighting, selective finishes.
- New artificial turf to replace existing turf at baseball and softball fields (with no lighting) for up to 200,000 square feet.
- Landscaping, grading and related site work, utility work, security and fire alarm system upgrades, and other related appurtenant improvements.

Total on-campus enrollment is estimated to increase by less than 25 students over the next 5 years while the Projects are underway. No new staff or faculty are projected.

New synthetic turf would replace the existing grass turf that now exists at the baseball and softball fields, thus extending the seasonal use of the field. No “crumb rubber” materials would be present in the synthetic turf.

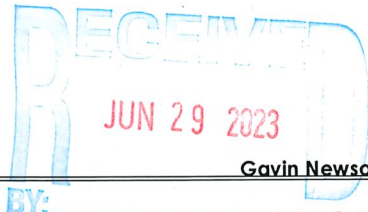
Primary access for the high school would remain from 3rd Street with access to limited parking also from Mission Avenue. At this time, no new parking is proposed for the campus.

POTENTIAL ENVIRONMENTAL EFFECTS: The Supplemental EIR will address the following potential environmental effects: Aesthetics, Air Quality, Biological Resources, Geology/Soils, Greenhouse Gases, Hazards, Noise, Hydrology and Water Quality, and Transportation/Traffic. The following topics will not be addressed in this Supplemental EIR because of the urban nature of the project site, the types of changes to the Project from the Project originally contemplated in the 2017 EIR and the fact that the 2017 EIR adequately addressed these topics: Agricultural/Forestry Resources; Public Services/Utilities; Land Use; Cultural Resources; Population/Housing; Tribal Cultural Resources; and Mineral Resources.

The EIR will examine project and cumulative effects and a reasonable range of alternatives to the Project that may be capable of reducing or avoiding potential environmental effects that may be identified for the Project.



Bob Marcucci
Assistant Superintendent of Business Services
San Rafael City Schools



NATIVE AMERICAN HERITAGE COMMISSION

June 23, 2023

William Savidge
San Rafael City Schools
310 Nova Albion Way
San Rafael, CA 94903

Re: 2016082017, San Rafael High School Campus Capital Improvements Project, Marin County

ACTING CHAIRPERSON
Reginald Pagaling
Chumash

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Dear Mr. Savidge:

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

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

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

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

AB 52

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

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

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

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

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

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

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

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

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

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

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

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

- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- a. Avoidance and preservation of the resources in place, including, but not limited to:
 - i. Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - i. Protecting the cultural character and integrity of the resource.
 - ii. Protecting the traditional use of the resource.
 - iii. Protecting the confidentiality of the resource.
 - c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
 - e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
 - f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
- 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
- a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
 - b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
 - c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

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

Some of SB 18's provisions include:

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

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

NAHC Recommendations for Cultural Resources Assessments

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

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
 - a. If part or all of the APE has been previously surveyed for cultural resources.
 - b. If any known cultural resources have already been recorded on or adjacent to the APE.
 - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
 - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

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

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

If you have any questions or need additional information, please contact me at my email address:
Cody.Campagne@nahc.ca.gov

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

cc: State Clearinghouse



Yana Garcia
Secretary for
Environmental Protection



Department of Toxic Substances Control

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



Gavin Newsom
Governor

July 20, 2023

Mr. William Savidge, Assistant Program Manager
San Rafael City Schools
310 Nova Albion Way
San Rafael, CA 94903
bsavidge@k12schoolfacilities.org

DEPARTMENT OF TOXIC SUBSTANCES CONTROL COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT EIR FOR SAN RAFAEL HIGH SCHOOL CAMPUS IMPROVEMENTS PROJECT SUPPLEMENTAL EIR DATED JUNE 2023 (STATE CLEARINGHOUSE NUMBER: [2016082017](#))

Dear Mr. Savidge:

The Department of Toxic Substances Control (DTSC) received an NOP - Notice of Preparation of a Draft EIR for San Rafael High School Campus Capital Improvements Project Supplemental EIR. Based on a review of the NOP, DTSC requests consideration of the following comments.

1. If the District plans to use State funds for the project, then the district shall comply with the requirements of California Education Code (CDE), sections 17210, 17213.1 and 17213.2, unless otherwise specifically exempted under section 17268. If the district is not using State funds for the project, or is otherwise specifically exempted under section 17268, DTSC recommends the district continue to investigate and clean up the Site, if necessary, under the oversight of

Marin County and in concurrence with all applicable DTSC guidance documents.

A local education agency may also voluntarily request the CDE site/plan approval for locally funded site acquisitions and new construction projects. In these cases, CDE will require DTSC to review and approve prior to its final approval, except when exempt under section 17268.

2. Because the project is school site related, DTSC recommends that an environmental review, such as a Phase I Environmental Site Assessment and/or Preliminary Environmental Assessment, be conducted to determine whether there has been or may have been a release or threatened release of a hazardous material, or whether a naturally occurring hazardous material is present based on reasonably available information about the property and the areas in its vicinity. Such an environmental review should generally be conducted as part of the California Environmental Quality Act (CEQA) process. If the District elects to proceed and conduct an environmental assessment at the Site under DTSC oversight, it should enter into an Environmental Oversight Agreement with DTSC to oversee the preparation of the environmental assessment.
3. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition, and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006

[Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers](#)

4. If any projects initiated as part of the proposed project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to [DTSC's 2001 Information Advisory Clean Imported Fill Material](#) webpage.

DTSC appreciates the opportunity to comment on the NOP of a Draft EIR. If you would like to proceed with DTSC's school environmental review process, please visit [DTSC's Evaluating & Clean-up School 3-Step Process](#) for an overview of conducting a Phase I Environmental Site Assessment.

If you have any questions, please respond to this letter for additional guidance.

Sincerely,



Tamara Purvis
Associate Environmental Planner
Hazardous Waste Management Program
Permitting Division – CEQA Unit
Department of Toxic Substances Control

cc: (via email)

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

Mr. William Savidge
July 20, 2023
Page 4

Mr. Dave Kereazis
Associate Environmental Planner
Hazardous Waste Management Program
Permitting Division – CEQA Unit
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

Ms. Cheryl Mahoney
Senior Environmental Planner
Site Mitigation School's Unit
Department of Toxic Substances Control
Cheryl.Mahoney@dtsc.ca.gov

July 3, 2023

William Allison
155 Main Drive
San Rafael, CA 94901

William Savidge
San Rafael City Schools
310 Nova Albion Way
San Rafael, CA 94901

Dear Mr. Savidge,

I fully support the proposed plans to add a desperately needed Aquatic Center, Arts Building, and Performing Arts Center at San Rafael High School.

Hopefully you can get the necessary approvals quickly and get these projects rolling.

Thank you,

A handwritten signature in black ink, appearing to read "William Allison". The signature is fluid and cursive, with a long horizontal stroke at the end.

William Allison



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- A Belvedere Flood ... 22
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- Belvedere Flood Control ...
- Berkelav Unified Schools

Fwd: Clarification: Supplemental Environmental impact Report for the San Rafael Improvements Project June 23.2023 ("NOP")

External Inbox x



Timothy Ryan
to me

Tim Ryan
 Senior Director of Strategic Facility Planning
 San Rafael City Schools
 310 Nova Albion Way
 San Rafael, CA 94903
 (415) 492-3285
 Pronouns: he, him, his



"Never give up. Never give in. Never become hostile... Hate is too big a burden to bear." John Lewis

----- Forwarded message -----

From: **Bauer, Peter (CMS/OPOLE)** <Peter.Bauer@cms.hhs.gov>
 Date: Tue, Oct 10, 2023 at 6:37 AM
 Subject: Clarification: Supplemental Environmental impact Report for the San Rafael High School Campus Capital Improvements Proje
 To: tryan@srcs.org <tryan@srcs.org>

Clarification the limited (temporary) parking lot that is behind the aquatic center & the tennis courts & baseball field
No Environmental Impact Study was ever done on the limited (temporary) parking (lot) that is behind the aquatic center & the ten
 The drive way to the limited (temporary) parking (lot) that is behind the aquatic center & the tennis courts & baseball field from Mis
 Visitors and Staff.



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- Warranties and other it...
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- Administration 2021
- AEP** 1
- Amy Personal** 22
- Amy Work** 7
- Belvedere Flood Control ...
- Berkeley Unified Schools...
- Bob

Fwd: Supplemental Environmental impact Report for the San Rafael High School Campus Capital Improvements Project June 23.2023

External Inbox x



William Savidge
to me, Will, Jessika

10:12AM (1 minute ago)

FYI. B

----- Forwarded message -----

From: **Bauer, Peter (CMS/OPOLE)** <Peter.Bauer@cms.hhs.gov>

Date: Thu, Jun 29, 2023 at 10:04 AM

Subject: RE: Supplemental Environmental impact Report for the San Rafael High School Campus Capital Improvements Project June 23.2023

To: bsavidge@k12schoolfacilities.org <bsavidge@k12schoolfacilities.org>

Dear bsavidge@k12schoolfacilities.org or 510.610.0601

No Environmental Impact Study was ever done on the limited (temporary) parking (lot) from Mission Ave no traffic study, nor stop sign.

The drive way to the limited (temporary) parking (lot) from Mission Ave is very steep and narrow very Un-safe Hazard for Students, Residents, Visitors and Staff.

Inside the limited (temporary) parking lot from Mission Ave is a Hazard for Students, Residents, Visitors and Staff due to potential vehicle strikes.

Also very great Green House Gas exposure for the Students, Residents, Visitors and Staff from student drop off / student pick up in the limited (temporary) parking (lot) from Mission Ave.

Peter Bauer

114 Mission Ave
San Rafael CA 94901

--

William Savidge, Principal Consultant
K12 School Facilities



Amy Skewes-Cox <amysc@rtasc.com>

Fwd: Construction views sought

1 message

Phyllis Silverstein <phyllis.silverstein@vpcsonline.com>
To: Amy Skewes-Cox <amysc@rtasc.com>
Cc: William Savidge <bsavidge@k12schoolfacilities.org>

Mon, Jul 10, 2023 at 8:37 AM

Phyllis Silverstein | Office Manager



Mobile: (707) 364-5800 | **Office:** (415) 492-5904

E-mail: phyllis.silverstein@vpcsonline.com

Address: 4707 Mangels Blvd., Fairfield, CA 94534



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From: **Bob Marcucci** <bmarcucci@srcs.org>
Date: Mon, Jul 10, 2023 at 8:17 AM
Subject: Re: Construction views sought
To: Michael Billing <michael.billing25@gmail.com>
Cc: William Savidge (K12 School Faciliti <bsavidge@k12schoolfacilities.org>), Phyllis Silverstein <phyllis.silverstein@vpcsonline.com>, Patti Llamas <patti.llamas@vpcsonline.com>

Hello Mr. Billing,

Thank you for your interest in providing feedback as part of our EIR for the SRHS Aquatic Center. I am cc'ing Bill Savidge and the Capital Facilities team who can provide more information about how you can help.

Thank you,

Bob

On Fri, Jul 7, 2023 at 12:01 PM Michael Billing <michael.billing25@gmail.com> wrote:
Assistant Superintendent Bob Marcucci,

I am responding to an article in the Sunday edition of the Marin Independent Journal written by Keri Brenner.

My name is Michael Billing and I live in Lucas Valley, in unincorporated Marin. I was Board President of the Lucas Valley HomeOwners Association when we determined that our aging swimming pool needed to be replaced if it was to continue serving our community.

I spearheaded the entire project from concept through construction completion (as owners' representative) and am interested in your project for the San Rafael City Schools.

Given my experiences in navigating Marin County Development Code, Environmental Health, Building Department, Land Development and Marin Municipal Water District as well as the general contractor, project management and Terracon

Aquatics I would like to volunteer to review the construction documents and offer suggestions towards the supplemental environmental impact report.

Our new pool required a significant and innovative regimen that acknowledged the very close proximity of Miller Creek which passes as close as thirty feet to our rebuilt pool.

Additionally our Eichler-designed community does not have street lighting and the community was insistent that light pollution from Parking Lot and facility lighting be managed to minimize that as an environmental impact along with a sensitivity towards noise pollution from the pool equipment.

I no longer serve on the LVHA Board of Directors but am Chair of the Finance Committee whose role it is to advise the Board on all financial matters.

Being sensitive to your July 24 deadline for comments, I look forward to hearing from you as to how I can assist in commenting on the plans for your new aquatics center and building project.

Sincerely
Michael Billing

--

Bob Marcucci | Assistant Superintendent of Business Services | San Rafael City Schools

bmarcucci@srcs.org | 415-492-3205 | 310 Nova Albion Way | San Rafael, CA 94903

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Amy Skewes-Cox <amysc@rtasc.com>

Fwd: Response and questions re NOP

1 message

Phyllis Silverstein <phyllis.silverstein@vpcsonline.com>
To: Amy Skewes-Cox <amysc@rtasc.com>
Cc: William Savidge <bsavidge@k12schoolfacilities.org>

Fri, Jul 7, 2023 at 8:43 AM

Good morning, Amy,

Attached is another email Bill received in response to the SRHS NOP.

Thanks,
Phyllis

Phyllis Silverstein | Office Manager



Mobile: (707) 364-5800 | **Office:** (415) 492-5904

E-mail: phyllis.silverstein@vpcsonline.com

Address: 4707 Mangels Blvd., Fairfield, CA 94534



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----- Forwarded message -----

From: **William Savidge** <bsavidge@k12schoolfacilities.org>
Date: Thu, Jul 6, 2023 at 8:06 PM
Subject: Fwd: Response and questions re NOP
To: Phyllis Silverstein <phyllis.silverstein@vpcsonline.com>

Please log and forward to Amy. Thanks Bill

----- Forwarded message -----

From: **Lina Guillen** <linarguillen@gmail.com>
Date: Thu, Jul 6, 2023 at 7:55 PM
Subject: Response and questions re NOP
To: bsavidge@k12schoolfacilities.org <bsavidge@k12schoolfacilities.org>

Hi William

I live at 104 Mission Avenue across from the back parking lot and have question regarding how this plan will effect traffic, safety, noise, lighting and overall nuisance to the residents that currently live on mission avenue behind the back parking lot.

I have sent numerous videos to various SR school district administrative agencies regarding the danger the back parking lot poses in terms of cars racing out of the lot at all hours of the day and night without looking left or right and turning both left and right onto a main road without being able to have clear visibility of cars coming up and down mission. I've seen so many near misses on accidents. My 9 year old son and I were almost run over by a high school student turning left out of the parking lot without checking for oncoming traffic or pedestrians. This is not a safe outlet for a parking lot. Can you please find another location for parking, or create an ingress to the back parking area from the parking area that is on Mission and Belle? This is just so incredibly dangerous especially at night. No one patrols the back lot and it's a nuisance and an accident waiting to

happen. Please consider closing the entrance to the backlot from Mission and Jewel -- there is also a giant sign that indicates a school crossing, into the back lot which encourages students to jay walk on a busy street like Mission. I think if a traffic expert comes out to look at this area he or she will see that it's a danger to use it as a lot.

Also, the school facilities chopped down multiple trees behind the current location of the shed destroying our view and allowing more lights and noise to come across the street. In order to protect the residents from increased noise and lights per the NOP, please include the planting of at least 10 foot tall trees to line the inside of the gate so that you can dampen the lights and noise and return the previous view to trees rather than the junkyard of the back shed and tires, etc. There should be at least 10 trees planted across this patch where the previous trees were removed. I've priced them out at Home Depot and the maximum cost is about 800 per tree or less, which is not a lot of money given the overall budget and the fact that you plan to introduce more lighting and more noise to the back of the school.

I've sent videos of both the traffic dangers and the chopped down trees and ruined views with no response from the district or the high school principal.

I'd like to take part in site planning meetings if that is possible?

Thank you
Lina Guillen
415-686-4982

--

William Savidge, Principal Consultant

K12 School Facilities
2309 Grant St.
Berkeley, CA 94703
510-610-0601

bsavidge@K12schoolfacilities.org
www.K12schoolfacilities.org

July 3, 2023

Carol Allison
155 Main Drive
San Rafael, CA 94901

William Savidge
San Rafael City Schools
310 Nova Albion Way
San Rafael, CA 94901

Dear Mr. Savidge,

I fully support the proposed plans to add a desperately needed Aquatic Center, Arts Building, and Performing Arts Center at San Rafael High School.

Please get the necessary approvals and get these projects rolling!

Thank you,



Carol Allison

RECEIVED
JUL 10 2023

BY:

7/4/23

Mr. William Savidge:

Please send me
the draft Supplemental
EIR when it is
published, for the
San Rafael High School
Capital Improvement
project, Thanks,

Mary Gidley
128 Belle Ave. #4
San Rafael CA
94901

RECEIVED
JUL 10 2023

BY:



Amy Skewes-Cox <amysc@rtasc.com>

Fwd: NOP DRAFT EIR SRHS CAPITAL IMPROVEMENTS PROJECT

1 message

William Savidge <bsavidge@k12schoolfacilities.org>

Thu, Jul 13, 2023 at 7:35 AM

To: Phyllis Silverstein <phyllis.silverstein@vpcsonline.com>, Amy Skewes-Cox <amysc@rtasc.com>

Hi Phyllis and Amy: See comment received below. Phyllis please log. Thanks, Bill

----- Forwarded message -----

From: **Andrea V** <andrea_02_14@yahoo.com>

Date: Wed, Jul 12, 2023 at 10:31 PM

Subject: NOP DRAFT EIR SRHS CAPITAL IMPROVEMENTS PROJECT

To: bsavidge@k12schoolfacilities.org <bsavidge@k12schoolfacilities.org>

TO:

Mr. William Savidge
San Rafael City Schools
[310 Nova Albion Way](#)
San Rafael, CA 94903

I would like to express concern about possible environmental effects of replacing existing grass turf with new artificial turf at the baseball field on the east side of the San Rafael High School campus. The baseball field directly abuts a hill (also part of SRHS Campus) that is covered with trees, bushes, and other foliage. There is also a cross-country path on the hill that is a about a 3/4-mile loop.

For the past 38 years, I have lived about a 3-minute walk from the SRHS Campus. I'm a very avid walker. I frequently walk near or on the SRHS campus. I'm also an amateur bird-watcher. I often walk on the cross-country loop where I enjoy observing birds and other wildlife. There are a large variety and number of birds that live in the area of the baseball field and the hill. Some of the birds live there year-round, others migrate at various times of the year. Many of the birds utilize both the wooded area and baseball field for nesting, roosting, foraging and mating. I'm concerned that the habitat for many of the birds will be ruined permanently if the baseball field is covered with artificial turf.

On June 3, 2023, I spent 45 minutes bird-watching while walking the loop path. With the assistance of the Merlin app, I identified the following birds:

1. House Finch
2. California Scrub Jay
3. American Crow
4. Lesser Goldfinch
5. Dark-Eyed Junco
6. Downy Woodpecker
7. Song Sparrow
8. Black Phoebe
9. California Towhee
10. Bewick's Wren
11. Pygmy Nuthatch
12. American Robin
13. Pacific Slope Flycatcher
14. Stellar's Jay
15. Red-Shouldered Hawk

A particular highlight regarding the Red-Shouldered Hawk: This male hawk has been a year-round resident here for at least 15 years. On this particular walk, I saw that he and a mate have a nest with chicks in one of the trees.

Here is a list of additional birds that I've identified in this area on previous walks:

1. Red-Tailed Hawk
2. European Starling
3. Cliff Swallow
4. Oak Titmouse
5. Spotted Towhee
6. Western Bluebird

7. Canada Goose
8. Northern Mockingbird
9. Cedar Waxwing
10. Pine Siskin
11. Yellow-Rumped Warbler
12. White-Crowned Sparrow
13. Snowy Egret
14. Great Egret
15. Purple Finch
16. Golden-Crowned Sparrow
17. Hermit Thrush
18. Turkey Vulture
19. California Gull
20. Chestnut-Backed Chickadee
21. Northern Flicker
22. Scrub Jay
23. Nuttall's Woodpecker
24. Brewer's Blackbird
25. Anna's Hummingbird
26. Bewick's Wren

Another highlight this year: Watching a pair of Oak Titmice feeding their two fledged chicks.

I believe that replacing the grass turf with artificial turf over such a large area will be a great disruption to the bird population on this part of the SRHS campus. I don't believe that the benefits to SRHS would justify this disruption. The reason I say this is because of the football field, where the grass turf was replaced with artificial turf several years ago. From what I can see, the SRHS teams are using the field about the same as they were for the last 30 years. The major difference that I've observed is that many "outside" teams are using the football field on the weekends for practices and competitions.

I hope that those who conduct the environmental review will spend the time to carefully and thoroughly observe and study the local micro-environment. As a long-time local resident in this area, I'm aware of issues that wouldn't immediately be apparent to someone just doing quick or short-term studies.

Andrea Valentine
8 Third Street, Apt. 3
San Rafael, CA 94901
415-623-0980

--

William Savidge, Principal Consultant

K12 School Facilities
2309 Grant St.
Berkeley, CA 94703
510-610-0601

bsavidge@K12schoolfacilities.org
www.K12schoolfacilities.org

APPENDIX B
SCOPING MEETING COMMENTS

SCOPING MEETING COMMENTS

October 19, 2023

Held at Student Commons, San Rafael High School 6 PM

1. District had had good meetings on lighting such as lighting at Stadium; impacts have been from operational errors. This includes excess noise. Need to monitor mitigation measures carefully.
2. Sound and dust for construction were 2017 issues. Ongoing impacts need to be addressed.
3. Is having a lighted pool a magnet for outsider use? EIR needs to address use. Are 50-foot light poles really needed? Marin Academy has 20-foot lights.
4. Turf is being replaced with plastic. Novato School District using an organic approach to avoid microplastics. Need rooftop water catchment.
5. Artificial turf concerns due to components going into clothes, skin, faces. Kids have gathered signatures to fight artificial turf.
6. What is current enrollment. Worried about noise from pool, artificial turf and air impacts from construction. Also worried about children's health. Want warm LED lights; football lights work well.
7. Is sea level rise being addressed?
8. Can San Rafael City Schools have residents serving on the On-Site Committee to monitor lighting, noise, etc.? Would like this to be a mitigation measure.
9. Want to have neighbors' input to make sure no future critical issues arise.
10. How was it decided to replace turf with artificial turf? Need to address health issues.

APPENDIX C
LIGHTING ANALYSIS FOR SAN RAFAEL HIGH SCHOOL

Lighting Analysis for San Rafael High School

Appendix A

MUSCO Sports Lighting – San Rafael HS Sport Field
Illumination Report

Date: 10/18/2023

Prepared by
Jeffrey H. Ansley
Electrical Engineer, PE

San Rafael High School Sports Lighting

San Rafael High School is planning on installing sport lighting for a swimming pool.

General Discussion / Outdoor Sports Lighting:

The potential environmental impacts of outdoor sports lighting are generally evaluated as combination of “light trespass” and “discomfort glare”. Light trespass is defined as light spilling onto adjacent properties, differing from intended purpose and becoming a visual annoyance. Glare is defined as the visual discomfort experienced by an observer but can also be the contrast brightness of the light source.

Visual characteristics of outdoor sports lighting may additionally be considered as being objectionable to some include if the sports light poles either individually or cumulatively block a major view corridor. However, for this site, the poles would not have a significant visual impact.

Sports Lighting Design Criteria:

The design of the proposed sports lighting system should provide light levels in accordance with recommendations of the Illuminating Engineering Society of North America (IESNA) RP-6-22 (November 17, 2022). *Current Recommended Practice for Sports Lighting*. Using the IESNA criteria, it is recommended that average illuminance in footcandles (fc) for category IV and III to be:

Swimming pool illuminance IV on pool:	20 fc @ 3ft
Swimming pool illuminance IV on deck:	10 fc @ 3ft
Swimming pool illuminance III on pool:	30 fc @ 3ft
Swimming pool illuminance III on deck:	10 fc @ 3ft

Regulatory Environment:

The City of San Rafael has an Ordinance No. 2025, updated May 23, 2023 which defines the collocation to residential properties and spill light.

The ordinance mentions the lighting shall be appropriately designed and/or shielded to conceal light sources from view off-site and avoid spillover onto adjacent properties so the lighting shall be directed downwards, and to only illuminate the courts and not to illuminate adjacent property. Currently, there is no legal or uniformly accepted definition of light trespass. Commonly, the term is employed in reference to unwanted light at the property line, disturbing the tranquility of an adjacent property owner.

This ordinance also places some limits regarding the light trespass levels. In general terms, acceptable lighting levels would provide one (1) foot-candle ground level overlap at doorways, one-half (½) foot-candle overlap at walkways and parking lots and fall below one (1) foot-candle at the property line.

California legislature has been working on outdoor lighting issues, including “dark sky” issues, and does consider such in part of the 2022 Energy Efficiency Building Standards, and Cal Green,

but those standards do not include issues of light trespass from sports lighting, which is listed as an exempt category.

From recent experience it has been found that a 1.0 fc limit is too high to properly address the spill light impact in residential neighborhoods; that is, it would produce lighting impacts that would disturb the tranquility of adjacent property owners.

The potential for light trespass can be analyzed by computing lighting intensity (illuminance) on horizontal and vertical planes at various locations of concern and comparing the result to the ambient conditions. For the project site, due to its suburban character, the natural ambient nighttime conditions are like those of bright moonlight.

The most feasible maximum value of trespass light to achieve minimal neighborhood impact would be equal to, or less than, 0.2 fc, making the resulting illumination similar to that which would be created by residential streetlights.

Criteria for Trespass Light and Glare

For trespass/spill light mitigation, the maximum horizontal and vertical illumination at the property line of homes should not exceed 1.0 fc. While this value is relatively low, the more important consideration for the impact on the neighborhood is the glare produced by the field lights. Glare represents the brightness of the observed light sources.

For glare, the maximum value measured at 6 feet above ground, at the property line, in the viewed direction of the sports field, should not exceed 9,000 – 10,000 candelas (cd). There are no recognized standards for glare values; data are available pertaining to the discomfort level experienced by the observer. The value of 9,000 – 10,000 cd is a value known by professional lighting experience to cause little to no discomfort to the observer and would result in very minimal impacts of spill light into homes, or outdoor areas.

Proposed Lighting Plan for Swimming Pool

Major Considerations

Major considerations in the design of the sport field lighting systems include illumination levels, pole heights and position; light output of lamps; optical control of fixtures and glare shielding; ball check lighting (up light); and proximity to surrounding land uses and residential neighborhoods.

Site Conditions

The area to the north side of the swimming pool and beyond the school property are residences, 330 ft. from the swimming pool outer line. Horizontal values are at 3' above ground are 0 fc and Glare values at 3' above ground level are below 800 cd.

The area to the west side of the swimming pool consists of another residences, located beyond around 266 ft. from the swimming pool outline. These two sides represent an area of spill light or glare concern. Horizontal values are at 3' above ground are 0 fc and Glare values at 3' above

ground level are below 800 cd.

The area to the east side of the swimming pool, approximately 390 ft. from the outer line and does not represent an area of spill light or glare concern.

The area to the south side of the swimming pool consists of school buildings and beyond that is a football field, and because of distance exceeding 900' to residences, swimming pool lighting does not represent an area of spill light or glare concern.

Preliminary Site Plan

As illustrated in the Electrical Site Plan, the computer predicted results for the lighting on the swimming pool and deck area are indicated in MUSCO Sports Lighting's Illumination Summary, in Appendix A.

Musco Lighting uses LED fixtures with a high degree of optical control that can produce the required mitigation of spill light toward directions of the outfield light fixtures.

Proposed Light fixtures and Poles are suggested as indicated below:

Light Fixtures:

The proposed light fixtures are 540 Watts LED lamps and have aluminum housings with glare control, as illustrated in the manufacture product brochure included with this report. These fixtures have unique optical systems allowing precise beam control, to the point where it's a cost-effective option for recreational facilities.

Poles:

The poles in the recommended plan are to be 50 feet high. The selection of pole height was based on the need to provide adequate illumination at an economical cost, and to satisfactorily mitigate spill light. The configuration of the poles and light fixture clusters are illustrated in the MUSCO Sports Lighting product brochure attached as Appendix A.

Project Impacts Mitigation Measures

The installation of the sport fields lights would produce spill light and glare to the west side of the fields. Mitigation measures shall therefore be imposed on the project to limit maximum spill light (measured in vertical and horizontal footcandles) to be equal to or less than 1.0 fc at property lines. Such computer predicted results can be field verified with a standard handheld illumination meter.

Glare shall be limited to a maximum of 9,000 – 10,000 candelas (cd) at 6 ft. height elevation at the property line. Field testing using a meter for measurement of glare is not generally practical due to the unavailability of trained technicians and instruments.

Compliance Testing

To ensure that the maximum trespass/spill light on residences at the identified remains at or below 1.0 fc, field testing is mandatory for the actual performance of the system.

Any need to re-aim and/or adjust the luminaires during the initial nighttime testing of the field

lights shall be part of the project scope. This would ensure that no excessive trespass/spill light remains uncorrected.

Controls

The proposed field lights shall be provided with programmable controls to turn OFF the lights at a pre-set time, recommended by the school district. Manual controls shall only be provided for testing the lights.

Additional control features that can be considered are dimming controls that would allow operation of the field illumination to be reduced for practice play when there are no spectators present, as well as for after-game clean-up work. This has the benefit of allowing some degree of illumination after the prescribed time for when lights must be turned off immediately after a game.

End of Report

San Rafael High School Aquatic

San Rafael, 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-550	1.08 kW	A
P1-P4	50'	50'	1	TLC-LED-550	0.54 kW	B
P2-P3	50'	50'	1	TLC-LED-550	0.54 kW	A
P2-P3	50'	50'	1	TLC-LED-900	0.88 kW	A
4			12		7.16 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Pool	5.00 kW	8
B	Pool/Egress	2.16 kW	4

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-550	LED 5700K - 75 CRI	540W	67,000	>120,000	>120,000	>120,000	10
TLC-LED-900	LED 5700K - 75 CRI	880W	104,000	>120,000	>120,000	>120,000	2

Single Luminaire Amperage Draw Chart								
Driver Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)							
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)	
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)	
TLC-LED-550	3.2	3.0	2.8	2.4	1.9	1.8	1.4	
TLC-LED-900	5.2	4.9	4.5	3.9	3.1	2.9	2.3	

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Egress/Emergency	Horizontal Illuminance	11.8	1	29	52.49	11.76	B	4
Pool	Horizontal Illuminance	35	29	43	1.46	1.21	A,B	12
Pool Deck	Horizontal Illuminance	30.3	19	42	2.29	1.59	A,B	12
Pool Spill	Horizontal Illuminance	0	0	0	0.00		A,B	12
Pool Spill	Max Candela Metric	87.9	1.08	789	732.98	81.42	A,B	12
Pool Spill	Max Vertical Illuminance Metric	0	0	0.02	0.00		A,B	12

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San Rafael, CA

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'	-	50'	TLC-LED-550	3	3	0
2	P2-P3	50'	-	50'	TLC-LED-550	2	2	0
				50'	TLC-LED-900	1	1	0
4	Totals					12	12	0

*This structure utilizes a back-to-back mounting configuration

Grid Summary

Name Pool	
Size	152' x 95'
Spacing	10.0' x 10.0'
Height	3.0' above grade

Illumination Summary

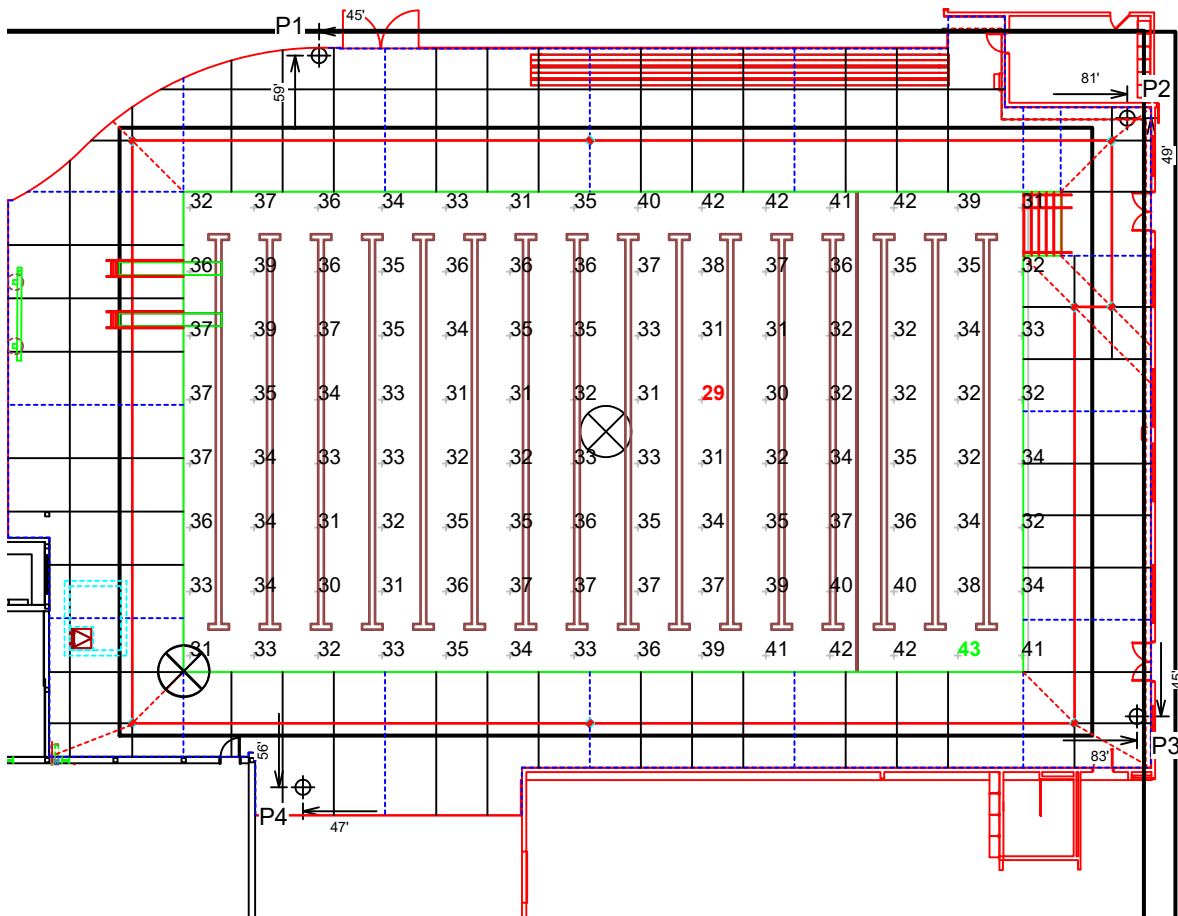
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Guaranteed Average	30
Scan Average	34.97
Maximum	43
Minimum	29
Avg/Min	1.20
Guaranteed Max/Min	2.5
Max/Min	1.46
UG (adjacent pts)	1.25
No. of Points	112
LUMINAIRE INFORMATION	
Applied Circuits	A,B
No. of Luminaires	12
Total Load	7.16 kW

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.



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



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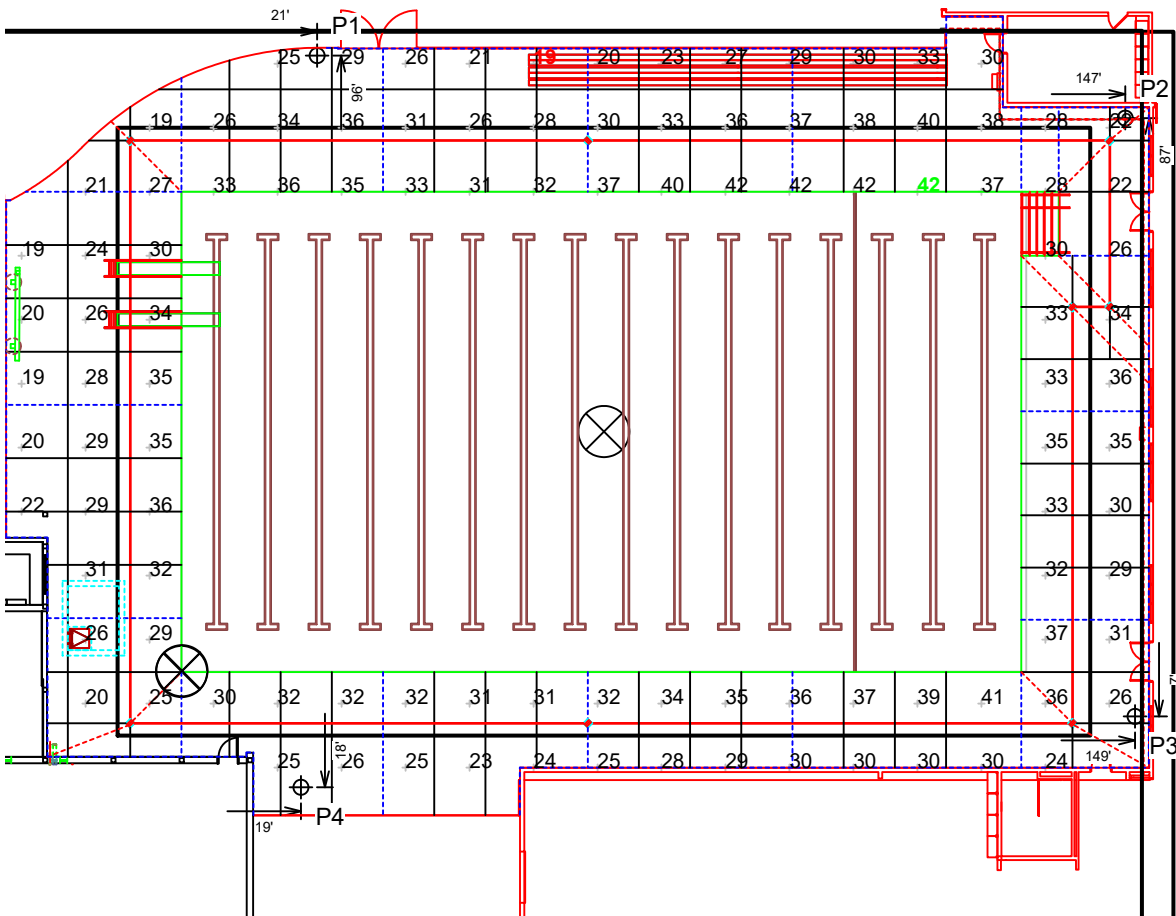
San Rafael High School Aquatic

San Rafael, CA

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'	-	50'	TLC-LED-550	3	3	0
2	P2-P3	50'	-	50'	TLC-LED-550	2	2	0
				50'	TLC-LED-900	1	1	0
4	Totals					12	12	0

*This structure utilizes a back-to-back mounting configuration



Grid Summary

Name Pool Deck
Size 255' x 200'
Spacing 10.0' x 10.0'
Height 3.0' above grade

Illumination Summary

MAINTAINED HORIZONTAL FOOTCANDLES	
Guaranteed Average	Entire Grid 30
Scan Average	30.29
Maximum	42
Minimum	19
Avg/Min	1.64
Max/Min	2.29
UG (adjacent pts)	1.52
No. of Points	108
LUMINAIRE INFORMATION	
Applied Circuits	A,B
No. of Luminaires	12
Total Load	7.16 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.



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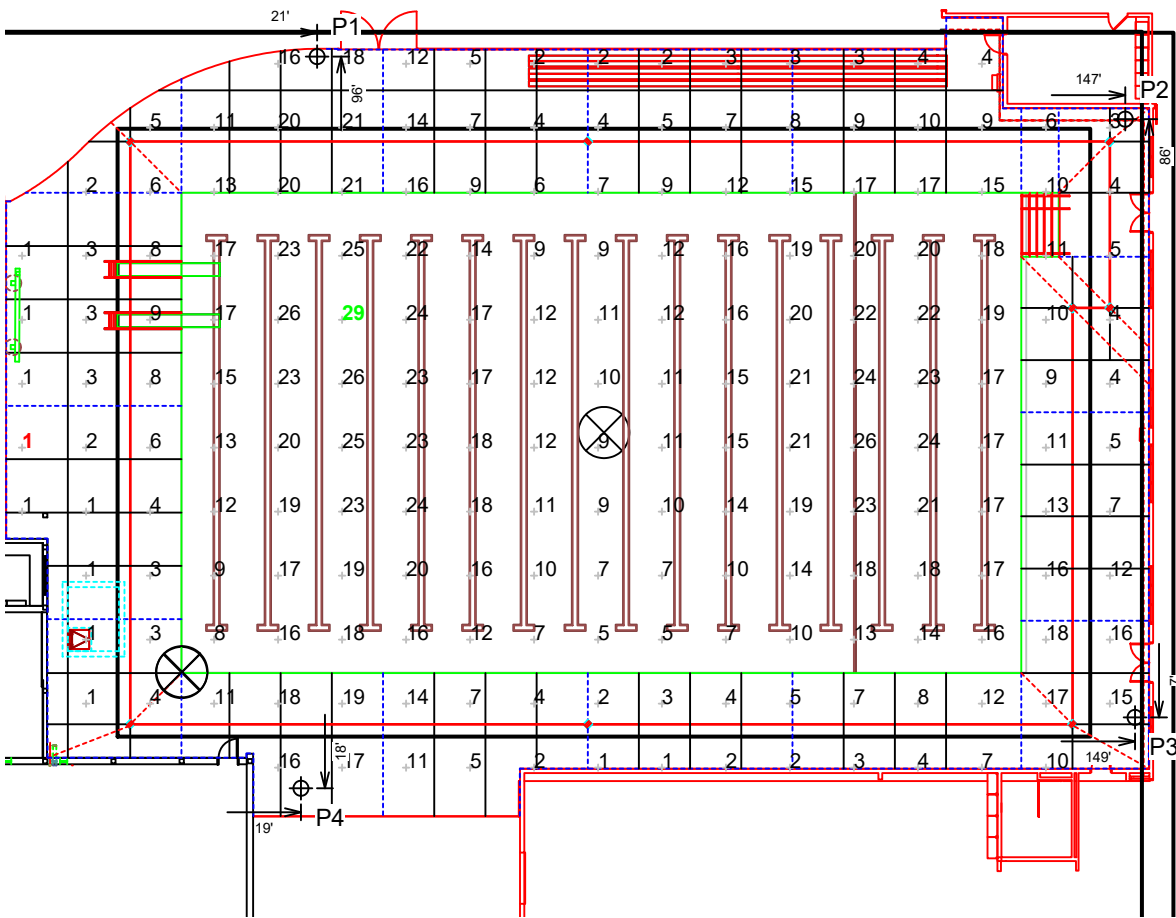
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Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	P1, P4	50'	-	50'	TLC-LED-550	3	1	2
2	P2-P3	50'	-	50'	TLC-LED-550	2	1	1
				50'	TLC-LED-900	1	0	1
4	Totals					12	4	8

*This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 30



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

Grid Summary

Name Egress/Emergency
 Size 250' x 200'
 Spacing 10.0' x 10.0'
 Height 3.0' above grade

Illumination Summary

MAINTAINED HORIZONTAL FOOTCANDLES	
Scan Average	Entire Grid 11.76
Maximum	29
Minimum	1
Avg/Min	21.50
Max/Min	52.49
UG (adjacent pts)	4.80
No. of Points	199
LUMINAIRE INFORMATION	
Applied Circuits	B
No. of Luminaires	4
Total Load	2.16 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.



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Grid Summary	
Name	Pool Spill
Spacing	30.0' x 30.0'
Height	3.0' above grade

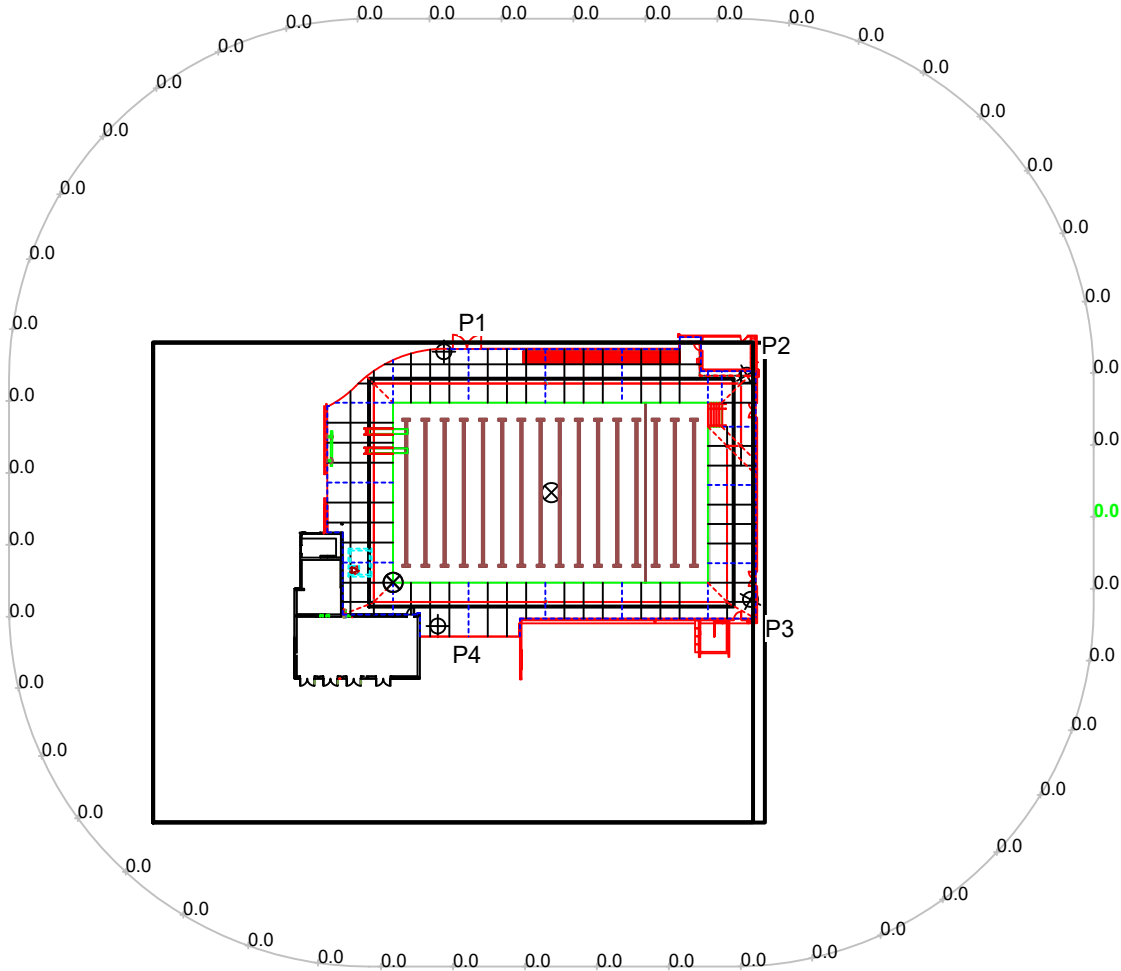
Illumination Summary	
	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average	0.0006
Maximum	0.00
Minimum	0.00
No. of Points	48
LUMINAIRE INFORMATION	
Applied Circuits	A,B
No. of Luminaires	12
Total Load	7.16 kW

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.



SCALE IN FEET 1 : 80



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



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Grid Summary	
Name	Pool Spill
Spacing	30.0' x 30.0'
Height	3.0' above grade

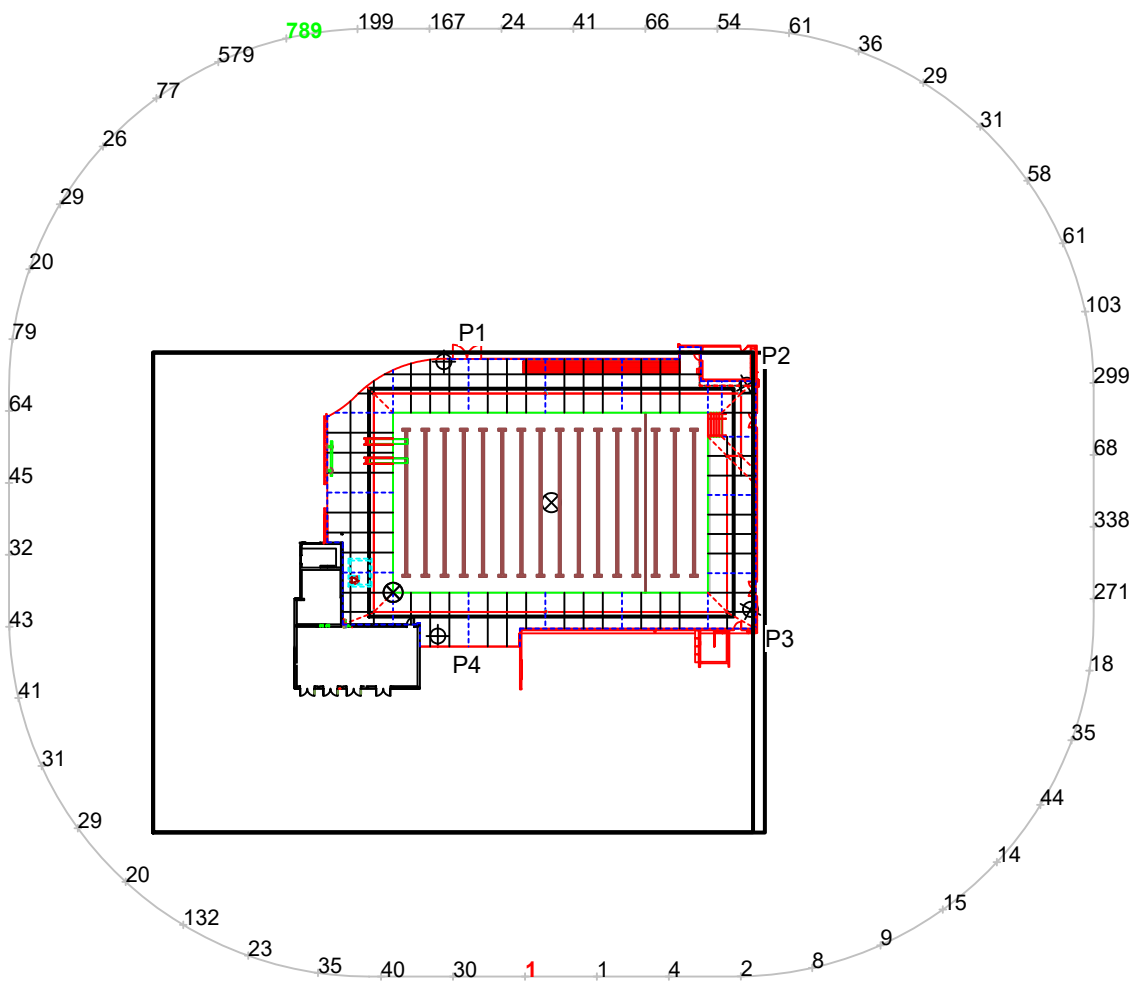
Illumination Summary	
	MAINTAINED CANDELA (PER FIXTURE)
	Entire Grid
Scan Average	87.9338
Maximum	788.94
Minimum	1.08
No. of Points	48
LUMINAIRE INFORMATION	
Applied Circuits	A,B
No. of Luminaires	12
Total Load	7.16 kW

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 $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



SCALE IN FEET 1 : 80



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



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Grid Summary	
Name	Pool Spill
Spacing	30.0' x 30.0'
Height	3.0' above grade

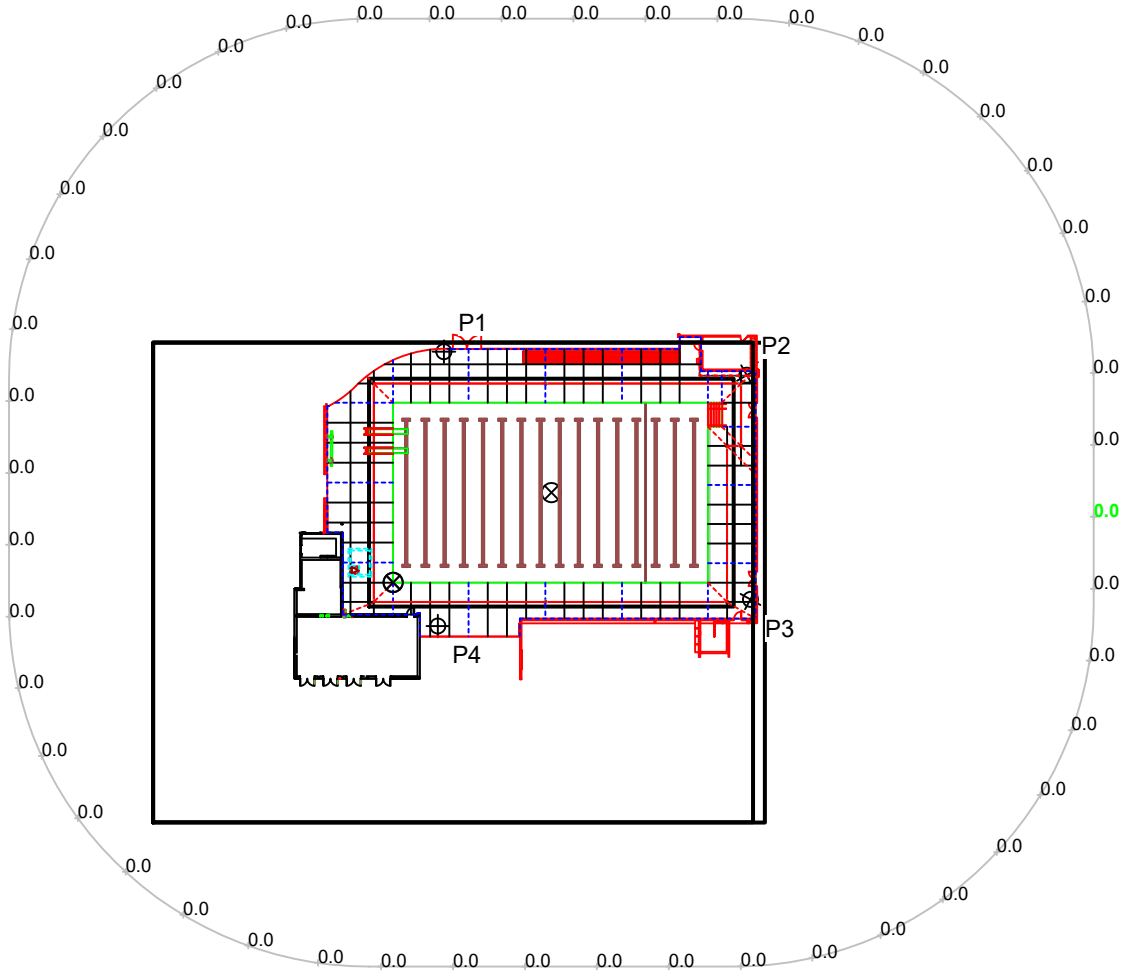
Illumination Summary	
	MAINTAINED MAX VERTICAL FOOTCANDLES
	Entire Grid
Scan Average	0.0025
Maximum	0.02
Minimum	0.00
No. of Points	48
LUMINAIRE INFORMATION	
Applied Circuits	A,B
No. of Luminaires	12
Total Load	7.16 kW

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.



SCALE IN FEET 1 : 80



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



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San Rafael, CA

Equipment Layout

- INCLUDES:**
- Egress/Emergency
 - Pool
 - Pool Deck

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.

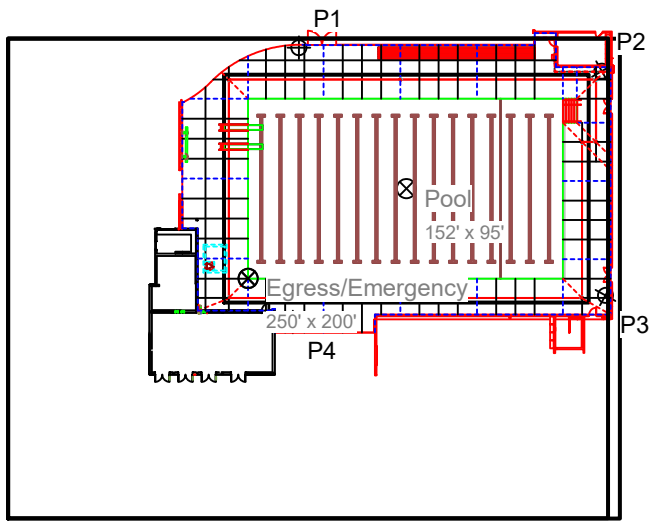
Equipment List For Areas Shown

QTY	LOCATION	Pole			Luminaires	
		SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY/POLE
2	P1, P4	50'	-	50'	TLC-LED-550	3
2	P2-P3	50'	-	50'	TLC-LED-550	2
				50'	TLC-LED-900	1
4	Totals					12

*This structure utilizes a back-to-back mounting configuration

Single Luminaire Amperage Draw Chart

Driver Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
Single Phase Voltage							
TLC-LED-550	3.2	3.0	2.8	2.4	1.9	1.8	1.4
TLC-LED-900	5.2	4.9	4.5	3.9	3.1	2.9	2.3



SCALE IN FEET 1 : 80



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



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APPENDIX D
AIR QUALITY

SRHS_Construction Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	SRHS_Construction
Construction Start Date	6/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	5.60
Location	150 3rd St, San Rafael, CA 94901, USA
County	Marin
City	San Rafael
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	919
EDFZ	2
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.20

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Recreational Swimming Pool	10.0	1000sqft	2.40	10,000	5,000	0.00	—	New Aquatic Center

High School	12.0	1000sqft	0.90	12,000	14,000	14,000	—	Arts Building and the Performing Arts Plaza
Golf Course	4.60	Acre	4.60	0.00	0.00	0.00	—	New artificial turf for the existing baseball and softball fields

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.33	0.56	2.38	3.63	0.01	0.09	0.60	0.70	0.09	0.24	0.33	—	816	816	0.05	0.04	0.89	830
2025	0.53	1.31	3.71	6.31	0.01	0.14	0.79	0.93	0.12	0.28	0.41	—	1,424	1,424	0.09	0.07	1.59	1,449
2026	0.21	0.75	1.46	2.75	< 0.005	0.05	0.19	0.24	0.04	0.04	0.08	—	609	609	0.04	0.03	0.69	620
2028	0.31	0.18	2.19	2.96	0.01	0.05	0.36	0.41	0.05	0.08	0.13	—	1,149	1,149	0.10	0.13	1.60	1,191
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.33	0.56	2.40	3.58	0.01	0.09	0.60	0.70	0.09	0.24	0.33	—	809	809	0.05	0.04	0.02	823
2025	0.30	2.15	2.19	3.48	0.01	0.08	0.60	0.68	0.08	0.24	0.32	—	803	803	0.05	0.04	0.02	816
2026	0.21	0.75	1.48	2.70	< 0.005	0.05	0.19	0.24	0.04	0.04	0.08	—	603	603	0.04	0.03	0.02	613
2028	0.31	0.18	2.25	2.93	0.01	0.05	0.36	0.41	0.05	0.08	0.13	—	1,144	1,144	0.10	0.13	0.04	1,185
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2024	0.14	0.23	1.00	1.49	< 0.005	0.04	0.25	0.29	0.04	0.10	0.14	—	339	339	0.02	0.02	0.16	345
2025	0.26	0.61	1.82	3.00	0.01	0.07	0.40	0.47	0.06	0.15	0.21	—	684	684	0.04	0.04	0.33	696
2026	0.14	0.49	0.96	1.76	< 0.005	0.03	0.12	0.15	0.03	0.03	0.05	—	394	394	0.02	0.02	0.19	401
2028	0.11	0.07	0.80	1.05	< 0.005	0.02	0.13	0.15	0.02	0.03	0.05	—	411	411	0.04	0.05	0.25	426
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.03	0.04	0.18	0.27	< 0.005	0.01	0.05	0.05	0.01	0.02	0.03	—	56.1	56.1	< 0.005	< 0.005	0.03	57.1
2025	0.05	0.11	0.33	0.55	< 0.005	0.01	0.07	0.09	0.01	0.03	0.04	—	113	113	0.01	0.01	0.05	115
2026	0.03	0.09	0.18	0.32	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	65.3	65.3	< 0.005	< 0.005	0.03	66.4
2028	0.02	0.01	0.15	0.19	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	68.0	68.0	0.01	0.01	0.04	70.5

3. Construction Emissions Details

3.1. Aquatics Center (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	2.03	2.96	< 0.005	0.09	—	0.09	0.08	—	0.08	—	501	501	0.02	< 0.005	—	503
Dust From Material Movement	—	—	—	—	—	—	0.38	0.38	—	0.19	0.19	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Architectural Coatings	—	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	2.03	2.96	< 0.005	0.09	—	0.09	0.08	—	0.08	—	501	501	0.02	< 0.005	—	503	
Dust From Material Movement	—	—	—	—	—	—	0.38	0.38	—	0.19	0.19	—	—	—	—	—	—	—	
Demolition	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—	
Architectural Coatings	—	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.10	0.09	0.85	1.24	< 0.005	0.04	—	0.04	0.04	—	0.04	—	210	210	0.01	< 0.005	—	210	
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—	
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—	
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

Off-Road Equipment	0.02	0.02	0.15	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.7	34.7	< 0.005	< 0.005	—	34.8
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.49	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.60	8.60	< 0.005	< 0.005	0.02	9.00
Hauling	0.03	0.01	0.31	0.17	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	204	204	0.03	0.03	0.43	215
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.1	95.1	< 0.005	< 0.005	0.01	96.4
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.60	8.60	< 0.005	< 0.005	< 0.005	8.98
Hauling	0.03	0.01	0.32	0.17	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	204	204	0.03	0.03	0.01	215
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.0	40.0	< 0.005	< 0.005	0.08	40.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.60	3.60	< 0.005	< 0.005	< 0.005	3.77
Hauling	0.01	< 0.005	0.13	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	85.6	85.6	0.01	0.01	0.08	90.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.62	6.62	< 0.005	< 0.005	0.01	6.72
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.62
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.2	14.2	< 0.005	< 0.005	0.01	14.9

3.3. Aquatics Center (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.83	2.90	< 0.005	0.08	—	0.08	0.07	—	0.07	—	501	501	0.02	< 0.005	—	503
Dust From Material Movement	—	—	—	—	—	—	0.38	0.38	—	0.19	0.19	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Architectural Coatings	—	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.83	2.90	< 0.005	0.08	—	0.08	0.07	—	0.07	—	501	501	0.02	< 0.005	—	503
Dust From Material Movement	—	—	—	—	—	—	0.38	0.38	—	0.19	0.19	—	—	—	—	—	—	—

Demolition	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	
Architectural Coatings	—	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	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	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.12	0.10	0.98	1.55	< 0.005	0.04	—	0.04	0.04	—	0.04	—	268	268	0.01	< 0.005	—	269
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.10	0.10	—	—	—	—	—	—	
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	
Architectural Coatings	—	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	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	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.02	0.02	0.18	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.3	44.3	< 0.005	< 0.005	—	44.5
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	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	

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.45	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	100	100	< 0.005	< 0.005	0.41	102
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.44	8.44	< 0.005	< 0.005	0.02	8.83
Hauling	0.03	0.01	0.29	0.17	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	200	200	0.03	0.03	0.42	211
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.41	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	93.3	93.3	< 0.005	< 0.005	0.01	94.5
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.44	8.44	< 0.005	< 0.005	< 0.005	8.81
Hauling	0.03	0.01	0.31	0.17	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	200	200	0.03	0.03	0.01	210
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.21	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	50.0	50.0	< 0.005	< 0.005	0.09	50.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.51	4.51	< 0.005	< 0.005	< 0.005	4.71
Hauling	0.02	< 0.005	0.16	0.09	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	107	107	0.01	0.02	0.10	113
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.28	8.28	< 0.005	< 0.005	0.02	8.41
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.75	0.75	< 0.005	< 0.005	< 0.005	0.78
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	17.7	17.7	< 0.005	< 0.005	0.02	18.6

3.5. Arts Building and Performing Arts Plaza (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.16	0.13	1.28	2.20	< 0.005	0.05	—	0.05	0.05	—	0.05	—	353	353	0.01	< 0.005	—	354
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.28	2.20	< 0.005	0.05	—	0.05	0.05	—	0.05	—	353	353	0.01	< 0.005	—	354
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.53	0.92	< 0.005	0.02	—	0.02	0.02	—	0.02	—	148	148	0.01	< 0.005	—	148

Dust From Material Movement:	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.4	24.4	< 0.005	< 0.005	—	24.5
Dust From Material Movement:	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.4	97.4	< 0.005	< 0.005	0.39	99.0
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.44	8.44	< 0.005	< 0.005	0.02	8.83
Hauling	0.02	< 0.005	0.23	0.13	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	156	156	0.02	0.02	0.33	164
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.04	0.04	0.40	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	90.9	90.9	< 0.005	< 0.005	0.01	92.1
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.44	8.44	< 0.005	< 0.005	< 0.005	8.81
Hauling	0.02	< 0.005	0.24	0.13	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	156	156	0.02	0.02	0.01	164
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.16	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.2	38.2	< 0.005	< 0.005	0.07	38.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	< 0.005	3.69
Hauling	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	65.2	65.2	0.01	0.01	0.06	68.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.33	6.33	< 0.005	< 0.005	0.01	6.42
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.61
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.8	10.8	< 0.005	< 0.005	0.01	11.4

3.7. Arts Building and Performing Arts Plaza (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.21	2.20	< 0.005	0.04	—	0.04	0.04	—	0.04	—	353	353	0.01	< 0.005	—	354
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.21	2.20	< 0.005	0.04	—	0.04	0.04	—	0.04	—	353	353	0.01	< 0.005	—	354	
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—	
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—	
Architectural Coatings	—	0.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.10	0.08	0.79	1.44	< 0.005	0.03	—	0.03	0.03	—	0.03	—	230	230	0.01	< 0.005	—	231	
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—	
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—	
Architectural Coatings	—	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

Off-Road Equipment	0.02	0.01	0.14	0.26	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	38.2	38.2	< 0.005	< 0.005	—	38.3
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.41	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	95.6	95.6	< 0.005	< 0.005	0.36	97.1
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.29	8.29	< 0.005	< 0.005	0.02	8.67
Hauling	0.02	< 0.005	0.22	0.13	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	153	153	0.02	0.02	0.31	161
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	89.2	89.2	< 0.005	< 0.005	0.01	90.4
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.29	8.29	< 0.005	< 0.005	< 0.005	8.65
Hauling	0.02	< 0.005	0.23	0.13	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	153	153	0.02	0.02	0.01	160
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.5	58.5	< 0.005	< 0.005	0.10	59.4
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.42	5.42	< 0.005	< 0.005	0.01	5.66
Hauling	0.02	< 0.005	0.15	0.09	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	99.7	99.7	0.01	0.02	0.09	105
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.69	9.69	< 0.005	< 0.005	0.02	9.84
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.5	16.5	< 0.005	< 0.005	0.01	17.4

3.9. Athletics Fields Turf (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.15	2.01	< 0.005	0.04	—	0.04	0.04	—	0.04	—	317	317	0.01	< 0.005	—	319
Dust From Material Movement:	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.15	2.01	< 0.005	0.04	—	0.04	0.04	—	0.04	—	317	317	0.01	< 0.005	—	319
Dust From Material Movement:	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.05	0.41	0.72	< 0.005	0.02	—	0.02	0.01	—	0.01	—	114	114	< 0.005	< 0.005	—	114
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.9	18.9	< 0.005	< 0.005	—	18.9
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.30	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	77.5	77.5	< 0.005	< 0.005	0.25	78.0
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.90	7.90	< 0.005	< 0.005	0.02	8.26
Hauling	0.11	0.02	1.02	0.64	0.01	0.01	0.20	0.21	0.01	0.05	0.06	—	746	746	0.09	0.12	1.33	786
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	72.3	72.3	< 0.005	< 0.005	0.01	73.3
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.90	7.90	< 0.005	< 0.005	< 0.005	8.25
Hauling	0.11	0.02	1.07	0.64	0.01	0.01	0.20	0.21	0.01	0.05	0.06	—	746	746	0.09	0.12	0.03	785
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.1	26.1	< 0.005	< 0.005	0.04	26.4

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.84	2.84	< 0.005	< 0.005	< 0.005	2.96
Hauling	0.04	0.01	0.38	0.23	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	268	268	0.03	0.04	0.21	282
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.31	4.31	< 0.005	< 0.005	0.01	4.38
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.47	0.47	< 0.005	< 0.005	< 0.005	0.49
Hauling	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.3	44.3	0.01	0.01	0.03	46.7

3.11. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	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
Paving	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	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
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	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
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
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Aquatics Center	Grading	6/1/2024	9/30/2025	5.00	347	Aquatics Center
Arts Building and Performing Arts Plaza	Grading	6/1/2025	11/30/2026	5.00	391	AR building and PA Plaza
Athletics Fields Turf	Grading	6/1/2028	11/30/2028	5.00	131	Athletics Fields Turf
Paving	Paving	12/1/2025	12/1/2025	5.00	1.00	Used to generate VOC emissions from paving

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Aquatics Center	Graders	Diesel	Average	0.00	1.00	148	0.41
Aquatics Center	Rubber Tired Dozers	Diesel	Average	1.00	0.46	367	0.40
Aquatics Center	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.59	84.0	0.37
Aquatics Center	Aerial Lifts	Electric	Average	1.00	0.40	46.0	0.31
Aquatics Center	Bore/Drill Rigs	Diesel	Average	1.00	0.29	83.0	0.50
Aquatics Center	Cement and Mortar Mixers	Diesel	Average	1.00	0.06	10.0	0.56
Aquatics Center	Cranes	Diesel	Average	1.00	0.22	367	0.29
Aquatics Center	Excavators	Diesel	Average	1.00	1.84	158	0.38
Aquatics Center	Paving Equipment	Diesel	Average	1.00	0.07	89.0	0.36
Aquatics Center	Plate Compactors	Diesel	Average	1.00	0.21	8.00	0.43
Aquatics Center	Rough Terrain Forklifts	Diesel	Average	1.00	1.73	100	0.40
Aquatics Center	Skid Steer Loaders	Diesel	Average	1.00	3.29	71.0	0.37
Aquatics Center	Welders	Diesel	Average	1.00	0.35	46.0	0.45
Arts Building and Performing Arts Plaza	Graders	Diesel	Average	0.00	8.00	148	0.41
Arts Building and Performing Arts Plaza	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40

Arts Building and Performing Arts Plaza	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.43	84.0	0.37
Arts Building and Performing Arts Plaza	Aerial Lifts	Electric	Average	1.00	2.01	46.0	0.31
Arts Building and Performing Arts Plaza	Air Compressors	Electric	Average	1.00	0.61	37.0	0.48
Arts Building and Performing Arts Plaza	Bore/Drill Rigs	Diesel	Average	1.00	0.26	83.0	0.50
Arts Building and Performing Arts Plaza	Crawler Tractors	Diesel	Average	1.00	0.43	87.0	0.43
Arts Building and Performing Arts Plaza	Excavators	Diesel	Average	1.00	1.38	158	0.38
Arts Building and Performing Arts Plaza	Plate Compactors	Diesel	Average	1.00	0.77	8.00	0.43
Arts Building and Performing Arts Plaza	Pumps	Diesel	Average	1.00	0.41	11.0	0.74
Arts Building and Performing Arts Plaza	Rollers	Diesel	Average	1.00	0.72	36.0	0.38
Arts Building and Performing Arts Plaza	Rough Terrain Forklifts	Diesel	Average	1.00	1.43	96.0	0.40
Arts Building and Performing Arts Plaza	Skid Steer Loaders	Diesel	Average	1.00	2.51	71.0	0.37
Arts Building and Performing Arts Plaza	Welders	Diesel	Average	1.00	0.46	46.0	0.45
Athletics Fields Turf	Tractors/Loaders/Backhoes	Diesel	Average	1.00	2.52	84.0	0.37
Athletics Fields Turf	Graders	Diesel	Average	1.00	0.92	148	0.41
Athletics Fields Turf	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Athletics Fields Turf	Excavators	Diesel	Average	1.00	0.99	158	0.38
Athletics Fields Turf	Plate Compactors	Diesel	Average	1.00	1.53	8.00	0.43
Athletics Fields Turf	Pumps	Diesel	Average	1.00	0.12	11.0	0.74
Athletics Fields Turf	Rollers	Diesel	Average	1.00	1.53	36.0	0.38

Athletics Fields Turf	Rough Terrain Forklifts	Diesel	Average	1.00	0.80	96.0	0.40
Athletics Fields Turf	Signal Boards	Diesel	Average	1.00	3.36	6.00	0.82
Paving	Cement and Mortar Mixers	Diesel	Average	0.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	0.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	0.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	0.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	0.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Aquatics Center	—	—	—	—
Aquatics Center	Worker	11.6	11.7	LDA,LDT1,LDT2
Aquatics Center	Vendor	0.30	8.40	HHDT,MHDT
Aquatics Center	Hauling	2.70	20.0	HHDT
Aquatics Center	Onsite truck	—	—	HHDT
Arts Building and Performing Arts Plaza	—	—	—	—
Arts Building and Performing Arts Plaza	Worker	11.3	11.7	LDA,LDT1,LDT2
Arts Building and Performing Arts Plaza	Vendor	0.30	8.40	HHDT,MHDT
Arts Building and Performing Arts Plaza	Hauling	2.10	20.0	HHDT
Arts Building and Performing Arts Plaza	Onsite truck	—	—	HHDT
Athletics Fields Turf	—	—	—	—
Athletics Fields Turf	Worker	9.50	11.7	LDA,LDT1,LDT2
Athletics Fields Turf	Vendor	0.30	8.40	HHDT,MHDT
Athletics Fields Turf	Hauling	10.8	20.0	HHDT

Athletics Fields Turf	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Aquatics Center	0.00	0.00	15,000	5,000	—
Arts Building and Performing Arts Plaza	0.00	0.00	33,000	11,000	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Aquatics Center	1,600	8,000	10.0	1,120	—
Arts Building and Performing Arts Plaza	1,060	5,300	10.5	9,400	—
Athletics Fields Turf	2,240	11,200	7.53	0.00	—
Paving	0.00	0.00	0.00	0.00	0.53

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
High School	0.53	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	4.25	204	0.03	< 0.005
2025	33.7	204	0.03	< 0.005
2026	29.5	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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8. User Changes to Default Data

Screen	Justification
Land Use	Land use information was based on the project description. Lot acreage of the new aquatic center was estimated based on site plan and Google Earth. The recreational building area includes the 2,100 sq ft storage building and the 7,900 sq ft athletic clubhouse. Lot acreage of the new Arts Building and the Performing Arts Plaza includes the building footprint of the new Arts Building (estimated based on Google Earth and Figure 3-2), 14,000 sq ft of site work and landscaping area, and 23,000 sq ft of the plaza. It was conservatively assumed that the landscape area for the Arts Building and the Performing Arts Plaza is 14,000 sq ft.
Construction: Construction Phases	The District provided construction off-road equipment activity and construction duration. The paving phase was created so the model would calculate VOC emissions from asphalt paving for the Aquatics Center and Arts Building and PA Plaza phases. No construction off-road equipment and vehicle trips were assigned to the paving phase.
Construction: Off-Road Equipment	Project-specific off-road construction equipment activity data provided by the District.
Construction: Demolition	<p>For fugitive dust calculation:</p> <p>Aquatics Center: Existing pool assumption: (Area of the existing pool) (unit conversion from square feet of floor space to short ton of waste material) = (6,600 sqft)(0.046 short ton/sqft) = 304 tons. Asphalt demo assumption:(Area of pavement)(Depth of pavement)(Density asphalt) = (45 KSF)(0.25 ft)(0.0725 tons/ft^3) =816 tons The existing pool area and surrounding pavement areas were estimated using Google Earth.</p> <p>Arts Building and PA Plaza: The building square footage of the AR building was obtained from the San Rafael Master Facilities Long-Range Plan EIR.</p>
Construction: Trips and VMT	Construction vehicle trips are provided by the District.

Construction: Architectural Coatings	Aquatics Center: For the chemical storage/pump/equipment storage building (2,100 sqft) and the new athletic clubhouse (7,900 sqft) Arts Building and PA Plaza: For the new Arts Building
Construction: Dust From Material Movement	Estimated cut volumes were provided by the District. It was assumed that the fill materials are about 20% of the cut volume for each project.
Construction: Paving	Conservatively assumed the new Performing Arts Plaza would contain 100% asphalt.

Construction Off-Road Equipment Activity (Total Hours per Month)

Construction Phase	Equipment Type	CaEEMod Equipment Type	Fuel Type	CaEEMod 2022 Default Horsepower ¹	Default Engine Tier	2024						2025						Duration (day)	Average Hours per day			
						Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May			Jun	Jul	Aug
Aquatic Center	Aerial Lifts	Aerial Lifts	Electric	46	Average	20	20	20	20							20	20	20		347	0.40	
	Bore/Drill Rigs	Bore/Drill Rigs	Diesel	83	Average				100													0.29
	Cement and Mortar Mixers	Cement and Mortar Mixers	Diesel	10	Average											20						0.06
	Cranes	Cranes	Diesel	367	Average			8						20	20	20		8				0.22
	Excavators	Excavators	Diesel	158	Average	100	100	100	80	80	20	20	20	20	20	20	20	20				1.84
	Paving Equipment	Paving Equipment	Diesel	89	Average											16			8			0.07
	Plate Compactors	Plate Compactors	Diesel	8	Average	8	8	8	8	8					8	8	8	8				0.21
	Rough Terrain Forklifts	Rough Terrain Forklifts	Diesel	100	Average	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1.73
	Rubber Tired Dozers	Rubber Tired Dozers	Diesel	367	Average		20	20	20	20	20	10	10	10	10	10						0.46
	Skid Steer Loaders	Skid Steer Loaders	Diesel	71	Average	80	80	80	80	80	80	80	80	80	80	80	80	60	40			3.29
	Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	Diesel	84	Average	40	40	40	40	40	40	40	40	40	40	40	40	20	10			1.59
	Welders	Welders	Diesel	46	Average										40	40	40					0.35

Note: CaEEMod default values were used as project-specific horsepower data were not available. Assumed diesel engine to be conservative when fuel type is unknown.

¹CaEEMod 2020 default horsepower was used for excavators. CaEEMod 2022 default horsepower was used for other type of equipment.

Construction Off-Road Equipment Activity (Total Hours per Month)

Construction Phase	Equipment Type	CalEEMod Equipment Type	Default Fuel Type	CalEEMod 2022 Default Horsepower ¹	Default Engine Tier	2025						2026						Duration (day)	Average Hours per day						
						Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May			Jun	Jul	Aug	Sept	Oct	Nov
Visual and Performing Arts Building and Plaza (VAPA)	Aerial Lifts	Areial Lifts	Electric	46	Average							80	80	80	80	80	80	80	80	40	20	5	391	2.01	
	Air Compressors	Air Compressors	Electric	37	Average										40	40	40	40	40	40					0.61
	Bore/Drill Rigs	Bore/Drill Rigs	Diesel	83	Average				100																0.26
	Crawler Tractors	Crawler Tractors	Diesel	87	Average						80	80									8				0.43
	Excavators	Excavators	Diesel	158	Average	100	100	100	20	20	20	20	20	20	20	20	20	20	20	20					1.38
	Plate Compactors	Plate Compactors	Diesel	8	Average			20	20	20	20	20	20	20	20	20	20	20	20	20	20	20			0.77
	Pumps	Pumps	Diesel	11	Average				40			40			20		20		20	20					0.41
	Rollers	Rollers	Diesel	36	Average				40	40	40	40					40		40	40					0.72
	Rough Terrain Forklifts	Rough Terrain Forklifts	Diesel	96	Average	40	40	40	40	40	40	40	40	40	40	40	40	20	20	20	20				1.43
	Skid Steer Loaders	Skid Steer Loaders	Diesel	71	Average	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	20			2.51
	Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	Diesel	84	Average	40	40	40	40	40	40	40	40	40	40	40	40	40	40						1.43
Welders	Welders	Diesel	46	Average						60	60	60											0.46		

Note: CalEEMod default values were used as project-specific horsepower data were not available. Assumed diesel engine to be conservative when fuel type is unknown.

¹CalEEMod 2020 default horsepower was used for excavators. CalEEMod 2022 default horsepower was used for other type of equipment.

Construction Off-Road Equipment Activity (Total Hours per Month)

Construction Phase	Equipment Type	CalEEMod Equipment Type	Default Fuel Type	CalEEMod 2022 Default Horsepower ¹	Default Engine Tier	2028						Duration (day)	Average Hours per day
						Jun	Jul	Aug	Sept	Oct	Nov		
Athletic Fields Turf	Excavators	Excavators	Diesel	158	Average	40	40	40	10			131	0.99
	Graders	Graders	Diesel	148	Average	40	40	40					0.92
	Plate Compactors	Plate Compactors	Diesel	8	Average	40	40	40	40	40			1.53
	Pumps	Pumps	Diesel	11	Average			16					0.12
	Rollers	Rollers	Diesel	36	Average	40	40	40	40	40			1.53
	Rough Terrain Forklifts	Rough Terrain Forklifts	Diesel	96	Average	20	20	20	20	20	5		0.80
	Signal Boards	Signal Boards	Diesel	6	Average	80	80	80	80	80	40		3.36
	Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	Diesel	ele	Average	60	60	60	60	60	30		2.52

Note: CalEEMod default values were used as project-specific horsepower data were not available. Assumed diesel engine to be conservative when fuel type is unknown.

¹CalEEMod 2020 default horsepower was used for excavators. CalEEMod 2022 default horsepower was used for other type of equipment.

Construction Vehicle Trip Activity (Total Round Trips per Month)

Aquatic Center

Vehicle Trip Activity	Fleet Mix (percentage)				2024							2025										
	LDA	LHD	MHD	HHD	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	
Worker Commute Trips	100%				260	260	260	260	260	260	260	260	260	260	260	260	260	260	130	130	130	
Vendor Trips		50%	50%		8	8	8	8	8	8	8	8	8	8	8	8	8	8	2	2	2	
Demolition Haul Trips				100%	100	100	100	100	50	50	50	50	50	50								
Soil Haul Trips				100%			20	20	20	10	10	10	10	10	10							
Concrete Trucks Trips				100%				20	20	20							20	20				

VAPA

Vehicle Trip Activity	Fleet Mix (percentage)				2025																	
	LDA	LHD	MHD	HHD	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
Worker Commute Trips	100%				260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	130	130
Vendor Trips		50%	50%		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	2	2
Demolition Haul Trips				100%	100	100	100	50	50	50	50	50	50									
Soil Haul Trips				100%			30	30	30	30	30											
Concrete Trucks Trips				100%				20	20	20					10							

Turf

Vehicle Trip Activity	Fleet Mix (percentage)				2028																	
	LDA	LHD	MHD	HHD	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
Worker Commute Trips	100%				260	260	260	260	130	60	20											
Vendor Trips		50%	50%		8	8	8	8	4	2												
Demolition Haul Trips				100%	220	220	220	220	220													
Soil Haul Trips				100%			100	100	100													
Concrete Trucks Trips				100%			10															

Trip Category	Aquatic Center		VAPA		Turf	
	Trips per day	Trip length (mile)	Trips per day	Trip length (mile)	Trips per day	Trip length (mile)
Worker commute	11.6	11.7	11.3	11.7	9.5	11.7
Vendor	0.3	8.4	0.3	8.4	0.3	8.4
Hauling	2.7	20.0	2.1	20.0	10.8	20.0

SRHS_Operation v2 Custom Report

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5.18.2. Sequestration

5.18.2.1. Unmitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	SRHS_Operation v2
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	5.60
Location	150 3rd St, San Rafael, CA 94901, USA
County	Marin
City	San Rafael
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	919
EDFZ	2
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Recreational Swimming Pool	10.0	1000sqft	2.40	10,000	5,000	0.00	—	New Aquatic Center

High School	12.0	1000sqft	0.90	12,000	14,000	14,000	—	Arts Building and Performing Arts Plaza
Golf Course	4.60	Acre	4.60	0.00	0.00	0.00	—	New artificial turf for the existing baseball and softball fields

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.04	0.04	0.02	0.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	51.3	51.3	< 0.005	< 0.005	0.18	52.2
Area	0.17	0.69	0.01	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.93	3.93	< 0.005	< 0.005	—	3.95
Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	199	199	0.02	< 0.005	—	200
Water	—	—	—	—	—	—	—	—	—	—	—	1.90	4.40	6.30	0.20	< 0.005	—	12.6
Waste	—	—	—	—	—	—	—	—	—	—	—	41.4	0.00	41.4	4.14	0.00	—	145
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Stationary	0.30	0.15	0.00	2.69	0.02	0.21	0.00	0.21	0.21	0.00	0.21	0.00	3,294	3,294	0.06	0.04	0.00	3,308
Total	0.53	0.89	0.17	4.01	0.02	0.22	0.05	0.27	0.22	0.01	0.23	43.3	3,553	3,596	4.42	0.05	0.28	3,721
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.04	0.04	0.03	0.25	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	48.6	48.6	< 0.005	< 0.005	< 0.005	49.4

Area	—	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	199	199	0.02	< 0.005	—	200
Water	—	—	—	—	—	—	—	—	—	—	—	1.90	4.40	6.30	0.20	< 0.005	—	12.6
Waste	—	—	—	—	—	—	—	—	—	—	—	41.4	0.00	41.4	4.14	0.00	—	145
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Stationary	0.30	0.15	0.00	2.69	0.02	0.21	0.00	0.21	0.21	0.00	0.21	0.00	3,294	3,294	0.06	0.04	0.00	3,308
Total	0.36	0.73	0.17	3.06	0.02	0.22	0.05	0.27	0.22	0.01	0.23	43.3	3,546	3,589	4.42	0.05	0.10	3,714
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.04	0.04	0.02	0.23	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	48.7	48.7	< 0.005	< 0.005	0.08	49.6
Area	0.08	0.61	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.94	1.94	< 0.005	< 0.005	—	1.95
Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	199	199	0.02	< 0.005	—	200
Water	—	—	—	—	—	—	—	—	—	—	—	1.90	4.40	6.30	0.20	< 0.005	—	12.6
Waste	—	—	—	—	—	—	—	—	—	—	—	41.4	0.00	41.4	4.14	0.00	—	145
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Stationary	0.18	0.09	0.00	1.59	0.01	0.12	0.00	0.12	0.12	0.00	0.12	0.00	1,949	1,949	0.04	0.02	0.00	1,957
Total	0.32	0.75	0.17	2.42	0.01	0.14	0.05	0.18	0.14	0.01	0.15	43.3	2,203	2,247	4.40	0.03	0.17	2,366
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	< 0.005	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.07	8.07	< 0.005	< 0.005	0.01	8.21
Area	0.02	0.11	< 0.005	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.32	0.32	< 0.005	< 0.005	—	0.32
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.9	32.9	< 0.005	< 0.005	—	33.1
Water	—	—	—	—	—	—	—	—	—	—	—	0.31	0.73	1.04	0.03	< 0.005	—	2.08
Waste	—	—	—	—	—	—	—	—	—	—	—	6.86	0.00	6.86	0.69	0.00	—	24.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Stationary	0.03	0.02	0.00	0.29	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	323	323	0.01	< 0.005	0.00	324
Total	0.06	0.14	0.03	0.44	< 0.005	0.02	0.01	0.03	0.02	< 0.005	0.03	7.17	365	372	0.73	0.01	0.03	392

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
High School	—	—	—	—	—	—	—	—	—	—	—	—	30.2	30.2	< 0.005	< 0.005	—	30.5
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	30.2	30.2	< 0.005	< 0.005	—	30.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

High School	—	—	—	—	—	—	—	—	—	—	—	—	30.2	30.2	< 0.005	< 0.005	—	30.5
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	30.2	30.2	< 0.005	< 0.005	—	30.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
High School	—	—	—	—	—	—	—	—	—	—	—	—	5.00	5.00	< 0.005	< 0.005	—	5.05
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	5.00	5.00	< 0.005	< 0.005	—	5.05

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	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
High School	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	169	169	0.01	< 0.005	—	169
Golf Course	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
Total	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	169	169	0.01	< 0.005	—	169

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	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
High School	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	169	169	0.01	< 0.005	—	169
Golf Course	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
Total	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	169	169	0.01	< 0.005	—	169
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	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
High School	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	27.9	27.9	< 0.005	< 0.005	—	28.0
Golf Course	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
Total	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	27.9	27.9	< 0.005	< 0.005	—	28.0

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	—	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscap e Equipme nt	0.17	0.16	0.01	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.93	3.93	< 0.005	< 0.005	—	3.95
Total	0.17	0.69	0.01	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.93	3.93	< 0.005	< 0.005	—	3.95
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consum er Products	—	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consum er Products	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscap e Equipme nt	0.02	0.01	< 0.005	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.32	0.32	< 0.005	< 0.005	—	0.32
Total	0.02	0.11	< 0.005	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.32	0.32	< 0.005	< 0.005	—	0.32

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	1.13	2.25	3.39	0.12	< 0.005	—	7.14
High School	—	—	—	—	—	—	—	—	—	—	—	0.76	2.15	2.91	0.08	< 0.005	—	5.44
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.90	4.40	6.30	0.20	< 0.005	—	12.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	1.13	2.25	3.39	0.12	< 0.005	—	7.14
High School	—	—	—	—	—	—	—	—	—	—	—	0.76	2.15	2.91	0.08	< 0.005	—	5.44
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.90	4.40	6.30	0.20	< 0.005	—	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Recreational Swimming	—	—	—	—	—	—	—	—	—	—	—	0.19	0.37	0.56	0.02	< 0.005	—	1.18
High School	—	—	—	—	—	—	—	—	—	—	—	0.13	0.36	0.48	0.01	< 0.005	—	0.90
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.31	0.73	1.04	0.03	< 0.005	—	2.08

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	30.7	0.00	30.7	3.07	0.00	—	107
High School	—	—	—	—	—	—	—	—	—	—	—	8.41	0.00	8.41	0.84	0.00	—	29.4
Golf Course	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.07
Total	—	—	—	—	—	—	—	—	—	—	—	41.4	0.00	41.4	4.14	0.00	—	145
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	30.7	0.00	30.7	3.07	0.00	—	107
High School	—	—	—	—	—	—	—	—	—	—	—	8.41	0.00	8.41	0.84	0.00	—	29.4
Golf Course	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.07
Total	—	—	—	—	—	—	—	—	—	—	—	41.4	0.00	41.4	4.14	0.00	—	145
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	5.09	0.00	5.09	0.51	0.00	—	17.8
High School	—	—	—	—	—	—	—	—	—	—	—	1.39	0.00	1.39	0.14	0.00	—	4.87
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.38	0.00	0.38	0.04	0.00	—	1.34
Total	—	—	—	—	—	—	—	—	—	—	—	6.86	0.00	6.86	0.69	0.00	—	24.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Process Boiler	0.30	0.15	0.00	2.69	0.02	0.21	0.00	0.21	0.21	0.00	0.21	0.00	3,294	3,294	0.06	0.04	0.00	3,308
Total	0.30	0.15	0.00	2.69	0.02	0.21	0.00	0.21	0.21	0.00	0.21	0.00	3,294	3,294	0.06	0.04	0.00	3,308
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Process Boiler	0.30	0.15	0.00	2.69	0.02	0.21	0.00	0.21	0.21	0.00	0.21	0.00	3,294	3,294	0.06	0.04	0.00	3,308
Total	0.30	0.15	0.00	2.69	0.02	0.21	0.00	0.21	0.21	0.00	0.21	0.00	3,294	3,294	0.06	0.04	0.00	3,308

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Process Boiler	0.03	0.02	0.00	0.29	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	323	323	0.01	< 0.005	0.00	324
Total	0.03	0.02	0.00	0.29	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	323	323	0.01	< 0.005	0.00	324

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
------------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	12.9	12.9	12.9	4,709	66.0	66.0	66.0	24,090

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	33,000	11,000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Recreational Swimming Pool	0.00	204	0.0330	0.0040	0.00
High School	54,053	204	0.0330	0.0040	526,686
Golf Course	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Recreational Swimming Pool	591,431	41,164
High School	398,456	256,134
Golf Course	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Recreational Swimming Pool	57.0	—
High School	15.6	—
Golf Course	4.28	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Recreational Swimming Pool	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Recreational Swimming Pool	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
High School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
High School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
High School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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Boiler - CNG (0–2 MMBTU)	CNG	2.00	1.75	14.0	3,024
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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8. User Changes to Default Data

Screen	Justification
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Land Use	Land use information was based on the project description. Lot acreage of the new aquatic center was estimated based on site plan and Google Earth. The recreational building area includes the 2,100 sq ft storage building and the 7,900 sq ft athletic clubhouse. Lot acreage of the new Arts Building and the Performing Arts Plaza includes the building footprint of the new Arts Building, 14,000 sq ft of site work and landscaping area, and 23,000 sq ft of the plaza. It was conservatively assumed that the landscape area for the Arts Building and the Performing Arts Plaza is 14,000 sq ft. The new Arts Building footprint was estimated based on Google Earth and Figure 3-2.
Construction: Construction Phases	The District provided construction off-road equipment activity and construction duration. The paving phase was created to calculate VOC emissions from asphalt paving. No construction off-road equipment and vehicle trips were assigned to the paving phase. The construction equipment used for paving is included in the Aquatics Center, Arts Building and PA Plaza, and Athletics Fields Turf phases.
Construction: Off-Road Equipment	Project-specific off-road construction equipment activity data provided by the District.
Construction: Demolition	<p>Aquatics Center: Existing pool assumption: (Area of the existing pool) (unit conversion from square feet of floor space to short ton of waste material) = (6,600 sqft)(0.046 short ton/sqft) = 304 tons. Asphalt demo assumption:(Area of pavement)(Depth of pavement)(Density asphalt) = (45 KSF)(0.25 ft)(0.0725 tons/ft³) =816 tons The existing pool area and surrounding pavement areas were estimated using Google Earth.</p> <p>Arts Building and PA Plaza: The building square footage of the existing art building was obtained from the San Rafael Master Facilities Long-Range Plan EIR.</p>
Construction: Trips and VMT	Construction vehicle trips are provided by the District.
Construction: Architectural Coatings	<p>Aquatics Center: For the chemical storage/pump/equipment storage building (2,100 sqft) and the new athletic clubhouse (7,900 sqft) Arts Building and PA Plaza: For the new Arts Building</p>
Construction: Dust From Material Movement	Estimated cut volumes were provided by the District. It was assumed that the fill materials are about 20% of the cut volume for each project.
Construction: Paving	Conservatively assumed the new Performing Arts Plaza would contain 100% asphalt.
Operations: Refrigerants	No refrigerants for Athletics Fields

Summary of ISCST3 Model Parameters, Assumptions, and Results for DPM and PM2.5 Emissions from Construction

ISCST3 Model Parameters and Assumptions			
Source Type	Units	Value	Notes
Area Source: Off-Road Equipment Exhaust (DPM)			
Average Hours/Work Day	hours/day	8.8	Monday to Friday: 8 am to 5 pm; Saturday: 9 am to 5 pm
DPM Emission Rate - Aquatic Center	gram/second	0.00121	Exhaust PM10 from off-road construction equipment
DPM Emission Rate - Arts Building and Performing Arts Plaza	gram/second	0.00066	Exhaust PM10 from off-road construction equipment
DPM Emission Rate - Athletic Fields Turf	gram/second	0.00063	Exhaust PM10 from off-road construction equipment. Assumed the emissions from each field are the same. Emission rate for each field is 0.00063/2=0.00031 gram/second
Release Height	meters	5.0	SMAQMD, 2015
Initial Vertical Dimension	meters	1.4	USEPA, 2022
Area Source: On-Site Fugitive PM2.5			
Fugitive PM2.5 Emission Rate - Aquatic Center	gram/second	0.0029	Fugitive PM2.5 from on-site construction activities.
Fugitive PM2.5 Emission Rate - Arts Building and Performing Arts Plaza	gram/second	0.00010	Fugitive PM2.5 from on-site construction activities.
Fugitive PM2.5 Emission Rate - Athletic Fields Turf	gram/second	0.00011	Fugitive PM2.5 from on-site construction activities. Assumed the emissions from each field are the same. Emission rate for each field is 0.00011/2=0.000056 gram/second
Release Height	meters	0.0	SMAQMD, 2015
Initial Vertical Dimension	meters	1.0	SMAQMD, 2015
ISCST3 Model Results			
Sensitive Receptor	Pollutant	Annual Average Concentration	Notes
MEIR (Aquatic Center Construction)	DPM ($\mu\text{g}/\text{m}^3$)	0.0038	Nearest residential receptor - Concentration due to Aquatic Center construction
	PM2.5 ($\mu\text{g}/\text{m}^3$)	0.0141	Nearest residential receptor - Concentration due to Aquatic Center construction
MEIR (Arts Building and Performing Arts Plaza Construction)	DPM ($\mu\text{g}/\text{m}^3$)	0.0205	Nearest residential receptor - Concentration due to Arts Building and Performing Arts Plaza construction
	PM2.5 ($\mu\text{g}/\text{m}^3$)	0.0262	Nearest residential receptor - Concentration due to Arts Building and Performing Arts Plaza construction
MEIR (Athletic Fields Turf Construction)	DPM ($\mu\text{g}/\text{m}^3$)	0.0007	Nearest residential receptor - Concentration due to Athletic Fields Turf construction
	PM2.5 ($\mu\text{g}/\text{m}^3$)	0.0009	Nearest residential receptor - Concentration due to Athletic Fields Turf construction
MEIS (Aquatic Center Construction)	DPM ($\mu\text{g}/\text{m}^3$)	0.0058	Nearest student receptor - Concentration due to Aquatic Center construction
	PM2.5 ($\mu\text{g}/\text{m}^3$)	0.0252	Nearest student receptor - Concentration due to Aquatic Center construction
MEIS (Arts Building and Performing Arts Plaza Construction)	DPM ($\mu\text{g}/\text{m}^3$)	0.0573	Nearest student receptor - Concentration due to Arts Building and Performing Arts Plaza construction
	PM2.5 ($\mu\text{g}/\text{m}^3$)	0.0814	Nearest student receptor - Concentration due to Arts Building and Performing Arts Plaza construction
MEIS (Athletic Fields Turf Construction)	DPM ($\mu\text{g}/\text{m}^3$)	0.0010	Nearest student receptor - Concentration due to Athletic Fields Turf construction
	PM2.5 ($\mu\text{g}/\text{m}^3$)	0.0012	Nearest student receptor - Concentration due to Athletic Fields Turf construction
MEIW (Aquatic Center Construction)	DPM ($\mu\text{g}/\text{m}^3$)	0.0014	Nearest offsite worker - Concentration due to Aquatic Center construction
	PM2.5 ($\mu\text{g}/\text{m}^3$)	0.0050	Nearest offsite worker - Concentration due to Aquatic Center construction
MEIW (Arts Building and Performing Arts Plaza Construction)	DPM ($\mu\text{g}/\text{m}^3$)	0.0015	Nearest offsite worker - Concentration due to Arts Building and Performing Arts Plaza construction
	PM2.5 ($\mu\text{g}/\text{m}^3$)	0.0018	Nearest offsite worker - Concentration due to Arts Building and Performing Arts Plaza construction
MEIW (Athletic Fields Turf Construction)	DPM ($\mu\text{g}/\text{m}^3$)	0.0078	Nearest offsite worker - Concentration due to Athletic Fields Turf construction
	PM2.5 ($\mu\text{g}/\text{m}^3$)	0.0095	Nearest offsite worker - Concentration due to Athletic Fields Turf construction

Notes:

DPM = diesel particulate matter

PM₁₀ = particulate matter with aerodynamic resistance diameters equal to or less than 10 microns

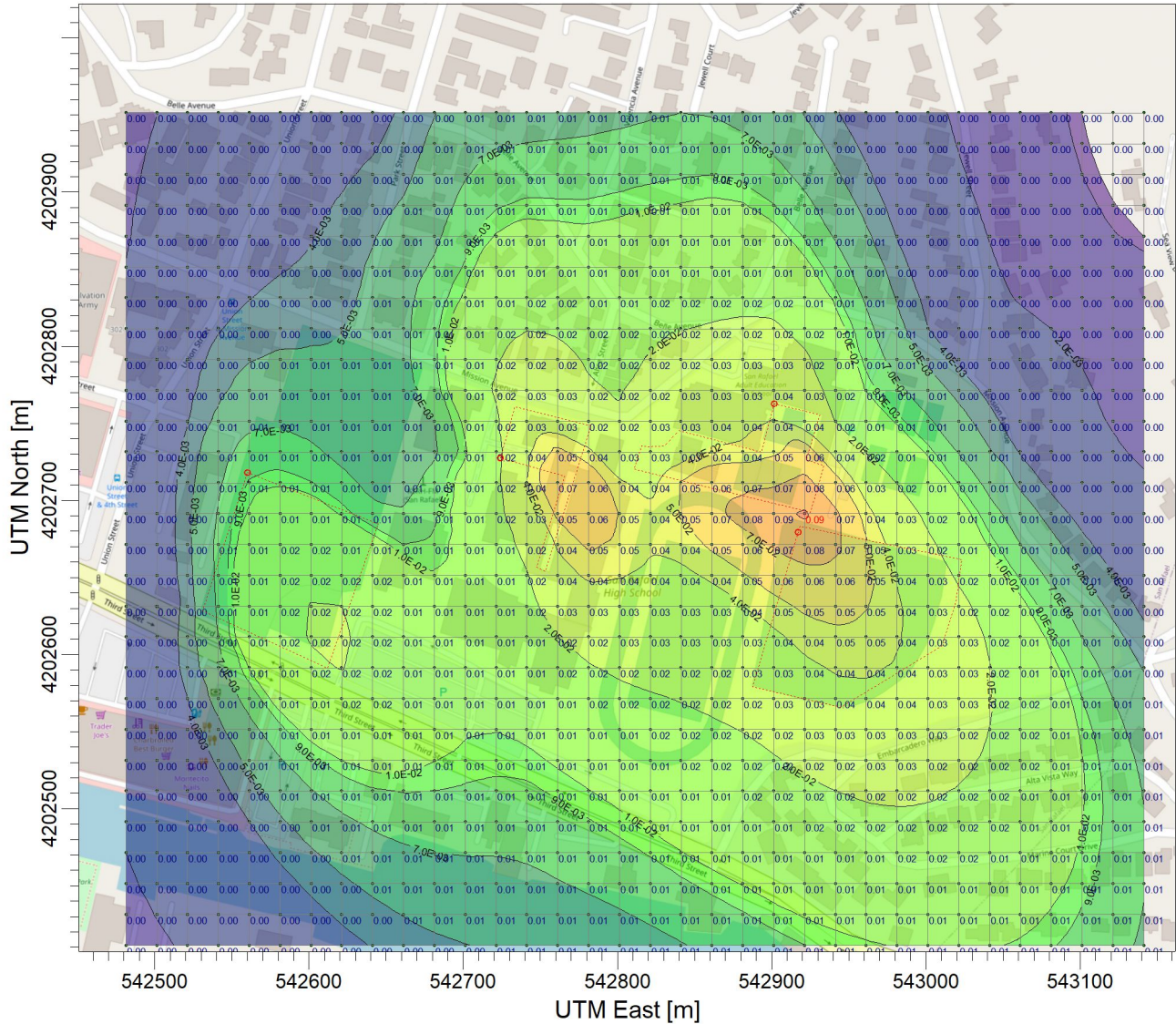
PM_{2.5} = particulate matter with aerodynamic resistance diameters equal to or less than 2.5 microns

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Sacramento Metropolitan Air Quality Management District (SMAQMD), 2015. *Guide to Air Quality Assessment in Sacramento County*. June.

U.S. Environmental Protection Agency (USEPA), 2022. User's Guide for the AMS/EPA Regulatory Model (AERMOD).

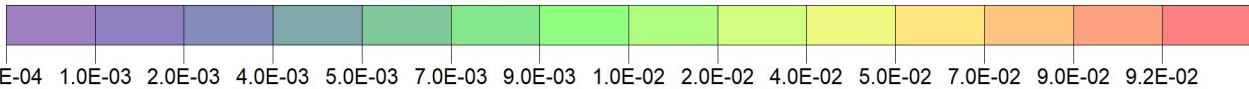
**San Rafael High School Supplemental EIR
Construction exhaust_All**



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL

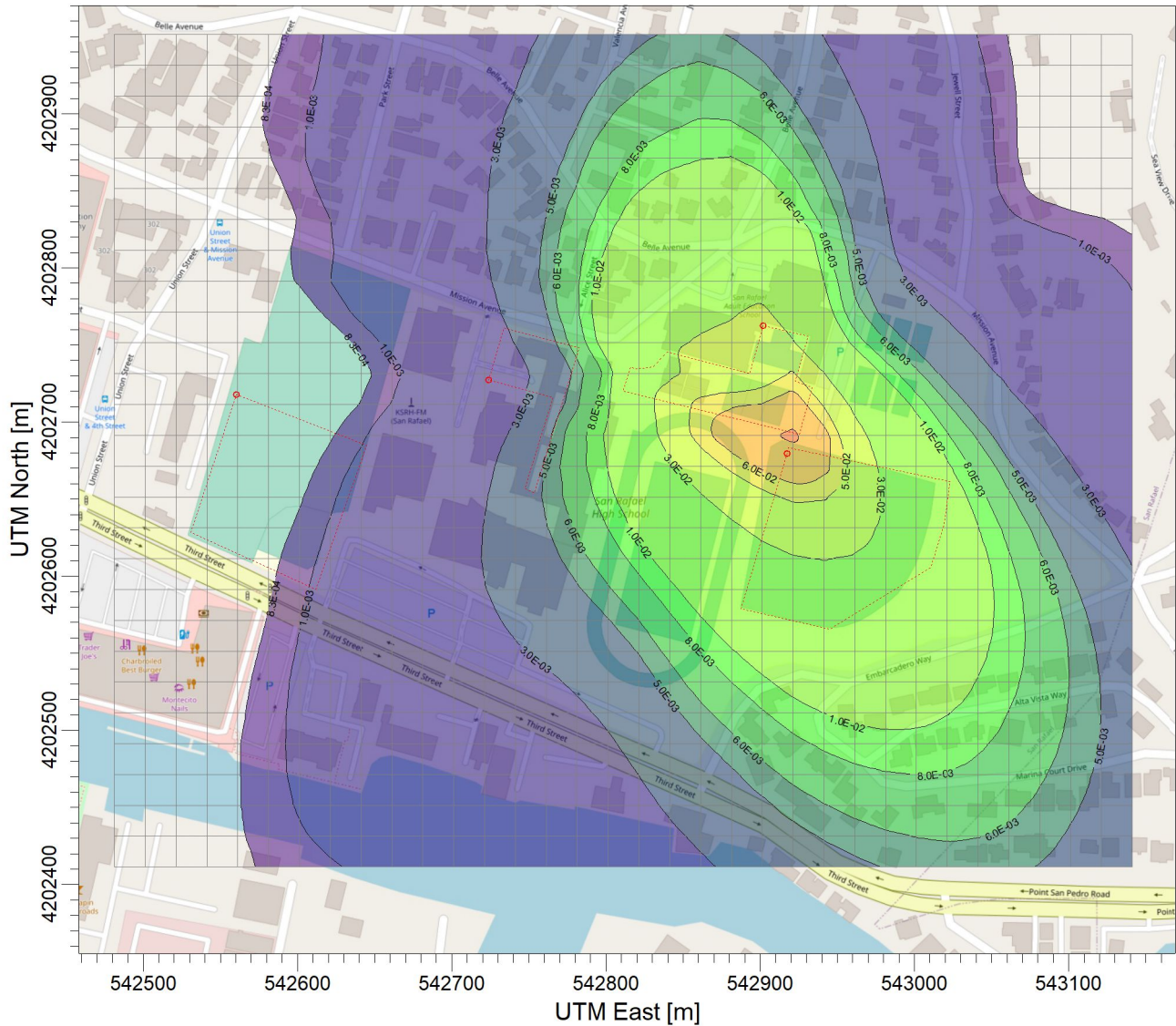
ug/m³

Max: 9.2E-02 [ug/m³] at (542921.25, 4202691.50)



COMMENTS:	SOURCES: 4	COMPANY NAME: Baseline Env Baseline Environmental Consulting	
	RECEPTORS: 952		
	OUTPUT TYPE: Concentration	SCALE: 1:4,468	
	MAX: 9.2E-02 ug/m³	PROJECT NO.:23219-00	

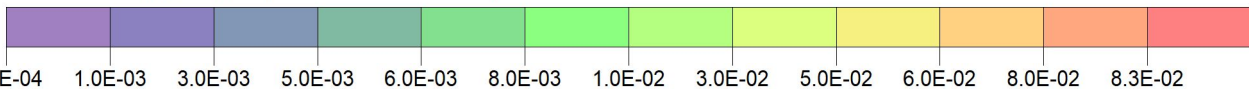
**San Rafael High School Supplemental EIR
Construction exhaust_Aquatics Center**




PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: AQUATICS

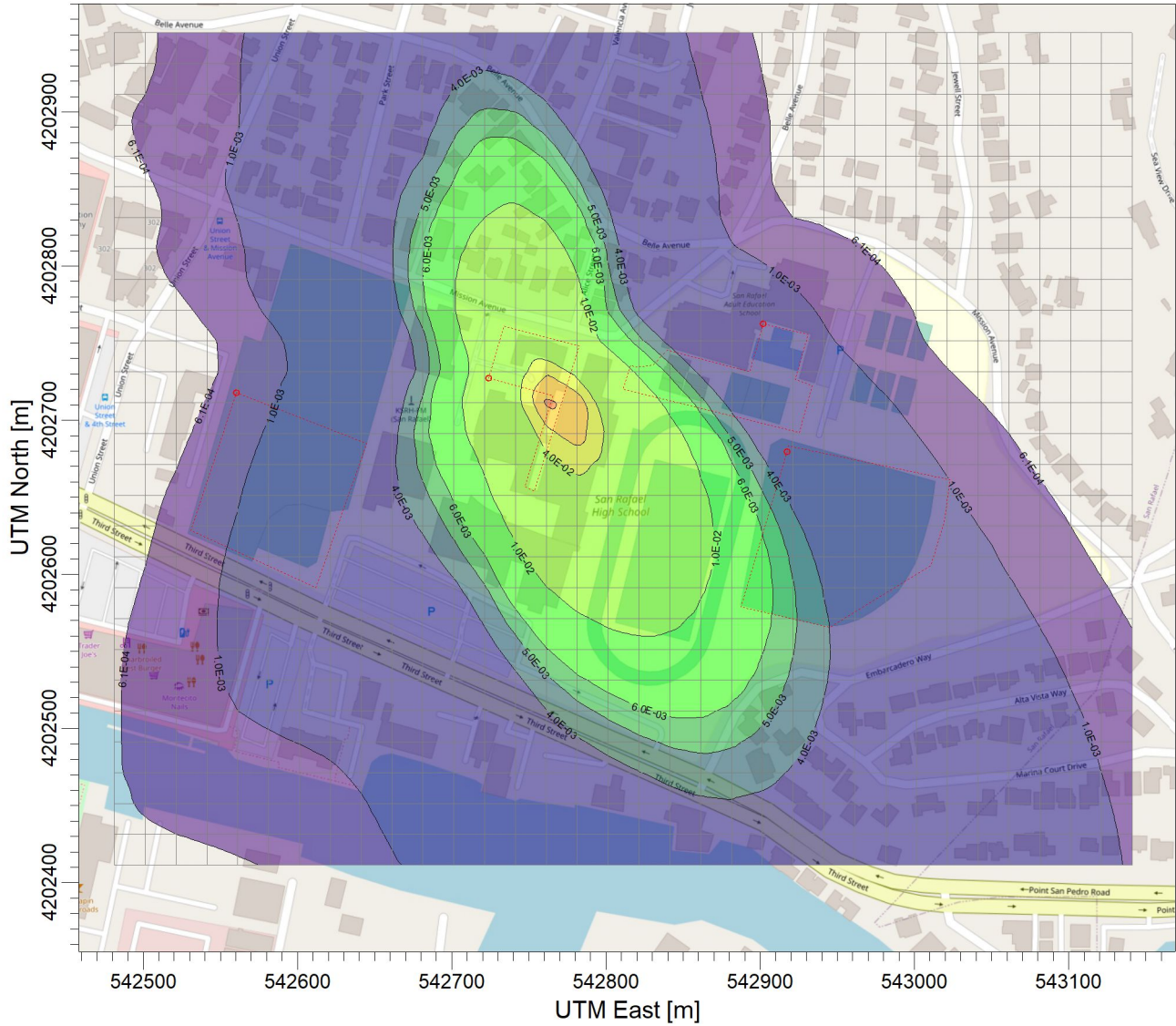
ug/m³

Max: 8.3E-02 [ug/m³] at (542921.25, 4202691.50)



COMMENTS:	SOURCES: 4	COMPANY NAME: Baseline Env Baseline Environmental Consulting	
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	OUTPUT TYPE: Concentration	SCALE: 1:4,468	
	MAX: 8.3E-02 ug/m³		
		PROJECT NO.:23219-00	

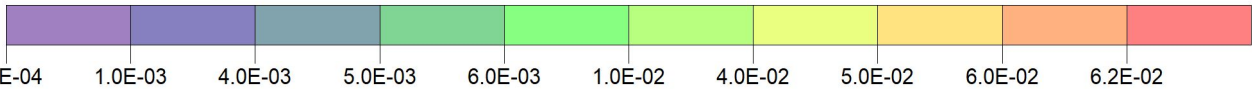
**San Rafael High School Supplemental EIR
Construction exhaust_VAPA**



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ARTBUILD

ug/m³

Max: 6.2E-02 [ug/m³] at (542761.25, 4202711.50)



COMMENTS:

SOURCES:

COMPANY NAME: Baseline Env

4

Baseline Environmental Consulting

RECEPTORS:

952

OUTPUT TYPE:

SCALE: 1:4,468

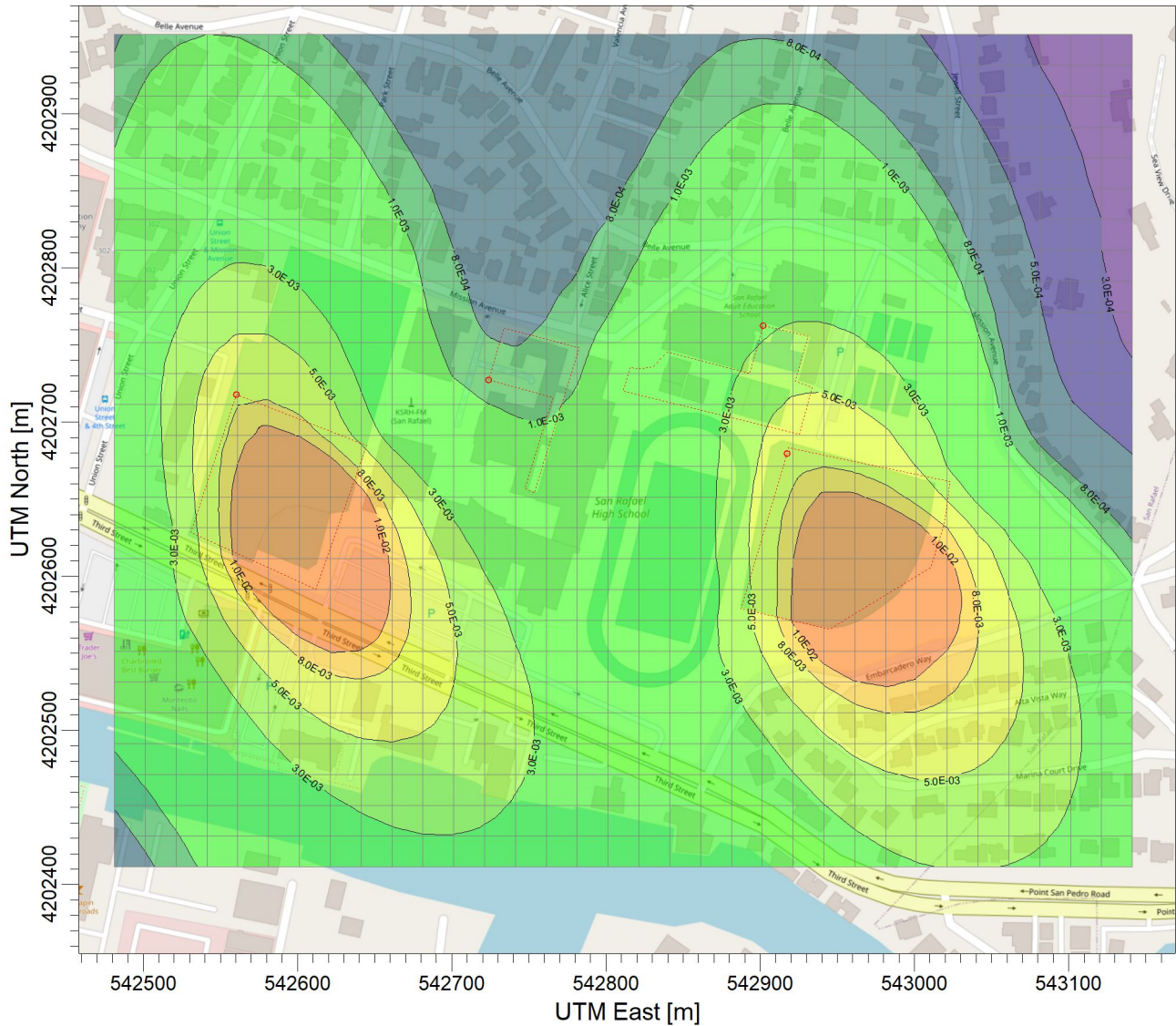
MAX:

0 0.1 km

6.2E-02 ug/m³

PROJECT NO.:23219-00

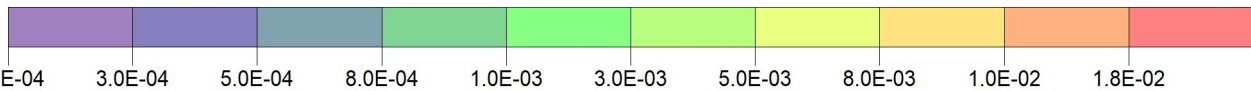
**San Rafael High School Supplemental EIR
Construction exhaust_Turf**




PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: FIELD

ug/m³

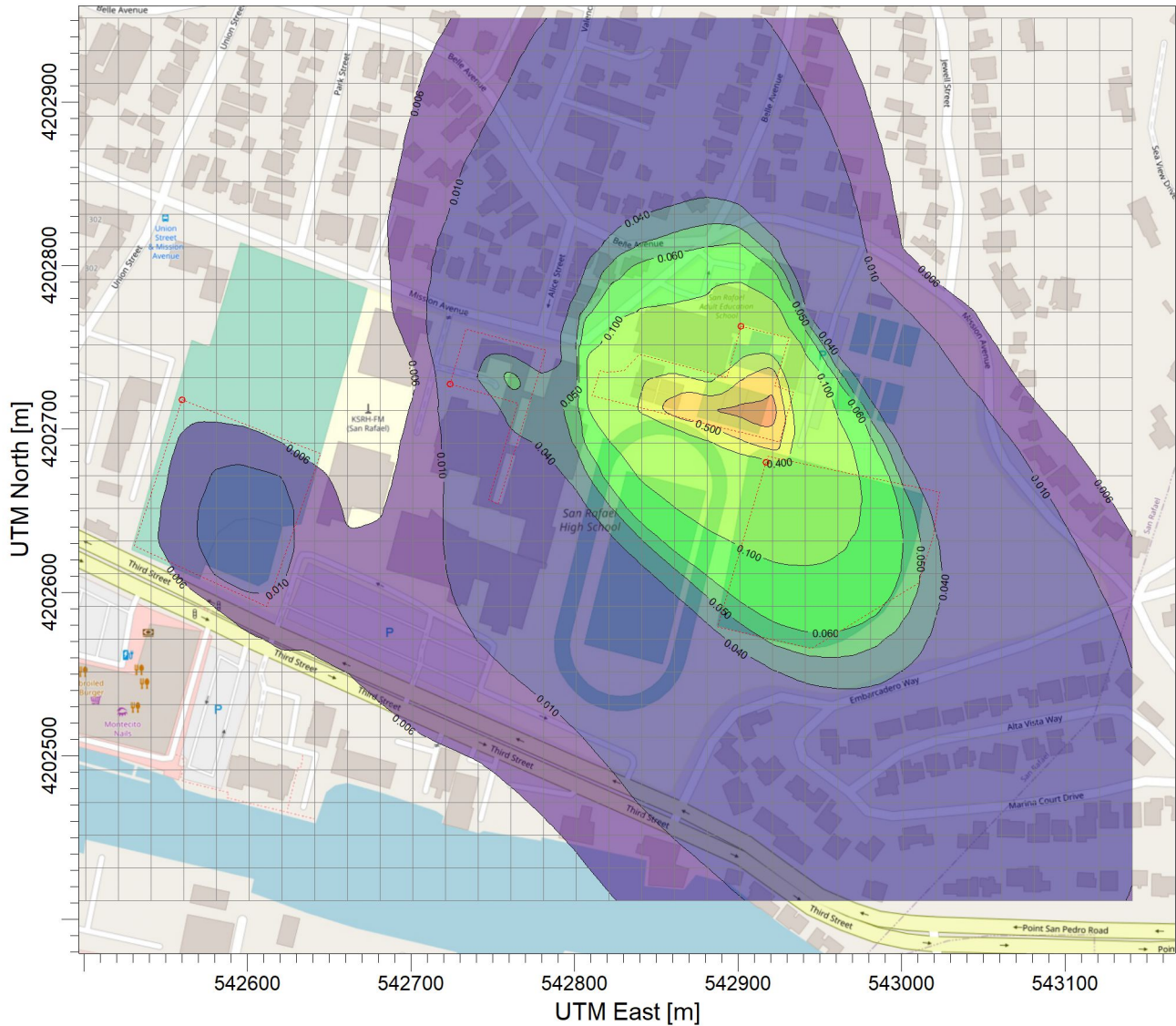
Max: 1.8E-02 [ug/m³] at (542601.25, 4202611.50)



COMMENTS:	SOURCES: 4	COMPANY NAME: Baseline Env Baseline Environmental Consulting	
	RECEPTORS: 952		
	OUTPUT TYPE: Concentration	SCALE: 1:4,468	
	MAX: 1.8E-02 ug/m³		
		PROJECT NO.:23219-00	

PROJECT TITLE: San Rafael High School Supplemental EIR

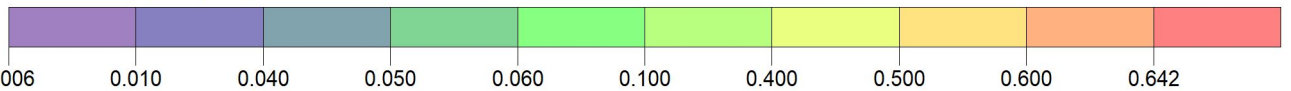
**San Rafael High School Supplemental EIR
Construction Dust PM2.5_all**




PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL

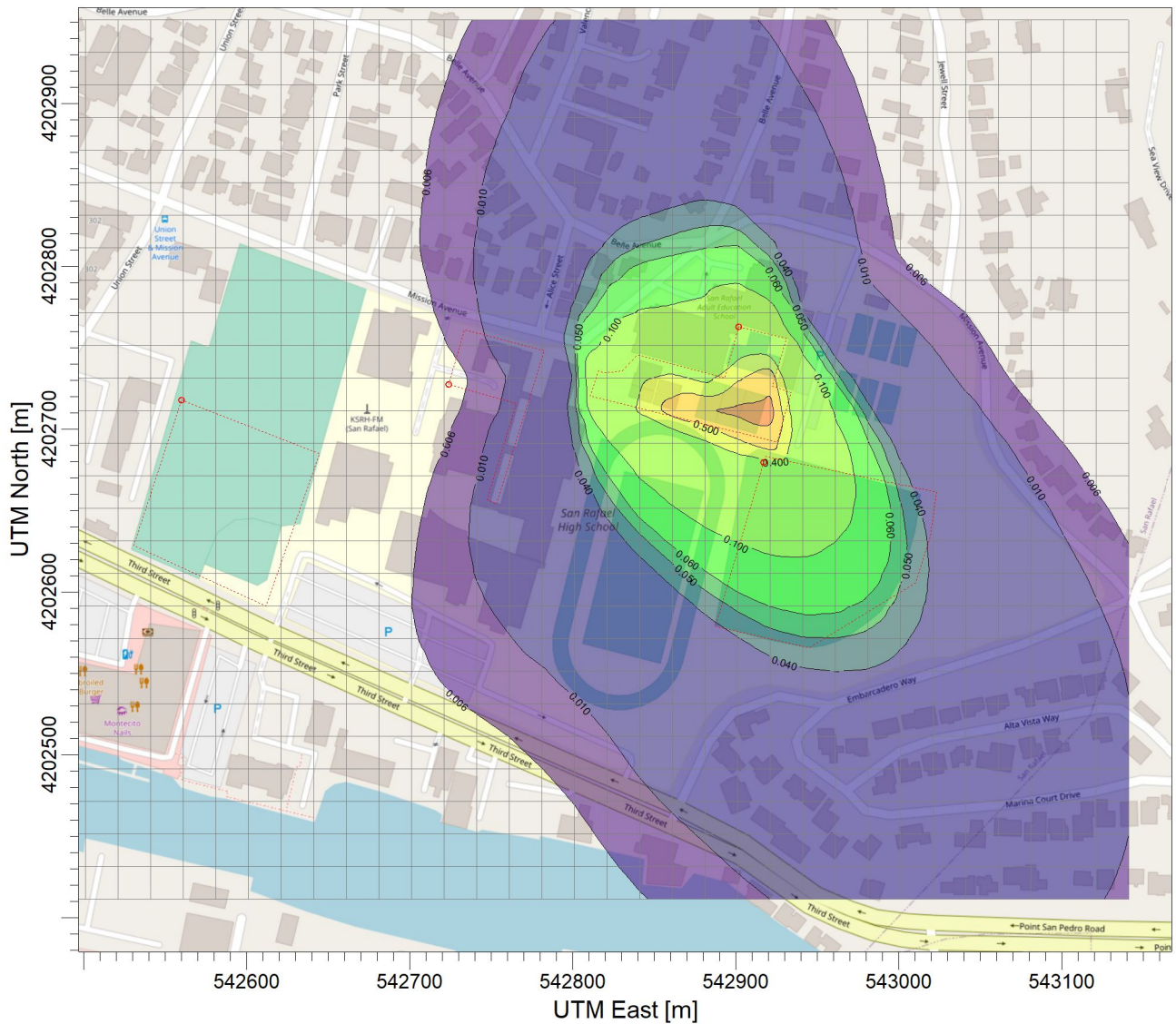
ug/m³

Max: 0.642 [ug/m³] at (542921.25, 4202711.50)



COMMENTS:	SOURCES: 4	COMPANY NAME: Baseline Env Baseline Environmental Consulting	
	RECEPTORS: 952		
	OUTPUT TYPE: Concentration	SCALE: 1:4,214	
	MAX: 0.642 ug/m³		
		PROJECT NO.:23219-00	

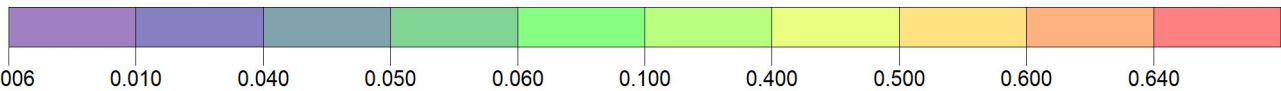
**San Rafael High School Supplemental EIR
Construction Dust PM2.5_Aquatics Center**




PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: AQUATICS

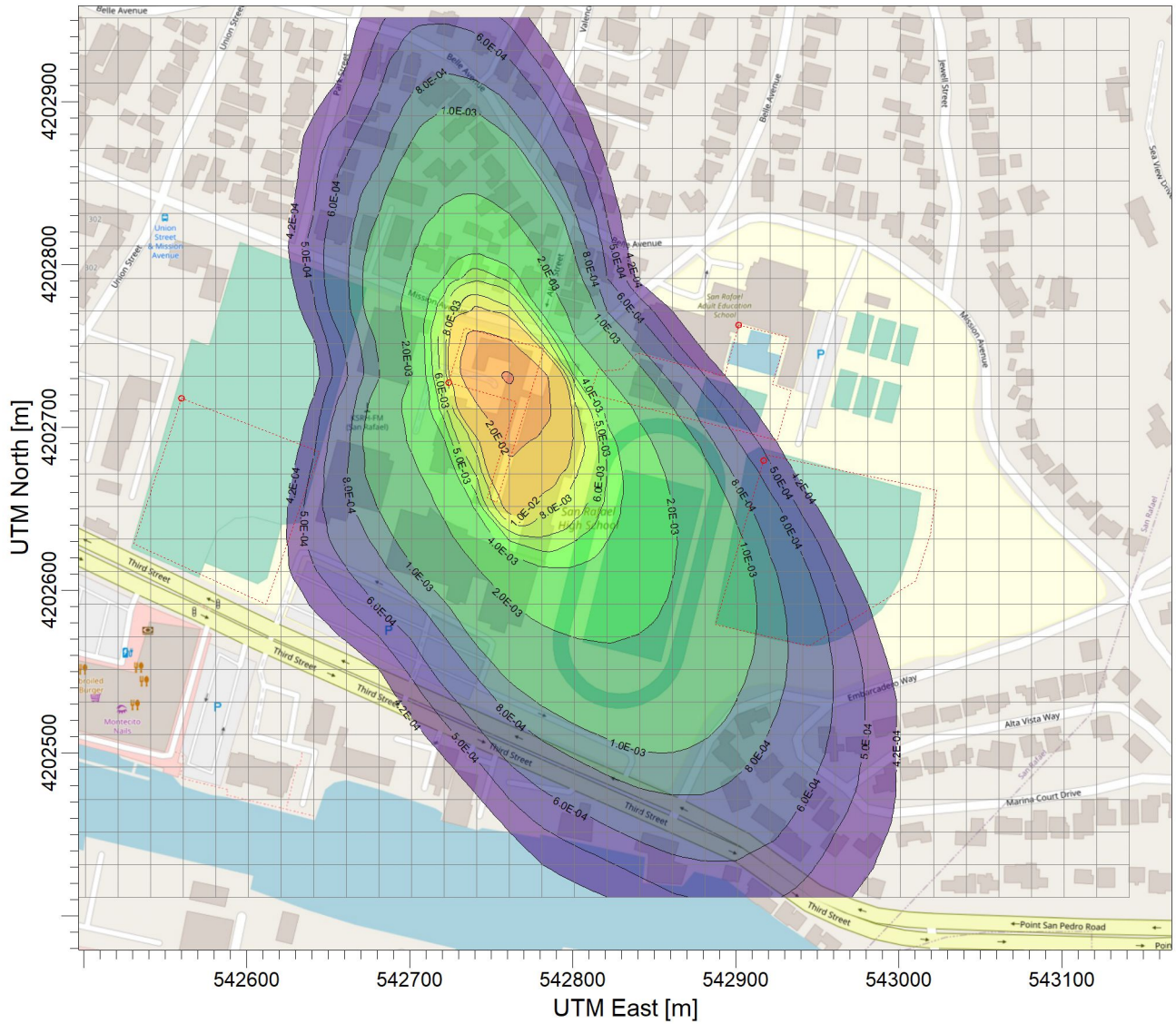
ug/m³

Max: 0.640 [ug/m³] at (542921.25, 4202711.50)



COMMENTS:	SOURCES: 4	COMPANY NAME: Baseline Env Baseline Environmental Consulting	
	RECEPTORS: 952		
	OUTPUT TYPE: Concentration	SCALE: 1:4,214	
	MAX: 0.640 ug/m³		
		PROJECT NO.:23219-00	

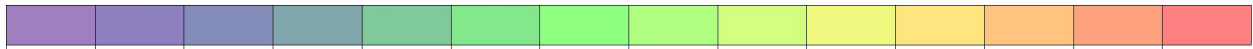
**San Rafael High School Supplemental EIR
Construction Dust PM2.5_VAPA**



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ARTBUILD

ug/m³

Max: 4.2E-02 [ug/m³] at (542761.25, 4202731.50)



4.2E-04 5.0E-04 6.0E-04 8.0E-04 1.0E-03 2.0E-03 4.0E-03 5.0E-03 6.0E-03 8.0E-03 1.0E-02 2.0E-02 4.0E-02 4.2E-02

COMMENTS:

SOURCES:

COMPANY NAME: Baseline Env

4

Baseline Environmental Consulting

RECEPTORS:

952

OUTPUT TYPE:

Concentration

SCALE:

1:4,213

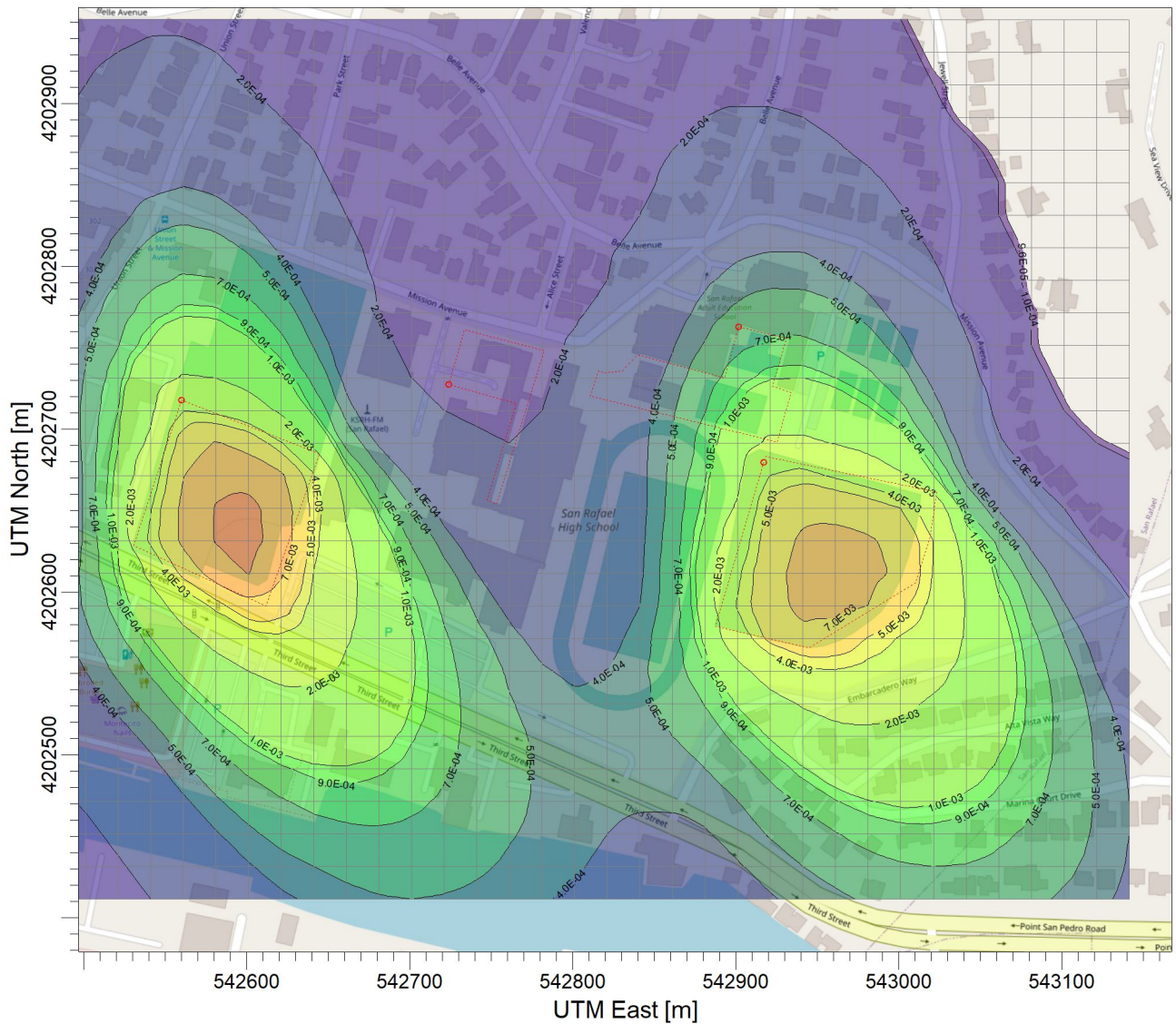


MAX:

4.2E-02 ug/m³

PROJECT NO.:23219-00

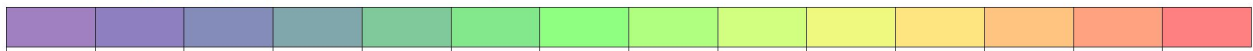
PROJECT TITLE: San Rafael High School Supplemental EIR
San Rafael High School Supplemental EIR
Construction Dust PM2.5_Turf




PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: FIELD

ug/m³

Max: 9.6E-03 [ug/m³] at (542601.25, 4202631.50)



COMMENTS:	SOURCES: 4	COMPANY NAME: Baseline Env Baseline Environmental Consulting	
	RECEPTORS: 952		
	OUTPUT TYPE: Concentration	SCALE: 1:4,213	
	MAX: 9.6E-03 ug/m³		
		PROJECT NO.:23219-00	

Summary of Health Risk Assessment at the Maximally Exposed Individual Resident					
Health Risk Assessment Parameters and Results					
Inhalation Cancer Risk Assessment for DPM	Units	0-2 Years Old Infant			Notes
		Aquatic Center	Arts Building and Performing Arts Plaza	Athletic Fields Turf	
DPM Concentration (C)	$\mu\text{g}/\text{m}^3$	0.004	0.020	0.001	ISCST3 Annual Average
Daily Breathing Rate (DBR)	L/kg-day	1090	1090	1090	95th percentile under age of 2 (OEHHA, 2015)
Inhalation absorption factor (A)	unitless	1.0	1.0	1.0	OEHHA, 2015
Exposure Frequency (EF)	unitless	0.96	0.96	0.96	350 days/365 days in a year (OEHHA, 2015)
Dose Conversion Factor (CF_D)	$\text{mg}\cdot\text{m}^3/\mu\text{g}\cdot\text{L}$	0.000001	0.000001	0.000001	Conversion of μg to mg and L to m^3
Dose (D)	mg/kg/day	0.000004	0.000021	0.000001	$C\cdot\text{DBR}\cdot A\cdot\text{EF}\cdot\text{CF}_D$ (OEHHA, 2015)
Cancer Potency Factor (CPF)	$(\text{mg}/\text{kg}/\text{day})^{-1}$	1.1	1.1	1.1	OEHHA, 2015
Age Sensitivity Factor (ASF)	unitless	10	10	10	OEHHA, 2015
Annual Exposure Duration (ED)	years	1.33	1.50	0.50	Based on total construction period of 16 months, 18 months, and 6 months, respectively
Averaging Time (AT)	years	70	70	70	70 years for residents (OEHHA, 2015)
Fraction of time at home (FAH)	unitless	0.85	0.85	0.85	OEHHA, 2015
Cancer Risk Conversion Factor (CF)	m^3/L	1000000	1000000	1000000	Chances per million (OEHHA, 2015)
Cancer Risk	per million	0.7	4.3	0.1	$D\cdot\text{CPF}\cdot\text{ASF}\cdot\text{ED}/\text{AT}\cdot\text{FAH}\cdot\text{CF}$ (OEHHA, 2015)
Total Cancer Risk	per million	5.04			at MEIR location
Hazard Index for DPM	Units	Value			Notes
Chronic REL	$\mu\text{g}/\text{m}^3$	5.0	5.0	5.0	OEHHA, 2015
Chronic Hazard Index for DPM	unitless	0.0008	0.0041	0.0001	At MEIR location
Total Chronic Hazard Index for DPM	unitless	0.0050			At MEIR location

Notes:

DPM = diesel particulate matter

REL = reference exposure level

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

L/kg-day = liters per kilogram-day

m^3/L = cubic meters per liter

$(\text{mg}/\text{kg}/\text{day})^{-1}$ = 1/milligrams per kilograms per day

Office of Environmental Health Hazard Assessment (OEHHA), 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. February.

Summary of Health Risk Assessment at the Maximally Exposed Individual Student					
Health Risk Assessment Parameters and Results					
Inhalation Cancer Risk Assessment for DPM	Units	2-16 Years Old Student			Notes
		Aquatic Center	Arts Building and Performing Arts Plaza	Athletic Fields Turf	
DPM Concentration (C)	$\mu\text{g}/\text{m}^3$	0.006	0.057	0.001	ISCST3 Annual Average
Daily Breathing Rate (DBR)	L/kg-8 hrs	520	520	520	BAAQMD, 2023
Inhalation absorption factor (A)	unitless	1.0	1.0	1.0	OEHHA, 2015
Exposure Frequency (EF)	unitless	0.68	0.68	0.68	Conservatively assumed 250 days at school/365 days in a year
Dose Conversion Factor (CF_D)	$\text{mg}\cdot\text{m}^3/\mu\text{g}\cdot\text{L}$	0.000001	0.000001	0.000001	Conversion of μg to mg and L to m^3
Dose (D)	mg/kg/day	0.000002	0.000020	0.000000	$C\cdot\text{DBR}\cdot A\cdot\text{EF}\cdot\text{CF}_D$ (OEHHA, 2015)
Cancer Potency Factor (CPF)	$(\text{mg}/\text{kg}/\text{day})^{-1}$	1.1	1.1	1.1	OEHHA, 2015
Age Sensitivity Factor (ASF)	unitless	3	3	3	OEHHA, 2015
Annual Exposure Duration (ED)	years	1.33	1.50	0.50	Based on total construction period of 16 months, 18 months, and 6 months, respectively
Averaging Time (AT)	years	70	70	70	70 years averaging time for lifetime cancer risk (OEHHA, 2015)
Worker Adjustment Factor (WAF)	unitless	3.17	3.17	3.17	OEHHA, 2015
Cancer Risk Conversion Factor (CF)	m^3/L	1000000	1000000	1000000	Chances per million (OEHHA, 2015)
Cancer Risk	per million	0.4	4.6	0.0	$D\cdot\text{CPF}\cdot\text{ASF}\cdot\text{ED}/\text{AT}\cdot\text{FAH}\cdot\text{CF}$ (OEHHA, 2015)
Total Cancer Risk	per million	5.01			at MEIS location
Hazard Index for DPM	Units	Value			Notes
Chronic REL	$\mu\text{g}/\text{m}^3$	5.0	5.0	5.0	OEHHA, 2015
Chronic Hazard Index for DPM	unitless	0.0012	0.0115	0.0002	At MEIS location
Total Chronic Hazard Index for DPM	unitless	0.013			At MEIS location

Notes:

DPM = diesel particulate matter

REL = reference exposure level

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

L/kg-day = liters per kilogram-day

m^3/L = cubic meters per liter

$(\text{mg}/\text{kg}/\text{day})^{-1}$ = 1/milligrams per kilograms per day

Bay Area Air Quality Management District (BAAQMD), 2023. California Environmental Quality Act Air Quality Guidelines, April.

Office of Environmental Health Hazard Assessment (OEHHA), 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. February.

Summary of Health Risk Assessment at the Maximally Exposed Individual Offsite Worker					
Health Risk Assessment Parameters and Results					
Inhalation Cancer Risk Assessment for DPM	Units	16-70 Year Adult			Notes
		Aquatic Center	Arts Building and Performing Arts Plaza	Athletic Fields Turf	
DPM Concentration (C)	$\mu\text{g}/\text{m}^3$	0.001	0.002	0.008	ISCST3 Annual Average
Daily Breathing Rate (DBR)	L/kg-day	230	230	230	BAAQMD, 2023
Inhalation absorption factor (A)	unitless	1.0	1.0	1.0	OEHHA, 2015
Exposure Frequency (EF)	unitless	0.68	0.68	0.68	250 days/365 days in a year (OEHHA, 2015)
Dose Conversion Factor (CF_D)	$\text{mg}\cdot\text{m}^3/\mu\text{g}\cdot\text{L}$	0.000001	0.000001	0.000001	Conversion of μg to mg and L to m^3
Dose (D)	mg/kg/day	0.000000	0.000000	0.000001	$C\cdot\text{DBR}\cdot A\cdot\text{EF}\cdot\text{CF}_D$ (OEHHA, 2015)
Cancer Potency Factor (CPF)	$(\text{mg}/\text{kg}/\text{day})^{-1}$	1.1	1.1	1.1	OEHHA, 2015
Age Sensitivity Factor (ASF)	unitless	1	1	1	OEHHA, 2015
Annual Exposure Duration (ED)	years	1.33	1.50	0.50	Based on total construction period of 16 months, 18 months, and 6 months, respectively
Averaging Time (AT)	years	70	70	70	70 years averaging time for lifetime cancer risk (OEHHA, 2015)
Worker Adjustment Factor (WAF)	unitless	3.17	3.17	3.17	OEHHA, 2015
Cancer Risk Conversion Factor (CF)	m^3/L	1000000	1000000	1000000	Chances per million (OEHHA, 2015)
Cancer Risk	per million	0.01	0.02	0.03	$D\cdot\text{CPF}\cdot\text{ASF}\cdot\text{ED}/\text{AT}\cdot\text{FAH}\cdot\text{CF}$ (OEHHA, 2015)
Total Cancer Risk	per million	0.1			at MEIW location
Hazard Index for DPM	Units	Value			Notes
Chronic REL	$\mu\text{g}/\text{m}^3$	5.0	5.0	5.0	OEHHA, 2015
Chronic Hazard Index for DPM	unitless	0.0003	0.0003	0.0016	At MEIW location
Total Chronic Hazard Index for DPM	unitless	0.0021			At MEIW location

Notes:

DPM = diesel particulate matter

REL = reference exposure level

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

L/kg-day = liters per kilogram-day

m^3/L = cubic meters per liter

$(\text{mg}/\text{kg}/\text{day})^{-1}$ = 1/milligrams per kilograms per day

Bay Area Air Quality Management District (BAAQMD), 2023. California Environmental Quality Act Air Quality Guidelines, April.

Office of Environmental Health Hazard Assessment (OEHHA), 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. February.

APPENDIX E
BIOLOGICAL RESOURCES



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Petaluma Point (3812214) OR Novato (3812215) OR San Rafael (3712285) OR San Quentin (3712284))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Accipiter cooperii</i> Cooper's hawk	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	90 90	118 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Acipenser medirostris pop. 1</i> green sturgeon - southern DPS	G2T1 S1	Threatened None	AFS_VU-Vulnerable IUCN_EN-Endangered	0 0	14 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Adela oplerella</i> Opler's longhorn moth	G2 S2	None None		400 1,300	14 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Amorpha californica var. napensis</i> Napa false indigo	G4T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	79 2,104	123 S:25	1	10	10	1	1	2	2	23	24	1	0
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCBG-UC Botanical Garden at Berkeley SB_UCSC-UC Santa Cruz		93 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Antrozous pallidus</i> pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	40 225	420 S:4	0	0	0	0	2	2	4	0	2	2	0
<i>Arctostaphylos montana ssp. montana</i> Mt. Tamalpais manzanita	G3T3 S3	None None	Rare Plant Rank - 1B.3 SB_UCBG-UC Botanical Garden at Berkeley	500 2,220	15 S:9	0	1	0	0	0	8	8	1	9	0	0
<i>Arctostaphylos virgata</i> Marin manzanita	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	200 2,625	32 S:8	0	0	0	1	0	7	7	1	8	0	0



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California Department of Fish and Wildlife California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Ardea alba</i> great egret	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	18 50	43 S:2	0	1	0	0	0	1	1	1	2	0	0
<i>Ardea herodias</i> great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	18 100	156 S:3	0	1	0	0	0	2	2	1	3	0	0
<i>Asio flammeus</i> short-eared owl	G5 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	2 2	11 S:1	0	1	0	0	0	0	1	0	1	0	0
<i>Athene cunicularia</i> burrowing owl	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	-1 10	2011 S:2	0	0	1	0	0	1	1	1	2	0	0
<i>Bombus caliginosus</i> obscure bumble bee	G2G3 S1S2	None None	IUCN_VU-Vulnerable	20 2,500	181 S:6	0	0	0	0	0	6	6	0	6	0	0
<i>Bombus occidentalis</i> western bumble bee	G3 S1	None Candidate Endangered	IUCN_VU-Vulnerable USFS_S-Sensitive	20 2,000	306 S:9	0	0	0	0	0	9	9	0	9	0	0
<i>Calamagrostis crassiglumis</i> Thurber's reed grass	G3Q S2	None None	Rare Plant Rank - 2B.1		15 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Calicina diminua</i> Marin blind harvestman	G1 S1	None None		150 150	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Callophrys mossii marinensis</i> Marin elfin butterfly	G4T1 S2	None None		796 796	4 S:1	1	0	0	0	0	0	0	1	1	0	0
<i>Calochortus tiburonensis</i> Tiburon mariposa-lily	G1 S1	Threatened Threatened	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	460 460	1 S:1	1	0	0	0	0	0	0	1	1	0	0



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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Castilleja affinis</i> var. <i>neglecta</i> Tiburon paintbrush	G4G5T1T2 S1S2	Endangered Threatened	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	400 400	7 S:3	1	1	1	0	0	0	0	3	3	0	0
<i>Charadrius nivosus nivosus</i> western snowy plover	G3T3 S3	Threatened None	CDFW_SSC-Species of Special Concern	0 0	138 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> Point Reyes salty bird's-beak	G4?T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	4 7	80 S:9	0	3	0	0	2	4	3	6	7	2	0
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	G2T1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	1,800 1,800	17 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Circus hudsonius</i> northern harrier	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	2 2	54 S:1	1	0	0	0	0	0	1	0	1	0	0
<i>Cirsium hydrophilum</i> var. <i>vaseyi</i> Mt. Tamalpais thistle	G2T1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	760 2,000	14 S:7	1	4	0	0	0	2	3	4	7	0	0
<i>Coastal Brackish Marsh</i> Coastal Brackish Marsh	G2 S2.1	None None		15 15	30 S:2	0	0	1	0	0	1	2	0	2	0	0
<i>Coastal Terrace Prairie</i> Coastal Terrace Prairie	G2 S2.1	None None		400 400	8 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	150 320	635 S:3	0	1	0	0	0	2	2	1	3	0	0



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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Danaus plexippus plexippus pop. 1</i> monarch - California overwintering population	G4T1T2Q S2	Candidate None	IUCN_EN-Endangered USFS_S-Sensitive	10 40	396 S:2	0	0	0	0	2	0	2	0	0	1	1
<i>Dermatocarpon meiophyllizum</i> silverskin lichen	G3G5 S3	None None	Rare Plant Rank - 2B.3	971 2,044	20 S:3	0	0	0	0	0	3	0	3	3	0	0
<i>Dicamptodon ensatus</i> California giant salamander	G2G3 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	84 1,300	234 S:10	2	3	0	1	0	4	2	8	10	0	0
<i>Dirca occidentalis</i> western leatherwood	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	2,000 2,000	90 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Egretta thula</i> snowy egret	G5 S4	None None	IUCN_LC-Least Concern	18 50	20 S:2	0	1	0	0	0	1	1	1	2	0	0
<i>Elanus leucurus</i> white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	5 75	184 S:2	0	0	1	0	0	1	2	0	2	0	0
<i>Emys marmorata</i> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	24 784	1518 S:5	0	0	2	1	0	2	0	5	5	0	0
<i>Eriogonum luteolum var. caninum</i> Tiburon buckwheat	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	200 2,100	26 S:17	0	0	2	0	0	15	9	8	17	0	0
<i>Eucyclogobius newberryi</i> tidewater goby	G3 S3	Endangered None	AFS_EN-Endangered IUCN_NT-Near Threatened	10 10	127 S:2	0	0	0	0	2	0	2	0	0	0	2
<i>Fissidens pauperculus</i> minute pocket moss	G3? S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	1,000 1,000	22 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Fritillaria lanceolata var. tristulis</i> Marin checker lily	G5T2 S2	None None	Rare Plant Rank - 1B.1 SB_UCSC-UC Santa Cruz	600 600	32 S:1	0	0	0	0	0	1	1	0	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Fritillaria liliacea</i> fragrant fritillary	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	10 10	82 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	G5T3 S3	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	6 14	112 S:4	1	2	0	0	0	1	0	4	4	0	0
<i>Gilia millefoliata</i> dark-eyed gilia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		54 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Helianthella castanea</i> Diablo helianthella	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		107 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Hemizonia congesta ssp. congesta</i> congested-headed hayfield tarplant	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_UCBG-UC Botanical Garden at Berkeley	20 1,400	52 S:6	0	1	0	0	0	5	5	1	6	0	0
<i>Hesperolinon congestum</i> Marin western flax	G1 S1	Threatened Threatened	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	300 1,065	27 S:7	1	2	1	0	0	3	1	6	7	0	0
<i>Holocarpha macradenia</i> Santa Cruz tarplant	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	120 120	37 S:2	0	0	0	0	1	1	2	0	1	1	0



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California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Horkelia tenuiloba</i> thin-lobed horkelia	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	1,100 2,100	27 S:4	1	2	0	0	0	1	3	1	4	0	0
<i>Kopsiopsis hookeri</i> small groundcone	G4? S1S2	None None	Rare Plant Rank - 2B.3	400 1,785	21 S:4	0	0	1	0	0	3	3	1	4	0	0
<i>Lasiurus cinereus</i> hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern	180 180	238 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Laterallus jamaicensis coturniculus</i> California black rail	G3T1 S2	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_EN-Endangered	1 9	303 S:16	5	7	0	2	1	1	4	12	15	1	0
<i>Lessingia micradenia var. micradenia</i> Tamalpais lessingia	G2T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	200 1,000	9 S:6	0	1	0	0	0	5	4	2	6	0	0
<i>Melospiza melodia pusillula</i> Alameda song sparrow	G5T2T3 S2	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	10 10	38 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	G5T2 S2	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	0 20	41 S:16	3	4	0	0	0	9	9	7	16	0	0
<i>Microcina tiburona</i> Tiburon micro-blind harvestman	G2 S2	None None		500 575	2 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Microseris paludosa</i> marsh microseris	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden SB_UCSC-UC Santa Cruz	500 500	38 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Microtus californicus sanpabloensis</i> San Pablo vole	G5T1T2 S1S2	None None	CDFW_SSC-Species of Special Concern	2 10	8 S:4	0	0	0	0	0	4	4	0	4	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Nannopterum auritum</i> double-crested cormorant	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern		39 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Navarretia rosulata</i> Marin County navarretia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	1,150 2,100	15 S:7	0	1	0	0	0	6	3	4	7	0	0
<i>Northern Coastal Salt Marsh</i> Northern Coastal Salt Marsh	G3 S3.2	None None		2 15	53 S:8	0	1	1	0	0	6	8	0	8	0	0
<i>Nycticorax nycticorax</i> black-crowned night heron	G5 S4	None None	IUCN_LC-Least Concern	50 50	37 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Oncorhynchus kisutch pop. 4</i> coho salmon - central California coast ESU	G5T2Q S2	Endangered Endangered	AFS_EN-Endangered	130 130	23 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	120 400	14 S:6	0	0	0	0	5	1	6	0	1	0	5
<i>Plagiobothrys glaber</i> hairless popcornflower	GX SX	None None	Rare Plant Rank - 1A		9 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Pleuropogon hooverianus</i> North Coast semaphore grass	G2 S2	None Threatened	Rare Plant Rank - 1B.1 SB_BerrySB-Berry Seed Bank SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		27 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	G3 S3	None None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	0 0	15 S:1	1	0	0	0	0	0	1	0	1	0	0
<i>Polygonum marinense</i> Marin knotweed	G2Q S2	None None	Rare Plant Rank - 3.1	5 5	32 S:3	1	0	2	0	0	0	2	1	3	0	0
<i>Pomatiopsis binneyi</i> robust walker	G1 S1	None None		2,040 2,040	2 S:1	0	0	0	0	0	1	1	0	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Quercus parvula</i> var. <i>tamalpaisensis</i> Tamalpais oak	G4T2 S2	None None	Rare Plant Rank - 1B.3	300 2,100	19 S:15	0	1	0	1	0	13	10	5	15	0	0
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	G3T1 S2	Endangered Endangered	CDFW_FP-Fully Protected	2 18	99 S:13	2	5	0	0	1	5	5	8	12	1	0
<i>Rana boylei</i> pop. 1 foothill yellow-legged frog - north coast DPS	G3T4 S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern USFS_S-Sensitive	18 1,975	1608 S:13	0	3	0	0	9	1	11	2	4	2	7
<i>Rana draytonii</i> California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	5 79	1686 S:5	1	1	0	0	0	3	2	3	5	0	0
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	G1G2 S3	Endangered Endangered	CDFW_FP-Fully Protected IUCN_EN-Endangered	0 4	144 S:11	0	2	1	2	1	5	10	1	10	1	0
<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	G2 S2.2	None None		100 1,000	22 S:4	1	0	0	0	0	3	4	0	4	0	0
<i>Sidalcea calycosa</i> ssp. <i>rhizomata</i> Point Reyes checkerbloom	G5T2 S2	None None	Rare Plant Rank - 1B.2	300 300	34 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Sorex ornatus sinuosus</i> Suisun shrew	G5T1T2Q S1S2	None None	CDFW_SSC-Species of Special Concern		15 S:1	0	1	0	0	0	0	1	0	1	0	0
<i>Sorex vagrans halicoetes</i> salt-marsh wandering shrew	G5T1 S1	None None	CDFW_SSC-Species of Special Concern	2 2	12 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Spergularia macrotheca</i> var. <i>longistyla</i> long-styled sand-spurrey	G5T2 S2	None None	Rare Plant Rank - 1B.2		22 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Spirinchus thaleichthys</i> longfin smelt	G5 S1	Candidate Threatened	IUCN_LC-Least Concern	0 0	46 S:2	0	0	0	0	0	2	0	2	2	0	0
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	460 2,450	19 S:3	0	0	0	0	1	2	2	1	2	1	0
<i>Streptanthus batrachopus</i> Tamalpais jewelflower	G2 S2	None None	Rare Plant Rank - 1B.3 SB_UCSC-UC Santa Cruz	1,840 2,200	8 S:5	0	1	1	0	0	3	3	2	5	0	0



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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Streptanthus glandulosus ssp. niger</i> Tiburon jewelflower	G4T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	300 350	2 S:2	0	2	0	0	0	0	0	2	2	0	0
<i>Streptanthus glandulosus ssp. pulchellus</i> Mt. Tamalpais bristly jewelflower	G4T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	420 2,200	24 S:10	3	3	0	0	0	4	8	2	10	0	0
<i>Symphotrichum lentum</i> Suisun Marsh aster	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	0 0	175 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Talanites ubicki</i> Ubick's gnaphosid spider	G1 S1	None None		150 150	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Thaleichthys pacificus</i> eulachon	G5 S1	Threatened None	IUCN_LC-Least Concern	0 0	10 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Trachusa gummifera</i> San Francisco Bay Area leaf-cutter bee	G1 S1	None None		1,130 1,130	3 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Trifolium amoenum</i> two-fork clover	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley SB_USDA-US Dept of Agriculture	100 100	26 S:2	0	0	0	0	1	1	2	0	1	0	1
<i>Trifolium hydrophilum</i> saline clover	G2 S2	None None	Rare Plant Rank - 1B.2		56 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Triquetrella californica</i> coastal triquetrella	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	360 360	13 S:1	0	0	0	0	0	1	0	1	1	0	0



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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	G2 S2	None None	IUCN_DD-Data Deficient	0 6	39 S:2	0	0	0	0	1	1	2	0	1	0	1
<i>Vespericola marinensis</i> Marin hesperian	G2 S2	None None		25 600	23 S:3	0	0	0	0	0	3	3	0	3	0	0

APPENDIX F
NOISE DATA

Construction Noise Calculations

Construction Phase	Equipment Type ¹	USDOT Equipment Type ²	No. Equipment ¹	Acoustical Usage Factor ²	Maximum Noise Level @ 50 feet (Lmax) ³	Typical Noise Level @ 50 feet (dBA ₁)	Reference Distance (D ₁)	Distance to Receptor (D ₂)	Ground Absorption Constant (G)	Noise Level at Receptor (dBA ₂)	Noise Level at Receptor (dBA ₂)	Two Noisiest Equipment	Two Noisiest Equipment	
				Unit:	%	dBA Lmax	dBA Leq	feet	feet	unitless	dBA Lmax	dBA Leq	dBA Leq	dBA Lmax
New Aquatics Center	Aerial Lifts	Man Lift	1	20	85	78	50	55	0	84	77	84	89	
	Bore/Drill Rigs	Auger Drill Rig	1	20	85	78	50	55	0	84	77			
	Cement and Mortar Mixer	Vibratory Concrete Mixer	1	20	76	69	50	55	0	75	68			
	Cranes	Crane	1	16	88	80	50	55	0	87	79			
	Excavators	Excavator	1	40	85	81	50	55	0	84	80			
	Paving Equipment	Paver	1	50	85	82	50	55	0	84	81			
	Plate Compactors	Compactor (ground)	1	20	82	75	50	55	0	81	74			
	Rubber Tired Dozers	Dozer	1	40	85	81	50	55	0	84	80			
	Skid Steer Loaders	Front End Loader	1	40	80	76	50	55	0	79	75			
	Tractors/Loaders /Backhoes	Backhoe	1	40	80	76	50	55	0	79	75			
Welders	Welder/Torch	1	40	73	69	50	55	0	72	68				

Notes:

Noise level at the receptor calculated based on the following equation:⁴

$$dBA_2 = dBA_1 + 10 * \log_{10}(D_1/D_2)^{2+G}$$

Where:

dBA₂ = Noise level at receptor

dBA₁ = Noise level at reference distance

D₁ = Reference distance

D₂ = Receptor distance

G = Ground absorption constant (0 for hard surface, 0.5 for soft surface)

Combined noise levels at receptor calculated for two noisiest equipment using decibel addition:

$$L = 10 * \log_{10} (10^{L_1/10} + 10^{L_2/10})$$

L = Combined noise level

L₁ = Noise level for first noisiest piece of equipment

L₂ = Noise level for second noisiest piece of equipment

¹ The type of construction equipment is based on construction equipment list provided by the applicant.

² U.S. Department of Transportation, 2006. FHWA Highway Construction Noise Handbook, Table 9.1. August.

³ Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual, Table 7-1. September.

⁴ California Department of Transportation, 1998. Technical Noise Supplement (TeNS). Equation N-2141.2. October.

Construction Noise Calculations

Construction Phase	Equipment Type ¹	USDOT Equipment Type ²	No. Equipment ¹	Acoustical Usage Factor ²	Maximum Noise Level @ 50 feet (Lmax) ³	Typical Noise Level @ 50 feet (dBA ₁)	Reference Distance (D ₁)	Distance to Receptor (D ₂)	Ground Absorption Constant (G)	Noise Level at Receptor (dBA ₂)	Noise Level at Receptor (dBA ₂)	Two Noisiest Equipment	Two Noisiest Equipment
			Unit:	%	dBa Lmax	dBa Leq	feet	feet	unitless	dBa Lmax	dBa Leq	dBa Leq	dBa Lmax
Visual and Performing Arts Building and Plaza (VAPA)	Aerial Lifts	Man Lift	1	20	85	78	50	88	0	80	73	79	83
	Air Compressors	Compressor (air)	1	40	80	76	50	88	0	75	71		
	Bore/Drill Rigs	Auger Drill Rig	1	20	85	78	50	88	0	80	73		
	Crawler Tractors	Tractor	1	40	84	80	50	88	0	79	75		
	Excavators	Excavator	1	40	85	81	50	88	0	80	76		
	Plate Compactors	Compactor (ground)	1	20	82	75	50	88	0	77	70		
	Pumps	Pumps	1	50	77	74	50	88	0	72	69		
	Rollers	Roller	1	20	85	78	50	88	0	80	73		
	Skid Steer Loaders	Front End Loader	1	40	80	76	50	88	0	75	71		
	Tractors/Loaders/Backhoes	Backhoe	1	40	80	76	50	88	0	75	71		
Welders	Welder/Torch	1	40	73	69	50	88	0	68	64			

Notes:

Noise level at the receptor calculated based on the following equation:⁴

$$dBA_2 = dBA_1 + 10 * \log_{10}(D_1/D_2)^{2+G}$$

Where:

dBA₂ = Noise level at receptor

dBA₁ = Noise level at reference distance

D₁ = Reference distance

D₂ = Receptor distance

G = Ground absorption constant (0 for hard surface, 0.5 for soft surface)

Combined noise levels at receptor calculated for two noisiest equipment using decibel addition:

$$L = 10 * \log_{10} (10^{L_1/10} + 10^{L_2/10})$$

L = Combined noise level

L₁ = Noise level for first noisiest piece of equipment

L₂ = Noise level for second noisiest piece of equipment

¹ The type of construction equipment is based on construction equipment list provided by the applicant.

² U.S. Department of Transportation, 2006. FHWA Highway Construction Noise Handbook, Table 9.1. August.

³ Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual, Table 7-1. September.

⁴ California Department of Transportation, 1998. Technical Noise Supplement (TeNS). Equation N-2141.2. October.

Construction Noise Calculations

Construction Phase	Equipment Type ¹	USDOT Equipment Type ²	No. Equipment ¹	Acoustical Usage Factor ²	Maximum Noise Level @ 50 feet (Lmax) ³	Typical Noise Level @ 50 feet (dBA ₁)	Reference Distance (D ₁)	Distance to Receptor (D ₂)	Ground Absorption Constant (G)	Noise Level at Receptor (dBA ₂)	Noise Level at Receptor (dBA ₂)	Two Noisiest Equipment	Two Noisiest Equipment
			Unit:	%	dBA Lmax	dBA Leq	feet	feet	unitless	dBA Lmax	dBA Leq	dBA Leq	dBA Lmax
Athletic Fields Turf	Excavators	Excavator	1	40	85	81	50	130	0	77	73	76	80
	Graders	Grader	1	40	85	81	50	130	0	77	73		
	Plate Compactors	Compactor (ground)	1	20	82	75	50	130	0	74	67		
	Pumps	Pumps	1	50	77	74	50	130	0	69	66		
	Rollers	Roller	1	20	85	78	50	130	0	77	70		
	Tractors/Loaders/Backhoes	Backhoe	1	40	80	76	50	130	0	72	68		

Notes:

Noise level at the receptor calculated based on the following equation:⁴

$$dBA_2 = dBA_1 + 10 * \log_{10}(D_1/D_2)^{2+G}$$

Where:

dBA₂ = Noise level at receptor

dBA₁ = Noise level at reference distance

D₁ = Reference distance

D₂ = Receptor distance

G = Ground absorption constant (0 for hard surface, 0.5 for soft surface)

Combined noise levels at receptor calculated for two noisiest equipment using decibel addition:

$$L = 10 * \log_{10} (10^{(L_1/10)} + 10^{(L_2/10)})$$

L = Combined noise level

L₁ = Noise level for first noisiest piece of equipment

L₂ = Noise level for second noisiest piece of equipment

¹ The type of construction equipment is based on construction equipment list provided by the applicant.

² U.S. Department of Transportation, 2006. FHWA Highway Construction Noise Handbook, Table 9.1. August.

³ Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual, Table 7-1. September.

⁴ California Department of Transportation, 1998. Technical Noise Supplement (TeNS). Equation N-2141.2. October.

Construction Vibration Calculations for Potential Disturbance

Equipment ¹	Typical Vibration Level @ 25 Feet ² (RMS ₁)	Annoyance Vibration Threshold (RMS ₂)	Reference Distance (D ₁)	Buffer Distance to Annoyance Threshold (D ₂)
Unit	VdB	VdB	feet	feet
Vibratory Roller	94	83	25	58
Large bulldozer	87	83	25	34
Loaded trucks	86	83	25	31
Small bulldozer	58	83	25	4

Notes:

Buffer distance to vibration threshold for human annoyance calculated based on the following equation:³

$$D_2 = D_1 * 10^{((RMS_1 - RMS_2) / 30)}$$

Where:

RMS₁ = Vibration level at reference distance

RMS₂ = Vibration threshold for human disturbance

D₁ = Reference distance

D₂ = Buffer distance to vibration threshold for human annoyance

Construction Vibration Calculations for Potential Building Damage

Equipment ¹	Typical Vibration Level @ 25 Feet ² (PPV ₁)	Building Damage Vibration Threshold (PPV ₂)	Reference Distance (D ₁)	Buffer Distance to Damage Threshold (D ₂)
Unit	in/sec	in/sec	feet	feet
Vibratory Roller	0.210	0.3	25	20
Large bulldozer	0.089	0.3	25	11
Loaded trucks	0.076	0.3	25	10
Small bulldozer	0.003	0.3	25	1

Notes:

Buffer distance to vibration threshold for building damage calculated based on the following equation:³

$$D_2 = (PPV_1 / PPV_2)^{(1 / 1.5)} * D_1$$

Where:

PPV₁ = Vibration level at reference distance

PPV₂ = Vibration threshold for building damage

D₁ = Reference distance

D₂ = Buffer distance to vibration threshold for building damage

¹ Demolition equipment provided by project applicant, and other equipment based on the CalEEMod default generated for the project. Only equipment that generates substantial vibration is shown.

² Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual, Table 7-4. September.

³ Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual, Equations 7-2 and 7-3. September.

APPENDIX G
2017 STADIUM EIR MMRP

Mitigation Measure	Project	Parties Responsible for Implementation / Monitoring	Implementation Complete Y/N	Implementations Measures/ Comments
AESTHETICS				
<u>AESTHETICS-1a</u> : New buildings shall be designed to be both contemporary in appearance and compatible with the materiality, features, size, scale, and proportion, and massing of the existing historic building (Building A) on campus. The new work shall be differentiated from the old and shall not create a false sense of historical development.	MACK Building STEAM Building	HY Architects, SRCS	Y	New buildings approved by SRCS Board (12/18/17 for MACK Building and 4/13/20 for STEAM Building) include similar scale of exterior elements with modern appearance, with exterior columns that evoke the historic facade without attempting to mimic the original building design.
<u>AESTHETICS-1b</u> : Building heights shall be less than 36 feet to be within the limits established by the City of San Rafael for the Public/Quasi-Public zoning district and to respect the scale of nearby residences.	MACK Building STEAM Building	HY Architects, SRCS	Y	MACK Building roof height = 28 feet; with top of roof mechanical screens = 34'-10" (1/3/19 Construction Documents) STEAM Building roof height = 28 feet; with top of parapet wall = 30 feet (2/16/21 Construction Documents)
<u>AESTHETICS-1c</u> : New buildings shall be designed in a color scheme that is compatible with the neutral and earth-tone colors of existing buildings, with accent colors used for specific detailing.	MACK Building STEAM Building Campus-wide Painting Project	HY Architects, SRCS	Y	11/10/21 District approved campus-wide paint colors and elevations
<u>AESTHETICS-1d</u> : The District shall establish Project Site Design Committees for the new buildings on the campus prior to development of schematic designs for new buildings (except for the Stadium Project, which has already undergone schematic design), and shall ensure that at least one public hearing is held for each project prior to development of construction drawings. The Project Site Design Committees shall include at least two representatives of the neighborhood.	MACK Building STEAM Building	SRCS	Y	Site Design Committee established (first meeting) 2/8/17. To date, the Site Committee has held 26 meetings to review on-going design and construction, generally on a quarterly basis, with the latest meeting held on 5/23/23.
<u>AESTHETICS-1e</u> : Large expanses of flat wall area along Mission Avenue shall be avoided in new buildings (especially Building 4, which has a long east/west axis), and windows and architectural detailing shall be added to provide a more aesthetically pleasing view of buildings as seen from Mission Avenue.	AR (VAPA) Building	HY Architects, SRCS	N	No new buildings along Mission Avenue have been design or developed to date. Design for Building 4 (AR Building) has not begun.
<u>AESTHETICS-1f</u> : A landscape plan shall be developed for the entire campus prior to construction of any new campus buildings in the campus core. This plan shall be reviewed by the District Board of Trustees at one public hearing that shall allow comments from the public. Suggestions from this hearing shall be considered prior to developing the final landscape plans that shall be developed prior to any construction within the campus core. The new landscape plan shall include groundcover and shrubbery at the north end of the site adjacent to Mission Avenue, where a narrow setback would exist between new buildings and the sidewalk area. New evergreen tree plantings shall occur along Mission Avenue to screen campus buildings from view, and to screen parking areas from view. Additional tree plantings with evergreen trees shall be included for the main existing parking area adjoining 3rd Street as well as for the new parking lot for 39 cars at the south end of the Stadium Project site. A minimum of five evergreen trees that are at least 24 feet at maturity shall be planted on the south side of this new parking area. All trees shall be planted from 24-inch boxes and shall be monitored for the first 3 years so that any lost trees can be replaced.		Gates Associates, SRCS	ONGOING	Partial landscape master plan developed with approval of the MACK Building(12/18/17), STEAM Building (4/13/20), and site committee review of 4th Street Multi-Use Pathway (9/5/19)
<i>The combination of the above measures would reduce this potential impact to a less-than- significant level</i>				
<u>AESTHETICS-2</u> : All new lighting shall be shielded to reduce off-site light and glare. Pedestrian pathway lighting shall be of a uniform style and quality of illumination that aids in navigation without over-lighting the surroundings. Signage lighting shall be minimized to provide context for pedestrians and drivers. Parking lot lighting shall be shielded and cast downward to minimize "light spillage" to off-site locations and shall be placed on timers so that minimal lighting occurs after 11:00 PM. To the extent practicable, area lighting and security lighting shall be controlled by the use of timed switches and/or motion detector activation to reduce energy consumption and excess lighting.	MACK Building STEAM Building	HY Architects, SRCS	Y	Shielded light fixtures, with timing controls, specified and installed per MACK Construction Documents (1/3/19) and STEAM Construction Documents (2/16/21)
<u>AESTHETICS-3</u> : The District shall install outdoor lighting that is light-emitting diode (LED) but that is no greater than 3,000 Kelvin and that minimizes the "blue-rich" lighting as a means of reducing glare in the community and protecting public health. All outdoor lighting shall be shielded and directed downwards to minimize "light spillage" to off-site locations. Lighting shall be on timers so that no lighting of the Stadium Project fields occurs after 11:00 PM. Pedestrian and security lighting shall be strategically placed in the Stadium Project vicinity so that excessive lighting does not occur and shall also be shielded and directed downward. When possible, motion activated lighting shall be used to minimize overall lighting of the stadium project area.	Stadium Project	Carducci Associates, SRCS	Y	Shielded light fixtures less than 3,000 Kelvin, with timing controls, specified and installed per Stadium Construction Documents (12/21/16). Sport Field Light Survey, Zeiger Engineers, 6/27/18 Illumination Submittal, Musco Lighting 2/1/17
AIR QUALITY				
<u>AIR-1a</u> : During project construction, the contractor shall implement a dust control program that includes the following measures: <ul style="list-style-type: none"> ▪ All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. ▪ All haul trucks transporting soil, sand, or other loose material off-site shall be covered. ▪ All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. ▪ All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. 	Stadium Project MACK Building	Carducci Associates, HY Architects, VPCS, Greystone	Y	Included in Project Specifications: 12/21/16 Stadium Construction Documents 1/3/19 MACK Building Construction Documents 2/16/21 STEAM Construction Documents

Mitigation Measure	Project	Parties Responsible for Implementation / Monitoring	Implementation Complete Y/N	Implementations Measures/ Comments
<ul style="list-style-type: none"> All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. A publicly visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Bay Area Air Quality Management District (BAAQMD) phone number shall also be visible to ensure compliance with applicable regulations. The foregoing requirements shall be included in the appropriate contract documents with the contractor 	MACK Building STEAM Building	Architects, VPCS, Greystone West, SRCS		Notice provided on the project sign for each construction project. Monitoring by construction managers.
<p><u>AIR-1b:</u> Prior to construction of an individual project under the Master Facilities Long-Range Plan, a project-level analysis of criteria pollutant emissions during construction shall be prepared in accordance with BAAQMD CEQA Air Quality Guidance. If emissions exceed the BAAQMD's project-level thresholds of significance, then exhaust-control measures shall be identified to reduce emissions below the thresholds of significance. Acceptable exhaust-control measures for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, oxidation catalysts, diesel particulate filters, and/or other options as such become available. The contractor shall submit a Certification Statement to the San Rafael City Schools stating that the contractor agrees to comply fully with the identified exhaust-control measures (if any) and acknowledges that a significant violation of these measures shall constitute a material breach of contract. The foregoing requirement shall be included in the appropriate contract documents with the contractor.</p>	MACK Building STEAM Building	Alten Construction, SRCS	Y	Included in Project Specifications: 1/3/19 MACK Building Construction Documents 2/16/21 STEAM Construction Documents
<p><u>AIR-2:</u> Prior to construction of an individual project under the Master Facilities Long-Range Plan, a project-level health risk analysis of DPM and PM2.5 emissions during construction shall be prepared in accordance with BAAQMD and OEHHA guidance. If the health risks and hazards from DPM and PM2.5 emissions exceed the BAAQMD's project-level thresholds of significance, then exhaust-control measures shall be identified to reduce emissions below the thresholds of significance. Acceptable exhaust-control measures for reducing DPM and PM2.5 emissions include the use of late model engines, diesel particulate filters, and/or other options as such become available. The contractor shall submit a Certification Statement to the San Rafael City Schools stating that the contractor agrees to comply fully with the identified exhaust-control measures (if any) and acknowledges that a significant violation of these measure shall constitute a material breach of contract. The foregoing requirement shall be included in the appropriate contract documents with the contractor.</p>	MACK Building STEAM Building	Alten Construction, SRCS	Y	Included in Project Specifications: 1/3/19 MACK Building Construction Documents 2/16/21 STEAM Construction Documents
<p><u>AIR-3:</u> During Stadium Project construction, the contractor shall use off-road equipment that meets the California Air Resources Board's Tier 2 (or higher) certification requirements. The contractor shall submit a Certification Statement to the San Rafael City Schools stating that the contractor agrees to comply fully with the Tier 2 (or higher) engine requirements described above and acknowledges that a significant violation of the measure shall constitute a material breach of contract. The foregoing requirements shall be included in the appropriate contract documents with the contractor.</p>	Stadium	Carducci Associates, VPCS, SRCS	Y	Included in Project Specifications: 12/21/16 Stadium Construction Documents
BIOLOGICAL RESOURCES				
<p><u>BIO-1:</u> Adequate measures shall be taken to avoid inadvertent take of raptor nests and other nesting birds protected under the Migratory Bird Treaty Act when in active use. This shall be accomplished by taking the following steps:</p> <ul style="list-style-type: none"> If construction is proposed during the nesting season (February through August), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 14 days prior to the onset of vegetation removal or construction, in order to identify any active nests on the project site and in the vicinity of proposed construction. If no active nests are identified during the survey period, or if development is initiated during the non-breeding season (September through February), construction may proceed with no restrictions. If bird nests are found, an adequate setback shall be established around the nest location and construction activities restricted within this no-disturbance zone until the qualified biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the California Department of Fish and Wildlife (CDFW), and may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated on the remainder of the development site. <p>A report of findings shall be prepared by the qualified biologist and submitted to the District for review and approval prior to initiation of construction within the no-disturbance zone during the nesting season (February through August). The report either shall confirm absence of any active nests or shall confirm that any young within a designated no-disturbance zone have fledged and construction can proceed.</p>	All	SRCS	Y	Bird nesting Survey, Daniel Edelstein, 3/2/21
<p><u>BIO-2:</u> Implement Mitigation Measure BIO-1.</p>		SRCS	Y	See above.

Mitigation Measure	Project	Parties Responsible for Implementation / Monitoring	Implementation Complete Y/N	Implementations Measures/ Comments
CULTURAL RESOURCES				
<p><u>CULT-1:</u> Should an archaeological deposit be encountered during project subsurface construction activities, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the District shall be responsible for funding and implementing appropriate mitigation measures. Mitigation measures may include recordation of the archaeological deposit, data recovery and analysis, and public outreach regarding the scientific and cultural importance of the discovery. Upon completion of the selected mitigations, a report documenting methods, findings, and recommendations shall be prepared and submitted to the District for review, and the final report shall be submitted to the Northwest Information Center at Sonoma State University. Significant archaeological materials shall be submitted to an appropriate curation facility and used for public interpretive displays, as appropriate and in coordination with a local Native American tribal representative.</p> <p>The District shall inform its contractor(s) of the sensitivity of the project area for archaeological deposits and shall verify that the following directive has been included in the appropriate contract documents: "The subsurface of the construction site may be sensitive for Native American archaeological deposits and associated human remains. If archaeological deposits are encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any archaeological materials. Archaeological deposits can include shellfish remains; bones; flakes of, and tools made from, obsidian, chert, and basalt; and mortars and pestles. Contractor acknowledges and understands that excavation or removal of archaeological material is prohibited by law and constitutes a misdemeanor under California Public Resources Code, Section 5097.5."</p>	MACK Building STEAM Building	SRCS, Alten Construction, Greystone West	Y	<p>Included in Project Specifications:</p> <p>12/21/16 Stadium Construction Documents 1/3/19 MACK Building Construction Documents 2/16/21 STEAM Construction Documents</p> <p>No archaeological deposits were encountered during the course of construction.</p>
<u>CULT-2:</u> Implement Mitigation Measure CULT-1.		SRCS		See item CULT-1 above.
<p>CULT-3: Should paleontological resources be encountered during project subsurface construction activities, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. For purposes of this mitigation, a "qualified paleontologist" shall be an individual with the following qualifications: 1) a graduate degree in paleontology or geology and/or a person with a demonstrated publication record in peer-reviewed paleontological journals; 2) at least two years of professional experience related to paleontology; 3) proficiency in recognizing fossils in the field and determining their significance; 4) expertise in local geology, stratigraphy, and biostratigraphy; and 5) experience collecting vertebrate fossils in the field. If the paleontological resources are found to be significant and project activities cannot avoid them, measures shall be implemented to ensure that the project does not cause a substantial adverse change in the significance of the paleontological resource. Measures may include monitoring, recording the fossil locality, data recovery and analysis, a final report, and accessioning the fossil material and technical report to a paleontological repository. Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to the District for review. If paleontological materials are recovered, this report also shall be submitted to a paleontological repository such as the University of California Museum of Paleontology, along with significant paleontological materials. Public educational outreach may also be appropriate.</p> <p>The District shall inform its contractor(s) of the sensitivity of the project site for paleontological resources and shall verify that the following directive has been included in the appropriate contract documents:</p> <p>"The subsurface of the construction site may be sensitive for fossils. If fossils are encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any paleontological materials.</p> <p>Fossils can include plants and animals, and such trace fossil evidence of past life as tracks or plant imprints. Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Vertebrate land mammals may include bones of mammoth, camel, saber tooth cat, horse, and bison. Contractor acknowledges and understands that excavation or removal of paleontological material is prohibited by law and constitutes a misdemeanor under California Public Resources Code, Section 5097.5."</p>		SRCS, Alten Construction, Greystone West	Y	<p>Included in Project Specifications:</p> <p>12/21/16 Stadium Construction Documents 1/3/19 MACK Building Construction Documents 2/16/21 STEAM Construction Documents</p> <p>No paleontological resources were encountered during the course of construction.</p>
<p>CULT-4: Any human remains encountered during project ground-disturbing activities shall be treated in accordance with California Health and Safety Code Section 7050.5 and Mitigation Measure CULT-1. In addition, if human remains are identified during construction and cannot be preserved in place, the District shall fund 1) the removal of human remains from the project site by a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology, 2) the scientific analysis and documentation of the remains by a qualified archaeologist, and 3) the reburial of the remains, as appropriate. Excavation, analysis, and reburial of Native American human remains shall be done in consultation with the Native American Most Likely Descendent, as identified by the California Native American Heritage Commission.</p>		SRCS, Alten Construction, Greystone West	Y	<p>Included in Project Specifications:</p> <p>12/21/16 Stadium Construction Documents 1/3/19 MACK Building Construction Documents 2/16/21 STEAM Construction Documents</p> <p>No human remains were encountered during the course of construction.</p>

Mitigation Measure	Project	Parties Responsible for Implementation / Monitoring	Implementation Complete Y/N	Implementations Measures/ Comments
CULT-5: Proposed Buildings 1, 2, 3, and 4, which are in the immediate vicinity of the historical resource (Building A), shall require review by an architectural historian or historic architect who meets the Secretary of the Interior's Qualification Standards and is retained by the District for the purpose of verifying compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (the Standards). Typically, if a project follows the Standards, impacts on a historical resource shall be considered mitigated to a less-than- significant level. Therefore, designs for proposed Buildings 1, 2, 3, and 4 shall comply with the Standards, in order to ensure that the construction would not indirectly alter the historical resource's (Building A's) physical characteristics, such as setting, that convey its historical significance such that it is no longer eligible for listing in the California Register of Historical Resources. In compliance with the applicable Standard (Standard 9), the new work shall be differentiated from the old and shall be compatible with massing, size, scale, and architectural features of the historical resource.	MACK Building STEAM Building	SRCS	Y	Historical review memo from Brewster Preservation, 11/22/21
CULT-6: The proposed modernization of the historical resource (Building A), shall require review by an architectural historian or historic architect who meets the Secretary of the Interior's Qualification Standards and is retained by the District for the purpose of verifying compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (the Standards). Typically, if a project follows the Standards, impacts on a historical resource shall be considered mitigated to a less-than-significant level. Therefore, designs for the modernization of Building A shall comply with the Standards, in order to ensure that the construction would not directly alter the historical resource's (Building A's) physical characteristics, such as setting, that convey its historical significance such that it is no longer eligible for listing in the California Register of Historical Resources.	AD Building Modernization	SRCS	Y	Historical review memo from Brewster Preservation, 11/22/21
CULT-7: Implement Mitigation Measure CULT-1.		SRCS	Y	See item CULT-1 above.
CULT-8: Implement Mitigation Measure CULT-1.		SRCS	Y	See item CULT-2 above.
CULT-9: Implement Mitigation Measure CULT-3.		SRCS	Y	See item CULT-3 above.
CULT- 10: Implement Mitigation Measure CULT-4.		SRCS	Y	See item CULT-4 above.
GEOLOGY AND SOILS				
GEO-1: The San Rafael City Schools Board of Trustees shall demonstrate that school building design and construction comply with applicable requirements of the Field Act, including design, oversight, and inspection provisions. This shall include incorporation of public school seismic design standards established by the Division of the State Architect (DSA), review of plans by DSA, and inspections throughout construction by independent qualified inspectors. Prior to occupancy of new development under the Master Facilities Long- Range Plan, San Rafael City Schools must receive a certification of compliance from DSA that oversight and inspection of construction was completed in accordance with Field Act and other DSA requirements in accordance with DSA Procedure 13-02.	Stadium MACK Building AD Modernization STEAM Building	SRCS, HY Architects, Carducci Associates	Y	Stadium, DSA 01-115533, Letter of Certification dated 11/8/18 MACK Building, DSA 01-117565, Letter of Certification dated 8/30/21 AD Modernization, DSA 01-119449, Letter of Certification dated 6/5/23 STEAM Building, DSA 01-119047, Letter of Certification dated 4/13/23
GEO-2: For each project under the Master Facilities Long-Range Plan, the District shall ensure compliance with Mitigation Measure GEO-1.		SRCS	Y	See item GEO-1 above.
GEO-3: For each project under the Master Facilities Long-Range Plan, the District shall ensure compliance with Mitigation Measure GEO-1.		SRCS	Y	See item GEO-1 above.
GEO-4: For the Stadium Project, the District shall ensure compliance with Mitigation Measure GEO-1.		SRCS	Y	See item GEO-1 above.
GEO-5: For the Stadium Project, the District shall ensure compliance with Mitigation Measure GEO-1.		SRCS	Y	See item GEO-1 above.
GEO-6: For the Stadium Project, the District shall ensure compliance with Mitigation Measure GEO-1.		SRCS	Y	See item GEO-1 above.
GREENHOUSE GAS EMISSIONS				
<i>The project would not result in any potentially significant greenhouse gas impacts.</i>				
HAZARDS AND HAZARDOUS MATERIALS				
HAZARDS-1: The San Rafael City Schools shall comply with provisions of the Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup Program for development under the Master Facilities Long-Range Plan. This compliance shall include evaluation of potential hazards related to building materials in accordance with DTSC's Preliminary Endangerment Assessment Guidance Manual (Guidance Manual) and DTSC's Interim Guidance for Evaluation of School Sites With Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers (Interim Guidance). This compliance shall include an assessment of the potential for lighting fixtures and caulking in buildings constructed prior to 1977 to contain polychlorinated biphenyls (PCBs), and the abatement of any materials containing PCBs above risk-based thresholds in the Guidance Manual. This compliance shall also include soil sampling in accordance with methodology in the Interim Guidance. Any contaminants identified above concentrations in the Data Interpretation and Assessment section of the Interim Guidance shall require remedial action under DTSC oversight.		SRCS	Y	Limited Hazardous Materials Survey Report, Millennium Consulting, 2/5/18 and Geotechnical Investigation, Miller Pacific Engineering Group, 12/15/17
HAZARDS-2: Implement Mitigation Measure HAZARDS-1.		SRCS	Y	See item HAZARDS-1 above.

Mitigation Measure	Project	Parties Responsible for Implementation / Monitoring	Implementation Complete Y/N	Implementations Measures/ Comments
HYDROLOGY AND WATER QUALITY				
<i>The project would not result in any potentially significant hydrology or water quality impacts.</i>				
LAND USE AND PLANNING				
<i>The project would not result in any potentially significant land use impacts.</i>				
NOISE				
<p>NOISE-1: San Rafael City Schools shall use mechanical equipment selection and acoustical shielding to ensure that noise levels from the installation/modification of heating, ventilation, and air conditioning (HVAC) systems do not exceed 45 dBA Leq inside of the nearest on-campus buildings, and do not exceed 60 dBA Lmax/50 dBA Leq during the daytime and 50 dBA Lmax/45 dBA Leq during the nighttime at the nearest residential receptors. Controls that would typically be incorporated to attain this outcome include locating equipment indoors or in less noise-sensitive areas, when feasible; selecting quiet equipment; and providing sound attenuators on fans, sound attenuator packages for cooling towers and emergency generators, acoustical screen walls, and equipment enclosures.</p>	MACK Building STEAM Building	SRCS, Alten Construction	Y	Mechanical equipment selection meeting this noise criteria was included in Project Specifications, and roof-top mechanical screens provided to reduce sound transmission to surrounding areas: 12/21/16 Stadium Construction Documents 1/3/19 MACK Building Construction Documents
<p>NOISE-2: San Rafael City Schools shall consult a qualified acoustical engineer in the design and selection of the new public address (PA) system for the Stadium Project. The qualified acoustical engineer shall confirm that sound is directed toward the field in a manner that reduces noise levels generated by the use of the PA system at approximately 50 feet outside the fence line of the school to below 80 dBA Lmax to the maximum extent practicable (but in no case shall the new PA system increase noise levels relative to the existing system).</p>	Stadium	Carducci Associates, SRCS	Y	Included in Project Specifications and project commissioning following construction: 12/21/16 Stadium Construction Documents Sound Pressure Level Test Report, PCD Audio & Video System Integration, 7/13/18
<p>NOISE-3a: To the maximum extent practicable, San Rafael City Schools shall schedule construction activities during periods when classes are not in session, such as summer, school breaks, and after class dismissal. San Rafael City Schools shall not allow the use of heavy construction equipment during established testing periods (e.g., finals week).</p>		SRCS	Y	Included in Project Specifications: 12/21/16 Stadium Construction Documents 1/3/19 MACK Building Construction Document Limits on construction times and dates to avoid testing periods included in requirements.
<p>NOISE-3b: For each project under the Master Facilities Long-Range Plan, a Construction Noise Management Plan shall be prepared by a qualified acoustical consultant and included in all contractor specifications. The Construction Noise Management Plan shall contain a set of site-specific noise attenuation measures to further reduce construction noise impacts at the nearby on-campus buildings and off-site residential receptors. If appropriate based on the circumstances, multiple projects can be addressed under one Construction Noise Management Plan. The site-specific noise attenuation measures shall be designed to reduce noise levels at the nearest on-campus and off-site receptors to below 70 dBA Leq, as practical. The nearest on-campus receptors may be located adjacent to construction and demolition locations. If it is not feasible to reduce noise at the nearest on-campus receptors to below 70 dBA Leq due to their proximity to the nearest construction and demolition locations, the school shall relocate students to classrooms with interior noise levels below 45 dBA Leq. At a minimum, the following measures shall be included in the Construction Noise Management Plan:</p> <ul style="list-style-type: none"> ■ Use jetting or partial jetting of piles into place using a water injection at the top of the pile, if feasible. ■ Construct or use temporary noise barriers, as needed, to shield on-campus construction and demolition noise from noise-sensitive areas to the extent feasible. To be most effective, the barrier should be placed as close as possible to the noise source or the sensitive receptor. Examples of barriers include portable acoustically lined enclosure/housing for specific equipment (e.g., jackhammer and pneumatic-air tools, which generate the loudest noise), temporary noise barriers (e.g., solid plywood fences or portable panel systems, minimum 8 feet in height), and/or acoustical blankets, as feasible. ■ To the extent feasible, establish construction staging areas at locations that would create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. ■ Ensure that construction equipment and trucks use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible. ■ Use “quiet” models of air compressors and other stationary noise sources where technology exists. ■ Prohibit all unnecessary idling of internal combustion engines and equip all internal combustion engine-driven equipment with an operating muffler or baffling system that are in good condition and appropriate for the equipment. ■ Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from noise-sensitive land uses. Muffle the stationary equipment, and enclose within temporary sheds or surround by insulation barriers, if feasible. 		SRCS, Alten Construction	Y	Included in Project Specifications: 12/21/16 Stadium Construction Documents 1/3/19 MACK Building Construction Document Sound batts on fencing provided during stadium project. Drilled piers used on new buildings, in lieu of piles to reduce noise impacts. Construction staging restricted to the Third Street side of the campus. away from most classrooms.

Mitigation Measure	Project	Parties Responsible for Implementation / Monitoring	Implementation Complete Y/N	Implementations Measures/ Comments
<p>NOISE-3c: San Rafael City Schools shall develop a set of procedures for responding to and tracking complaints received pertaining to construction noise, and shall implement the procedures during construction of projects implemented under the Master Facilities Long- Range Plan. Contractor specifications shall include these procedures. At a minimum, the procedures shall include:</p> <ul style="list-style-type: none"> a) Designation of a construction complaint and enforcement manager for the project; b) Protocols specific to receiving, responding to, and tracking received complaints; and c) Maintenance of a complaint log that records received complaints and how complaints were addressed. <p>The contact information of the construction complaint and enforcement manager shall be posted in conspicuous locations at the construction site.</p>		SRCS, VPCS	Y	Compliant phone number provided on construction sign and enforcement manager established as the senior director of facilities at SRCS with records maintained in that office.
<p>NOISE-3d: Residences located within 250 feet of a project implemented under the Master Facilities Long-Range Plan shall be provided with written notice of construction activity within at least 10 days before work begins, except in the case of an emergency. The notice shall state the date of planned construction activity in proximity to that residence and the range of hours during which maximum noise levels are anticipated. The notice shall also include the contact information of the construction complaint and enforcement manager identified in Mitigation Measure NOISE-3c. The combination of the above measures would reduce this impact to a less-than-significant level.</p>		SRCS	Y	Notices sent to neighbors within 250' prior to Stadium construction in May, 2017. Note: Both MACK and STEAM buildings are greater than 250' from residential property.
<p>NOISE-4: Mitigation Measures NOISE-3a through NOISE-3d shall be implemented.</p>		SRCS	Y	See item NOISE-3d above.
<p>NOISE-5: Mitigation Measure NOISE-2 shall be implemented.</p>		SRCS	Y	See item NOISE-2 above.
<p>NOISE-6: Mitigation Measures NOISE-3a through NOISE-3d shall be implemented.</p>		SRCS	Y	See item NOISE-3a through NOISE-3d above.
<p>NOISE-7: Mitigation Measures NOISE-3a through NOISE-3d shall be implemented.</p>		SRCS	Y	See item NOISE-3a through NOISE-3d above.
PUBLIC SERVICES				
<i>The project would not result in any potentially significant public services impacts.</i>				
TRANSPORTATION / TRAFFIC				
<p>TRANS-1a: San Rafael City Schools shall develop a Transportation Demand Management (TDM) program for San Rafael High School that focuses on reducing vehicle trips and improving traffic flow by implementing a series of measures including, but not limited to, the following:</p> <ul style="list-style-type: none"> ▪ Updating and enforcing elements of the school's transportation measures in the School Handbook, such as requiring on-site parking permits; instructing parents and students on expected travel routes to use, drop-off/pick-up locations, and appropriate driver behaviors; and providing bus stop and bus route information. ▪ Working with the San Rafael High School Athletic Department to ensure that sports-related drop-offs and pick-ups are directed to use the school parking lots accessible via 3rd Street. ▪ Providing wayfinding signage and informational material (e.g., flyers, emails, etc.) to visitors prior to major sports and/or special events that would direct traffic to the 3rd Street driveways. ▪ Considering promotion of carpool trips, and designating specific on-site parking spaces for carpool use only. ▪ Enrolling and actively participating in Marin County's Safe Routes to School program to take advantage of resources focused on reducing single-student occupant vehicle trips and to promote walking, bicycling, use of public transit, and carpooling. ▪ Providing personnel (trained using the American Automobile Associate School Safety Patrol curriculum) to monitor and facilitate drop-off and pick-up activities along Mission Avenue. ▪ Conducting periodic monitoring of traffic, including single-student occupant vehicles and carpools, pedestrian and bicycle trips, and school trips made by public transit to gauge success and promote appropriate measures to reduce vehicle trips. 		SRCS	ONGOING	Updated instructions provided to parents and students, with ongoing efforts to direct use of the Three Street entry and parking lot as the primary option. Wayfinding signage provided as part of the STEAM project. SRCS monitoring and updating traffic management plan every two years.
<p>TRANS-1b: To the extent feasible, San Rafael City Schools shall work with the City of San Rafael to update the listed address of San Rafael High School such that the school's main access point is identified with a 3rd Street address rather than its current designated 185 Mission Avenue address. The implementation of this mitigation measure would encourage some traffic, including sports events traffic and freight traffic, away from neighborhood streets north of the SRHS campus and onto 3rd Street. Successful implementation of a TDM program that retains current traffic levels, or reduces traffic levels, with the addition of up to 200 additional students would reduce Impact TRANS-1 to a less-than-significant level.</p>		SRCS, City	Y	Official address change to 150 Third Street in 2017. (Ongoing issue with some apps and GPS systems sending traffic to Mission.)
<p>TRANS-2a: San Rafael City Schools shall, as feasible, work with the City of San Rafael to extend westward the existing passenger loading zone by up to 300 feet, for a new passenger loading zone spanning the length of the south side of Mission Avenue between Alice Street and Park Street. The extension of the loading zone would be accomplished either by painting the adjacent roadway curb white or moving the roadway's curb and sidewalk south, if feasible. Accompanying signage would also be installed that would designate the area as a passenger loading zone. The loading zone extension would result in the loss of about 12 vehicular parking spaces. However, the zone would enhance roadway safety by increasing the designated area of drop-off, allowing vehicles to pull over for drop-off and pick-up activities and avoid hindering traffic flow along Mission Avenue.</p>		SRCS	ONGOING	See response to TRANS-3a

Mitigation Measure	Project	Parties Responsible for Implementation / Monitoring	Implementation Complete Y/N	Implementations Measures/ Comments
<p>TRANS-2b: The District shall consider the implementation of a remote drop-off and pick-up program. The program would designate off-site passenger loading location to divert school- related vehicle trips to locations within a one-quarter-mile radius of the site. This would reduce traffic congestion along neighborhood streets adjacent to the school site, and promote student health by allowing students to walk the distance between the off-site location and the school campus. The mitigation measure would support San Rafael General Plan Program C-4a (Street Pattern and Traffic Flow) and Program C-13a (School Transportation).</p> <p>The roadway curb and potential remote drop-off and pick-up locations fall under the jurisdiction of the City of San Rafael, and therefore the changes recommended in this mitigation measure would be subject to approval by the City's Public Works Department. Implementation of this measure would reduce Impact TRANS-2 to a less-than-significant level, but because the mitigation measure requires coordination with the City of San Rafael, its implementation cannot be assured. The impact is therefore considered significant and unavoidable.</p>		SRCS	ONGOING	See response to TRANS-3a
<p>TRANS-3a: As feasible, San Rafael City Schools shall work with the City of San Rafael to implement the reconfiguration of the Union Street/Mission Avenue intersection to provide two lanes in the westbound direction (a left-turn lane, and a shared through and right-turn lane) and two lanes in the northbound direction (a shared through and left-turn lane, and a right-turn lane). The additional lanes could be introduced by restriping the existing roadway to provide the additional lane markings within the existing right-of-way.</p> <p>The intersection reconfiguration would require use of the roadway's existing width to accommodate the additional lanes. This would be achieved by removing up to 160 feet of parking along both sides of westbound Mission Avenue, causing the loss of approximately eight parking spaces on both sides of the street, including the passenger loading zone on the south side of Mission Avenue. However, as detailed in the parking study (provided in Appendix F-7 of this EIR), the adjacent streets are operating at under 70 percent occupancy levels and could accommodate the parking demand from the displaced parking spaces.</p> <p>If feasible, and to the extent that California Department of Education (CDE)-mandated school site size requirements (CDE Guide to School Site Analysis and Development 2000 Report) would not be violated, an alternative roadway reconfiguration could include potentially moving the roadway curb and sidewalk southerly (onto District property) to provide the extra lane width and minimize the loss of parking along Mission Avenue.</p> <p>The new lane reconfiguration would potentially reduce vehicular queue lengths along the westbound direction of Mission Avenue to under 100 feet in near-term (year 2020) plus Master Facilities Long-Range Plan conditions and under 120 feet in cumulative (year 2040) plus Master Facilities Long-Range Plan conditions.</p>		SRCS	ONGOING	Ongoing discussions with the City of San Rafael.
<p>TRANS-3b: There is no feasible measure to mitigate the intersection impacts at the two San Rafael High School driveway intersections along 3rd Street.</p> <p>Vehicles turning left from the driveway south of the San Rafael High School driveway (west)/3rd Street intersection would experience an increase of up to about 46 seconds of delay under the Cumulative (year 2040) plus Master Facilities Long-Range Plan conditions. Under this scenario, this movement is projected to be about 11 vehicles during the morning peak hour. These vehicles would have to wait for sufficient gaps in traffic to make the left turn. While the additional delay would inconvenience these vehicles, it would only occur during the very short peak hours of school-related vehicular trip generation and would dissipate thereafter.</p> <p>Implementation of Mitigation Measure TRANS-3a would reduce the impact at the Union Street/Mission Avenue intersection to a less-than-significant level. However, the improvement's design and construction would be subject to approval and implementation by the City of San Rafael Public Works Department, and therefore its implementation cannot be assured. There is no feasible mitigation for impacts at the two San Rafael High School driveway impacts on 3rd Street. Impact TRANS-3 would therefore remain significant and unavoidable.</p>		SRCS	ONGOING	See response to TRANS-3a
<p>TRANS-4a: As feasible, San Rafael City Schools shall work with the City of San Rafael to implement the design and construction of the following school-area improvements:</p> <ul style="list-style-type: none"> § Upgrading all school area traffic controls in accordance with Chapter 7 (Controls for School Areas) of the California Manual of Uniformed Traffic Control Devices (MUTCD). For the District, upgrades would include increasing school-related signage (e.g., School Ahead, School Crosswalk, etc.) and pavement markings (e.g., Slow School Xing), and refreshing crosswalks and pavement stencils along roadways serving the campus (i.e., Mission Avenue between Mary Street and Belle Avenue, Union Street between 3rd Street and Mission Avenue, and Mary Street Between 3rd Street and Mission Avenue). § Constructing about 100 feet of sidewalk along the north side of Mission Avenue just east of Belle Avenue, to fill a sidewalk gap at a well-trafficked intersection. § Reconstructing non-compliant curb ramps, as appropriate, to meet Americans with Disabilities Act (ADA) standards at intersection locations peripheral to the school i.e., San Rafael High School Driveway (East)/3rd Street, Mission Avenue/Belle Avenue, Mission Avenue/Alice Street, and Mission Avenue/Union Street. § Providing enhanced crosswalks (e.g., rectangular rapid flashing beacons, pedestrian hybrid beacon, and/or lighting), if considered warranted by the City of San Rafael Public Works Department, at the 3rd Street's crosswalk at Embarcadero Way and at Union Street's crosswalk at 4th Street. § Endorsing the City of San Rafael's efforts to improve pedestrian conditions along the south side of Mission Avenue between Belle Avenue and Embarcadero Way. Future improvements could include, but would not be limited to, providing earthwork and/or structural fill along the hillside, a continuous pedestrian walkway, and additional supply of on-street parking. 		SRCS	ONGOING	Replacement of curb ramps at high school driveways replaced as part of the MACK project. Sidewalk along the softball field widened as part of the STEAM project. Improvements to the crosswalk and intersection at Union and 3rd completed as part of the City Fire Station replacement project.

Mitigation Measure	Project	Parties Responsible for Implementation / Monitoring	Implementation Complete Y/N	Implementations Measures/ Comments
TRANS-4b: As feasible, San Rafael City Schools shall work with the City of San Rafael to implement the design and construction of an enhanced crosswalk across 3rd Street at the San Rafael High School Driveway (West)/3rd Street intersection. As feasible and necessary, the crosswalk would include a pedestrian refuge island and rectangular rapid flashing beacons to facilitate pedestrian crossing at this intersection.		SRCS, City of San Rafael	Y	New 3rd Street crosswalk with signal, mid-block at the softball field, installed in 2021.
TRANS-4c: San Rafael City Schools shall enroll and actively participate in Marin County's Safe Routes to School program and host educational programs that inform students of pedestrian behavior that would enhance safety when walking to and from school. These mitigation measures would improve pedestrian and bicyclist facilities serving the San Rafael High School campus. The measures would enhance pedestrian and bicyclist safety within the vicinity of the campus by increasing visibility and reducing potential points of conflict with vehicular traffic. The measures would comply with the City of San Rafael's Bicycle/Pedestrian Master Plan Policy C-1 (Complete missing connections to establish direct routes for walking), Policy C-2 (Identify and mitigate impediments and obstacles to walking to school, such as through a Safe Routes to School program), and Policy C-4 (Support the installation of appropriate pedestrian facilities as part of all new transportation improvements, development projects and transit facilities). Implementation of the above measures would reduce Impact TRANS-4 to a less-than- significant level. However, since the design and implementation of the above measures shall be subject to approval and implementation by the City of San Rafael Public Works Department, their implementation cannot be assured. Impact TRANS-4 would therefore remain significant and unavoidable.		SRCS	Y	SRCS has actively participated in the SR2S program since the 4/20/17.
TRANS-5a: San Rafael City Schools shall increase the capacity of the on-campus bicycle parking facility to safely and securely accommodate up to 100 bicycles.		SRCS, HY Architects	Y	New bicycle parking, including bike storage lockers, added to campus adjacent to the "Bulldog Garden" at the south-west corner of the Science Building, as part of the STEAM Building project. (PR-11, 11/22/21)
TRANS-5b: San Rafael City Schools shall work with the City of San Rafael and Marin County's Safe Routes to Schools program in efforts to obtain a grant to conduct a study on the feasibility of implementing a new bicycle and pedestrian pathway to serve the San Rafael High School campus. The pathway could provide access to the school from either the intersection of Union Street/4th Street, along the south of Mission Avenue just east of Park Street, along the north side of 3rd Street, or at other locations to be identified upon further study. The intent of the path would be to directly link to campus walking paths and bicycle parking. The study shall identify potential pathway alignments, impacts, and connection details, as well as circulation along 4th Street to the west and Mission Avenue to the north. The feasibility study, funded by grant funds as available, shall be conducted in coordination with the City of San Rafael Public Works Department. If feasible, the pathway shall be constructed and shall be coordinated with implementation of the Master Facilities Long-Range Plan Street, along the north side of 3rd Street, or at other locations to be identified upon further study. The intent of the path would be to directly link to campus walking paths and bicycle parking. The study shall identify potential pathway alignments, impacts, and connection details, as well as circulation along 4th Street to the west and Mission Avenue to the north. The feasibility study, funded by grant funds as available, shall be conducted in coordination with the City of San Rafael Public Works Department. If feasible, the pathway shall be constructed and shall be coordinated with implementation of the Master Facilities Long-Range Plan.		SRCS, Gates Associates	ONGOING	4th Street Multi-Use Pathway developed and reiview with the Site Design committee (9/5/19) and part of on-going discussions with the school board and city.
TRANS-5c: San Rafael City Schools shall enroll and actively participate in Marin County's Safe Routes to School program and (among other activities) host educational and encouragement programs that inform students of the benefits of bicycling to and from school. The implementation of these measures (except the provision of additional bicycle parking recommended in Mitigation Measure TRANS-5a) requires the involvement of the City of San Rafael and Marin County's Safe Routes to Schools program. Furthermore, it is not known if this pathway can be constructed, or if grant money would be available. Therefore, implementation of Mitigation Measures TRANS-5b and TRANS-5c is not assured, and Impact TRANS-5 would be significant and unavoidable.		SRCS	Y	See TRANS 4c, TRANS 5a, and TRANS 5b.
TRANS-6: Development under the Master Facilities Long-Range Plan shall abide by the City of San Rafael's provisions regarding transportation and parking management during demolition and construction activities. In addition, San Rafael City Schools shall develop a demolition/construction traffic management plan defining hours of operation, specified truck routes, and construction parking provisions. The District shall ensure that any parking losses associated with construction vehicles does not affect parking availability on campus. To the greatest extent possible, the District shall direct all construction truck traffic to travel to and from the campus via 3rd Street. Implementation of this measure would reduce Impact TRANS- 6 to a less-than-significant level.	Stadium Project MACK Building STEAM Building	SRCS	Y	Included in Project Specifications: 12/21/16 Stadium Construction Documents 1/3/19 MACK Building Construction Documents 2/16/21 STEAM Construction Documents
TRANS-7: The Stadium Project shall abide by the City of San Rafael's provisions regarding transportation and parking management during demolition and construction activities. In addition, San Rafael City Schools shall develop a demolition/construction traffic management plan defining hours of operation, specified truck routes, and construction parking provisions. Implementation of this measure would reduce Impact to a less-than-significant level.	Stadium	SRCS	Y	Included in Project Specifications: 12/21/16 Stadium Construction Documents
UTILITIES AND SERVICE SYSTEMS				
<i>The project would not result in any potentially significant utilities and service systems impacts.</i>				
ENERGY				
<i>This project would not result in any potentially significant energy impacts.</i>				

Mitigation Measure	Project	Parties Responsible for Implementation / Monitoring	Implementation Complete Y/N	Implementations Measures/ Comments
REC-1: San Rafael City Schools shall comply with all mitigation measures identified in this EIR. Compliance with these measures would ensure that the impact of recreational facilities included in the Master Facilities Long-Range Plan would be reduced to a less-than-significant level.		SRCS	Y	See responses to mitigation measures above.
REC-2: San Rafael City Schools shall comply with all mitigation measues for the Stadium Project that are identified in this EIR. Compliance with thsee measures would ensure that the impact of Stadium Project would be reduced to a less-than-significant level.	Stadium	SRCS	Y	See responses to Measures AESTHETICS-3, AIR-1a, AIR-1b, AIR-3, GEO-1, GEO-4, GEO-5, GEO-6, NOISE-2, and TRANS-7 above.

APPENDIX H
TRANSPORTATION MANAGEMENT PLAN

Traffic Demand Management Plan For San Rafael High School



Marin County, CA
Revised: November 9th, 2023

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INTRODUCTION

This report presents San Rafael High School's ("SRHS") proposed Traffic Demand Management Plan ("TMP"), which is designed to reduce the impacts of campus parking and traffic generation, both generally and with regards to extracurricular activities such as sporting events.

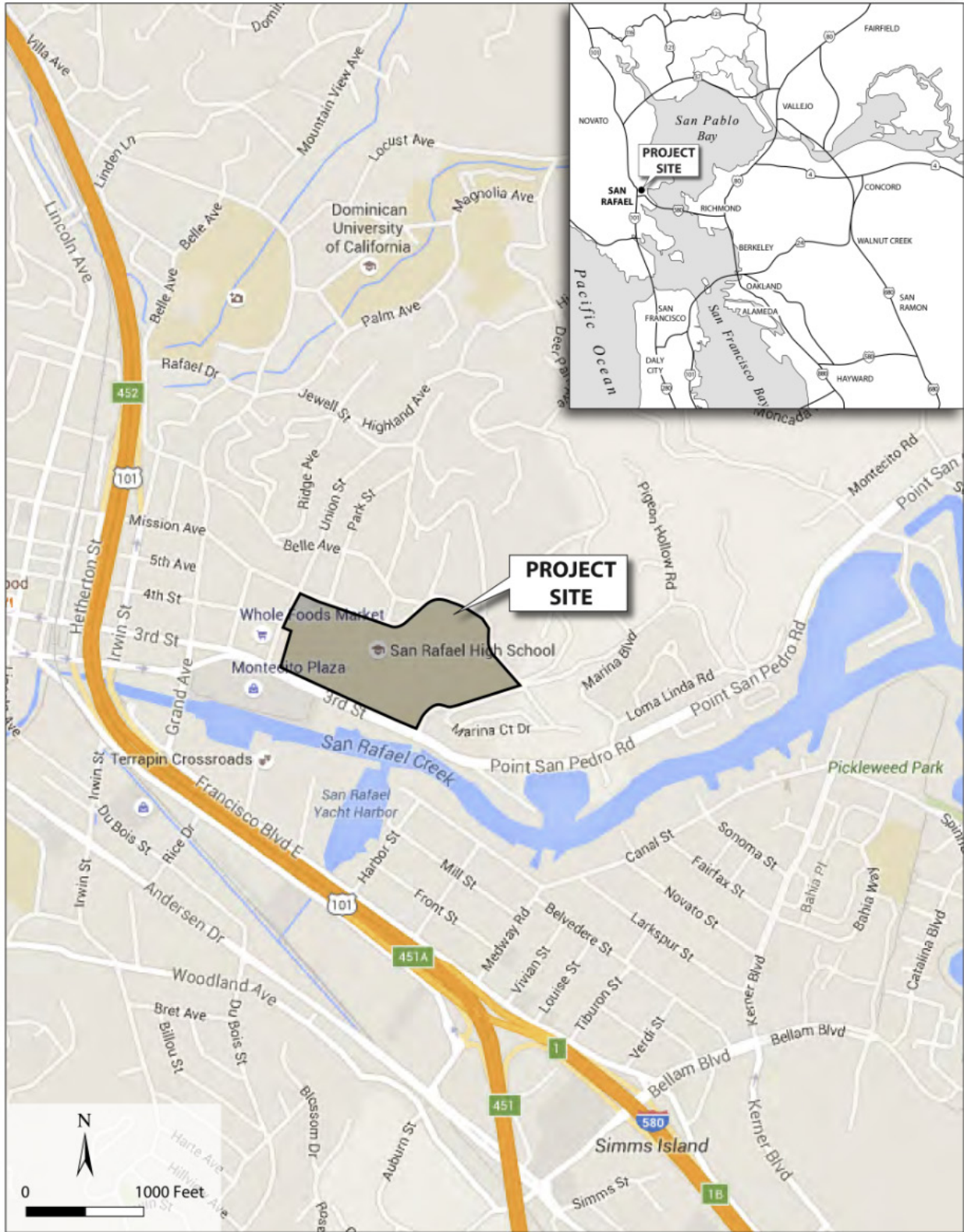
In 2017, San Rafael City Schools certified a Final Environmental Impact Report (EIR) that addressed a number of improvements on the SRHS Campus and considered the environmental impacts of projects identified in the District's 2015 Master Facilities Long-Range Plan ("2015 Master Plan"). Since that time, a number of building improvements and new construction have taken place on the campus, and other projects identified in the 2017 EIR remain to be completed, including previously identified projects that would have resulted in the removal of a number of on-campus parking spaces.

Subsequent to the certification of the 2017 EIR, the District prepared a District-Wide Capital Improvement Projects report in 2022 ("2022 CIP Report"), which identified the progress made toward realizing the vision set forth in the 2015 Master Plan in light of district-wide target initiatives reflective of current thinking, which identified updates to projects at the San Rafael High School campus. The 2022 CIP Report proposed changes to the projects identified in the 2015 Master Plan, including reductions or changes in scope and scale, as well as proposed new projects. These proposed changes are referred to herein as the proposed San Rafael High School Capital Improvements Project.

Approximately 221 standard parking spaces and 12 ADA compliant parking spaces were available on campus at the time the original 2017 EIR was generated. Currently, 207 standard parking spaces, 16 electric vehicle ("EV") charging parking spaces, 13 ADA parking spaces, and 2 ADA EV charging parking spaces currently exist for a total of 236 on-campus parking spaces. The proposed San Rafael High School Capital Improvements Project will have little to no impact on the number of formal parking spaces on the campus.¹ As set forth in the Supplemental Environmental Impact Report ("SEIR") for the Project, with the construction of the new Aquatics Center, as well as installation of synthetic turf at the baseball and softball fields, it is estimated that the proposed projects would result in an estimated increase of 10.6 daily vehicle trips.

This TMP has been updated to reflect the proposed changes to the project. This TMP will identify measures which will reduce parking demand and traffic generation. This TMP will be implemented over the course of the next two years, and will maintain or reduce existing vehicular traffic and parking demand at the campus. The project site and surrounding areas are shown below.

¹ The project, as addressed in the 2017 EIR, included the removal of 34 parking spaces (32 standard and 2 ADA) from Lot 3. Per the 2017 EIR, 231 parking spaces would have been provided at the SRHS campus at project completion. However, with the changes to the project proposed in the SEIR, there would be 236 parking spaces.



EXISTING ROADWAY SETTINGS

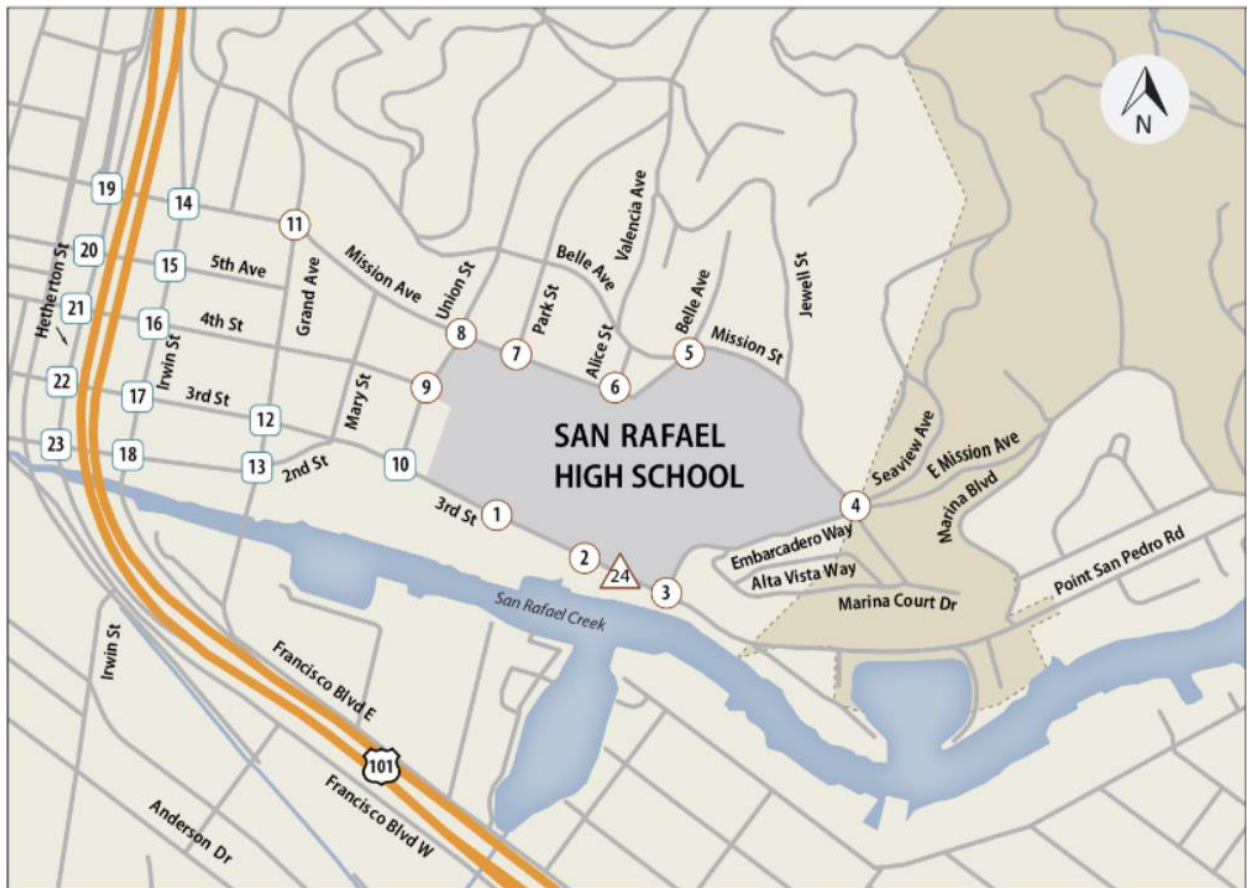
Several key roadways provide access to the site. These roadways are as follows:

- U.S. Highway 101 (Highway 101 or US 101) is an eight-lane freeway that runs in the north south direction and bisects San Rafael. Several interchanges with Highway 101 provide access to the city, including the southbound on- and off-ramps at the Hetherton Street/2nd Street intersection and the Hetherton Street/Mission Avenue intersection; and the northbound on-and off-ramps at the Irwin Street/Mission Avenue and Irwin Street/2nd Street intersections respectively.
- Mission Avenue is a minor arterial roadway that operates as a two-way street oriented in an east-west direction from its intersection with Embarcadero Way/East Mission Avenue in the east to its intersection with B Street in downtown San Rafael. Near the SRHS campus, Mission Avenue has one travel lane in each direction with parking intermittently provided on both sides of the street.
- 3rd Street is a major arterial roadway that runs in the east west direction. East of Union Street, 3rd Street operates as a two-way street with two through travel lanes in each direction and turning lanes provided at major intersections. Approximately 300 feet east of Grand Avenue (near the intersection with Mary Street), 3rd Street transitions into a one-way street running in the westbound direction. Along this segment, 3rd Street operates as a one-way couplet with 2nd Street. Near the SRHS campus, on-street parking is provided on both sides of the street between Union Street and Embarcadero Way
- 2nd Street is a major arterial roadway that pairs as a one-way couplet with 3rd Street. 2nd Street runs in the eastbound direction from just west of the intersection with Hayes Street approximately 300 feet east of Grand Avenue, where it merges with 3 rd Street. Some parking is provided along the segment of 2nd Street between Irwin Street and Grand Avenue.
- Grand Avenue is a minor arterial roadway that is oriented in a north-south direction from Francisco Boulevard East in the south to its intersection with Mission Avenue in the north, thereafter Grand Avenue, is a collector from Mission Avenue in the south to its intersection with Villa Avenue in the north. Grand Avenue functions as a two-way street with one travel lane in each direction. Parking is generally provided on both sides of the street.
- Union Street is a local roadway that runs in the north-south direction from 3rd Street in the south to Jewell Street in the north. Union Street has one travel lane in each direction. South of Mission Avenue, parking is only provided on the west side of the street. North of Mission Avenue, parking is generally provided on both sides of the street.
- Hetherton Street is a one-way roadway in downtown San Rafael. Hetherton Street, under the jurisdiction of Caltrans but maintained and operated by the City of San Rafael, runs in the southbound direction from its intersection with the Mission Avenue/Highway 101 off-ramp to the north to the 2nd Street/Highway 101 northbound on-ramp

intersection to the south. Hetherton Street has three southbound through travel lanes with additional turn lanes provided at major intersections. There is no parking provided along Hetherton Street.

- Irwin Street is a one-way roadway in downtown San Rafael oriented in the northbound direction from the 2nd Street/Frontage Road intersection to the Mission Avenue/Highway 101 southbound on-ramp. Irwin Street has three northbound through travel lanes with additional turn lanes provided at major intersections. Parking is provided on both sides of the street but is prohibited during the evening peak commute period to accommodate heavier traffic flows.
- Embarcadero Way is a local roadway generally running in the north-south direction. Embarcadero Way functions as a two-way roadway; however, it is a narrow roadway, and that presents a challenge for vehicles traveling in opposing directions as they pass one another. Parking is prohibited along the roadway.

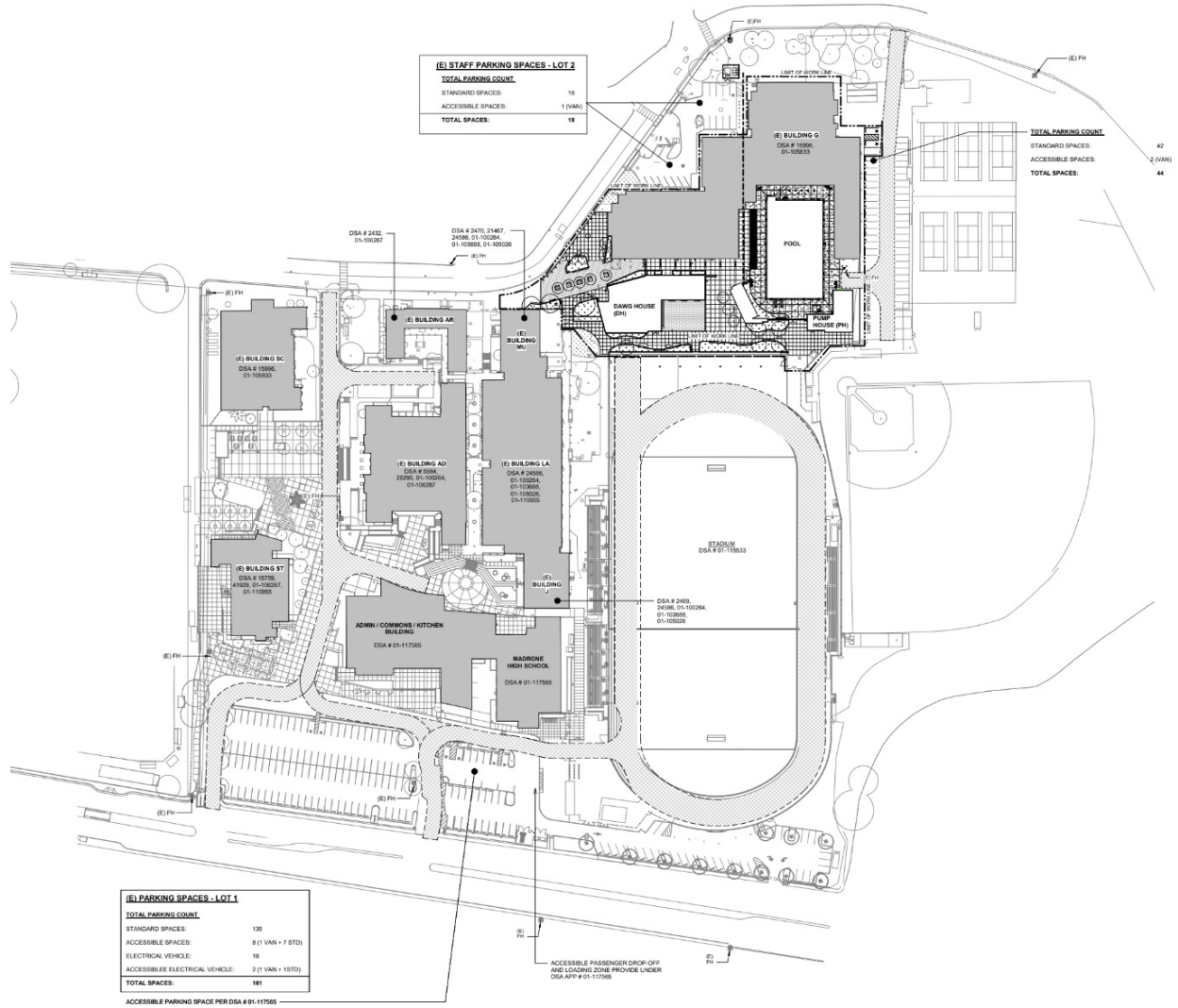
The figure below illustrates the key roadways in the project site vicinity.



Campus Parking Facilities

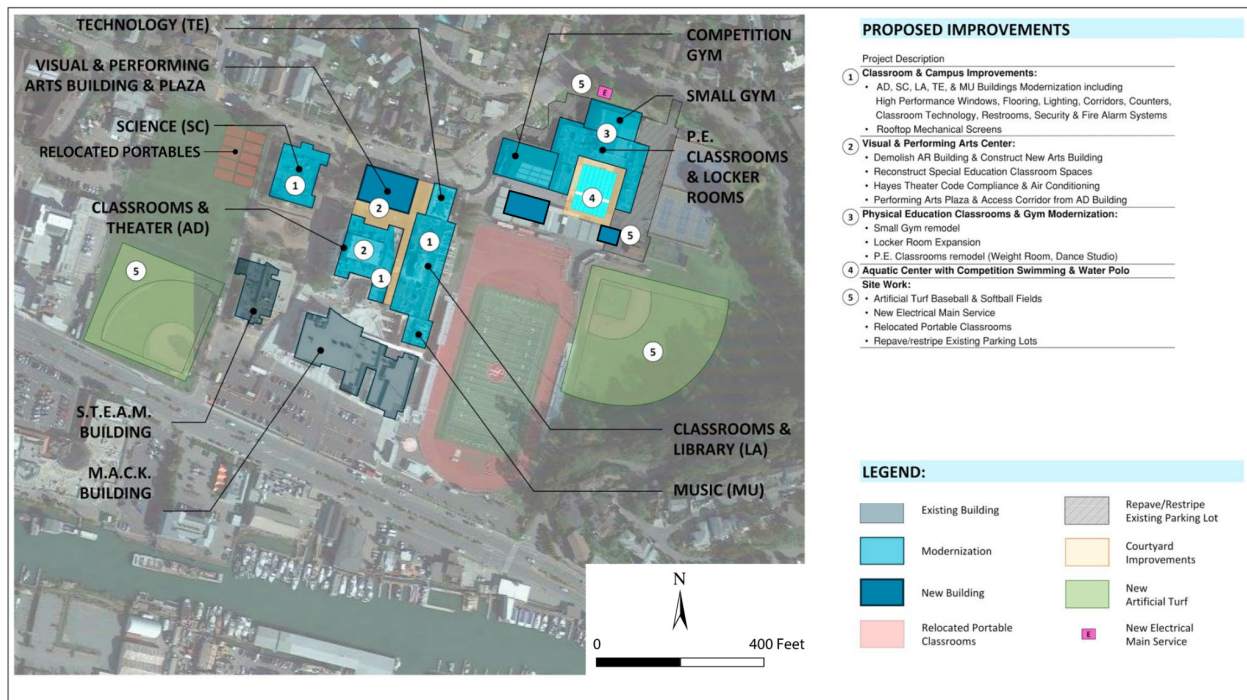
SRHS's main parking lot (Lot 1) is located along the campus frontage facing 3rd street. Two way access to the parking lot is provided via 3rd Avenue, with an exit only driveway located 280 feet to the west of the main entrance and a second exit only driveway located 475 feet to the east of the main entrance. This parking lot provides 173 total parking spaces; 147 standard parking spaces, 16 electric vehicle ("EV") charging parking spaces, 8 ADA accessible parking spaces, and 2 EV ADA parking spaces. The lot is used for parking by staff, students, and visitors. Such uses were baseline conditions at the time of the 2017 EIR.

Two secondary parking lots at the campus are also present. These parking lots are accessed via Mission Ave. The parking lot designated as Lot 2 in the figure below has two one-way driveways which provide ingress and egress to the lot from Mission Avenue. Lot 2 provides for a total of 19 parking spaces; 18 standard parking spaces & one ADA accessible parking space. This lot is primarily for staff, but is also currently used by parents and students for parking at sporting events. Lot 3 (between the gym and tennis courts) has a single bidirectional driveway accessed from Mission Ave. It provides for 44 total parking spaces; 42 standard parking spaces and 2 ADA accessible parking spaces. The lot is currently used by staff during the day, and staff, students, and parents after regular school hours for parking for District programs and events, including sports practices and games. Lots 2 and 3 have historically and consistently been used for such purposes since prior to the 2017 EIR.



PROPOSED PROJECT CHANGES (SRHS CAPITAL IMPROVEMENTS)

San Rafael High School anticipates several projects comprising the proposed San Rafael High School Capital Improvements Project contemplated over the course of the Measure B Bond Program. The graphic below shows a broad overview of the future projects contemplated at the SRHS campus.



Several of these proposed improvements are not anticipated to change parking or traffic conditions at or around the SRHS Campus. The Visual & Performing Arts Center, Classroom & Campus Improvements, Physical Education Classrooms & Gym Modernization, and various sitework improvements are not anticipated to affect current enrollment nor significantly change campus facility utilization. The proposed new pool included in the SRHS Aquatics Center Project, as well as the proposed replacement of existing sod baseball and softball fields with synthetic turf, is anticipated to generate a very modest increase in daily trips to and from the campus (10.6 DVT). The number of attendees to events at these facilities is not anticipated to change, but the number of events annually will increase modestly.

Facility	Average Vehicle Trips Generated per Event			Events per Year			Average Daily Project-Generated Vehicle Trips
	In	Out	Total	Existing	Proposed	Net Change	
Aquatics Center – Weekday Use	54	77	131	195	215	20	3.8
Aquatics Center – Weekend Use	198	198	396	15	18	3	3.3
Softball Field	27	41	68	115	135	20	2.0
Baseball Field	27	41	68	130	145	15	1.5
Total Project							10.6

TRAFFIC MANAGEMENT PLAN MEASURES

Generally, a Traffic Management Plan (TMP) consists of site condition modifications, information and incentives implemented by an entity to both enlighten individuals on all available transportation options and ensure said options are utilized. TMPs are designed to facilitate multimodal transportation rather than driving alone, and to counterbalance the inherent incentives driving has. TMP measures discussed in this section previously implemented measures identified in the initial TMP as well as additional recommendations for upcoming projects. SRHS will use all new strategies listed below to ensure that the modest additional vehicle-trips identified above do not significantly impact parking or traffic on neighboring streets.

- **Alternative Mode Encouragement**

Employees and students will continue to be asked to consider alternative forms of transportation to and from the San Rafael Campus generally, with an emphasis on sporting events. Staff and students within walking or biking distance will be encouraged to employ these modes of transportation.

To facilitate this request, the District will install additional bike storage and/or parking facilities and will make changes to pedestrian ingress / egress pathways to encourage this behavior. During the previous project program, 76 bike parking spaces were added to the campus. The proposed SRHS Aquatic Center contemplates another 12 bike parking spaces, including bike locker parking spaces, are to be installed during the upcoming projects to further encourage bicycling to and from the campus.

Subsequent to the previous TMP, the District, working together with the City of San Rafael, has made several improvements to pedestrian access to the campus; an enhanced crosswalk across 3rd Street featuring a pedestrian refuge island as well as rectangular rapid flashing beacons has been installed, as well as the widening of the sidewalk between the corner of 3rd Street & Union Street and the western exiting driveway of the SRHS 3rd street parking lot. As feasible, the District will continue to work with the City of San Rafael to evaluate the feasibility of making additional improvements to pedestrian access to campus, including along Mission Ave, extending the length of existing passenger loading zones along City streets, and other traffic improvements along Mission Ave and other roadways surrounding the campus.

- **Dropoff & Parking Management**

- **Communication**

- SRHS staff will prepare an annual notice to parents and students promoting carpooling and providing information on required on-campus parking permits, expected travel routes to use, designated dropoff/pickup locations (3rd Street parking lot/Lot 1), and appropriate driver behaviors. Information to be included in this notice will also include information about alternative means of transportation to the campus,

including a map of pedestrian and bicycle routes, bicycle parking facilities, as well as information on nearby public transportation facilities and routes. This information will be communicated via school newsletter, direct mailing, student / parent orientations, student handbook, and/or other means, and will encourage courteous, neighborhood conscious behavior.

For sporting events, transportation and parking information shall be provided to parents and students at the beginning of each sport season. This notice will provide instructions that student dropoff and pickup is not permitted along Mission Avenue, and will include a graphic of how attendees can access athletic facilities from the 3rd street parking lot. The notice will further inform participants and visitors that parking in Lot 2 for afterschool events shall be limited to staff.

Prior to major sport and/or special events, such informational material shall also be provided to visitors that would direct traffic, parking, and drop-off/pick-up to Lot 1. For such major sport and/or special events (graduation, etc.), SRHS personnel shall monitor and facilitate drop-off/pick-up and parking activities to enforce applicable measures.

On-campus parking for students during the school day will be limited to the 3rd street parking lot (Lot 1); this policy has been articulated in the student handbook (**see Appendix A**) subsequent to the original TMP, and will be communicated to parents and students at the beginning of each academic year.

Parking Permits

SRHS staff have developed a plan to limit campus parking during the school day to the number of spots available at the 3rd street parking lot through the implementation of parking permits subsequent to the original TMP. This permitting system limits the number of permits to the number of spots available for student parking at the 3rd street parking lot. This policy will continue to be communicated to parents and students at the start of each school year by newsletter or other communication. This policy is now stated in the student handbook (**see Appendix A**).

Wayfinding

The District has installed campus wayfinding signage to help facilitate parking at the 3rd street parking lot, even for events on the north side of the campus subsequent to the original TMP. Wayfinding includes building specific signage as well as easily accessible locations to review a map of the campus (**see Appendix B**). SRHS will continue to update this graphic as necessary so that it continues to reflect current conditions at the campus. The District will continue to review the locations of wayfinding signage as campus conditions change, and will adjust and/or augment the locations of campus maps as necessary. The District will also remove and/or replace outdated signage, such as outdated signage at Lot 3.

Parking Signage & Striping

The District has developed and implemented a parking signage and striping plan as a means of informing drivers arriving to the campus on acceptable areas for dropoff/pickup and parking. The District will consider striping each parking stall, as applicable and feasible, with numbering to facilitate enforcement of parking permits, and additional signage and striping will be considered during the course of future project construction.

The District will consider replacing certain preferred existing student & Staff parking spots in the 3rd Street parking lot with student carpool parking spots.



- **Traffic Calming Measures**

The District will install additional traffic calming measures on campus to reduce on-campus traffic related noise and speeding within campus parking lots. The SRHS Aquatic Center currently contemplates the addition of two speed bumps for parking lots 1 & 2. The District will evaluate the need for additional speed bumps at lot 3 as needed.

TRANSPORTATION SAFETY IMPROVEMENT

To the extent feasible, the District will work with the City of San Rafael to consider the implementation of potential traffic safety measures that would benefit all street users.

These include, but are not limited to, ideas such as:

- Updating and/or supplementing school area warning signage on 3rd Street & Mission Ave.
- Consider posted speed reductions down to 15 MPH along Mission Ave.
- Installing traffic calming measures through the use of pavement striping and/or speed bumps along Mission Ave.
- Exploring additional stop sign controls, particularly at the ingress and egress driveway of Parking Lot 3.
- Installing “No Event Parking” signs during athletic and/or other extracurricular events along Mission Ave.
- To the extent needed, and as feasible, other traffic safety measures as set forth in the 2017 EIR.

TMP MONITORING PLAN

This Transportation Monitoring Plan will be implemented by SRHS staff. The District will conduct an evaluation to assess the TMP's success in achieving its goals after the first two years of implementation, and then thereafter every two years on an as needed basis. The monitoring will identify areas for improvement in the operations and planning and recommend feasible measures that can be enacted to address deficiencies, if any. This effort will consist of collecting observational data to assess which elements of the TMP need to be modified or augmented. The following elements will be reviewed:

- Event Parking & Traffic Management
- Traffic Congestion and Queuing
- Vehicular Pick-ups and Drop-offs
- Wayfinding and Signage
- Staff Parking & Traffic Enforcement
- Implemented TMP Measures

Changes in the relative utilization of various means of transportation will be considered to identify changes in trip generation, and will guide how elements of the TMP will be tailored for changing site conditions.

SAN RAFAEL HIGH SCHOOL

STUDENT & FAMILY

HANDBOOK



150 Third Street
San Rafael, CA 94901
Telephone: 415-485-2330

sanrafael.srscs.org

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[SAN RAFAEL HIGH SCHOOL DISTRICT OFFICE](#)

[DISTRICT ADMINISTRATORS](#)

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[COMMUNICATIONS](#)

[GRADUATION REQUIREMENTS & A-G COLLEGE ENTRANCE REQUIREMENTS](#)

[STANDARDIZED TESTS TAKEN IN HIGH SCHOOL](#)

[COLLEGE/CAREER CENTER](#)

[POST-SECONDARY AND ONLINE COURSES](#)

[CALIFORNIA SCHOLASTIC FEDERATION \(CSF\)](#)

[Youth Services 2023-2024](#)

[OFF GROUNDS PASSES:](#)

[BULLDOG READY POLICY:](#)

[Hallpasses:](#)

[The Marin County Athletic League requires the following for eligibility:](#)

[LIABILITY AND INSURANCE INFORMATION](#)

San Rafael City Schools Calendars

[2023-2024 School Year Student Calendar \(link\)](#)

[2023-2024 Calendario de Estudiantes \(enlace\)](#)

SAN RAFAEL HIGH SCHOOL DISTRICT OFFICE

310 Nova Albion Way, San Rafael, CA 94903

DISTRICT ADMINISTRATORS

Carmen Diaz Ghysels, Superintendent

Darlene Avalos, Senior Director of Human Resources

Tyler Graff, Director Secondary Education

Bob Marcucci, Chief Business Official

Christy Novack, Chief Technology Officer

Jason Symkowick, Director Student Support Services

BOARD OF EDUCATION

Lucia Martel-Dow, Vice President

Carolina Martín, Trustee

Marina Palma, Trustee

Maureen "Mo" de Nieva-Marsh, Trustee

COMMUNICATIONS

SRHS Website: Go to <https://sanrafael.srcs.org/> for general information about San Rafael High School.

- Log in to **Aeries** (in the upper left corner of the home page) for schedule, report card grades and attendance information, and to contact teachers by email.
- **Parent Square** - **ParentSquare** is a safe and secure platform for all school-to-home communication. The two-way group messaging, private conversations, district-wide alerts and notices, and simple user interface keeps everyone connected, creating a vibrant school community.
- Students and parents can access **Canvas**, a learning management system, to access and submit assignments, stay organized, and connect to online learning resources. Users can log-in using this URL <https://srcs.instructure.com/login/canvas> or follow the link located on the upper left of the home page.
- **This Week @ SR** is a weekly parent electronic communication (email) from the site. Email contact information is obtained from your Emergency Card. If you are not receiving these emails weekly, please contact the counseling office to verify your email address.
- **Marquee:** The marquee is the large sign fronting 3rd Street; updated with school activities weekly.
- **Back to School Night:** This evening event is a great opportunity for the school and the families to connect. Please join us on **Thursday, September 7th 2023** More info to come.

GRADUATION REQUIREMENTS & A-G COLLEGE ENTRANCE REQUIREMENTS

<p style="text-align: center;"><u>SUBJECTS</u></p>	<p style="text-align: center;"><u>High School</u> <u>Graduation Requirements</u></p>	<p style="text-align: center;"><u>A-G Requirements</u></p>
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<u>ENGLISH</u>	<u>4 Years</u>	<u>4 Years</u>
<u>MATHEMATICS</u>	<u>2 Years</u>	<u>3 Years / 4 Recommended</u> <i><u>Algebra 1, Geometry and Algebra 2 or Intermediate Algebra 2</u></i>
<u>SOCIAL STUDIES</u>	<u>3.5 Years</u> <i><u>Ethnic Studies</u></i> <i><u>World History</u></i> <i><u>US History</u></i> <i><u>Government</u></i>	<u>2 Years</u> <i><u>World History</u></i> <i><u>US History /Government</u></i>
<u>SCIENCE</u>	<u>2 Years</u> <i><u>1 Year Biological Science</u></i> <i><u>1 Year Physical Science</u></i>	<u>2 Years / 3 Recommended</u> <i><u>1 Year Biological Science</u></i> <i><u>1 Year Physical Science</u></i>
<u>LANGUAGE OTHER THAN ENGLISH (LOTE)</u>	<u>1 Year of Language other than English (LOTE)</u> <u>OR</u> <u>1 Year Fine Arts</u>	<u>2 Years / 3 Recommended</u> <u>Same Language</u>
<u>FINE ARTS</u>	<u>1 Year of Fine Arts or</u> <u>1 Year of Language other than English(LOTE)</u>	<u>1 Year</u> <i><u>Drama, Music or Visual Arts</u></i>
<u>P.E.</u>	<u>2 Years</u>	-----
<u>ELECTIVES</u>	<u>75 Credits</u> <i><u>Elective courses and courses taken after fulfilling graduation requirements</u></i>	<u>1 year</u> <i><u>Either courses specific to the elective (G) subject area or courses taken after fulfilling a-g requirements</u></i>

STANDARDIZED TESTS TAKEN IN HIGH SCHOOL

ELPAC – The English Language Proficiency Assessments for California (ELPAC) is the successor to the California English Language Development Test (CELDT). Beginning in 2017–18, the ELPAC is the required state test for English language proficiency (ELP) that must be given to students whose primary language is a language other than English.

State and federal law require that local educational agencies administer a state test of ELP to eligible students in kindergarten (or year one of a two-year kindergarten program, sometimes referred to as “transitional kindergarten”) through grade twelve (ages 3-21). The ELPAC is aligned with [California’s 2012 English Language Development Standards](#), and is comprised of two separate ELP assessments:

1. Initial ELPAC—an initial identification of students as English learners
2. Summative ELPAC—an annual summative assessment to measure an English learner's progress in learning English and to identify the student's ELP level

SBAC - The Smarter Balanced Assessment Consortium is a student assessment system aligned with a common core of academic content standards for English language arts/literacy and mathematics. Smarter Balanced assessments are designed to measure student progress toward college and career readiness. In California, Universities and Colleges have agreed to use Smarter Balanced scores. Students can use their results to confirm their readiness for college and their score can allow them an opportunity to bypass remedial courses. All students in 12th grade take the science assessment. All students in the 11th grade take the math and English assessments.

CALIFORNIA STATE PHYSICAL FITNESS ASSESSMENT – for ALL students in 9th grade, even if not enrolled in Physical Education classes. This battery of tests must be passed in order to waive the state 11th & 12th grade Physical Education requirement.

ADVANCED PLACEMENT (AP) TESTS

AP exams are voluntary and may earn students college credits (check as colleges vary in assigning credit). Students qualify for Advanced Placement courses by teacher recommendation, class grade, testing, or in some courses through open enrollment. AP tests are offered in the spring. Tests cost approximately \$105 each and there is no discount for multiple tests. With proof of family need required by the AP College Board, AP test fees will be reduced. No student will be denied the opportunity to take AP exams due to need. Note: Students enrolled in AP classes are expected to take AP tests.

COLLEGE ADMISSION TESTS

For information and dates of all college admissions tests, please check with your counselor, the CCC staff, the ACT and SAT websites, or view the schedule in the Sept.CCC Monthly Newsletter to Juniors, found in a link in the Sept. Counselor's Corner newsletter.

Please Note: None of the following tests are required for high school graduation.

SAT & ACT

UC/ CSU Specific Guidance: UC will not consider SAT or ACT test scores when making admissions decisions or awarding scholarships. If you choose to submit test scores as part of your application, they may be used as an alternative method of

fulfilling minimum requirements for eligibility or for course placement after you enroll.

CSU: The California State University (CSU) will temporarily suspend the use of ACT/SAT examinations in determining admission eligibility for all CSU campuses for the 2021-2022 academic year. This temporary change of admission eligibility applies only for the fall 2021, winter 2022 and spring 2022 admission cycles. First-time freshmen must meet the following eligibility requirements: be a high school graduate or equivalent; complete the 15-unit comprehensive "a-g" pattern of college preparatory courses; and earn a qualifying "a-g" grade point average (GPA) as described below.

Private and Out of State Colleges: Please refer to the institution's admissions office for guidance.

SAT Subject Test: covering specific subjects in more depth, is offered 6 times this year and is required by some 4 year universities for placement and entrance purposes. Colleges specify which tests students should take.

<u>SAT Test Date</u>	<u>Registration Deadline</u>	<u>Late Registration Deadline*</u>
<u>Aug 26, 2023</u>	<u>July 28, 2023</u>	<u>August 15, 2023</u>
<u>Oct 7, 2023</u>	<u>Sept 7, 2023</u>	<u>Sept 26, 2023</u>
<u>Nov 4, 2023</u>	<u>Oct 5, 2023</u>	<u>Oct 24, 2023</u>
<u>Dec 2, 2023</u>	<u>Nov 2, 2023</u>	<u>Nov 21, 2023</u>
<u>Mar 9, 2024</u>	<u>Feb 23, 2024</u>	<u>TBD</u>
<u>May 4, 2024</u>	<u>Apr 19, 2024</u>	<u>TBD</u>
<u>Jun 1, 2024</u>	<u>May 17, 2024</u>	<u>TBD</u>

[Register for the SAT here](#)

2023-2024 ACT Test Dates

<u>ACT Test Date</u>	<u>Registration Deadline</u>	<u>Late Registration Deadline*</u>
<u>Sept 9, 2023</u>	<u>Aug 4, 2023</u>	<u>Aug 18, 2023</u>
<u>Oct 28, 2023</u>	<u>Sept 22, 2023</u>	<u>Oct 6, 2023</u>

Dec 9, 2023

Nov 3, 2023

Nov 17, 2023

Feb 10, 2024

Jan 5, 2024

Jan 19, 2024

Apr 13, 2024

Mar 8, 2024

Mar 22, 2024

Jun 8, 2024

May 3, 2024

May 17, 2024

July 13, 2024

Jun 7, 2024

Jun 21, 2024

COLLEGE/CAREER CENTER

The College and Career Center (CCC) assists students with career decisions and post-secondary options for education and training after high school. The CCC offers a comprehensive guidance program freshman through senior year with numerous handouts available to students and parents. Students can receive job seeking skills, counseling, may obtain work permits, access a job board, attend college representative visits, take interest surveys, obtain scholarship applications, and check out reference material on local, national and international enrichment programs, the military, apprenticeships, private vocational technical schools, junior colleges and four-year universities.

POST-SECONDARY AND ONLINE COURSES

Any course taken for credit toward high school graduation that is not offered through the school must be pre-approved by school administration before signing up for the course. Grade and credit for approved courses will be entered onto the transcript, and will be calculated into the GPA. However, course work completed at post-secondary institutions and/or over the Internet, will not be considered when determining recognition as valedictorian or salutatorian. (For more information on the procedure for determining Valedictorian and Salutatorian please see Board Policy AR 5127). Post-secondary courses and those taken over the Internet that are not approved by the site will not be entered onto the transcript. In such cases the student is responsible for obtaining their transcript directly from the institution and forwarding it to their college/university of choice. Any questions, please contact your counselor or site administration.

CALIFORNIA SCHOLASTIC FEDERATION (CSF)

Students must meet specific course and grade requirements to qualify for CSF membership. CSF applications for membership are available each September and February and they are due to the CSF advisor on a specified date. Late applications are not accepted. Dates and membership requirements are communicated to students through the Daily Bulletin and when picking up their application. Membership is not automatic; students must apply each semester on their own accord.

The California Scholarship Federation (CSF) emphasizes high standards of scholarship and community service for California high school students. Founded in 1921, CSF is the oldest scholarship institution in the state. Membership in CSF is a wonderful advantage when filling out a college application

CSF membership is based on grades for the semester before application; students must apply each semester. On the back of the application are lists of approved courses, five courses are required on the application. Each A is worth 3 points, each B is worth 1 point, and there can be no D's or F's. Non-academic subjects such as P.E. and Teacher's Assistant are not eligible for application. Each student must have a minimum of 10 points to qualify. Freshmen are not eligible for membership until the second semester.

Life Membership (Seal bearer) is achieved by qualifying four or more semesters in the last three years of high school, and earns the CSF Gold Seal on diplomas and transcripts.

Students at San Rafael High School must also complete a minimum **of 5 hours of community service each semester. Advisor and meetings are yet to be determined.**

Youth Services 2023-2024

Family and Personal Counseling

**(BACR) Bay Area Resources
5580**

**Catholic Charities
1200**

**Community Violence Services
2850**

**Community Mental Health
6835**

**Family Service Agency
5700**

**Huckleberry Youth Programs
4944**

**Jewish Family & Children’s Services
7960**

**San Rafael Youth Services Bureau
3025**

**Community Institute of Psychotherapy
5999**

Health Services

**American Cancer Society
8464**

**Huckleberry Teen Health
4944**

**Marin County Health Dept.
4400**

**Marin Community Clinics
1500**

Alcohol/Drug/Tobacco Counseling

Legal Services

444- District Attorney 499-6450

972- Legal Aid 492-0230

259- Youth Participation/Support

**499- Big Brothers/Big Sisters 453
3800**

491- Albert J Boro Community Center 485-3077

**258- Suicide Prevention 24 Hour Hotline
Crisis 499-1100**

491- Grief 499-1195

485- Spahr CenterLGBTQ+ 472-1945

Multicultural Center of Marin 526-2486

459- Youth Transforming Justice 686-1356

Hospitals

454- Kaiser 444-2000

Marin Health Medical Center 925-7000

Alcoholics Anonymous 0400	499-
Al-Anon & Ala-teen	455-472
BACR	444-554
Lisa Schwartz (Tobacco Use Prevention Education) TUPE	499-580

National Resources

National Suicide Prevention Lifeline 800-273-TALK (8255)

Other Contact Information:

Mobile Crisis Response Team 473-6392

The Crisis Text Line TEXT MARIN to 741741

<http://marin.networkofcare.org/mh/home/index.cfmm>

<http://211bayarea.org/index.php>

Bay Area Wide – 211 United Way Sponsored Services

Center for Domestic Violence Hotline 924-6616 (English)

924-3456 (Spanish)

Hospice By The Bay (Grief Counseling) 526-5699 x8500

Suicide Prevention & Crisis Hotline 499-1100\

SAN RAFAEL CITY SCHOOLS HOMELESS EDUCATION PROJECT

“Providing advocacy and support services to students and families in transition”

You may qualify for additional services if you are:

- **NOT living with a parent or guardian**

- **Share housing with another family because of job loss or economic hardship**
- **Living in a hotel, motel, shelter, car, campsite or abandoned building**
- **If you do not have a fixed, regular or adequate nighttime residence**

If you are living in one of these circumstances you may qualify for:

- **Assistance with school supplies**
- **Assistance with transportation to and from school**
- **Free and reduced lunch programs**
- **Permission to remain in your current school even if you move**
- **For more information, please contact either:**

Jason Symkowick - Executive Director of Student Services – 415-492-3220

or

Daniel Nemiroff – SRHS Head Counselor - 415-485-2335

ATTENDANCE POLICIES

We expect students to be on time and attend every class to the best of their ability and circumstances, and for parents/guardians to support this value.

Students are required to attend classes in accordance with compulsory full-time education laws as defined in Ed. Code 48200. The three categories for attendance accountability are the following:

1. EXCUSED ABSENCES: An excused absence shall be granted for the following:

- Personal illness
- Quarantine under city or county direction;
- Medical, dental, therapy, or chiropractic services.
- Attendance at funeral services of an immediate family member, limited to one day if the funeral is in California and three days if it is outside of California.

- Exclusion for not having been properly immunized. Such absences are excused for not more than five school days.
- For students who are the custodial parent of a child who is ill or has a medical appointment during school hours.
- Jury Duty
- Participation in religious instruction or exercises in accordance with District policy

2. UNEXCUSED ABSENCES: Per Education Code 48913 and Board Policy 6154, students may be permitted to make up any missed work for an unexcused absence. The decision to allow students to make up missed work is at the discretion of each teacher. Unexcused absences include, but are not limited to, the following:

- Unwarranted absence, oversleeping, car trouble or other transportation problems, truancy, and an absence not cleared within three days after a student returns to school.
- Days students are suspended are considered unexcused absences.
- Students who participate in Senior Cut Day receive an “unexcused absence” since it is not a school-sponsored event.
- Family vacations and other reasons not listed in the Excused Absences section above are generally considered unexcused absences.

3. WARRANTED ABSENCES: A warranted absence may be requested for justifiable reasons, including, but not limited to, the following:

- Appearance in court
- Employment conference or interview
- School meetings which must necessarily be held during school hours
- Religious holidays or celebrations
- College visits (limit of three days per year)
- Bereavement beyond excused absence days

A warranted absence must be requested in writing; generally a week prior to the absence, and must be approved by a site administrator. Any absence under this section which was not requested in advance, and in writing, is considered unexcused.

- Warranted absence forms are available in the Attendance Office.
- The teacher of any class from which the student receives a warranted absence shall determine what assignments may or may not be made up and in what period of time the student shall complete such assignments.

ABSENCES DUE TO FAMILY VACATIONS/TRIPS

Family trips and vacations are not considered warranted absences, and are strongly discouraged because of the negative impact extended absences may have on a student's academic performance. (Parents and guardians are encouraged to plan family trips and vacations outside the school year).

ABSENCES DUE TO MEDICAL APPOINTMENTS

- Please respect instructional time by not scheduling appointments during your student's school day. Students are strongly urged to make appointments during non-school hours.
- Appointments during School Hours: If the student has an appointment during school hours, the parent/guardian must notify the Attendance Office by note or telephone prior to the appointment. The student will be issued an Off Grounds Pass and may leave campus. The student must present the pass to his/her teacher before leaving, and the teacher must sign the pass. The student must have the pass in his/her possession when leaving campus. The student must have the pass signed by his or her doctor, dentist, etc. and must return it to the Attendance Office upon returning to school, before going back to any classes.
- Teachers are to allow students to make up work missed during excused absences, to the degree that it is possible for such work to be completed. Students may be asked to submit written verification of their illness or injury from a health care professional if they are absent for more than 3 consecutive days. Failure to submit such verification may result in the absence being recorded as unexcused. After 14 absences for illness, each subsequent absence will need to be excused by a doctor's note (AR 5113)

CONTACTING THE ATTENDANCE OFFICE TO EXCUSE ABSENCES: It is the responsibility of the parent/guardian (and the responsibility of the student to *remind* the parent/guardian) to clear all absences using the procedures described below within three school days of the student's return to school. If an absence is not cleared within three days, it will be considered unexcused regardless of the reason for the absence.

Parents/guardians must make sure that they have called the school or provided their child with a note explaining each absence within three days of the absence. The Attendance Office has voice mail that records messages 24 hours a day. Call 485-2335 to leave a message. If the Attendance Office receives a call, the student may go directly to class when he/she returns to school.

If the parent/guardian does not call, the student must bring a note to the Attendance Office, signed and dated by the parent/guardian, which explains the reason for the absence upon return to school. Students can only deliver their notes before or after school or during brunch and lunch. **The Attendance Office will not help students during class periods or passing times unless they arrive late for school.** The Attendance Office is open from 8:00 a.m. until 4:00 p.m. Parents/guardians can call the Attendance Office at any time for information regarding their child's attendance.

If a student has an objection to the official status of a particular absence, he/she must promptly discuss the matter with the teacher and/or the Attendance Office, outside of class time. Excessive unexcused absences can result in Loss of Privileges, or referral to the School Attendance Review Board (SARB).

ATTENDANCE CODES IN AERIES: Using Aeries is an effective way to monitor your student’s attendance. Below are descriptions of the attendance codes used by the school.

- T - Tardy: This code is used when a student arrives to class after the bell rings, without a pass, less than 30 minutes late.
- I - Illness: This code is used when a parent informs the attendance office that the student is out sick.
- X - Excused: This code is used for doctor appointments without a medical note, college visits (refer to attendance policy for more information), religious holidays, court, jury duty, etc.
- H - Here: This code is used for school activities, such as field trips, assemblies, standardized testing, etc.
- U - Unexcused Absence: Student is absent without a valid excuse or more than 30 minutes late. The UNX code will trigger a truancy notification.
- P - Parent Unexcused: This code is used when a parent/guardian contacts the attendance office, but the reason does not fall within one of the ‘excused’ categories. For example: vacation, DMV appointments, unspecified “personal reasons” or “family emergencies”, transportation problems (bus was late, car broke down, etc.). The UNX code will trigger a truancy notification.

Below is an example of a table you would see to help you monitor your student’s attendance. The numbers on top refer to the class period. 0 period is for zero period (before the normal school day), period 8 is for advisory class, and period 9 is for evening or weekend classes. The letters indicate the attendance code. Since SRHS has an alternating block schedule, you only see attendance codes marked for the classes 1-3, and 8 on the “A” day, and periods 4-7, for the “B day”. The “--” indicates that the student is marked present.

Monday												Tuesday											
Date	A	0	1	2	3	4	5	6	7	8	9	Date	A	0	1	2	3	4	5	6	7	8	9
9/1	U		U	U	U					U		9/2						I	--	--	X		

For example, on Monday, 9/1, the student above was marked absent unexcused for the entire day, periods 1-3, and advisory (8). On Tuesday, 9/2, the student was late to 4th period, present for 5th and 6th, and had an excused absence, 7th period.

EIGHTEEN YEAR OLD STUDENTS: Eighteen-year-old students may write their own attendance notes, up to 10 a year, and only after completing an 18 year old form with administration recommendation and parent permission. The form is available in the counseling office and will be approved based on good

attendance, grades, and behavior.

TEMPORARY GUARDIANSHIP: Should the parent/legal guardian be unavailable to excuse a student's absence, please inform the Attendance Office, in writing, of the name and contact information for the person who will be responsible for the student temporarily. A signature must also be on file prior to any excused request.

CLASS ABSENCES WITH A DOCTOR'S NOTE: Students who have a medical note excusing them from Physical Education or any other class must be given an alternative assignment. The purpose of the assignment is to create an alternate opportunity for students to demonstrate mastery of the material. In PE, if students are unable to participate in the regular PE program for 5 weeks or more, they may be dropped from the course and be required to complete the quarter later in their school career. Students who are completing the alternative assignment are still required to attend the class daily for attendance purposes. At that time the teacher will assign them a desk space where they will work on their alternative assignment or project.

CLOSED CAMPUS POLICY: With the exception of lunch, students must remain on campus in approved areas at all times during the school day. This also means that students are not allowed to be in the parking lot or leave campus during brunch. During lunch, sophomores, juniors, and seniors may leave campus, but must return to their next class on time. All freshmen are required to stay on campus for the first semester. Freshmen who violate this policy are subject to disciplinary consequences. Specific areas always closed to students are the parking lot, the hill on the east side of campus and other areas specified by administration. This information is shared with students at the beginning of the year in their meeting with the administration and with their advisory teachers.

OFF GROUNDS PASSES:

No student may leave school grounds during the school day (except at lunch) without an Off Grounds Pass, even when accompanied by a parent/guardian. Leaving campus without an Off Grounds Pass will result in an unexcused absence in each class the student misses. Off-grounds passes may be obtained in the Attendance Office. The Attendance Office is open to request Off Grounds Passes before school, during brunch and lunch only. The Attendance Office will not help students during class periods or passing times unless they are returning with an Off Grounds Pass or leaving in an emergency.

Off Grounds Passes are available for the following reasons:

- **Illness/Injury at School:** The student must notify his/her teacher and see the Attendance Office regarding the illness or injury. The Attendance Office will contact the parent/guardian for permission for the student to leave campus and issue an Off Grounds Pass. Only then is the student allowed to leave campus.
- **Media Academy Off Campus Production:** Students must have the Media Academy Off Campus Production forms completed and signed off by parents and administration at least 24 hours before leaving campus. Teachers and administration may require parent/adult supervision before approving the off-campus pass.

REFERRAL TO THE STUDENT ATTENDANCE REVIEW BOARD (SARB): According to Ed Code 48260, a student is considered truant "who is absent from school without a valid excuse three full days in one school year or tardy or absent for more than any thirty minute period during the school day without a

valid excuse on any three occasions in one school year, or any combination thereof.”

The SARB process is as follows:

- SARB 1 - students with three or more unexcused days of absences or 12 missed class periods will receive a 1st letter notifying the parent/guardian. In addition, a meeting between the student and an assistant principal may be scheduled.
- SARB 2 - students with five or more unexcused days of absences or 20 missed class periods will receive a 2nd letter notifying the parent/guardian. In addition, the school will schedule a parent/guardian-student-administrator Student Attendance Review Team (SART) meeting and place the student on an attendance contract.
- SARB 3 – students with ten or more days of unexcused absences or 60 missed class periods will receive a 3rd letter notifying the parent/guardian. The school may make a referral to a SARB hearing which could result in the student being transferred from SRHS to Country Community School or an alternative educational placement.

BULLDOG READY POLICY:

Students are expected to be “Bulldog Ready” to learn. To be “Bulldog Ready" means:

1. You are on time to class with each of the following items:
2. Something to write with (pens/pencils)
3. Something to write on (notebook/paper)
4. A charged chromebook

Students who are not “Bulldog Ready” will be considered tardy and required to go to the Preparation Station in the AD building if they need supplies or to the Attendance desk for a “tardy to class” pass. Students more than 30 minutes late will be marked absent. If a student is more than 30 minutes late to class, they must report to the Attendance Desk as the Attendance Clerk will call home at that time to notify parents that their student will be marked Absent.

Progressive Tardy Policy

Cumulative 5 tardies	Family notification via Parent Square
Cumulative 10 tardies	After school detention Family notification via Parent Square
Cumulative 15 tardies	Call home *meeting scheduled if student has received SARB letter #2
Cumulative 20 tardies	Parent/Administrator Conference

20+ tardies	Loss of privilege list for quarter (including but not limited to, participation in athletic and other extracurricular activities, off campus privileges, graduation, and senior activities)
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Safe & Inclusive School Policy

San Rafael High School is a safe and supportive campus. Every student has a right to attend school free from discrimination and hate speech of any form. Examples include (though not limited to) derogatory terms or statements on the basis of race, religion, appearance, gender, gender identity/expression, sexual orientation, disability, etc.

If you hear any form of discrimination/hate speech (directed at you or anyone) anywhere on campus, please do not hesitate to notify a trusted staff member or the main office right away.

The California Education Code specifically identifies “hate-motivated behavior” under section 2 of AR 5144(h) 48900.3 as a suspendable and potentially expellable offense. Please see the language below.

1. Hate-motivated behavior is defined as any act or attempted act to cause physical injury, emotional suffering, or property damage through intimidation, harassment, bigoted slurs or epithets, vandalism, force, or threat of force motivated in part or in whole by hostility toward the victim's real or perceived race, color, religion, ancestry, national origin, disability, gender, or sexual orientation.
2. Acts of hate-motivated behavior include, but are not limited to, criminal acts that are statutory violations and posting or circulating demeaning jokes, leaflets, or caricatures; defacing, removing, or destroying posted materials, announcements, or memorials, and the like; distributing or posting hate-group literature and/or posters; using bigoted insults, taunts, or slurs; and possession of hate-group literature, caricatures, and the like.

DISCIPLINE POLICIES AND PROCEDURES:

When students fail to behave in an appropriate manner, they will be held accountable for their behavior while on campus, going to and from campus, and at all school-related activities. The school administration believes that the safety of the student body and the maintenance of a positive educational atmosphere on campus requires a proactive approach to dealing with inappropriate student behavior. Ed Code regulations regarding discipline, suspension or expulsion apply “door to door”; that is from the moment the student leaves home to go to school until the student arrives at home after, or at any time if a student’s misconduct is related to a school activity or attendance. These regulations also apply while students are off campus at any time during the school day, while traveling to or from, while attending any school-sponsored event. These regulations will be applied in a fair and consistent manner.

The SRHS administrative team is committed to adhering to the mandates of AB 1729 which state: to suspend a student for a first time violation of Section 48900 (f) through (r), a district must find that not only did the student commit the offense, but that the student’s presence on campus poses a danger to people. AB 1729 instead authorizes the superintendent of the school district or principal of the school to use alternatives to suspension or expulsion that are age appropriate and designed to address and

correct the pupil's specific misbehavior before suspension.

Student athletes are subject to both athletic based and school-based consequences as outlined in the SRCS Athletic Handbook and MCAL Sportsmanship Codes of Conduct. The Principal and Athletic Director will communicate disciplinary actions to athletes, family, and coaches within 48 hours.

Restorative Justice and Restorative Practices

SRCS's discipline policies are based on the use of Restorative Justice and Restorative Practices. They offer a respectful and equitable approach to discipline, as well as a proactive strategy to create a connected, inclusive school culture. Inspired by indigenous values, Restorative Justice is a philosophy and a theory of justice that emphasizes personal responsibility and addresses the harm caused to relationships. The term Restorative Practices is used by a number of practitioners to describe how the concepts of Restorative Justice are utilized to create change in school systems. These practices are an alternative and supplements to retributive zero-tolerance policies for a wide variety of non violent and misbehaviors. This is a reflective practice that encourages giving a voice both to the person harmed as well as the person who caused the harm.

Through restorative practices, members of the school community will:

1. have an opportunity for their voice to be heard
2. understand the greater impact of one's actions
3. learn to take responsibility
4. repair the harm one's actions may have caused
5. recognize one's role in maintaining a safe school environment
6. build upon and expand on personal relationships in the school community
7. recognize one's role as a positive contributing member of the school community

Restorative Practices at San Rafael High School

1. Restorative Circles
2. San Rafael High School Peer Solutions Team
3. Youth Transforming Justice Peer Solutions (community partner)

Disciplinary Consequences and Interventions

To the extent possible, staff shall use disciplinary strategies that focus on keeping students in school and participating in the instructional program.

Consequences which may result from a violation of school rules include, but are not limited to, all of the following:

- Conference with the student and/or a parent or guardian
- Conference with a teacher
- Peer Conference facilitated by administrator

- Referral to Peer Solutions Team (site based or with community partner)
- Lunch/After School detention
- Payment of restitution for loss or damage
- Behavior contract
- Confiscation of prohibited material or object (by campus security and admin)
- Loss of privileges
- Proof of alternative counseling as stated in student contract/suspension notice.
- Teacher class suspension following steps outlined in Ed Code 48910
- Suspension
- Expulsion
- SRPD citation
- Involuntary School Transfer (SARB)

Loss Of Privileges Policy

Loss of privileges include, but are not limited to, athletic attendance and participation, extra-curricular attendance and participation including dances, loss of parking permits, loss of senior activities and graduation participation, and suspension from leadership groups such as ASB and Link Crew. A student may be placed on LOP for the following:

- Disciplinary infractions
- Unpaid bills such as school books, materials, uniforms and equipment
- Parking violations

Referral Process: (This means that alternative means of correction's (AMC) have failed and behavior has escalated to warrant the formal referral process.)

- Teacher Initiated: These referrals are for behaviors that are frequently disruptive and/or are repetitive, and have not improved with the prior teacher interventions as listed above. If the behavior is serious enough to warrant a referral, then the student will be sent and/or escorted to the main office immediately to meet with the Dean.
- The administration handles all referrals using our Progressive Discipline Plan (PDP) under the mandate of AB 1729. Please refer to our PDP below. The disciplinary consequences become more serious with repeat offenses.
- The student will be given an opportunity to respond to the referral by first writing out their statement and then meeting with an administrator.

SRHS Academic Integrity Policy (AIP)

Definitions of Academic Misconduct

Cheating is the use of unauthorized material or technology during an academic activity. Examples of cheating include, but are not limited to, the following:

- Artificial Intelligence (AI) including ChatGPT,
- Copying an assignment, project or test from another student.
- Allowing others to copy an assignment, project or test.
- Giving or receiving test information.
- Using unauthorized resources such as notes during an assignment.
- Submitting the same assignment or presentation more than once.
- Unauthorized communication during a test.
- Use of technology without teacher permission
- Changing answers after the test is returned.
- Changing or altering a grade on an official document.
- Stealing tests or answer keys.

Plagiarism is a form of academic dishonesty in which an individual submits or presents the work of another person as their own. Examples of plagiarism include, but are not limited to, the following:

- Using another author's sentences or phrases without using quotations and/or citing your source.
- A portion of a document is copied from an author, or composed by another person, and presented as original work.
- Submitting another students' work as your own.

First Offense*

- Teacher/student conference.
- Teacher calls parents/guardians within 24 hours.
- Teacher writes a referral to administration.
- Teacher assigns a "0" for the assignment or may offer students an alternative assignment.
- Administration meets with student.
- Administration records cheating in Aeries.
- Cheating/plagiarism will be a factor in consideration and eligibility for awards, honors, organizations and scholarships.

*A first offense that the teacher and administrator deem to be a major violation, such as stealing a test, may be treated as a second offense.

Second Offense

- Teacher/student conference
- Teacher assigns "0" for the assignment.
- Teacher writes a referral to administration.
- Administration holds a meeting with students and family.
- Administration records incident in Aeries.
- Consequences may include

- Student may lose credit for the semester.
- The student will be placed on the LOP list for a week.
- Previously written letters of recommendation may be rescinded and notification of unethical conduct may be sent to colleges.
- Will be a factor in consideration and eligibility for awards, honors, organizations and scholarships.

There can be a variety of pressures or temptations that lead students to cheat, including time constraints, parental expectations, test anxiety and peer pressure. San Rafael High School has a wide range of supports available for students such as the following:

- Wellness Center (provides mental health support)
- School counselors (academic and social/emotional support)
- Tutoring (Peer Tutoring, Before/After school tutoring)
- Advisory Tutorials

We strongly encourage students and families to reach out for help if necessary. Strong academic skills such as time management and other study skills are valuable tools in developing and maintaining academic integrity.

Please refer to the [San Rafael City School’s Progressive Discipline Plan](#) for the California Education Code language, and guidelines used to respond to student violations of school rules and the education code.

[SRCS Discipline Matrix - English](#)
[SRCS Discipline Matrix - Spanish](#)

Cell Phones:

The school is not responsible for lost and stolen cell phones or electronic devices.

Students are expected to place their phones in the classroom pocket carrier for the duration of the period. If a cell phone is visible or being used during class time, including advisory, it will be placed in a lockable pouch for the remainder of the day. Students are responsible for holding this locked pouch during the school day and will need to come to the Main Office at the end of the day for it to be unlocked. Students are responsible for this pouch while it is in their possession and will be financially responsible for any tampering or damage to the pouch.

Progressive Cell Phone Policy

<u>1st offense</u>	<u>Phone locked until end of school day</u> <u>Parent notification</u>
<u>2nd offense</u>	<u>Phone locked until end of school day</u>

	<p><u>Parent notification</u></p> <p><u>After school detention</u></p>
<u>3rd offense</u>	<p><u>Phone locked until end of school day</u></p> <ul style="list-style-type: none"> ● <u>Parent/guardian must come to school to unlock phone</u>

Other Electronic Devices:

We strongly discourage all students from bringing their personal laptops to campus during the school day. Our district provides students with access to chromebooks or use on campus, and SRHS is not responsible for any lost, damaged, or stolen personal laptop devices. Students should have their earbuds **off and away** during instructional time.

Dress Standards

Student choice of clothing should support creating a safe climate and must not present a safety hazard. Any student wearing clothing deemed to be inappropriate for school may be subject to disciplinary action. Administration will make the final determination if the student is in violation of the standards.

- Students may not wear any clothing or accessories with pictorial or written representation of anything illegal, sexual, gang-related, profanity, vulgar or symbols or slogans of hate, as determined by school administration.
- Students must wear opaque clothing that covers genitals, buttocks and areolae/nipples.
- Students may not wear anything that makes it difficult to identify them, such as hats and hoods that do not allow the face to be visible to staff.
- Students may not wear any clothing or accessories the administration deems to be physically dangerous such as spikes, etc.

Dress Standards Violations

1st offense	<p>Students will be asked to correct inappropriate dress standards violation.</p> <p>If the inappropriate dress cannot be easily corrected, the parent/guardian will be asked to bring a change of clothing to school.</p>
2nd offense	<p>Correct the violation; parent notification</p>

3rd offense	Correct the violation; parent meeting and behavior contract
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Suspension Procedures

The following procedures will be followed in all cases involving suspension:

1. An administrator will hold an informal conference with the student to allow the student to present his/her version of the incident, evidence in their defense, and to advise the student of the reasons for the disciplinary action.
2. A telephone call will be made to the parents/guardians of the student on the day (within 24 hours) of his/her suspension and further notification in writing will follow.
3. Parents/Guardians must respond to the school’s request for a conference without delay, as required by state law.
4. A student’s suspension can be extended for more than five (5) consecutive days for a single incident if it is determined a student is a danger to himself or others.
5. Suspension beyond 20 school days during one school year may result in an involuntary transfer to another school.
6. Suspended students must remain under parental or guardian supervision and are not to be on the school campus or to attend school activities for the duration of the suspension.
7. A student with disabilities pursuant to the Individuals with Disabilities Education Improvement Act (IDEA, 2004) is subject to the same grounds for suspension and expulsion that apply to students without disabilities.

Suspension By A Teacher

A teacher may suspend any student from their class for any of the acts enumerated in Ed Code 48900 (except for defiance) for up to two class periods per week. Teachers must refer to the Education Code 48910 language below and consult with an administrator before suspending a student from class. If a teacher chooses to suspend a student, they must notify the student and the parent within 24 hours and schedule a conference. It is the expectation that alternative means of correction be imposed before utilizing suspension.

(a) A teacher may suspend any pupil from class, for any of the acts enumerated in Section 48900, for the day of the suspension and the day following.

- ✓ The teacher shall immediately report the suspension to the principal of the school and send the pupil to the principal or the designee of the principal for appropriate action. If that action requires the continued presence of the pupil at the school site, the pupil shall be under

appropriate supervision, as defined in policies and related regulations adopted by the governing board of the school district.

- ✓ As soon as possible, the teacher shall ask the parent or guardian of the pupil to attend a parent-teacher conference regarding the suspension. If practicable, a school counselor or a school psychologist may attend the conference. A school administrator shall attend the conference if the teacher or the parent or guardian so requests. The pupil shall not be returned to the class from which he or she was suspended, during the period of the suspension, without the concurrence of the teacher of the class and the principal.

(b) A pupil suspended from a class shall not be placed in another regular class during the period of suspension. However, if the pupil is assigned to more than one class per day this subdivision shall apply only to other regular classes scheduled at the same time as the class from which the pupil was suspended.

(c) A teacher may also refer a pupil, for any of the acts enumerated in Section 48900, to the principal or the designee of the principal for consideration of a suspension from the school.

NOTE: The teacher of any class from which a student is suspended shall provide to the student all the assignments and tests the student would otherwise miss while suspended. The teacher may require the suspended student to complete any assignments and tests missed during the suspension. (Education Code 48913).

Behavioral Offenses

Chronic inappropriate behavior will be subject to administrative review and may result in suspension, alternative school placement, or expulsion. This list represents many offenses that are not acceptable and subject to school discipline. It is by no means inclusive of everything. When in doubt, it is always good to ask.

See Board Policy/AR 5144.for more information.

1. Failure to provide student identification when asked by any staff member. Failure to do so is defiance of authority. Students may show their school ID or another appropriate ID.
2. Forgery, including but not limited to forging a parent's signature, altering any official signature, falsifying or altering documents, wrongful possession of school forms, or telephone impersonation.
3. Cheating and plagiarism. Refer to SR Academic Integrity Policy.
4. Use or possession of fireworks, smoke bombs, poppers, and other incendiary devices.
5. Speeding, reckless driving or campus parking violations.
6. Gang activity, including tagging on school or personal property, gang signs, gang related videos or social media posting or gathering as a group to intimidate other students.
7. Throwing any object, including food or water balloons, or possession of balloons, squirt guns and

other devices that dispense liquids.

8. Unauthorized use or possession of cell phones, recording devices, and/or any other electronic device. See Cell Phone/Electronics Policy.

11. Riding or using anything with wheels on campus including, but not limited to, skateboards, scooters, rollerblades, roller skates, bicycles, and wheeled shoes.

12. Littering, including, but not limited to, throwing food or other debris and/or spitting in inappropriate places (including the ground).

13. Failure to report to the office.

15. Attempted arson, bomb threats, pulling a false fire alarm or filing a false police report.

16. Using a laser pointer.

17. Intimate contact (sexual activity) and overt public displays of affection (making out, touching one another's private body parts, sitting on one's lap).

19. Violations of the Dress Standards

20. Violations of appropriate use of school computers, Internet or other technological equipment to include breach of privacy or security, transmission of copyrighted materials, threatening, harassing or obscene material, altering or removing of computer files not belonging to the user, disconnecting equipment or vandalism of any kind.

21. Unauthorized presence on another school campus during the school day, including minimum days and during finals.

22. Unauthorized use of cameras on campus including video, digital and cell phone cameras (ie. videotaping, recording, posting on social media and/or taking photos/videos/Zoom recordings of students/staff)

23. Trespassing on school property - use of pool, athletic facilities, having parties in the parking lot or quad areas of the campus after hours or when school is closed.

Note: This list does not specify the only offenses for which a student may be subject to disciplinary consequences. It is intended only to indicate the kinds of offenses which may lead to disciplinary consequences. Again, please refer to the Progressive Discipline Plan.

Please note: All school rules are enforceable on the way to school, leaving school, during school lunchtime, while school is in session, when a student is truant from school, at school activities, to and from school activities on or off campus. The area of school supervision includes the campus, the perimeter of the campus and sidewalks on both sides of the streets adjacent to the school.

California Education Code

Suspendable/Expellable Offenses 2020-21

ARTICLE 1. Suspension or Expulsion [48900 - 48927] (*Article 1 repealed and added by Stats. 1983, Ch. 498, Sec. 91.*)

48900.

A pupil shall not be suspended from school or recommended for expulsion, unless the superintendent of the school district or the principal of the school in which the pupil is enrolled determines that the pupil has committed an act as defined pursuant to any of subdivisions (a) to (r), inclusive:

- (a) (1) Caused, attempted to cause, or threatened to cause physical injury to another person.
- (2) Willfully used force or violence upon the person of another, except in self-defense.
- (b) Possessed, sold, or otherwise furnished a firearm, knife, explosive, or other dangerous object, unless, in the case of possession of an object of this type, the pupil had obtained written permission to possess the item from a certificated school employee, which is concurred in by the principal or the designee of the principal.
- (c) Unlawfully possessed, used, sold, or otherwise furnished, or been under the influence of, a controlled substance listed in Chapter 2 (commencing with Section 11053) of Division 10 of the Health and Safety Code, an alcoholic beverage, or an intoxicant of any kind.
- (d) Unlawfully offered, arranged, or negotiated to sell a controlled substance listed in Chapter 2 (commencing with Section 11053) of Division 10 of the Health and Safety Code, an alcoholic beverage, or an intoxicant of any kind, and either sold, delivered, or otherwise furnished to a person another liquid, substance, or material and represented the liquid, substance, or material as a controlled substance, alcoholic beverage, or intoxicant.
- (e) Committed or attempted to commit robbery or extortion.
- (f) Caused or attempted to cause damage to school property or private property.
- (g) Stole or attempted to steal school property or private property.
- (h) Possessed or used tobacco, or products containing tobacco or nicotine products, including, but not limited to, cigarettes, cigars, miniature cigars, clove cigarettes, smokeless tobacco, snuff, chew packets, and betel. However, this section does not prohibit the use or possession by a pupil of the pupil's own prescription products.
- (j) Unlawfully possessed or unlawfully offered, arranged, or negotiated to sell drug paraphernalia, as defined in Section 11014.5 of the Health and Safety Code.

(k) (1) Disrupted school activities or otherwise willfully defied the valid authority of supervisors, teachers, administrators, school officials, or other school personnel engaged in the performance of their duties.

(2) Except as provided in Section 48910, a pupil enrolled in kindergarten or any of grades 1 to 3, inclusive, shall not be suspended for any of the acts enumerated in paragraph (1), and those acts shall not constitute grounds for a pupil enrolled in kindergarten or any of grades 1 to 12, inclusive, to be recommended for expulsion. This paragraph is inoperative on July 1, 2020.

(3) Except as provided in Section 48910, commencing July 1, 2020, a pupil enrolled in kindergarten or any of grades 1 to 5, inclusive, shall not be suspended for any of the acts specified in paragraph (1), and those acts shall not constitute grounds for a pupil enrolled in kindergarten or any of grades 1 to 12, inclusive, to be recommended for expulsion.

(4) Except as provided in Section 48910, commencing July 1, 2020, a pupil enrolled in any of grades 6 to 8, inclusive, shall not be suspended for any of the acts specified in paragraph (1). This paragraph is inoperative on July 1, 2025.

(l) Knowingly received stolen school property or private property.

(m) Possessed an imitation firearm. As used in this section, "imitation firearm" means a replica of a firearm that is so substantially similar in physical properties to an existing firearm as to lead a reasonable person to conclude that the replica is a firearm.

(n) Committed or attempted to commit a sexual assault as defined in Section 261, 266c, 286, 287, 288, or 289 of, or former Section 288a of, the Penal Code or committed a sexual battery as defined in Section 243.4 of the Penal Code.

(o) Harassed, threatened, or intimidated a pupil who is a complaining witness or a witness in a school disciplinary proceeding for purposes of either preventing that pupil from being a witness or retaliating against that pupil for being a witness, or both.

(p) Unlawfully offered, arranged to sell, negotiated to sell, or sold the prescription drug Soma.

(q) Engaged in, or attempted to engage in, hazing. For purposes of this subdivision, "hazing" means a method of initiation or preinitiation into a pupil organization or body, whether or not the organization or body is officially recognized by an educational institution, that is likely to cause serious bodily injury or personal degradation or disgrace resulting in physical or mental harm to a former, current, or prospective pupil. For purposes of this subdivision, "hazing" does not include athletic events or school-sanctioned events.

(r) Engaged in an act of bullying. For purposes of this subdivision, the following terms have the following meanings: (1) "Bullying" means any severe or pervasive physical or verbal act or conduct, including communications made in writing or by means of an electronic act, and including one or more acts

committed by a pupil or group of pupils as defined in Section 48900.2, 48900.3, or 48900.4, directed toward one or more pupils that has or can be reasonably predicted to have the effect of one or more of the following:

A) Placing a reasonable pupil or pupils in fear of harm to that pupil's or those pupils' person or property.

(B) Causing a reasonable pupil to experience a substantially detrimental effect on the pupil's physical or mental health.

(C) Causing a reasonable pupil to experience substantial interference with the pupil's academic performance.

(D) Causing a reasonable pupil to experience substantial interference with the pupil's ability to participate in or benefit from the services, activities, or privileges provided by a school.

(2) (A) "Electronic act" means the creation or transmission originated on or off the school site, by means of an electronic device, including, but not limited to, a telephone, wireless telephone, or other wireless communication device, computer, or pager, of a communication, including, but not limited to, any of the following:

(i) A message, text, sound, video, or image.

(ii) A post on a social network internet website, including, but not limited to:

(I) Posting to or creating a burn page. "Burn page" means an internet website created for the purpose of having one or more of the effects listed in paragraph (1).

(II) Creating a credible impersonation of another actual pupil for the purpose of having one or more of the effects listed in paragraph (1). "Credible impersonation" means to knowingly and without consent impersonate a pupil for the purpose of bullying the pupil and such that another pupil would reasonably believe, or has reasonably believed, that the pupil was or is the pupil who was impersonated.

(III) Creating a false profile for the purpose of having one or more of the effects listed in paragraph (1). "False profile" means a profile of a fictitious pupil or a profile using the likeness or attributes of an actual pupil other than the pupil who created the false profile.

(iii) (I) An act of cyber sexual bullying.

(II) For purposes of this clause, "cyber sexual bullying" means the dissemination of, or the solicitation or incitement to disseminate, a photograph or other visual recording by a pupil to another pupil or to school personnel by means of an electronic act that has or can be reasonably predicted to have one or more of the effects described in subparagraphs (A) to (D), inclusive, of paragraph (1). A photograph or other visual recording, as described in this subclause, shall include the depiction of a nude, semi-nude, or sexually explicit photograph or other visual recording of a minor where the minor is identifiable from

the photograph, visual recording, or other electronic act.

(III) For purposes of this clause, “cyber sexual bullying” does not include a depiction, portrayal, or image that has any serious literary, artistic, educational, political, or scientific value or that involves athletic events or school-sanctioned activities.

(B) Notwithstanding paragraph (1) and subparagraph (A), an electronic act shall not constitute pervasive conduct solely on the basis that it has been transmitted on the internet or is currently posted on the internet.

(3) “Reasonable pupil” means a pupil, including, but not limited to, a pupil with exceptional needs, who exercises average care, skill, and judgment in conduct for a person of that age, or for a person of that age with the pupil’s exceptional needs.

(s) A pupil shall not be suspended or expelled for any of the acts enumerated in this section unless the act is related to a school activity or school attendance occurring within a school under the jurisdiction of the superintendent of the school district or principal or occurring within any other school district. A pupil may be suspended or expelled for acts that are enumerated in this section and related to a school activity or school attendance that occur at any time, including, but not limited to, any of the following:

(1) While on school grounds.

(2) While going to or coming from school.

(3) During the lunch period whether on or off the campus.

(4) During, or while going to or coming from, a school-sponsored activity.

(t) A pupil who aids or abets, as defined in Section 31 of the Penal Code, the infliction or attempted infliction of physical injury to another person may be subject to suspension, but not expulsion, pursuant to this section, except that a pupil who has been adjudged by a juvenile court to have committed, as an aider and abettor, a crime of physical violence in which the victim suffered great bodily injury or serious bodily injury shall be subject to discipline pursuant to subdivision (a).

(u) As used in this section, “school property” includes, but is not limited to, electronic files and databases.

(v) For a pupil subject to discipline under this section, a superintendent of the school district or principal is encouraged to provide alternatives to suspension or expulsion, using a research-based framework with strategies that improve behavioral and academic outcomes, that are age appropriate and designed to address and correct the pupil’s specific misbehavior as specified in Section 48900.5.

(w) (1) It is the intent of the Legislature that alternatives to suspension or expulsion be imposed against a pupil who is truant, tardy, or otherwise absent from school activities.

(2) It is further the intent of the Legislature that the Multi-Tiered System of Supports, which includes restorative justice practices, trauma-informed practices, social and emotional learning, and schoolwide positive behavior interventions and support, may be used to help pupils gain critical social and emotional skills, receive support to help transform trauma-related responses, understand the impact of their actions, and develop meaningful methods for repairing harm to the school community.

(Amended by Stats. 2019, Ch. 279, Sec. 2. (SB 419) Effective January 1, 2020.)

ARTICLE 2. Prohibited Materials [51510 - 51514] *(Article 2 enacted by Stats. 1976, Ch. 1010.)*

EC 51512

Students or any other visiting adult who records in a classroom without the teacher and principal's permission violates Education Code section 51512. That section states:

The Legislature finds that the use by any person, including a pupil, of any electronic listening or recording device in any classroom of the elementary and secondary schools without the prior consent of the teacher and the principal of the school given to promote an education purpose disrupts and impairs the teaching process and discipline in the elementary and secondary schools, and such use is prohibited. Any person, other than a pupil, who willfully violates this section shall be guilty of a misdemeanor. Any pupil violating this section shall be subject to appropriate disciplinary action.

EXPULSION LAWS

The principal or superintendent may recommend expulsion for any of the acts above or as follows. *Students may be removed from district schools if their continued presence causes a danger to themselves or others, or if other means of correction have repeatedly failed to correct unacceptable behavior.*

The governing board shall order a student expelled upon finding they committed any of the following acts, which does not require a finding regarding danger or prior means of correction):

1. Possessing, selling, or furnishing a firearm or a reasonable facsimile.
2. Brandishing a knife at another person.
3. Unlawfully selling a controlled substance (alcohol and other drugs).
4. Committing or attempting to commit sexual assault or committing sexual battery.
5. Possession of an explosive.

The principal or superintendent shall recommend expulsion for any of the acts below, unless they find the expulsion inappropriate due to the particular circumstance:

- causing serious physical injury
- possession of a knife, explosive or other dangerous object

- possession of any controlled substance except for first offense of possession of not more than an ounce of marijuana, other than concentrated cannabis
- robbery or extortion
- assault or battery upon a school employee

POLICE OFFICERS ON CAMPUS

Law enforcement officers, in the performance of their duties, may question or arrest a student while the student is at school. The officer does not need permission from school authorities or the student's parent or guardian before taking such action. The officer does, however, have to inform both the school and parent or legal guardian as soon as possible after taking such action.

GENERAL INFORMATION

AIDS/HIV/SEX EDUCATION INSTRUCTION: While in school, students receive information about AIDS, including the transmission of the HIV virus. Please notify the school immediately **ONLY IF YOU WISH THE STUDENT TO BE EXCUSED** from AIDS/HIV or sex education instruction at any or all grade levels.

BILLS: Students and parents are notified of outstanding bills. Failure to respond to these notices will result in denial of student participation in athletics and extracurricular activities, including dances, until the bills are paid.

Seniors will also not be eligible to receive *graduation* tickets for unpaid bills. We are dependent on the return of books or replacement money to order additional copies. Students failing to adhere to their responsibility for school issued texts and other materials will lose privileges and will begin the school year on the LOP list.

CLOSED CAMPUS: The San Rafael High campus is closed to students at all times except during lunch break. Ninth graders must remain on campus during lunch the first semester of the school year. To leave campus at any other time requires an Off Grounds Pass. Specific areas closed at all times to students are the parking lot, the hill on the east side of campus behind the athletic fields, and other areas specified by administration. This information is shared with students at the beginning of the year in their meeting with the Principal.

The governing board of San Rafael City Schools, pursuant to Section 44808.5 of the Education Code, has decided to permit the pupils enrolled at San Rafael High School to leave the school grounds during the lunch period. Section 44808.5 of the Education Code further states: Neither the school district nor any officer or employee thereof shall be liable for the conduct or safety of any pupil during such time as the pupil has left the school grounds pursuant to this section.

CURRENT CLUBS AND COMMUNITY PROGRAMS: Clubs and community programs are active and varied at San Rafael High School. Our faculty has a long tradition of support for special interest organizations. Each year, new clubs form as student interest changes. All clubs at San Rafael High School are open without restriction to all students. New clubs and community programs are formed when a charter request is approved by the Administration.

EMERGENCY INFORMATION: It is very important to have accurate information on file for each student in case of accident, emergency, or sudden illness. This information should be kept up to date at all times and include emergency contacts, all phone numbers, correct addresses, and current medical information. Notify the Counseling Office every time your information changes. If there is any disaster (earthquake, flood, etc.), students must remain at school until released to a parent or someone specified on the emergency card (unless they are 18 years of age).

HALLPASSES: Students are not to be in the hall at any time without an e-hall pass & lanyard. 10/10 Rule: Students are not allowed to go to the restroom during the first or last 10 minutes of every period, unless there is an emergency situation. Students that are out of class to an extent that impacts their academic performance or causes a disruption in the learning of others and/or school safety may have their hallpass privileges limited.

LIBRARY: A librarian and library clerk staff the library on a full-time basis. They work with students individually and with classes as a group. The library is open from 8:00 am until 4:30pm.

NURSE: A school nurse is on campus one afternoon per week and is responsible for health appraisals and necessary referrals of students. Appraisals may include evaluation, vision and hearing testing, health counseling, and emergency care. The nurse also serves as the liaison to staff, community agencies, and medical care facilities regarding health problems of specific students.

PARKING: Each fall, students must obtain new parking permits, required for on-campus parking. Seniors may apply by filling out the [23-24 Parking Permit Application](#) - Seniors only. Due to limited student parking, only seniors may apply for a permit, and must do so during the first week of school. The approved area for student parking is the Stadium Parking lot. All other areas are prohibited. These prohibited areas are: the main parking lot, both gym parking lots, and the rear parking lot by the tennis courts.

Permits must be properly displayed and only used for approved, registered cars. Vehicles that are parked illegally, parked in undesignated areas on campus, or without an approved permit are subject to being ticketed or towed and on-campus parking privileges may be revoked. Speeding or driving recklessly in the lot will result in loss of permit. If your child drives a vehicle to school, he/she may only park in a designated area or on a public street. **EVEN THOUGH THE DISTRICT IS PROVIDING A DESIGNATED PARKING AREA, THE DISTRICT ASSUMES NO RESPONSIBILITY FOR LOSS, THEFT OR DAMAGE.** Please note that student vehicles are subject to searches by school administration and law enforcement in accordance with existing laws.

PERSONAL PROPERTY: San Rafael High is not responsible for personal property brought to school. This includes any item not allowed in classrooms and/or on campus or an item used at a time that is not allowed. The list includes but is not limited to the following: expensive jewelry, cell phones, smartphones, wired or wireless headphones and earphones, and speakers are not allowed. They may be used before/after school, at brunch and lunch. The use of wireless speakers are not allowed at school. Special filming/videoing is only allowed as part of the curriculum, under teacher direction and/or with administration authorization. See discipline for other items not permitted at school. To reduce the loss of personal property, all students are urged to secure their belongings in hall lockers (PE lockers are provided only during PE class). Students may not share lockers or disclose their locker combinations to others, and at no time should they leave valuables in their lockers.

PHONES: Personal cell phones or other electronic devices are NOT to be used or visible during class time (unless with teacher permission for an academic reason), but may be used before/after school and during brunch and lunch. Telephones in the Administration and Counseling offices are available for student use during class time for urgent/emergency situations. Only emergency messages will be given to a student.

PHYSICAL EDUCATION: P.E. requires tee shirts and shorts purchased from the P.E. Department or T&B Sports. These can be purchased the first week of school and from the P.E. Department throughout the year. Shoes appropriate for vigorous activities are required. If a student is not able to purchase P.E. clothing, then they must bring P.E. department-approved clothing from home.

QUESTIONS, COMPLAINTS, AND CONCERNS: If you have a question, compliment, complaint, or concern with a teacher or class, please email the teacher through the school web-site. The teacher should get back to you within three school days. If you do not hear from the teacher in a timely manner and/or are not satisfied after discussion of the problem, please call 485-2333 to discuss your concern with an administrator.

TOBACCO FREE SCHOOLS: San Rafael is a tobacco-free school district. Possession of or use of tobacco and nicotine products, including electronic cigarettes, vaping devices and chewing tobacco, by students on school premises or at school-sponsored events is a violation of law and Board Policy and is not permitted.

The San Rafael City Schools, as part of our commitment to the health of our students and community, prohibits the use of tobacco products in agency owned or leased buildings, on agency property and in all agency vehicles. This is in compliance with California Health and Safety Code, Section 104420 and any non-compliance will be enforced, as mandated by BP 3513.3, BP 5131.62, and BP 1330; enforced by AR3513.3 and AR 5131.62.

TRANSPORTATION: No school district transportation is available for students although Golden Gate Transit is easily accessible. Schedules are available from Golden Gate Transit. Pending Golden Gate Transit procedures, free bus passes may be available for students who qualify.

TUTORING: The Counseling Department oversees all on-site tutoring and outside resources for academic help. Adult and student tutors are available. Teachers, by prior arrangement, can provide students with extra help before and after school. Please contact the Counseling Office or for more information.

VISITORS: All visitors on campus are required to check into the office for a visitor's pass. Students wishing to host a potential student must contact the Assistant Principal's office at least 5 days in advance to schedule the visit. Visitors must be pre-approved and are not allowed to visit classrooms unless the visit has been set up ahead of time by the **teacher**. Student visitors to campus are restricted to those that are considering future attendance at San Rafael High School. We are not able to accommodate friends and relatives that simply wish to visit socially.

PARENT ORGANIZATIONS:

Parent and community participation is welcomed and encouraged at SRHS. With the support of our organizations, our school continues to thrive. We encourage you to become involved in one or more of the many volunteer activities available.

- ART BOOSTERS: The Art Boosters are dedicated to the continuation of a high quality art program, and work to support the many consumable supplies for art use and shows.
- ATHLETIC BOOSTERS: The Athletic Boosters help support the many athletic programs at San Rafael High. Volunteers are involved in numerous fund raising activities to provide the funds so vital to the continued existence of athletic opportunities for our children. All families are invited to join and/or volunteer their help.
- DRAMA BOOSTERS: The Drama Boosters are dedicated to the continuation of high quality productions at San Rafael High. They provide support through activities, from helping with productions to raise needed funds. They are also very active keeping the arts alive in public education.
- MUSIC BOOSTERS: The Music Boosters are dedicated to the continuation of our music programs. Through fund-raising activities, they help provide students with musical instruments and equipment. They are also very active in lobbying to keep music alive in public schools.
- SAN RAFAEL HIGH ALUMNI ASSOCIATION: This group of alumni is active in providing funds for school beautification, scholarships, and special programs at San Rafael High. They also maintain a database of reunion contacts for graduates. For more information, contact Judy McGrath (415-459-7518).
- SELAC: The purpose of the School English Learner Advisory Committee (SELAC) is to advise the principal and school staff on programs and services for English learners. In addition, at SRHS it provides the Latino community a forum to request and access information necessary to support student learning.
- “WeAreSR!”: “WeAreSR! is San Rafael High’s parent organization and is the umbrella organization for our booster groups. WeAreSR! leads fundraising efforts for the school, and coordinates volunteer, hospitality, campus beautification and faculty appreciation activities. “WeAreSR!” serves as a communication link between the school and the home and holds regularly scheduled meetings to which all parents are invited. Meeting dates appear in the newsletter and on the website.

ATHLETICS

Casey Sully , Athletic Director - 485-2348

Athletic Clearance

This year we will be transitioning our athletic clearance from FamilyID to [Home Campus](#). Along with filling out your Home Campus please remember that you must have a [physical](#) dated 6/1/2023 or later to be approved for this upcoming school year. If you have any questions on how to register for Home Campus, please click [here](#).

If you have any questions please email us at sanrafaelathletics@srcs.org

Important Documents:

- [Home Campus](#)
- [Contact Information for all Head Coaches](#)
- [San Rafael Athletics Website](#)

FUNDING: The district sets a yearly budget for extracurricular sports. This budget is to cover equipment, officials, uniforms, tournament fees, etc. Since these costs always exceed the budget, the Athletic Booster Club and students work very hard fundraising to fill in the gaps. Coaches’ salaries are paid by the district and are not included in the budget.

PHYSICAL EXAM: All students participating in extracurricular sports must have a physical exam on file each year. No student may participate in sports until an Athletic Participation Form, signed by student, parent and doctor, is on file. This indicates proof of insurance. The exam may be done by the student’s private physician or at a community clinic prior to participating in athletics.

CODE OF ETHICS: All participating students must read and sign a code of ethics for good sportsmanship. We hope that all spectators will also remember the principles of good sportsmanship when viewing athletic competitions.

STUDENT ELIGIBILITY: Eligibility requirements apply to all extracurricular activities including interscholastic athletics, spirit teams, student musical and dramatic performances, ASB, etc. Students not in good standing may lose eligibility for extracurricular activities.

The Marin County Athletic League requires the following for eligibility:

- A student must have passed 25 credits with a minimum unweighted average GPA of 2.0 for the last grading period.
- A student must be passing 25 credits with a minimum 2.0 during the present grading period with no more than one “F” grade. Grades may be checked at any time. Students lose eligibility after two successive grading periods in which they do not meet the above requirements. Students below a 1.5 GPA in any grading period must get approval from the Athletic Director to participate in athletics, even if they have not had two successive periods in which they did not meet eligibility requirements.
- Transfer students must meet C.I.F. minimum requirements (20 credits passed) with a 2.0 G.P.A. in order to gain initial eligibility.

FALL	WINTER	SPRING
<u>Cheer</u>	<u>Boys Basketball</u>	<u>Baseball</u>
<u>Cross Country</u>	<u>Girls Basketball</u>	<u>Boys Golf</u>
<u>Football</u>	<u>Cheer</u>	<u>Boys Lacrosse</u>
<u>Girls Golf</u>	<u>Boys Soccer</u>	<u>Girls Lacrosse</u>

<u>Girls Tennis</u>	<u>Girls Soccer</u>	<u>Mt. Biking</u>
<u>Volleyball</u>	<u>Wrestling</u>	<u>Softball</u>
<u>Boys Water Polo</u>		<u>Boys Tennis</u>
<u>Girls Water Polo</u>		<u>Track and Field</u>
		<u>Boys Volleyball</u>

LIABILITY AND INSURANCE INFORMATION

Bicycles/Skateboards: If your child rides a bicycle or skateboard to school, the bicycle may only be parked in a designated area. The bicycle/skateboard should be locked and it is left at the student’s own risk. Skateboards are not allowed in the halls or classrooms. Bicycles and skateboards (or anything with wheels) must be walked onto and off campus, including the parking lot. This is a safety precaution. We also recommend helmets; please check the law for legal requirements. *Even though the district is providing a designated parking area for the bicycles/skateboards, the district assumes no responsibility for loss, theft or damage.*

Lockers: Lockers are being provided as an accommodation to the students. Personal items should not be left in the locker overnight, on holidays or weekends. At no time should valuables be left in the lockers. The district assumes no responsibility for loss, theft or damage to personal property stored in the locker. (This includes PE lockers as well.) This also includes personal property left anywhere on campus. Students may not share lockers.

Misconduct Liability Limit Of Parent For Willful Pupil: Ed Code 48904(a)(1) provides that the parent or guardian of a minor is liable for all damages caused by the willful misconduct of the minor resulting in the injury or death of any pupil, school district employee, or school volunteer. The parent or guardian is also liable for damages to real or personal property belonging to the school district, or personal property belonging to a school employee, resulting from the willful misconduct of the minor. The liability of the parent or guardian is limited to \$10,000, adjusted annually for inflation.

Student Accident And Health Insurance Plans: The School District does not provide accident/illness insurance coverage for students, and is generally not liable for student injuries. Affordable student accidents and health plans are available to District parents for their children. While families may obtain applications from each school, the plans are offered and administered by independent insurance companies.

Directory Information

The Family Educational Rights and Privacy Act (FERPA), a federal law, requires that San Rafael City Schools, with certain exceptions, obtain your written consent prior to disclosure of personally identifiable information from your child’s education records. However, San Rafael City Schools may disclose appropriately designated “directory information” without written consent, unless you have advised the District to the contrary in accordance with District procedures. The following entities may receive directory information:

- Current or potential employers
- News media
- Private schools or colleges under certain conditions (Ed. Code 49073)
- Military service representatives—unless parents deny access
- Authorized representatives of the Comptroller General, the Secretary of Health, Education and Welfare, United States Office of Civil Rights, and other state or county educational agencies under certain conditions (Ed Code 49076(a))
- Local law enforcement officers under certain conditions (Ed. Code 49076(a))
- Peace officers under certain conditions (Ed. Code 49076.5)

As noted above, federal laws, “No Child Left Behind Act”, require schools receiving federal funds to provide military recruiters, upon request, with three directory information categories – names, addresses and phone numbers – unless parents have advised the school that they do not want their student’s information disclosed without prior written consent. If you do not want San Rafael City Schools to disclose directory information from your child’s education records without your written consent, you must notify the school administrator in writing by September 30, of the current school year, or indicate as such on the Emergency Card.

San Rafael City Schools has designated the following as directory information:

- Student’s name
- Participation in officially recognized activities and sports
- Address
- Telephone listing
- Weight and height of members of athletic teams
- Degrees, honors, and awards received
- Major field of study
- Dates of attendance
- Grade level
- The most recent educational agency or institution attended

APPENDIX B - WAYFINDING GRAPHICS AND BUILDING SIGNAGE LOCATIONS

