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DRAFT INITIAL STUDY
FOR THE PROPOSED NOVATO HIGH SCHOOL
CENTER FOR THE SCIENCES AND
CENTER FOR THE ARTS PROJECTS

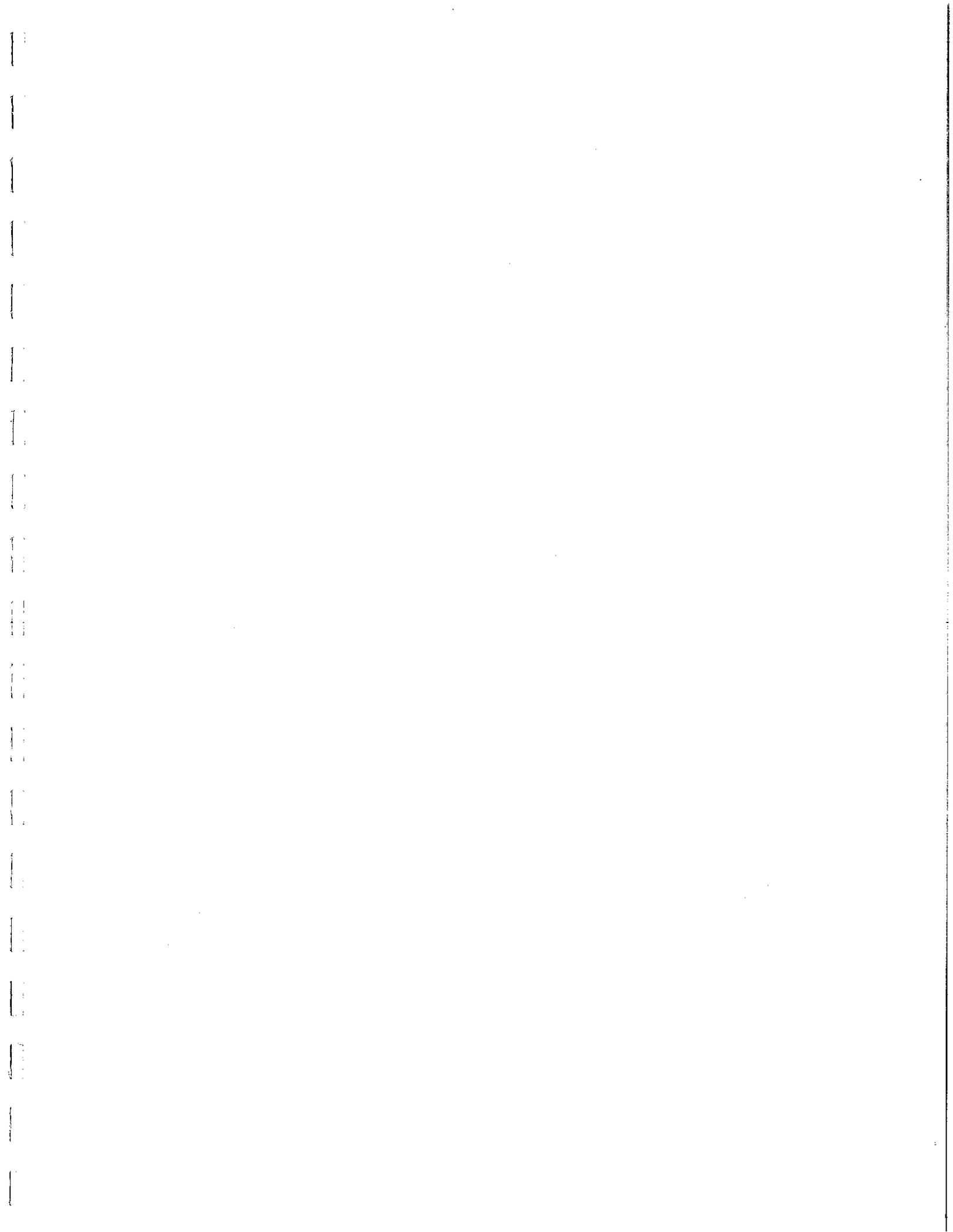
Prepared for:

Novato Unified School District
1015 Seventh Street
Novato, CA 94945

Prepared by:

Grassetti Environmental Consulting
7008 Bristol Drive
Berkeley, CA 94705

January 30, 2019



ENVIRONMENTAL DETERMINATION

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

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

DETERMINATION: On the basis of this initial evaluation:

I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	X
I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.	

Michael Woolard, NUSD

Date

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
ADWF	average dry weather flow
APE	Area of Potential Effect
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
CARB	California Air Resources Board
DPR	California Department of Parks and Recreation
FEMA	Federal Emergency Management Agency
HPD	Historic Property Directory
CO	carbon monoxide
CO ₂ E	carbon dioxide equivalent
GHG	greenhouse gas
gpd	gallons of wastewater per day
LOS	level of service
MCFCWCD	Marin County Flood Control and Water Conservation District
MCSTOPPP	Marin County Stormwater Pollution Prevention Program
mgd	million gallons per day
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NFPD	Novato Fire Protection District
NO _x	nitrogen oxides
NPD	Novato Police Department
NPDES	National Pollutant Discharge Elimination System
NWIC	Northwest Information Center
OHP	State Office of Historic Preservation
O ₃	ozone
PM ₁₀	particulate matter less than 10 microns
PM _{2.5}	particulate matter less than 2.5 microns
RWQCB	Regional Water Quality Control Board
SCH	State Clearinghouse
SFBAAB	San Francisco Bay Area Air Basin
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SLF	Sacred Lands File
SO _x	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
TMDL	Total Maximum Daily Load
UCMP	University of California Museum of Paleontology
VOC	volatile organic compound
WWTP	Wastewater Treatment Plant

I. INTRODUCTION

This proposed Initial Study (IS) has been prepared by the Novato Unified School District (NUSD or District), 1015 Seventh Street, Novato, CA 94945, pursuant to the California Environmental Quality Act (Public Resources Code Sections 21000 et seq.), CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations). It provides documentation to support the conclusion that the proposed Center for the Sciences and Center for the Arts buildings (“the Project”), with mitigation identified herein, would not cause a potentially significant impact to the physical environment. The proposed site is located within the existing Novato High School campus, in the City of Novato, in Marin County.

This IS describes the location of the Project site, the Project sponsor’s objectives, and the details of the proposed Project. The Environmental Checklist Form included as Appendix G of the CEQA Guidelines serves as the basis for the environmental evaluation contained in the IS. The Checklist Form examines the specific potential Project-level physical environmental impacts that may result from the construction and operation of the proposed new and expanded facilities onsite. Mitigation measures have been identified to reduce any potentially significant impacts that would otherwise occur with development and operation of the new facilities to a less-than-significant level.

The District will serve as the “lead agency” (the public agency that has the principal responsibility for carrying out and/or approving a Project) for the proposed Project. The governing board of the District is responsible for ensuring that the environmental review and documentation meet the requirements of CEQA. The draft IS/ and Mitigated Negative Declaration (MND) is subject to review and comment by responsible agencies and the public during a statutory public review period (30 days). Any necessary revisions will be incorporated in the Final IS/MND.

Should the District approve the Project, it will be required to file a “Notice of Determination” for posting by the County Clerk and the State Clearinghouse. The filing of the notice and its posting starts a 30-day statute of limitations on court challenges to the CEQA review of the Project.

Organization of the IS

This document is organized into the following sections:

SECTION I – INTRODUCTION: Provides background information about the Project name, location, sponsor, and the date this Initial Study was completed.

SECTION II – PROJECT DESCRIPTION: Includes a Project background and detailed description of the proposed Project.

SECTION III – INITIAL STUDY CHECKLIST AND DISCUSSION: Reviews the proposed Project and states whether the Project would have potentially significant environmental effects.

SECTION IV – MANDATORY FINDINGS OF SIGNIFICANCE: States whether environmental effects associated with development of the proposed Project are significant, and what, if any, added environmental documentation may be required.

SECTION V – REFERENCES: Identifies source materials that have been consulted in the preparation of the IS.

SECTION IV – REPORT PREPARERS: Identifies the firms and individuals who prepared the IS.

APPENDICES: Includes technical reports and the Comments and Responses Addendum and Mitigation Monitoring and Reporting Program (in Final IS/MND)

II. PROJECT DESCRIPTION

Project Name: Novato High School Center for the Sciences and Center for the Arts Projects

Project Location: 625 Arthur Street, Novato, CA 94947
APN # 151-061-06

Project Applicant and Lead Agency Contact: Novato Unified School District
Mr. Michael Woolard, Executive Director of Facilities
Novato Unified School District
1015 Seventh Street
Novato, CA 94945
(415) 415 493-4588

General Plan Designation: City of Novato, Community Facilities (CF)

Zoning: City of Novato, Community Facilities (CF)

Project Approvals: NUSD approval of new campus buildings. Review of facilities by Division of the State Architect for structural safety, fire and life safety, and ADA accessibility. Possible City of Novato approval of Grading Permit.

Date Initial Study Completed: January 30, 2019

PROJECT DESCRIPTION

Project Location

Novato High School is located in the central area of the City of Novato, in Marin County, west of Highway 101. (See Figure 1).

Local access to the Novato High site is provided by Arthur Street from Novato Boulevard. Regionally, the campus is accessed from US Highway 101, via Rowland Boulevard and Novato Boulevard.

Novato High School is situated on a thirty-eight-acre site and contains 56 classrooms and labs, two gymnasiums, a Center for the Arts, five computer labs, a library, a dance studio, a weight room, and a production studio. Outdoor facilities include tennis courts, basketball courts, softball and baseball diamonds, a football stadium, a soccer field, and a swimming pool. There are approximately

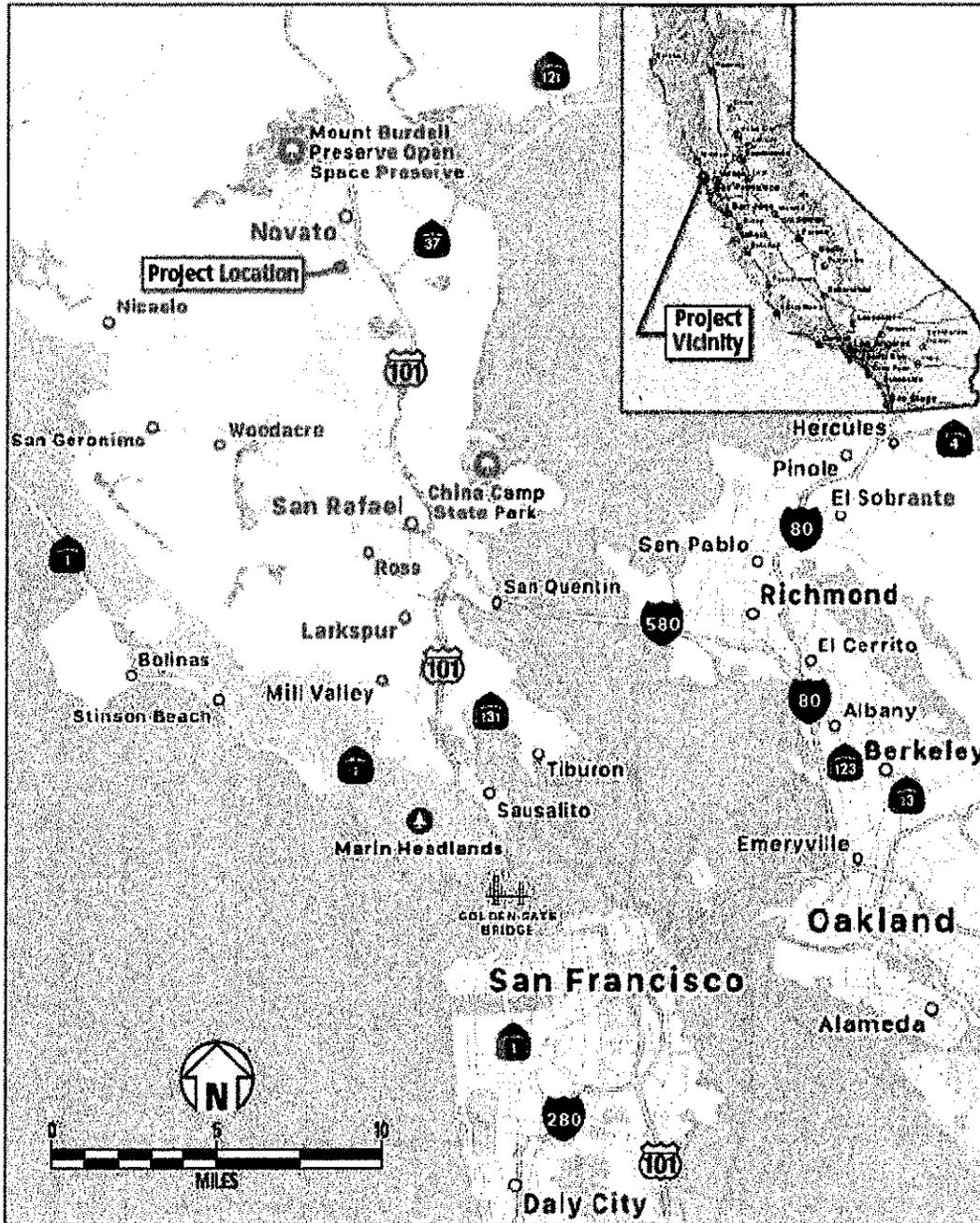


Figure 1
Project Location

Source: TomTom Maps and Grasetti Environmental

100 trees, including oaks on the campus as well as approximately 34 acres of landscaping covered with grass and shrubs.

Existing Site Conditions and Land Uses

The proposed new buildings would be located on the central portion of the school campus. As shown in Figures 2 through 5, there are two separate sites for the proposed new Center for the Sciences and Center for the Arts. The sites are nearly level. The existing portable buildings and tennis courts on the sites are described below and shown on Figure 5.

New Center for the Sciences. The proposed Center for the Sciences and associated improvements would be constructed where there are currently nine portable classroom buildings and 25,000 square feet of pavement between the gym, softball, and tennis courts.

New Center for the Arts. The new Center for the Arts would be built on three of the five tennis courts near the western end of campus. There are 5,600 square feet of landscaped area and 30,000 square feet of pavement at this location. The existing 150-seat PAC at the north end of campus will remain and will be used as a drama classroom. The tennis courts would be relocated elsewhere on campus.

The two project sites are adjacent to a parking lot with 60 parking spaces (See Figures 2 and 4). If needed, the project could include the construction of up to 50 new parking spaces.

School hours are generally between 8:00 AM to 3:30 PM weekdays, with variations in the bell schedule depending upon the day of the week. Teachers and custodial staff on site from about 7:00 AM until about 10:00 PM. Student activities, including sports and performing arts occur after school hours on weekdays and on weekends.

Surrounding Land Uses

As shown in Figure 5, the campus is bounded on the north by Arthur Street and single-family residences in the Hill Park neighborhood, on the south and west by single-family homes in the President neighborhood, and on the west by single-family homes in the Oak View neighborhood.

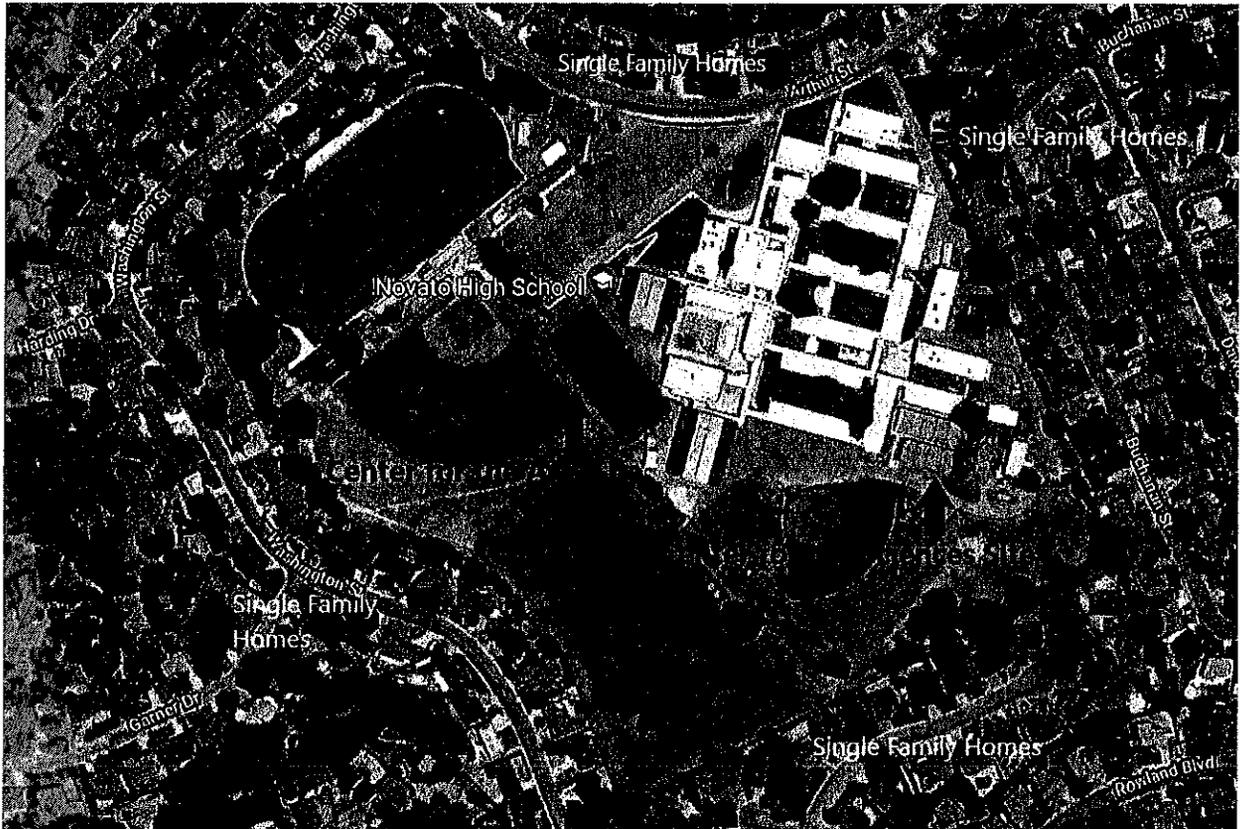


Figure 5. Aerial Photograph

Proposed New Buildings and Site Improvements

The proposed Center for the Sciences and Center for the Arts Projects are described below and shown in Figures 3 and 4.

New Center for the Sciences. The project includes construction of a 20,684 square foot, one-story, 18-foot-high Center for the Sciences and associated improvements. The building dimensions would be approximately 129 by 184 feet and would contain ten classrooms/labs that would replace nine existing portable classrooms. The classrooms would provide capacity for 300 students and would not increase enrollment.

Associated improvements include landscaping, utilities, and paved areas for vehicular parking and pedestrian improvements.

Center for the Arts. The project includes construction of a new 19,519 square foot Center for the Arts with 472 seats. The Center for the Arts would be 40 to 42.5 feet high and would measure approximately 128 by 145 feet. The existing PAC has no fixed seating so folding chairs

are used. The proposed Center for the Arts will have fixed seats and could accommodate up to 20 more attendees than the existing PAC. The new Center for the Arts may be rented to outside groups, although currently there are no specific agreements in place to do so. If this were to occur, that it would be no more than once per month.

The existing PAC at the north end of campus would remain and would be utilized for smaller performances. The Old Gym is currently used for larger performances and events. If the new Center for the Arts is built, the Old Gym will no longer be needed for performances because all performances would be held in the new Center for the Arts or the existing smaller PAC. Currently there are roughly 40 performance/event nights per year – 30 smaller performances/events in the existing PAC and ten larger performances/events in the Old Gym. With the project, it is estimated that there would be about two small performance/event nights per month or approximately 24 per year in the existing PAC and 26 in the new Center for the Arts, for a total of 50 performance (theater, music, etc.) and event (art openings, film viewings, lectures, etc.) nights per year, or ten more than currently occur.

Total Building Area Added. The new buildings would total up to 40,203 square feet. The nine portables would be relocated elsewhere onsite. The project would result in a net increase in building space on the two sites of 35,822 square feet.

Capacity Increases. No staff would be added due to the project, nor would enrollment increase as a result of the project. The maximum number of visitors to the campus attending events in the Center for the Arts could increase slightly, although there would most likely be fewer performance dates. As mentioned above, it is possible that the school may also rent the facility to outside groups on occasion.

Expanded Parking. If needed, the project would include 50 new parking spaces, three of which would be disabled spaces, located at the (ex) portables site next to the proposed Center for the Sciences. The parking lot would be accessed via a driveway located to the east connecting to Arthur Street. However, at this point the additional parking is not likely to be needed.

Tree Planting and Removal. Five trees would be removed as a result of the project. An estimated 33 new trees would be planted.

Landscape and Hardscape. The total project development on the two individual sites would be approximately 44,502 square feet of building area, 15,245 square feet of concrete paving, 11,925 square feet of asphalt paving, and 6,906 square feet of landscaped area.

Grading and Earthwork. The preliminary Project grading scheme results in an estimated balance of earthwork of 1,310 cubic yards of cut and 660 cubic yards of fill. Minimal topographic changes would occur as a result of the project as the sites are relatively flat.

Drainage. A Drainage Plan has been prepared for the overall site. The preliminary stormwater treatment plan results in an estimated 11,636 square feet of new impervious surface being created. Peak flows would not be expected to exceed existing site conditions.

Schedule and Phasing

This Project would be constructed in two phases and would entail the activities described below:

Phase I would include the construction of the new Center for the Sciences. This work is anticipated to start in June of 2019 and be completed in August of 2020.

Phase II would include the new Center for the Arts. This work is anticipated to start in June of 2019 and be completed in January of 2021.

Phase III would include parking, if needed. This work would start in June of 2020 and be completed in September 2020.

Construction

Equipment Use. Equipment used during construction would vary by phase, but would include excavators, backhoes, dump trucks, graders, compactors, water trucks, and similar equipment.

Construction Hours. Typical construction hours would be 7:00 am to 4:30 pm, weekdays only.

Construction Staging Areas. Construction staging area would be located on the field on the southeast corner of the campus.

Construction Workers. There would be an estimated 32 construction workers onsite on an average day.

Land Use Entitlements and other Agency Approvals

NUSD Approvals. The School District is a local agency with independent discretionary authority over the site's land use for classroom purposes. The District would take approval actions for the Project at a noticed NUSD Board of Trustees Meeting.

Other Approvals. The building plans would be reviewed for approval (health and safety) by the Office of the State Architect. A grading permit may be required from the City of Novato. Both of these approvals are ministerial, and not subject to CEQA.

III. INITIAL STUDY CHECKLIST

The initial study checklist recommended by the CEQA Guidelines is used to describe the potential impacts of the proposed Project on the physical environment.

I. Aesthetics

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			X	

a, b) Scenic resources in Novato, include hillsides, ridgelines, bay plains, and bay shorelines. The City of Novato General Plan 2035 identifies Scenic Hills and Ridges and Scenic Conservation Areas (Public Review Draft, Figure EL-6, 2016). The Novato High School campus is not within one of these designated areas. The City of Novato Hillside Ordinance (Zoning Code Section 19.26) was adopted to protect views of undeveloped hillsides and ridgelines, which are a key component of the city's identity. The Ordinance limits grading and development in hillside areas. The proposed Center for the Sciences and Center for the Arts buildings would have no adverse impact on views from or to nearby hillsides or ridgelines. Views of the proposed replacement buildings from surrounding streets and the backyards of the homes adjacent to the Novato High School campus would be limited or blocked by the large trees and other campus buildings. There are no rock outcroppings, historic buildings, or scenic highways in the Project area. There are also no designated scenic highways close enough to have views of the site. The closest designated scenic highway is US Highway 101, located almost one mile east of the site. The Project would thus have **no impact** on scenic vistas or scenic resources.

- c) As shown in Figures 2 and 5, the Project site is within the Novato High School campus. The campus is surrounded by established single-family residential areas with one-and-two story homes. The neighborhood is characterized by moderately good visual quality, with mature street trees and moderate visual intactness and visual unity. There are no view corridors to unique or large-scale natural or dramatic scenic features within the Project viewshed.

The proposed project locations are visible from locations on campus – see Figures 6 through 8 – and possibly from some of the private homes located adjacent to the school. However, the locations of the project are not visible from public vantage points along the nearby residential streets, including Arthur Street, Washington Street, Rowland Boulevard, and Buchanan Street (See Figure 5 for street locations). Figure 9 is a photo taken from the north side of Arthur Street near the parking lot entrance and shows that site lines to the proposed site locations (tennis court and portables) are obscured because the street is at a lower elevation than the parking lot, which is located between the street and the project locations.



Figure 6: View of Tennis Courts/Proposed Center for the Arts Site -- from the Main Parking Lot



Figure 7: View of Existing Portable Buildings/Proposed Center for the Sciences Site

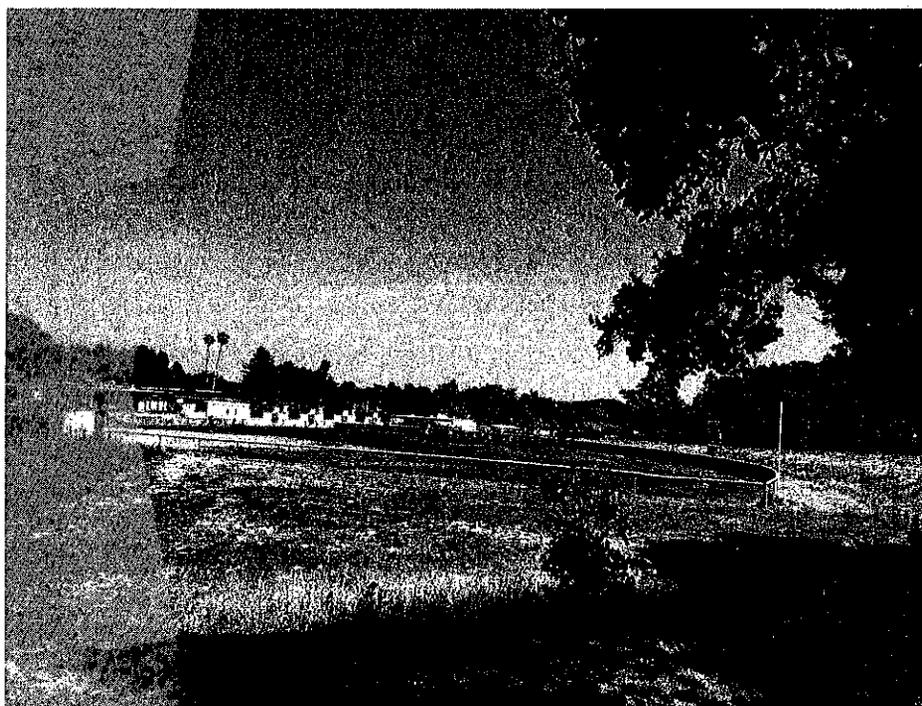


Figure 8: View from the West Across the Site



Figure 9. View from Arthur Street near Parking Lot Entrance

Residents along Arthur Street across from the school have views of existing school buildings, parking lot, the large field, and landscaped areas. These views would not be affected by the proposed Project.

Views from the rear windows of some residences adjacent to and west and south of the high school would change: the tennis courts would be replaced by a new Center for the Arts and the portables would be replaced by a new Center for the Sciences. Given that the portable buildings are worn, and without character, a new permanent Center for the Sciences would improve the visual character of this portion of the campus. As shown in Figures 10 and 11, the views from many of residences to the south and west are partially screened by existing trees along the site perimeter, which would continue to screen the site with the proposed Project. Therefore, the overall visual character of the site would not be substantially diminished by the Project

Based on the above analysis, the impact to the area's views and visual quality would be **less than significant**.

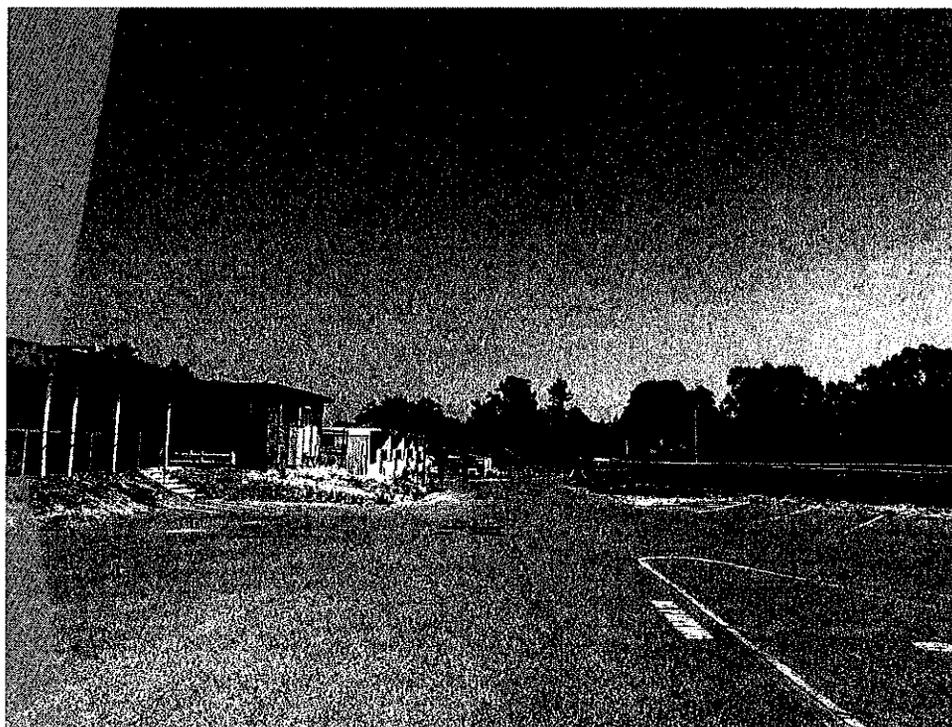


Figure 10. Trees to the south of the campus with residences beyond

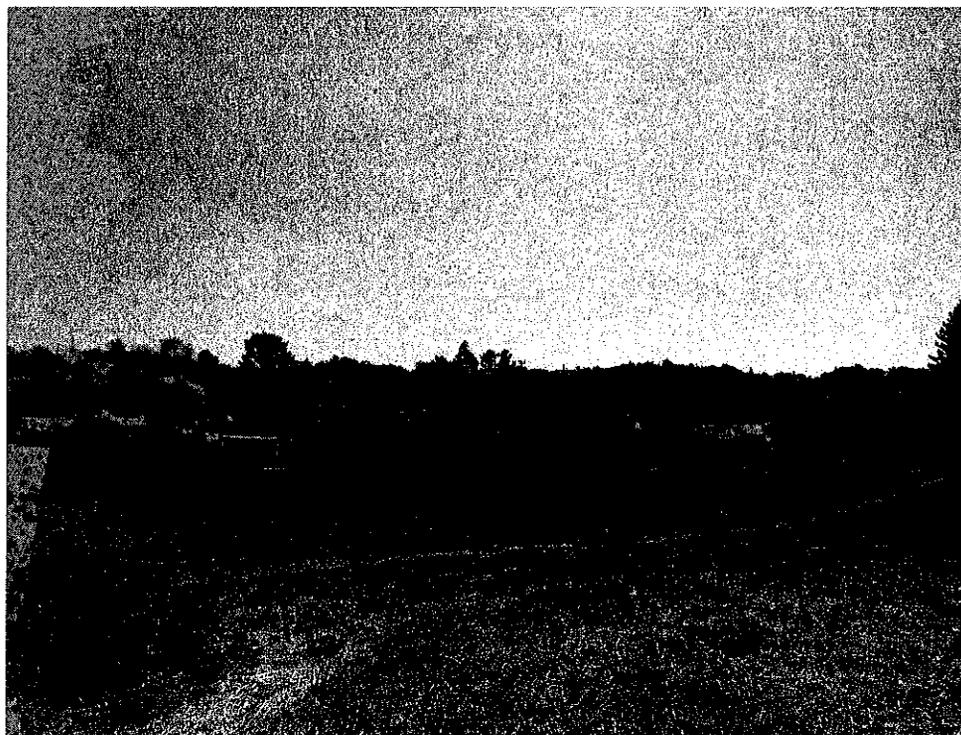


Figure 11. Trees and residences to the west of campus

- d) Some of the lighting associated with the existing tennis courts on the proposed Center for the Arts site would be eliminated, so some existing substantial light sources would be reduced.¹ The Project would include security lighting at the new buildings, however this lighting would be shielded and replace existing lighting at the site. Impacts would not be significant when compared to existing school site and street lighting in the Project area. Therefore, light and glare impacts would be **less than significant**.

¹ Please note that, as part of a separate fields improvement project, the impacts of which will be reviewed under a separate CEQA documentation process, Novato High School plans to replace the three older tennis courts located south of the PAC site with five new tennis courts, along with new replacement lighting.

II. Agricultural and Forestry Resources

Would the Project:

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

a-e) The Project sites currently contain existing portable classrooms and tennis courts. The entire Novato High School campus is designated Public Facility in the Novato General Plan (City of Novato General Plan 2035, Map GP-1, 2016) and Zoning maps (City of Novato 2001). The Project sites contains no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, active agricultural operations, or forest resources (Marin County Important Farmland 2014, California Department of Conservation, Division of Land Resource Protection, July 2016). No trees would be removed as part of the Project. In addition, the City of Novato Existing Conditions Report Figure 9-1 Vegetation, shows the site as "Urban/Developed Land." The project would not result in the conversion of farmland or forestland to non-agricultural uses. For these reasons, there would be **no impact** on agricultural and forestry resources.

III. Air Quality

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

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or Projected air quality violation?			X	
c) Result in a cumulatively considerable net increase of any criteria 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)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?		X		
e) Create objectionable odors affecting a substantial number of people?			X	

Background

The air quality analysis was performed using methodology and assumptions recommended in the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines (dated June 2010, updated in May 2011, and revised in May 2012 and updated in May 2017).² Mitigation measures are presented to reduce impacts to less than significant, as applicable. The air quality analysis includes a review of criteria pollutant emissions such as carbon monoxide (CO)³, nitrogen oxides (NO_x), sulfur dioxide (SO₂), volatile organic compounds

² Bay Area Air Quality Management District. *CEQA Air Quality Guidelines*, May 2017, http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

³ CO is a non-reactive pollutant that is a product of incomplete combustion of organic material, and is mostly associated with motor vehicle traffic, and in wintertime, with wood-burning stoves and fireplaces.

(VOC) as reactive organic gases (ROG)⁴, particulate matter less than 10 micrometers (coarse or PM₁₀), and particulate matter less than 2.5 micrometers (fine or PM_{2.5}).⁵

a) The BAAQMD adopted its 2010 Bay Area Clean Air Plan (CAP)⁶ in accordance with the requirements of the California Clean Air Act (CCAA) to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and GHG emissions in a single, integrated plan; and establish emission control measures to be adopted or implemented in the 2010 through 2012 timeframe.⁷ The primary goals of the 2010 Bay Area CAP are to:

- Attain air quality standards;
- Reduce population exposure and protecting public health in the Bay Area; and
- Reduce GHG emissions and protect the climate.

On January 10 of 2017, the BAAQMD released the Draft 2017 Clean Air Plan.⁸ The 2017 Clean Air Plan was adopted in April of 2017.⁹ The 2017 Clean Air Plan/Regional Climate Protection Strategy (CAP/RCPS) provides a roadmap for BAAQMD's efforts over the next few years to reduce air pollution and protect public health and the global climate. The CAP/RCPS includes the Bay Area's first-ever comprehensive RCPS, which identifies potential rules, control measures, and strategies that the BAAQMD can pursue to reduce GHG in the Bay Area. Measures of the 2017 Clean Air Plan addressing the transportation sector are in direct support of Plan Bay Area, the region's Sustainable Communities Strategy, and the 2040 Regional Transportation Plan.

When a public agency contemplates approving a project where an air quality plan consistency determination is required, BAAQMD recommends that the agency analyze the project with respect to the following questions: (1) Does the project support the primary goals of the air quality plan; (2) Does the project include applicable control measures from the air quality plan;

⁴ VOC means any compound of carbon, excluding CO, carbon dioxide (CO₂), carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, a precursor of ozone formation. ROG are any reactive compounds of carbon, excluding methane, CO, CO₂ carbonic acid, metallic carbides or carbonates, ammonium carbonate, and other exempt compounds. The terms VOC and ROG are often used interchangeably.

⁵ PM₁₀ and PM_{2.5} consists of airborne particles that measure 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM₁₀ and PM_{2.5} represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects.

⁶ Bay Area Air Quality Management District, *Bay Area 2010 Clean Air Plan*. September 15, 2010.
<http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans>

⁷ In 2015, the BAAQMD initiated an update to the 2010 CAP. On February 28, 2014, the District held a public meeting to report progress on implementing the control measures in the 2010 CAP, to solicit ideas and strategies to further reduce ozone precursors, particulate matter, toxic air contaminants, and greenhouse gases, and to seek input on innovative strategies to reduce greenhouse gases, mechanisms for tracking progress in reducing GHG, and how the District may further support actions to reduce GHG. The culmination of this effort will be an updated CAP.

⁸ Bay Area Air Quality Management District, *Draft 2017 Clean Air Plan*, January 10, 2017,
http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/baaqmd_2017_cap_draft_122816-pdf.pdf?la=en

⁹ Bay Area Air Quality Management District, *Final 2017 Clean Air Plan*, April 19, 2017,
http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en

and (3) Does the project disrupt or hinder implementation of any 2017 Clean Air Plan control measures? If the first two questions are concluded in the affirmative and the third question concluded in the negative, the BAAQMD considers the project consistent with air quality plans prepared for the Bay Area.

Any project that would not support the 2017 Clean Air Plan goals would not be considered consistent with the 2017 Clean Air Plan. The recommended measure for determining project support of these goals is consistency with BAAQMD significance thresholds. As presented in the subsequent impact discussions, the proposed project with mitigation measures would not exceed the BAAQMD significance thresholds; therefore, the proposed project would support the primary goals of the 2017 Clean Air Plan.

The proposed project with mitigation measures would support the primary goals of the 2017 Clean Air Plan, it would be consistent with all applicable 2017 Clean Air Plan control measures and would not disrupt or hinder implementation of any 2017 Clean Air Plan control measures. Therefore, there would be a **less than significant impact**.

- b) The project would have construction and operational emissions. These are described below.

Construction Emissions

Intermittent (short-term construction emissions that occur from activities, such as site-grading, paving, and building construction) and long-term air quality impacts related to the operation of the proposed project were evaluated. The analysis focuses on daily emissions from these construction and operational (mobile, area, stationary, and fugitive sources) activities. The California Air Resources Board (CARB) (California Emissions Estimator Model Version 2016.3.2¹⁰) was used to quantify construction-related pollutant emissions.

Table AQ-1 provides the estimated daily construction emissions that would be associated with the proposed project and compares those emissions to the BAAQMD’s significance thresholds for construction exhaust emissions. As the construction phases (i.e., grading, building construction, paving, etc.) are sequential, the average daily construction period emissions (i.e., total construction period emissions divided by the number of construction days) were compared to the BAAQMD significance thresholds. All construction-related emissions would be below the BAAQMD significance thresholds.

Table AQ-1: Estimated Daily Construction Emissions (pounds)

Condition	ROG	NOx	PM10	PM2.5	CO
Construction	3.17	21.5	1.17	1.10	17.3
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No

Source: CARB CalEEMod Version 2016.3.2.

¹⁰ California Air Pollution Control Officers Association, *CalEEMod User’s Guide Version 2016.3.2*, September 2016, www.caleemod.com

In addition, BAAQMD's *CEQA Air Quality Guidelines* require a number of best management practices to control fugitive dust and exhaust emissions. The required practices are listed below.

BAAQMD Required Fugitive Dust Control Measures: The construction contractor shall reduce construction-related air pollutant emissions by implementing BAAQMD's basic fugitive dust control measures, including:

- 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 with 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

BAAQMD Required Basic Exhaust Emissions Reduction Measures. The construction contractor shall implement the following measures during construction to reduce construction-related exhaust emissions:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

BAAQMD Regulation 8, Rule 3 for Architectural Coatings. Emissions of VOC due to the use of architectural coatings are regulated by the limits contained in Regulation 8: Organic Compounds, Rule 3: Architectural Coatings (Rule 8-3). Rule 8-3 was revised on January 1, 2011 to include more stringent VOC limit requirements. The revised VOC architectural coating limits specify that the use paints and solvents with a VOC content of 100 grams

per liter or less for interior and 150 grams per liter or less for exterior surfaces shall be required.

Based on the CalEEMod for proposed project construction and using standard fuel consumption estimates, construction activities would require 34,600 gallons of diesel fuel.¹¹ This includes all off-road construction equipment, hauling, vendor, and worker trips over a 435-working day construction period. For the finishing phase of construction, some electricity may be used (e.g., for power tools and work lighting). While this electricity usage cannot be quantified at this time, it is anticipated to be relatively minor compared to normal building operations. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption. Natural gas would not be used during construction.

Operation Emissions

CalEEMod was also used to estimate emissions that would be associated with motor vehicle use, space and water heating, and landscape maintenance emissions expected to occur after the proposed project construction is complete and operational. The proposed project land use types and size and other project-specific information were input to the model to determine these emissions. CalEEMod provides emissions for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport.

Notably, no school staff would be added due to the project and student enrollment would not increase as a result of the proposed project. Therefore, no new vehicle trips would occur as a result of proposed project. Annual electricity and natural gas consumption were calculated using the demand factors provided in CalEEMod. The proposed project's building and parking lot lighting energy consumption was estimated to be approximately 97,400 kilowatt-hours (kWh) of electricity per year and natural gas consumption was estimated to be approximately 0.348 billion British Thermal Units (BTU) per year.

Estimated daily and annual operational emissions that would be associated with the proposed project are presented in Tables AQ-2 and AQ-3 and are compared to BAAQMD's thresholds of significance. As indicated in Tables AQ-2 and AQ-3, the estimated proposed project operational emissions would be below the BAAQMD's significance thresholds and would be less than significant.

Because the proposed project construction activities and operations would not conflict with or obstruct implementation of the applicable air quality plan or violate any air quality

¹¹ Fuel usage is estimated using the CalEEMod output for CO₂, and a kgCO₂/gallon conversion factor, as cited in the U.S. Energy Information Administration Voluntary Reporting of Greenhouse Gases Program, https://www.epa.gov/sites/production/files/2015-11/documents/emission-factors_2011.pdf

standards or contribute substantially to an existing or projected air quality violation, the project would have a **less than significant impact**.

Table AQ-2: Estimated Daily Operational Emissions (pounds)

Condition	ROG	NOx	PM10	PM2.5	CO
Area	0.86	<0.01	<0.01	<0.01	<0.01
Energy	0.02	0.09	<0.02	<0.02	0.17
Mobile	0.00	0.00	0.00	0.00	0.00
Total Project	0.88	0.20	0.02	0.02	0.18
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No

Source: CARB CalEEMod Version 2016.3.2.

Table AQ-3: Estimated Annual Operational Emissions (tons)

Condition	ROG	NOx	PM10	PM2.5	CO
Area	0.16	<0.01	<0.01	<0.01	<0.01
Energy	<0.01	0.04	<0.01	<0.01	0.03
Mobile	0.00	0.00	0.00	0.00	0.00
Total Project	0.16	0.04	<0.01	<0.01	0.03
Significance Threshold	10	10	15	10	---
Significant (Yes or No)?	No	No	No	No	No

Source: CARB CalEEMod Version 2016.3.2.

- c) As shown, project-related emissions would be less than the BAAQMD significance thresholds. The BAAQMD *CEQA Air Quality Guidelines* recommend that cumulative air quality effects from criteria air pollutants also be addressed by comparison to the mass daily and annual thresholds. These thresholds were developed to identify a cumulatively considerable contribution to a significant regional air quality impact. Project-related emissions would be below the significance thresholds. Therefore, the proposed project would not be cumulatively considerable and cumulative impacts would be **less than significant**.
- d) The proposed project would constitute a new emission source of diesel particulate matter (DPM) and PM_{2.5} due to its construction activities. Studies have demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. The proposed project would also locate sensitive receptors near existing emission sources.

The following describes the HRA results associated with proposed project construction activities. The maximum cancer risk from unmitigated proposed project construction

emissions for a residential-adult receptor would be 0.96 per million and for a residential-child receptor would be 21.3 per million. As shown in Table AQ-4, the total maximum cancer risk from unmitigated proposed project construction emissions for a residential receptor would be 21.3 per million.¹² The maximum concentrations would occur at a residential receptor (also known as the maximum exposed individual or MEI) to the southeast of the proposed project. The cancer risk for school children would be 4.92 per million. Thus, the cancer risk due to construction activities are potentially above the BAAQMD threshold of 10 per million and would require the following mitigation measure to reduce impacts to a **less than significant**.

Table AQ-4: Estimated Health Impacts for Existing Receptors

Source	Cancer Risk	Hazard Impact (acute/chronic)	PM _{2.5} Concentration
Unmitigated Proposed Project Construction	0.96/21.3	0.07/0.01	0.09
Total Proposed Project	0.96/21.3	0.17/0.02	0.09
Significance Threshold	10	1.0	0.3
Potentially Significant (Yes or No)?	Yes	No	No

Source: CARB CalEEMod Version 2016.3.2.

Mitigation Measure

Mitigation Measure AQ-1: BAAQMD Enhanced Exhaust Emissions Reduction Measures. The applicant shall implement the following measures during construction to further reduce construction-related exhaust emissions:

All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

1. Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and
2. All off-road equipment shall have:
 - a. Engines that meet or exceed either USEPA or CARB Tier 3 off-road emission standards, and
 - b. Engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine

¹² This theoretical individual would be born on construction year 1 and subsequently be exposed to the full construction period. Individuals born after construction year 1 would be exposed to shorter construction duration and thus, result in a lower risk and health impacts.

retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.

As shown in Table AQ-5, with the implementation of Mitigation Measure AQ-1, the maximum cancer risk from proposed project construction for a residential-adult receptor would be 0.12 per million and for a residential-child receptor would be 2.58 per million. The total maximum cancer risk from mitigated proposed project construction emissions for a residential receptor would be 2.58 per million. The mitigated cancer risk for school children would be 0.60 per million. Thus, the cancer risk due to construction activities would be below the BAAQMD threshold of 10 per million and would be **less than significant with mitigation**.

Table AQ-5: Estimated Mitigated Health Impacts for Existing Receptors

Source	Cancer Risk	Hazard Impact (acute/chronic)	PM _{2.5} Concentration
Mitigated Proposed Project Construction	0.12/2.58	0.02/<0.01	0.01
Total Proposed Project	0.12/2.58	0.02/<0.01	0.01
Significance Threshold	10	1.0	0.3
Potentially Significant (Yes or No)?	No	No	No

Source: CARB CalEEMod Version 2016.3.2.

The unmitigated acute health impacts would be 0.17. The mitigated acute health impacts would be 0.02. The acute health impacts would be below the project-level threshold of 1 and the impact of the proposed project would therefore be less than significant. The unmitigated chronic health impacts would be 0.02. The mitigated chronic health impacts would be less than 0.01. The chronic health impacts would be below the project-level threshold of 1 and the impact of the proposed project would therefore be less than significant. The proposed project's unmitigated annual PM_{2.5} concentration from construction activities would be 0.09 µg/m³. With implementation of Mitigation Measure AQ-1, the annual PM_{2.5} concentration would be reduced to 0.01 µg/m³. Thus, the annual PM_{2.5} concentration due to project construction would be below the BAAQMD threshold of 0.3 µg/m³ and would be considered **less than significant**.

The unmitigated acute health impacts would be 0.17. The acute health impacts would be below the project-level threshold of 1.0 and the impact of the proposed project would therefore be less than significant. The unmitigated chronic health impacts would be 0.01. The chronic health impacts would be below the project-level threshold of 1.0 and the impact of the proposed project would therefore be less than significant. The proposed project's unmitigated annual PM_{2.5} concentration from construction activities would be 0.09

$\mu\text{g}/\text{m}^3$. The annual $\text{PM}_{2.5}$ concentration due to project construction would be below the BAAQMD threshold of $0.3 \mu\text{g}/\text{m}^3$ and would be considered **less than significant**.

Because the proposed project would not expose sensitive receptors to substantial pollutant concentrations, the impacts would be **less than significant**.

- e) Though offensive odors from stationary and mobile sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

The BAAQMD's significance criteria for odors are subjective and are based on the number of odor complaints generated by a project. Generally, the BAAQMD considers any project with the potential to frequently expose members of the public to objectionable odors to cause a significant impact. With respect to the proposed project, diesel-fueled construction equipment exhaust would generate some odors. However, these emissions typically dissipate quickly and would be unlikely to affect a substantial number of people.

Odor impacts could also result from siting a new sensitive receptor near an existing odor source. Examples of land uses that have the potential to generate considerable odors include but are not limited to wastewater treatment plants; landfills; refineries; and chemical plants.

In the BAAQMD *CEQA Air Quality Guidelines*, odor screening distances were recommended by BAAQMD for a variety of land uses. Projects that would site a new receptor farther than the applicable screening distance from an existing odor source would not likely result in a significant odor impact. The odor screening distances are not used as absolute screening criteria, rather as information to consider along with the odor parameters and complaint history. The odor screening distances for a sewage treatment plant, refinery, and chemical plant are two miles. The proposed project is not within the odor screening distances for a sewage treatment plant, refinery, or other odor producing sources.

Generally, odor emissions are highly dispersive, especially in areas with higher average wind speeds. However, odors disperse less quickly during inversions or during calm conditions, which hamper vertical mixing and dispersion. Therefore, odor impacts associated with the location of the proposed project would be **less than significant**.

IV. Biological Resources

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
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?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
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?				X

a) The Project sites contain existing buildings on the school campus and are devoid of any natural habitats. Noise and activity levels on the site are high due to school activities and

regular use of the athletic fields. These factors limit the potential for special-status species to occur. However, special-status birds have the potential to occur on trees adjacent to the Project sites. The active nests of most native bird species are protected by the Migratory Bird Treaty Act (16 U.S.C. 704) and the California Fish and Game Code (Section 3503). Various common bird species, including raptors (e.g., Cooper's hawk), could nest in the trees on the site. Therefore, in the absence of avoidance measures, active nests of birds protected by the Migratory Bird Treaty Act and California Fish and Game Code could be disturbed by construction-related noise. The implementation of Mitigation Measure BIO-1, below, would reduce the impact to protected bird nests to **a less than significant level**.

There are no natural habitats present in areas proposed for construction. The proposed Center for the Sciences project site currently contains portable buildings, paving, and limited areas of unpaved land. The proposed PAC site currently contains three tennis courts. There are known occurrences of special-status plant and animal species in areas near the Project sites, including Mt. Tam Manzanita, Baker's navarreita, Marin western flax, and the Marin blind harvestman (City of Novato Existing Conditions Report, Biological Resources, 2016, Figure 9-2), however, these species are not present on the Project site. Given the urbanized, developed nature of the property and the absence of suitable habitat, no special-status plant or animal species are expected to occur. There would be **no impact** on natural habitats or special-status species.

- b) Sensitive plant communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of Projects. These communities may or may not contain special-status species or their habitat. The most current version of CDFW's *List of California Terrestrial Natural Communities* indicates which natural communities are of special-status given the current state of the California classification. As previously discussed, the Project sites are covered with existing buildings, paving, and limited unpaved areas. Because no sensitive plant communities are present at the sites, the Project would have **no impact** on riparian habitats or other sensitive biological communities.
- c) Wetlands, creeks, streams, and permanent and intermittent drainages are subject to the jurisdiction of the U.S. Army Corps of Engineers (ACOE) under Section 404 of the Federal Clean Water Act (CWA). The California Department of Fish and Wildlife (CDFW) also generally has jurisdiction over these resources, together with other aquatic features that provide an existing fish and wildlife resource pursuant to Sections 1602-1603 of the California Fish and Game Code. The CDFW asserts jurisdiction to the outer edge of vegetation associated with a riparian corridor. There are no wetlands or water habitats on the sites. Therefore, the Project would have **no impact** to wetlands or other water habitats.
- d) Wildlife corridors are described as pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in

vegetation, and other natural or manmade obstacles such as urbanization. The Project sites are already developed and are bordered on all sides by existing school buildings, paved parking areas, sport fields, and facilities and the sites are not part of a corridor linking areas of open space that serve as part of a wildlife movement corridor. The replacement buildings would not interfere with the local or regional movement of wildlife species. Therefore, the Project would have a **less than significant impact** to wildlife movement.

- e) The City of Novato Tree Permit Application defines a "Heritage Tree" as any tree that has a trunk with a diameter of 24 inches or more (75 inches in circumference). Four non-Heritage trees are planned to be removal as part of the project and the urbanized, paved development locations would not create conflicts with any local policies or ordinances protecting biological resources. Therefore, there would be **no impact**.
- f) The Project site is not located within the boundaries of a habitat conservation plan or a natural community conservation plan; therefore, the Project would not conflict with any habitat plans and there would be **no impact**.

Mitigation Measure

Mitigation Measure BIO-1: Wherever possible, tree removal and the loudest construction activities should occur between September 1 to January 31, which is outside of the nesting season. If tree removal or construction activities would commence anytime during the nesting/breeding season of native bird species potentially nesting near the site (typically February through August in the Project region), a pre-construction survey for nesting birds shall be conducted by a qualified biologist within two weeks of the commencement of construction activities. If construction during the nesting season ceases for more than ten days or moves to a new locale on the site, nesting bird surveys shall be conducted prior to the restart of work.

If active nests are found in areas that could be directly affected or are within 200 feet of construction and would be subject to prolonged construction-related noise, a no-disturbance 50-foot buffer zone shall be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged.

V. Cultural Resources

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historic resource as defined in Section 15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?		X		
e) Would the project cause a significant adverse change in the significance of a tribal cultural resource defined in Public Resource Code section 21074 as either a site, feature, place cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, including (i) historical resources as defined in Public Resources Code section 5020.1(k) or (ii) a resource determined to be significant by the lead agency to be significant pursuant to subdivision c) of Public Resources Code Section 5024.1.		X		

a), b) Jason Coleman, M.A., R.P.A. with Solano Archaeological Services (SAS), cultural resources specialists, conducted archaeological research, outreach with the Native American community, and a paleontological assessment of the project area. These investigations documented previously recorded historic-era, and prehistoric cultural resources in the vicinity of the project area.

SAS conducted a records search for the proposed project at the Northwest Information Center (NWIC) located at Sonoma State University on November 20, 2018 (NWIC Search No. 18-0988). The NWIC files were reviewed to determine if any recorded cultural resources were known to be present within one half-mile of the project area, and if any

previous cultural resource studies had been conducted within the same area. The record search included, but was not necessarily restricted to, a review of the following additional sources:

- National Register of Historic Places – Historic Properties Directory;
- California Register of Historic Places – Historic Properties Directory;
- Archaeological Determinations of Eligibility;
- California Historical Landmarks;
- California Points of Historical Interest; and
- California Inventory of Historic Resources.

The records search results indicated that no previously recorded sites, features, or artifacts were known to be present in the project area. Five resources, however, were previously recorded within one half-mile of the project area and are summarized in Table CUL-1 below. Two of the resources below (P-21-00026 and P-21-000196) consist of prehistoric habitation sites containing burials. From the project area, P-21-00026 lies approximately 750 meters (m) north, P-21-00196 lies 750 m northeast, P-21-00197 lies 500 m west, P-21-00198 lies 750 meters southwest, and P-21-02882 lies approximately 1 kilometer north.

Table CUL-1. Previously Recorded Sites within one Half-Mile of the Project Area

NWIC Site #	Association	Description	Recorded
P-21-00026	Prehistoric	Habitation site with burials	Davis (1959), Roop and Haslam (1981), Flynn (1984), Bieling and Tapia (1994)
P-21-00196	Prehistoric	Habitation site with burials	Nelson (1907), Roop and Flynn (1984), Roop and Haslam (1981), Marby (1979)
P-21-00197	Prehistoric	Habitation site with milling features	Nelson and Elsasser (1959)
P-21-00198	Prehistoric	Habitation site with milling features	Nelson and Elsasser (1959)
P-21-02882	Historic-era	Frank Baccaglio Farm Poultry House	Krase (1989)

According to the record search results, only one previous study (S-01023) appears to have incorporated 100 percent of the current project area. While that inventory does not provide definitive information as to the exact boundaries of the study, no cultural resources were documented. As shown in Table CUL-2, an additional twelve archaeological studies were previously conducted within one half-mile of the project area.

Table CUL-2. Studies Previously Conducted in and within one Half-Mile of the Project Area

NWIC Study #	Author	Report Title	Date
S-01023	Jackson	Proposed Berry Division of Land in the City of Novato	1976
S-01566	Roop	Surface reconnaissance of the approximately 109-acre Pacheco Ranch addition	1979
S-01898	Chavez	Archaeological Impact Evaluation of the subject area: Pacheco Ranch Estates EIR	1980
S-01958	Eklund	Pacheco Ranch Estates, A Master Plan for Pacheco Ranch Estates Ltd.	1979
S-06497	Holman et al.	Novato Flood Control Project, Marin County	1983
S-09077	Flynn	Literature Search and Field Survey of proposed Indian Valley Road reconstruction	1987
S-09905	Flynn	Archaeological evaluation of the Windemere Master Plan/Precise Development area located at the northwest corner of Indian Valley Road and Chamberlain Dr.	1988
S-12506	Ambro	Report on Archival Research, Surface Reconnaissance and a Hand Auguring Program: Identification of Prehistoric and Historic Cultural Resources - Phase 1, Within the Area of Potential Effect of the South Novato Boulevard Improvement Project - Diablo Avenue to Rowland Boulevard in Novato	1990
S-19199	Chatten and Morre	Cultural Resources Evaluation of the Property Located at 49 Chamberlain Drive, Novato	1997
S-39171	Koenig and Brewster	North Bay Water Reuse Authority, North Bay Water Recycling Program	2011
S-49395	Hammerle	Cultural Resources Constraints Report: Gas Main Pastel Lane, Novato	2016
S-49521	Hayward and Origer	Cultural Resources Survey for the Oakmont of Novato Project, Novato	2016

On November 13, 2018, SAS contacted the Native American Heritage Commission (NAHC) requesting a search of the NAHC the Sacred Lands File (SLF) to determine if any culturally significant properties were located within or near the project area. SAS also requested a list of Native American community representatives who might have an interest in, or concerns with the proposed project. (See Appendix A.) On November 27, 2018, Sharaya Souza, Staff Services Analyst for the NAHC, responded stating that Native American sacred sites were identified in the project area and that the Federated Indians of Graton Rancheria should be contacted for additional information.

Prior to receiving the November 27, 2018 letter from the NAHC, SAS had already been made aware that representatives of Graton Rancheria had knowledge of the project area and important associated cultural properties. SAS proactively contacted Ms. Buffy McQuillen (Graton Rancheria Tribal Historic Preservation Officer), and tribal representatives Ms. Antonette Tomic, and Mr. Gene Buvelot regarding the proposed project. Between November 2, 2018, and December 3, 2018, SAS President, Mr. Jason Coleman, M.A., corresponded (email and phone) with these individuals concerning the proposed project, and the results of the NAHC SLF records search. (See Appendix A). No responses to Mr. Coleman's outreach concerning the NAHC-reported sacred sites have been forthcoming but any future responses or input from Graton Rancheria representatives will be recorded and included as an addendum to this document.

In order to determine if any previously recorded paleontological resources or unique geological features were known to be present within or near the project area, SAS specialists conducted archival research through University of California Museum of Paleontology (UCMP) and reviewed relevant geological formation mapping data. The UCMP on-line database contains information on over 900 paleontological samples recovered from Marin County (UCMP 2018). These include various gastropods, and bivalves recovered primarily from coastal areas (e.g., Tomalas Bay, Drake's Bay, Point Reyes), plant fossils from several locations, and vertebrates such as a collection of Osteichthyes (a species of fish) from the Ottinger Ranch area at Point Reyes. The UCMP database, however, did not indicate that any paleontological remains had been found in or adjacent to the project area.

SAS also reviewed the Santa Rosa Sheet of the Geologic Map of California (Koenig 1963) This indicates that the underlying geology consists of quaternary alluvium which may be sensitive for exhibiting traces of prehistoric human occupation. However, paleontological remains are not necessarily found in such settings. As a result, the project area appears to retain a low level of sensitivity for containing paleontological resources.

Research indicates that several potentially significant (per California Register of Historical Resources [CRHR] criteria) cultural resources (historical resources) are known to be present in the vicinity of the project area. Although no CRHR-eligible resources have been identified within the project area, numerous potential historical resources (cultural resources presently listed or potentially eligible for listing on the CRHR) have been identified in the immediate vicinity of the project area. If project-related activities were to encounter and disturb or destroy historical resources, there would be a significant impact. However, implementation of Mitigation Measure CUL-1, would reduce impacts to **less-than-significant** levels.

Intensive cultural resources surveys have been conducted within the project site. However, project-related ground disturbances could impact previously unrecorded prehistoric and historic-era sites, features, or artifacts located in subsurface contexts that

could not be documented during these surface inventories. Such resources could be significant per CRHR criteria and impacts to them would constitute a significant impact. However, implementation of Mitigation Measure CUL-2 would reduce impacts to **less-than-significant** levels.

- c) No paleontological resources or unique geologic features have been identified on the proposed project site. Therefore, the proposed project would not cause a substantial adverse change that would affect a unique paleontological resource or geologic feature and there would be **no impact**.
- d) Although no known burial sites were identified in the project area, several prehistoric sites documented to contain human interments have been recorded in the immediate vicinity. Consequently, there is a possibility that previously unknown human remains could be discovered during project construction. Damage to or destruction of human remains would constitute a significant impact. However, implementation of Mitigation Measure CUL-3 would reduce these impacts to **less-than-significant** levels.
- e) According to information provided by the NAHC, potential tribal cultural resources ("sacred sites" per the NAHC response to the November 13, 2018 SAS inquiry) are known to be present in the project area. However, subsequent tribal contacts could not provide additional details. Consequently, it does not appear that tribal cultural resources as identified in § 21074 are present in or near the project area. However, if tribal cultural resources are encountered within the project area, they could be significant per CRHR criteria and impacts to them would constitute a significant impact. If such resources are found, Mitigation Measure CUL-4 should be implemented which would reduce such impacts to **less-than-significant** levels.

Mitigation Measures

Mitigation Measure CUL-1: Conduct archaeological monitoring of all project-related ground disturbances to ensure if potential historical resources are encountered during construction, damage to or destruction of them can be avoided.

In order to ensure that potential historical resources encountered during project construction are treated in a manner commensurate with CEQA standards, a qualified archaeologist must be present to observe all project ground disturbing activities impacting previously undisturbed ground surfaces.

Mitigation Measure CUL-2: Stop work if previously unknown archaeological resources are uncovered during project construction, assess the significance of the find, and pursue appropriate management.

If an inadvertent discovery of cultural materials (e.g. unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains, etc.) is made during project-

related construction activities, ground disturbances in the area of the find will be halted and a qualified professional archaeologist will be notified regarding the discovery. The archaeologist shall determine whether the resource is potentially significant as per the CRHR and develop appropriate treatment measures.

Mitigation Measure CUL-3: Stop work if human remains are uncovered during project construction, assess the significance of the find, and pursue appropriate management.

If human remains are uncovered during ground-disturbing activities, the contractor and/or the project proponent shall immediately halt potentially damaging excavation in the area of the burial and notify the Marin County Sheriff/Coroner to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, the property owner, contractor or project proponent, an archaeologist, and the NAHC-designated Most Likely Descendent (MLD) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section (PRC) 5097.9.

Upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity (according to generally accepted cultural or archaeological standards and practices) is not damaged or disturbed by further development activity until consultation with the MLD has taken place. The MLD shall have 48 hours to complete a site inspection and make recommendations after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal and analysis, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. PRC 5097.9 suggests that the concerned parties may extend discussions beyond the initial 48 hours to allow for the discovery of additional remains. The following is a list of site protection measures that the landowner shall employ:

- Record the site with the NAHC or the appropriate Information Center
- Utilize an open-space or conservation zoning designation or easement
- Record a document with the county in which the property is located

The landowner or their authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance if the NAHC is unable to identify an MLD or

the MLD fails to make a recommendation within 48 hours after being granted access to the site. The landowner or their authorized representative may also re-enter the remains in a location not subject to further disturbance if they reject the recommendation of the MLD, and mediation by the NAHC fails to provide measures acceptable to the landowner.

Mitigation Measure CUL-4: Stop work if potential tribal cultural resources are uncovered during project construction, assess the significance of the find, and pursue appropriate management.

If potential tribal cultural resources are encountered during project-related construction activities, ground disturbances in the area of the find will be halted and a qualified professional archaeologist and appropriate Native American tribal representative will be notified regarding the discovery. The archaeologist and the Native American representative shall determine whether the resource is potentially significant per CRHR criteria and develop appropriate treatment measures.

VI. Geology and Soils

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)			X	
ii) Strong seismic ground shaking?		X		
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) Be located in a geological unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
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?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X

A geotechnical investigation for the Project site was prepared by Miller Pacific Engineering Group (Miller Pacific 2018). Results of the geotechnical report is summarized in responses to specific checklist questions below. The full report is available for review at the District offices.

a.i,ii.) **Seismic Hazard.** Marin County lies within the Coast Ranges geomorphic province of California, a seismically active region that includes the Central and Northern Coast Mountain Ranges. Several active faults are present east and west of the site including the San Andreas, San Gregorio, and Hayward Faults. An "active" fault is defined as one that shows displacement within the last 11,000 years and, therefore, is considered more likely to

generate a future earthquake than a fault that shows no sign of recent rupture. The California Department of Conservation, Division of Mines and Geology has mapped various active and inactive faults in the region (CDMG, 1972 and 2000). The Rodgers Fault is the nearest known active fault and is located approximately 14.4 kilometers (8.9 miles) northeast of the site (Miller Pacific, 2018). Table GEO-1 below, shows the distances of the project site area to other faults.

**Table GEO-1
DETERMINISTIC PEAK GROUND ACCELERATION
Novato High School Performing Arts Building
Novato, California**

<u>Fault</u>	<u>Fault Distance From Site</u>	<u>Maximum Probable Magnitude</u>	<u>Median PGA</u>	<u>Maximum PGA</u>
San Andreas	18.8 km	8.0	0.24 g	0.40 g
Rodgers Creek	14.2 km	7.3	0.23 g	0.39 g
Hayward	17.0 km	7.3	0.20 g	0.34 g
San Gregorio	23.0 km	7.4	0.17 g	0.28 g
West Napa	29.0 km	6.6	0.10 g	0.16 g

Note: 1 "g" is the force of gravity
Source: Miller Pacific 2018

Data presented by the Working Group on California Earthquake Probabilities (2008) estimates the chance of one or more large earthquakes (Magnitude 6.7 or greater) in the San Francisco Bay region within the next 30 years to be approximately 63 percent. Therefore, strong seismic shaking is anticipated at the site during the Project lifetime. The potential for strong seismic shaking at the project site is high. Due to its close proximity, the San Andreas and Rodgers Creek Faults (approximately 18.8 kilometers and 14.2 kilometers southwest and northeast of the site, respectively) presents the highest potential for strong ground shaking. Conclusions from the most recent Uniform California Earthquake Rupture Forecast (UCERF3) and Unites States Geological Survey (USGS, Aagard et. al., 2016) studies indicate the highest probability of a M>6.7 earthquake on any of the active faults in the San Francisco Bay region by 2043 is assigned to the Rodgers Creek Fault, located approximately 14.2-kilometers northeast at 33 percent. The most significant adverse impact associated with strong seismic shaking is potential damage to structures and improvements (Miller Pacific 2018).

Because there are no known active or potentially active faults crossing the site, and the site is not within a current Alquist-Priolo Earthquake Fault Zone, the risk of fault rupture at the site is low¹³.

¹³ <ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/Sp42.pdf>

Miller Pacific determined that the exposure to seismic hazard due to project would be **less than significant with mitigation.**

Mitigation Measure

Mitigation Measure GEO-1: Minimum mitigation measures should include designing the structures and foundations in accordance with the most recent version (2016) of the California Building Code. Recommended seismic coefficients are provided in Section 5.2 of the Miller Pacific Report on file with the District.

- a), iii) **Liquefaction Potential and Related Impacts.** Liquefaction refers to the sudden, temporary loss of soil shear strength during strong ground shaking. Liquefaction-related phenomena include liquefaction-induced settlement, flow failure, and lateral spreading. These phenomena can occur where there are saturated, loose, granular deposits. The project site is not mapped within an area susceptible to liquefaction (ABAG, 2018) and Miller Pacific did not observe loose granular soil layers below the highest historic groundwater level. They analyzed the potential for liquefaction and determined that liquefaction presents a low risk of damage to the planned improvements and that therefore, there is a **less than significant impact.**
- a), iv) **Slope Instability/Landsliding.** Slope instability generally occurs on relatively steep slopes and/or on slopes underlain by weak materials. The Novato Campus is on level terrain with some relatively small 2:1 (run/rise) slopes. Therefore, Miller Pacific determined that slope instability and landsliding is not considered a geologic hazard at the site and would be considered a **less than significant impact.**

Miller Pacific investigated to potential for other seismically-induced impacts. Their analysis is summarized below.

Seismically Induced Ground Settlement. Seismic ground shaking can induce settlement of unsaturated, loose, granular soils. Settlement occurs as the loose soil particles rearrange into a denser configuration when subjected to seismic ground shaking. Miller Pacific did not observe loose, clean, granular soil layers above the historic high groundwater table. Therefore, Miller Pacific determined that seismically induced ground settlement is considered a **less than significant impact.**

Lurching and Ground Cracking. Lurching and associated ground cracking can occur during strong ground shaking. The ground cracking generally occurs along the tops of slopes where stiff soils are underlain by soft deposits or along steep slopes or channel banks. These conditions do not exist at the site, therefore the risk of lurching and ground cracking at the project site is low and would be considered a **less than significant impact.**

Seiche and Tsunami. Seiche and tsunamis are short duration, earthquake-generated water waves in large enclosed bodies of water and the open ocean, respectively. The extent and severity of a seiche or tsunami would be dependent upon ground motions and fault offset from nearby active faults. The project site is at an increased elevation and not located near a large body of water. Therefore, seiche and tsunami events are not considered significant geologic hazards at the site and there would be **no significant impact**.

- b) **Erosion.** Sandy soils on moderate slopes or clayey soils on steep slopes are susceptible to erosion when exposed to concentrated water runoff. Granular soils are located at the ground surface; however, the site is relatively flat. Therefore, widespread erosion is not considered a significant geologic hazard. However, there is always some potential for localized erosion due to concentrated surface water flows. Miller Pacific determined that the erosion-related impacts would be **less than significant with mitigation**.

Mitigation Measure

Mitigation GEO-2: Mitigation measures include designing a site drainage system to collect surface water and discharging it into an established storm drainage system. The project Civil Engineer of Architect is responsible for designing the site drainage system and, an erosion control plan could be developed prior to construction per the current guidelines of the California Stormwater Quality Association's Best Management Practice Handbook (2015).

- c) Please see responses to items a) i, ii, iii, and iv, above. This impact would be **less than significant**.
- d) **Expansive Soils** Expansive soils shrink and swell with fluctuations in moisture content and are capable of exerting significant expansion pressures on building foundations, interior floor slabs, and exterior flatwork. Distress from expansive soil movement can include cracking of brittle wall coverings (stucco, plaster, drywall, etc.), racked door and/or window frames, and uneven floors and cracked slabs. Flatwork, pavements, and concrete slabs-on-grade are particularly vulnerable to distress due to their low bearing pressures. Highly plastic and/or expansive soils were not observed within the upper five feet during Miller Pacific's subsurface exploration. Therefore, the risk of expansive soil affecting the proposed improvements is low. Miller Pacific determined that there would be **no significant impact**.
- e) The Project would not use septic tanks or other on-site land disposal systems. Therefore, **no impact** would result from any such systems at the site.

VII. Greenhouse Gas Emissions

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

“Global warming” and “global climate change” are the terms used to describe the increase in the average temperature of the earth’s near-surface air and oceans since the mid-20th century and its projected continuation. Warming of the climate system is now considered to be unequivocal, with global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. Continued warming is projected to increase global average temperature between 2 and 11°F over the next 100 years.

Natural processes and human actions have been identified as the causes of this warming. The International Panel on Climate Change concludes that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward. After 1950, however, increasing greenhouse gas (GHG) concentrations resulting from human activity such as fossil fuel burning and deforestation have been responsible for most of the observed temperature increase. These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

Increases in GHG concentrations in the earth’s atmosphere are thought to be the main cause of human-induced climate change. GHG naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. Some GHG occur naturally and are necessary for keeping the earth’s surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Gases that trap heat in the atmosphere are referred to as GHG because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse

does. The accumulation of GHG has been implicated as the driving force for global climate change. The primary GHG are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), ozone, and water vapor.

While the presence of the primary GHG in the atmosphere are naturally occurring, CO₂, CH₄, and N₂O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHG include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. Greenhouse gases are typically reported in "carbon dioxide-equivalent" measures (CO₂e).¹⁴

There is international scientific consensus that human-caused increases in GHG have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.¹⁵

- a) The CalEEMod was used to quantify GHG emissions associated with construction activities, as well as operational emissions produced by motor vehicles, natural gas combustion for space and water heating, electricity use, and landscape maintenance equipment. CalEEMod incorporates GHG emission factors for the central electric utility serving the Bay Area and mitigation measures based on the California Air Pollution Control Officer's Association *Quantifying Greenhouse Gas Mitigation Measures*¹⁶ and the *California Climate Action Registry General Reporting Protocol*.¹⁷

The proposed project's estimated construction and operational GHG emissions are presented in **Table GHG-1**. The estimated construction GHG emissions are 351 metric tons of CO₂e. As indicated, 30-year amortized annual construction related GHG emissions would be 12 metric tons of CO₂e. There is no BAAQMD CEQA significance threshold for construction-related GHG emissions. The GHG construction and operational emissions would be 112 metric tons per year, which is below the BAAQMD threshold of 1,100 metric tons. Therefore, the Project's construction GHG emissions would constitute a **less than significant impact**.

¹⁴ Because of the differential heat absorption potential of various GHG, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

¹⁵ U.S. Environmental Protection Agency, Climate Change Facts: Answers to Common Questions, <https://www.epa.gov/climatechange/frequently-asked-questions-about-climate-change>

¹⁶ California Air Pollution Control Officer's Association (CAPCOA) *Quantifying Greenhouse Gas Mitigation Measures*, August 2010, <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

¹⁷ California Climate Action Registry General Reporting Protocol, April 2008, http://www.climateactionreserve.org/wp-content/uploads/videos/GRP_V3_April%202008_FINAL.pdf

Table GHG-1: Estimated Greenhouse Gas Emissions (metric tons)

<i>Emission Source</i>	<i>Annual CO₂e Metric Tons</i>
Construction (30-year amortized)	351 (12)
Operations	
Area Sources	0.01
Energy	69.7
Mobile	0.00
Solid Waste	10.1
Water	19.8
Total Emissions (Construction plus Operations)	112
<i>BAAQMD Brightline Threshold</i>	1,100
Potentially Significant?	No

Source: CARB CalEEMod Version 2013.2.2.

- b) California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other

sectors that are not anticipated to significantly increase emissions. Under AB 32, CARB must adopt regulations to achieve reductions in GHG to meet the 1990 emissions cap by 2020. In September of 2016, AB 32 was extended to achieve reductions in GHG of 40 percent below 1990 levels by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

The City of Novato adopted the Novato Climate Change Action Plan (CCAP) in 2009.¹⁸ The Climate Action Plan will be a roadmap for how the County will reduce energy consumption and GHG emissions to meet State GHG emissions targets (AB 32). The principal State plan and policy adopted for the purpose of reducing GHG emissions is AB 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. Statewide plans and regulations such as GHG emissions standards for vehicles and the low carbon fuel standard are being implemented at the statewide level, and compliance at the specific plan or project level is not addressed. The assumption is that AB 32 will be successful in reducing GHG emissions and reducing the cumulative GHG emissions statewide by 2020. The State has taken these measures, because no project individually could have a major impact (either positively or negatively) on the global concentration of GHG. Therefore, the proposed project would result in a significant impact if it would be in conflict with AB 32 State goals. The proposed project has been reviewed relative to the AB 32 measures and it has been determined that the proposed project would not conflict with the goals of AB 32.

The proposed project was determined to be consistent with the Novato's Climate Action Plan and General Plan. Other existing regulations, such as those implemented through AB 32, will continue to reduce a proposed project's contribution to climate change. Therefore, the proposed project's GHG emissions would not conflict with state, regional, and local GHG reduction plans and regulations, and the proposed project's contribution to GHG emissions would not be cumulatively considerable or generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. For these reasons, the proposed project would result in a **less than significant impact** to greenhouse gas emissions.

¹⁸ City of Novato, *Climate Change Action Plan*, 2009,
http://www.marinclimate.org/sites/default/files/documents/novato_climate_action_plan.pdf

VIII. Hazards and Hazardous Materials

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
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?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?		X		
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 it create a significant hazard to the public or the environment?			X	
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?				X
f) For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing in the Project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

- a) Project construction activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, the construction contractor would be required to implement a Stormwater Pollution Prevention Plan during construction activities to prevent contaminated runoff from leaving the Project site. Therefore, no significant impacts would occur during construction activities.

In addition, the proposed Project would not be a large-quantity user of hazardous materials. Small quantities of hazardous materials would likely be used on site, including cleaning solvents (e.g., degreasers, paint thinners, and aerosol propellants), paints (both latex- and oil-based), acids and bases (which are included in many cleaners), disinfectants, herbicides, and fertilizers. These substances would be stored in secure areas and would comply with all applicable storage, handling, usage, and disposal requirements. The potential risks posed by the use and storage of these hazardous materials are limited primarily to the immediate vicinity of the materials. Any transport of these materials would be required to comply with various federal and state laws regarding hazardous materials transportation.

In summary, the proposed Project would not create a significant hazard to the public or the environment from routine transport, use, or disposal of hazardous materials and impacts would be **less than significant**.

- b) Naturally occurring asbestos (NOA) is commonly found in association with serpentinite and associated ultramafic rock types. These rocks are a major constituent of the Franciscan Complex, which underlies vast portions of the greater San Francisco Bay Area. The site is underlain by relatively thick native alluvial soils. Therefore, the likelihood that significant deposits of naturally-occurring asbestos will be encountered at the site is low. Therefore, there is **no significant impact** related to NOA fibers.

Miller Pacific did not observe hazardous materials during their subsurface exploration. While environmental testing for hazardous materials was beyond their scope of our services, they observed enclosures containing HVAC units and other industrial equipment that has the potential for creating hazardous materials. Therefore, they determined that there is a low to moderate potential for hazardous materials being present on the project site, currently or in the future. Such impacts are considered to be **less than significant with mitigation**.

- c) The Center for the Sciences is proposed on a site that currently contains portable modular buildings. These portables would be removed from the site and relocated elsewhere on campus prior to the start of construction activities. The portables could eventually be demolished but this is not currently proposed as part of the project. Three of the existing tennis courts would be replaced with a new Center for the Arts and would require excavation. Construction of the proposed Project would not result in emission of hazardous materials or wastes that would pose a serious health risk to school activities (see also the discussion of health risks in the Air Quality section of this IS, above). There are no known significant or extraordinary conditions associated with the Project that would result in the release of hazardous or acutely hazardous materials, substances, or waste, although relocation of the existing portables could present a risk depending upon the materials contained in the building. Therefore, Mitigation Measure HAZ-1 below, should be implemented to reduce or eliminate impacts. These impacts would be **less than significant with mitigation**.
- d) The Project site is not on the Cortese List of hazardous materials sites. There are no contaminated sites in the vicinity of the Novato High School. The closest listed hazardous materials clean-up site is a voluntary clean up taking place at 936 7th Street in Novato, approximately a mile and a half northeast of the school (<http://www.envirostor.dtsc.ca.gov/public/mapfull.asp?> accessed August 28, 2018). Therefore, the site is not considered subject to substantial hazardous materials contamination, and any health impacts from local contamination would be **less than significant**.
- e) Gness Field, the Marin County owned and run airport is located approximately five miles north of the Project site. The proposed Project would be compatible with airport land uses because it would not extend into the protected air space, would not create aviation safety hazards for persons residing or working in the Project vicinity, and would not be subject to airport noise issues. Therefore, it would have **no impact**.
- f) The Project is not located in the vicinity of a private airstrip. Therefore, there would be **no impact** associated with safety hazards from such airstrips.
- g) The re-development of the existing school site does not include new roads or uses that would interfere with the City's emergency response or evacuation plans. The Project would be designed to facilitate emergency traffic through and around the site, in accordance with the City of Novato's Fire Department development standards. During construction, emergency routes would remain open and emergency response plans would not be affected. The impact would be **less than significant**.
- h) The Project site is surrounded by developed urban and uses and open space and is not within, but is adjacent to, the Wildland Urban Interface <http://www.novatofire.org/home/showdocument?id=106>.

While wildland fires have become more prevalent and have, in some cases spread to developed areas, the project would not introduce a new population to the area or increase the likelihood of wildland fires spreading. Therefore, the Project would have **no impact** on wildland fires.

Mitigation Measures

Mitigation Measure HAZ-1: The school and District should comply with all local, state, and federal guidelines to minimize the exposure to hazardous materials. If a possible hazardous material spill occurs on campus, a qualified environmental specialist should be consulted

IX. Hydrology and Water Quality

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?		X		
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)?				X
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?		X		
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?		X		
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?			X	
f) Otherwise substantially degrade water quality?		X		
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?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?		X		
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
j) Inundation by seiche, tsunami, or mudflow?				X

a, c, d, f) Under Section 402 of the Clean Water Act, the U.S. EPA has established regulations through the National Pollution Discharge Elimination System (NPDES) stormwater program to control stormwater discharges, including those associated with construction activities. The NPDES stormwater permitting program regulates stormwater quality from construction sites. The State Construction General Permit (CGP) requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) and the use of appropriate best management practices (BMPs) for erosion control and spill prevention during construction. Dischargers whose Projects disturb one or more acres of soil or whose Projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the CGP for Discharges of Stormwater Associated with Construction Activity (CGP Order 2009-0009-DWQ).

The City of Novato is under the jurisdiction of the Marin County Flood Control and Water Conservation District (MCFCWCD), which manages stormwater and flooding problems in Marin County and is responsible for administering the Marin County Stormwater Pollution Prevention Program (MCSTOPPP) and FEMA Flood Insurance Program. (City of Novato Existing Conditions Report, 2016, page 12-3)

The Project site is relatively flat and mostly covered with the impervious surfaces of the existing buildings and paved areas, with limited areas of raw land. Development of the proposed Project would require disturbance and light grading of much of the two building sites to be redeveloped, as described in the Project Description. Approximately 1,310 cubic yards of cut and 660 cubic yards of fill would be required onsite. However, minimal topographic changes would occur, and the sites would remain essentially flat.

During construction activities, there would be a potential for surface water to carry sediment from on-site erosion and small quantities of pollutants into the City's stormwater system and, ultimately, San Francisco Bay. Soil erosion may occur along Project boundaries during construction in areas where temporary soil storage may be required. Small quantities of pollutants may enter the storm drainage system, potentially degrading water quality.

Construction of the proposed Project also would require the use of gasoline and diesel-powered heavy equipment. Chemicals such as gasoline, diesel fuel, lubricating oil, hydraulic oil, lubricating grease, automatic transmission fluid, paints, solvents, glues, and other substances would be used during construction. An accidental release of any of these substances could degrade the water quality of the surface water runoff and add additional sources of pollution into the drainage system.

The proposed Project would be required to comply with the State CGP. The District would be required to develop and implement a SWPPP that identifies appropriate construction BMPs in order to minimize potential sedimentation or contamination of storm water runoff generated from the Project site. The SWPPP would identify the risk level for erosion and

sedimentation and how much monitoring of potential pollutants is required. Implementation of a SWPPP as required would ensure that the construction of the proposed Project would not violate any water quality standards or waste discharge requirements and reduce potential impacts to a less-than-significant level, as described in Mitigation Measure HYD-1.

As required under State Water Resources Control Board Order No. R2 2009-0074, the City of Novato requires regulated Projects, such as this one, to prepare a Stormwater Control Plan (SWCP). The SWCP must include post-construction stormwater treatment measures such as bio-retention facilities and source controlled BMPs. The SWCP must also address ongoing maintenance of those facilities.

Prior to the issuance of grading permits or building permits (whichever occurs first), the Project would be required to obtain coverage under the State CGP (NPDES General Permit for Stormwater Discharges Association with Construction Activity (Order 2009-0009 DWQ) by preparing a Stormwater Pollution Prevention Plan (SWPPP) and submitting it along with a notice of intent, to the San Francisco Bay RWQCB. The SWPPP shall identify a practical sequence for BMP implementation and maintenance, site restoration, contingency measures, responsible parties, and agency contacts. The SWPPP would include but not be limited to the following elements:

- Temporary erosion control measures would be employed for disturbed areas.
- No disturbed surfaces would be left without erosion control measures in place during the winter and spring months. Cover disturbed areas with soil stabilizers, mulch, fiber rolls, or temporary vegetation.
- Sediment would be retained on site by a system of sediment basins, traps, or other appropriate measures. Drop inlets shall be lined with filter fabric/geotextile.
- The construction contractor would prepare Standard Operating Procedures for the handling of hazardous materials on the construction site to eliminate or reduce discharge of materials to storm drains. This may include locating construction-related equipment and processes that contain or generate pollutants in a secure area, away from storm drains and gutters, and wetlands; parking, fueling, and cleaning all vehicles and equipment in the secure area; designating concrete washout areas; and preventing or containing potential leakage or spilling from sanitary facilities.
- BMP performance and effectiveness would be determined either by visual means where applicable (e.g., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination (such as inadvertent petroleum release) is required by the RWQCB to determine adequacy of the measure.

- o In the event of significant construction delays or delays in final landscape installation, native grasses or other appropriate vegetative cover would be established on the construction site as soon as possible after disturbance, as an interim erosion control measure throughout the wet season.

The proposed Project would not markedly increase impervious surface coverage on the Project site. Therefore, peak runoff would not be expected to increase over existing conditions.

Potentially contaminated runoff from the new impervious areas would occur, but these would be minimal given the proposed school use and minimal increase in parking areas.

Implementation of the Construction General Permit requirements described above, as well as Mitigation Measures HYD-1 and HYD-2, below, would reduce the other water quality impacts described above to a **less-than-significant** level.

- b) The City of Novato does not rely on groundwater for any part of its water supply. (City of Novato Existing Conditions Report, 2016, page 12-5) Water is provided by the North Marin Water District. No new students or staff would be added as a result of the project, so there would be no increase for water demand. The project would include low-flow fixtures and water-conserving landscaping, which would provide water supply efficiencies. No groundwater wells or other supplies would be required. Therefore, the proposed Project would not contribute to depletion of groundwater supplies and **no impact** would occur to groundwater.
- e) As discussed in Item a) above, the Project would not markedly increase impervious surfaces and runoff on the site. A bioretention pond would be created adjacent to the Center for the Sciences site to store runoff. Other drainage improvements for the Center for the Sciences site include raising existing catch basins to finish grade, installation of new catch basins, and new connections to the existing storm drain pipe. For the Center for the Arts site, a new catch basin and trench drain would be installed along with new piping to connect to the drainage system. Drainage from the site would be directed to the existing City stormwater system in Arthur Street. Peak flows would not exceed existing peak site conditions. The District would coordinate any new connections with the City. Therefore, impacts to runoff would be **less than significant**.
- g, h) This site is located in a "zone of minimal flood hazard." (ABAG Resilience Program, <http://gis.abag.ca.gov/website/Hazards/?hlvr=northSanAndreas&co=6081>, accessed October 25, 2018). As discussed above under Geology and Soils, above, it is not in the mapped tsunami runup zone. Nor is it in a 100-year or 500-year flood hazard zone. As sea levels rise, the potential for flooding may increase, depending on the timing/adequacy of flood protection measures. Because the project site is not mapped within a FEMA 100-

year or 500-year flood, large scale flooding does not present a significant risk to the project. However, the project Civil Engineer or Architect is should evaluate localized flooding potential and provide appropriate mitigation. Flood hazard impacts would be **less than significant with mitigation**. See mitigation measure **HYD-3**, below.

- i) The project site is located approximately four miles southeast from Stafford Lake Dam. Stafford Lake Dam is under the Division of Dam Safety (DSOD) jurisdiction, which routinely monitors and evaluates the dam conditions. An inundation map of Novato Creek from a hypothetical failure of Stafford Dam (City of Novato) shows the limit of inundation at the site as being along Novato Boulevard to the south of the site. Therefore, based on the aforementioned references the threat of dam failure inundation is low and there would be **no significant impact**.
- j) Seiches and tsunamis are seismically induced large waves of water. Because of the distance of the site from any large water body and the elevation of the site well above sea level, there is little potential for a tsunami to affect Novato (City of Novato Existing Conditions Report, 2016, Page 12-7). Therefore, the proposed Project would have **no impact** to future occupants of the project due to inundation by seiche, tsunami or mudflow.

Mitigation Measures

Mitigation Measure HYD-1: Prior to the issuance of grading permits for the proposed Project, the Project engineers shall prepare a Stormwater Control Plan. The Stormwater Control Plan shall identify pollution prevention measures and practices to prevent polluted runoff from leaving the Project site.

Mitigation Measure HYD-2: The District shall maintain in perpetuity the post-construction BMPs listed in the Stormwater Operations and Management Plan. The owner shall make changes or modifications to the BMPs to ensure peak performance. The owner shall be responsible for costs incurred in operating, maintaining, repairing, and replacing the BMPs. The owner shall conduct inspection and maintenance activities and complete annual reports.

Mitigation Measure HYD-3: The project Civil Engineer or Architect should evaluate the risk localized flooding and provide appropriate storm drain design.

X. Land Use and Planning

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

- a) The proposed Center for the Arts and Center for the Sciences would be located within the existing Novato High School Campus. The Center for the Sciences would replace nine portable buildings being used as classrooms. The Center for the Arts would replace three tennis courts. Because the proposed uses are educational facilities and the types of land uses would not change, and because development would occur within the existing campus, the Project would not alter the land use mix or divide any communities: there would be **no impact**.
- b) The Novato High campus is designated as Community Facilities (CF) on the City of Novato General Plan Land Use Map (City of Novato 1996) and on the City of Novato Zoning Map (City of Novato 2001). The existing educational uses onsite would not change with the project. The existing and proposed educational uses are consistent with the General Plan and Zoning designations. The Project would have **no impact** on plan conformance.
- c) The Project site is not located within the boundaries of a habitat conservation plan or a natural community conservation plan; therefore, the Project would not conflict with any habitat plans and there would be **no impact**.

XI. Mineral Resources

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Impact Discussion

- a, b) The Project site is designated Community Facilities (CF) in the City of Novato General Plan and consists of an urban parcel developed with school facilities and playfields. The site is not identified in the City's General Plan as a site containing mineral resources that would be of local, regional, or statewide importance; therefore, the Project is not considered to have any impacts on mineral resources (Novato General Plan Land Use Map, 1996). The Project area is also outside of any areas designated by the State Mining and Geology Board as containing regionally significant PCC-grade aggregate resources (used in concrete). (City of Novato General Plan 2035, Figure EL-7, 2016) The Project site does not contain any known mineral deposits or active mineral extraction operations. Therefore, there would be **no impact** to mineral resources.

XII. Noise

Would the Project result in:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?			X	
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?			X	
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?				X
f) For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?				X

Background

The proposed buildings would be adjacent to other high school uses. The closest residences are to the east of the campus, approximately 200 feet from the project's closest proposed grading area where the nine portables are currently located, and the Center for the Sciences is proposed. The tennis courts, the location of the proposed Center for the Arts site, is approximately 500 feet from the closest residence.

Noise Descriptors

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound pressure level has become the most common descriptor used to characterize the "loudness" of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120

to 140 dB corresponding to the threshold of pain. Decibels are measured using different scales, and it has been found that A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. All references to decibels (dB) in this report will be A-weighted unless noted otherwise.

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A-weighted sound level over a given time period (Leq)¹⁹; day-night 24-hour average sound level (Ldn)²⁰ with a nighttime increase of 10 dB to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL)²¹, also a 24-hour average that includes both an evening and a nighttime sensitivity weighting. Table Noise-1 identifies decibel levels for common sounds heard in the environment.

Table Noise-1: Typical Noise Levels

Noise Level (dB)	Outdoor Activity	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock Band
80-90	Diesel truck at 50 feet	Loud television at 3 feet
70-80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60-70	Commercial area	Normal speech at 3 feet
40-60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20-40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10-20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

Source: (modified from Caltrans Technical Noise Supplement, 1998)

Regulatory Framework

State Guidelines

State Land Use Compatibility Standards for Community Noise are provided in the State of California General Plan Guidelines. The guidelines indicate that for Schools, a Community Noise

¹⁹The Equivalent Sound Level (Leq) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time-varying sound energy in the measurement period.

²⁰Ldn is the day-night average sound level that is equal to the 24-hour A-weighted equivalent sound level with a 10-decibel penalty applied to night between 10:00 p.m. and 7:00 a.m.

²¹CNEL is the average A-weighted noise level during a 24-hour day, obtained by addition of 5 decibels in the evening from 7:00 to 10:00 p.m., and an addition of a 10-decibel penalty in the night between 10:00 p.m. and 7:00 a.m.

Exposure up to 70 dB (Ldn or CNEL) is Normally Acceptable, as well as Conditionally Acceptable (OPR 2003).

Novato General Plan

The Safety and Noise Chapter of the Novato General Plan identifies and evaluates community noise sources and problems and includes standards for noise exposure. Safety and Noise Element (SF) Table 3 (Noise and Land Use Compatibility Standards) indicates that for Schools, an Exterior Noise Exposure of 60 dB (Ldn or CNEL) is Normally Acceptable and an Exterior Noise Exposure of 75 dB (Ldn or CNEL) is Conditionally Acceptable (City of Novato 1996).

Novato Noise Ordinance

The Novato Noise Ordinance (City of Novato 2017) sets allowable exterior noise levels. Residential standards apply to sensitive receptors such as schools and are listed as a maximum noise level of 60 dBA during the daytime (6 a.m. to 10 p.m.) and 45 dBA during the night (10 p.m. to 6 a.m.) measured at the property line. The following are exempt from the allowable noise level requirements:

- Authorized construction activities, including warming-up or servicing of equipment, and any preparation for construction between 7 a.m. and 6 p.m. on weekdays, and between 10 a.m. and 5 p.m. on Saturdays. No construction is allowed on Sundays or official federal national holidays, except as otherwise authorized herein by the Community Development Director.
- Authorized grading activities and equipment operations between 7 a.m. to 6 p.m. weekdays only, when City inspectors are available.
- Routine maintenance activities.
- Other construction activities as authorized in writing by the Community Development Director.

Significance Criteria

Operational noise impacts of the building expansions would be significant if they cause the Ldn to increase above 60 dBA or result in exceedance of noise standards contained in the Novato Noise Ordinance at nearby residential land uses. Temporary construction noise impacts would be significant if construction is not in compliance with the construction hours in the exemptions of the Noise Ordinance, or if construction would cause a substantial increase in ambient noise levels in the project vicinity and result in noise levels disruptive and annoying to outdoor activities.

Existing Noise Sources

RCH staff visited the Novato High School campus on Monday October 9 and Thursday October 12, 2017 to make noise observations. In general, the project area is a quiet location. The predominant source of existing noise in the vicinity of the project is traffic noise from Arthur Street. Other identified sources of existing noise in the vicinity of the project are dogs barking and crows cawing. For a separate project also at this campus, RCH conducted long-term (48-hour)

measurements from Tuesday October 10 through Wednesday October 11, 2017 (RCH, 2017). Data from one site revealed 24-hour noise levels (CNELs) of 54 and 51 dB (average of 53 dB CNEL). These CNEL levels indicate the area is very quiet. Noise measurements were made using Metrosonics db308 sound level meters calibrated before and after the measurements.

Existing Sensitive Receptors

Noise sensitive land uses are identified in the Novato General Plan Noise Element as schools, hospitals, convalescent homes, and libraries. Potential impacts on classrooms and adjacent school uses on the Novato High School campus are considered to be resolvable in-house, and as such these uses are not considered as separate sensitive receptors.

Though the General Plan does not identify residences as a noise-sensitive land use, they are commonly regarded as such, and are considered in this analysis. The nearest residences to the project site include homes to the east of the campus, 200 feet from the closest area of project grading where the Center for the Sciences is proposed. The closest residence to the proposed Center for the Arts site is approximately 500 feet away.

- a) Potential noise impacts associated with the project would be related to noise from the construction of the new buildings and/or long-term noise from the new buildings. However, the Project would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, so such impacts would be **less than significant**.

Construction Noise

Construction activities would result in temporary increases in ambient noise levels in the project vicinity. The project would comply with the construction hour guidelines set forth in the Novato Noise Ordinance, which permit construction activities between 7 a.m. and 6 p.m. on weekdays and between 10 a.m. and 5 p.m. on Saturdays. Typical construction hours would actually be more limited than permitted as typical hours would be 7:00 a.m. to 4:30 p.m., weekdays only.

During construction, construction worker traffic and construction-related material haul trips would raise ambient noise levels along local haul routes, but not substantially. Construction activities and associated traffic would occur primarily during the daytime, in compliance with the Novato Noise Ordinance exemption for construction noise.

Construction activities would require the use of numerous pieces of noise-generating equipment, such as excavating machinery (e.g., backhoes, excavators, etc.) and other construction equipment (e.g., compactors, graders, etc.). The noise levels generated by construction equipment would vary greatly depending upon factors such as the type and specific model of the equipment, the operation being performed, the condition of the equipment and the prevailing wind direction. As shown in Table Noise-2, maximum noise

levels generated by various types of construction equipment can range from 76 to 89 dB at 50 feet. The highest noise levels associated with construction activities typically occur during ground excavation and finishing (See Table Noise-3).

Given the values in Table Noise-3, construction activities at the proposed Center for the Sciences site would result in noise levels of approximately 69 dB at the nearest residence (200 feet away), and construction activities at the proposed Center for the Arts site would result in noise levels of approximately 68 dB at the nearest residence (500 feet away). Estimates would be slightly less considering that existing buildings would act as partial noise barriers and attenuate some of the construction noise.

Construction would occur within the daytime hours specified in the Novato Noise Ordinance, so the noise would be exempt from the Noise Ordinance decibel standards. No noise standards would be exceeded, and this impact would be **less than significant**.

Table Noise-2: Typical Noise Levels from Construction Equipment

Construction Equipment	Noise Level (dB Lmax at 50 feet)
Dump Truck	76
Compactor (ground)	83
Excavator	81
Jackhammers	89
Generator	81
Grader	85
Backhoe	78

Source: Federal Highway Administration, Roadway Construction Noise Model User's Guide, 2006

Table Noise-3: Typical Construction Activities Noise Levels

Construction Phase	Noise Level (dB Leq at 50 feet)
Ground Clearing	83
Excavation	88
Foundations	81
Erection	81
Finishing	88

Notes: Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

Leq = equivalent sound level

Source: U.S. Environmental Protection Agency, Legal Compilation, 1973

Operational Noise

After construction, there would be minimal noise generated by the new buildings, and this noise would not perceptibly affect surrounding land uses or conflict with adopted standards. The new buildings would produce roughly the same amount of noise as the existing buildings do currently. Future ambient noise levels would not be substantially greater than existing noise levels. No noise standards would be exceeded, and this impact would be less than significant.

Potential traffic noise impacts could be the impact of added traffic on sensitive receptors, or the impact of existing traffic on users of the new buildings. Added traffic from the project would be minimal. Therefore, the adjacent residences would not experience any perceptible increase in traffic noise. No noise standards would be exceeded, and this impact would be **less than significant**.

- b) Construction operations have the potential to result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. For most structures, a peak particle velocity (ppv) threshold of 0.5 inch per second or less is sufficient to avoid structural damage (FTA 2006). The project would not involve the use of any equipment or processes that would result in potentially significant levels of ground vibration (i.e., pile drivers that could be above 0.5 ppv) so this would be a **less-than-significant impact**.
- c) As discussed in a) above, future ambient noise levels in the project vicinity would not be substantially greater than existing noise levels. Therefore, permanent noise increases would be **less than significant**.
- d) As discussed in a) above, construction activities would result in a temporary increase of ambient noise levels in the project vicinity, but this impact would be **less than significant**.
- e) The project site is not located within an area covered by an airport land use plan or within two miles of a public or public use airport. Development on the site would not expose people working or residing at the project site to excessive airport noise levels and **no impact** would occur.
- f) There are no private airstrips located near the project site. The project would not increase onsite exposure to aircraft noise. Thus, **no impact** would occur.

XIII. Population and Housing

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

a) The proposed new Center for the Sciences and Center for the Arts would not directly increase the population because there is no housing component and would not indirectly increase housing (through increased demand) because the Project would not, in itself, generate any new demand. The site and surrounding areas are fully developed with urban land uses and the Project would replace, expand, and upgrade existing similar land uses on the site; therefore, it would not induce new development on nearby lands, and **no impact** would occur.

b), c) The Project site is currently a school facility, and the Center for the Sciences and Center for the Arts projects would not displace existing housing or people, so there would be **no impact**.

XIV. Public Services

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

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Fire protection?			X	
b) Police protection?				X
c) Schools?				X
d) Parks?				X
e) Other public facilities?			X	

- a) The City of Novato Fire Protection District (NFPD) provides fire protection and emergency medical services for the Project site. The nearest NFPD station (Station No. 61) is located at 7025 Redwood Boulevard, approximately 1.5 miles from the campus. The NFPD currently provides fire protection to the existing school facilities on the site and would continue to provide service to the proposed new, replacement and upgraded facilities. The new facilities would be required to meet current fire protection standards, and its design plans would be reviewed by the Division of the State Architect for fire and life safety provisions. Full emergency access to the field and trail would be provided. Because the Project would not add additional students or staff to the site or substantially alter the existing land uses on the site, and because the new buildings would meet current building and fire codes, the Project would not result in an increased demand for fire protection services and impact on fire protection would be **less than significant**.

- b) The City of Novato Police Department (NPD) provides police protection services for the Project site. The NPD station is located at 909 Machin Avenue, approximately 1.6 miles north of the Project site. The MVPD currently provides police protection to Novato High School and would continue to provide service if the new buildings were constructed. The Project plans would be reviewed by the Division of the State Architect for safety provisions. The project would not increase the number of students or staff onsite. Full emergency access to the site would be provided. Because there would be no increased demand for police protection services, there would be **no impact**.

- c) The proposed facilities would not increase the population or otherwise increase demands for school services. Therefore, the Project would have **no impact** on schools.

- d) As described above, the proposed Project would not result in an increase in residents and therefore, would not increase demand for any parks facilities. For this reason, the project would be expected to have **no impact** to recreational facilities

- e) As described above, the proposed Project would not result in an increase in residents and therefore, would not increase demand for any parks facilities. The existing five tennis courts near the parking lot, the site of the proposed Center for the Arts, would be reduced to just two courts and use of the remaining two would likely be restricted during construction. During construction, the three older tennis courts located to the south could be used (See Figure 5.) The school also plans to install five new tennis courts at the site to replace the three older courts. Full use of the existing softball field adjacent to the building sites would be temporarily curtailed during various construction phases, however, there are plans to relocate the softball field to a location adjacent and to the south of the baseball field.²²

For these reasons, the project would be expected to have a **less-than-significant impact** to recreational facilities.

No other public facilities would be required by the proposed Project. Therefore, there would be a **less-than-significant impact** to parks and other facilities.

²² Please note that, as part of a separate fields improvement project, the impacts of which will be reviewed under a separate CEQA documentation process, Novato High School plans to relocate the existing softball field to a location adjacent to and southeast of the baseball field; replace the three older tennis courts with five new tennis courts, along with new replacement lighting; replace the grass on the baseball and softball fields with artificial turf; and create a combination soccer/lacrosse practice field. It is expected that this would take place between June and December of 2019.

XV. Recreation

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated?				X
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

- a) As described in response to question d) under Public Services, above, the Project would have **no impact** on parks and other recreational facilities such that physical deterioration of the facility would occur or be accelerated.

- b) As described in response to question e) under Public Services above, the Project could temporarily reduce the number of tennis courts that would be available onsite and limit use of the existing softball field near the Center for the Sciences site during project construction. However, these courts and the field would be relocated, and such impacts would be **less than significant**.

XVI. Transportation/Traffic

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) 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 non-motorized 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?		X		
b) 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 county congestion management agency for designated roads or highways?		X		
c) 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?				X
d) Substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?			X	
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X

- a), b), d) Primary vehicular access to and from the site is and would continue to be via the existing driveway to the southwest portion of the campus located off of Arthur Street.

Because the project would not increase enrollment or staffing, no substantial additional long-term, operational trips would be generated as a result of the project and no change in current weekday morning and afternoon traffic is expected as a result of the project. No circulation modifications are proposed as part of the project. There may be a slight increase in the number of people attending performances on campus since the new Center for the Arts may be able to accommodate up to 20 additional people and it is estimated that there would be an additional ten performance/event nights per year. This increase in the number of evening performances would have **no impact** on transportation impacts creation of hazards, or conflicts with transportation related plans, ordinances, or policies.

While it is possible that the school may decide to rent out the new Center for the Arts to outside groups, there are no current contracts to do so. In the event that this is proposed, traffic impacts could be avoided by limit rentals to times when other well-attended events such as football games, back-to-school night, soccer tournaments, and open house are not occurring. If the school does eventually rent out the new Center for the Arts to outside groups more than six times a year, there is a possibility that transportation impacts creation of hazards, or conflicts with transportation related plans, ordinances, or policies could result, however they would be **less than significant with mitigation**. See mitigation measure T-1, below.

- c) Gness Field, the Marin County owned and run airport is located approximately 3.5 miles north of the Project site. The proposed Project would be compatible with airport land uses because it would not extend into the protected air space, would not create aviation safety hazards for persons residing or working in the Project vicinity, and would not be subject to airport noise issues. Therefore, it would have **no impact** on air traffic patterns.
- e) The Projects have been designed to allow adequate emergency access. The City of Novato Fire Protection District (NFPD) and the Division of the State Architect would review the Project plans for adequacy of emergency access. Any temporary lane closures during project construction would be subject to City of Novato review approval. Therefore, the Project would include adequate emergency access to the site and surrounding area. Impacts would be **less than significant**.
- f) Because the Project would maintain existing bus, bicycle and pedestrian access, it would not conflict with any adopted plans, policies, or programs that address alternative transportation, and there would be **no impact**.

Mitigation Measures

Mitigation Measure T-1: Prior to potential agreements are made to rent out the Center for the Arts to outside groups, the school shall prepare a Traffic Management Plan. The Traffic Management Plan shall identify measures such as staggering event times so there are not multiple high attendance events happening at the same time, carpooling, avoiding peak traffic periods, and other measures to avoid significant traffic impacts that could occur during overlapping, high attendance events.

XVII. Utilities and Service Systems

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e) Result in a determination by the wastewater treatment provider which serves the Project that it has adequate capacity to serve the Project's Projected demand in addition of the provider's existing commitments?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X

Background

Water and sanitary sewer mains maintained by the North Marin Water District and Novato Sanitary District.

Novato Boulevard is a major corridor for utility services for the City of Novato. There are major water, sanitary sewer, and storm drain utility service lines in Arthur Street that currently service the school and would also service the two replacement buildings. For water, there is a four-inch diameter main. For sanitary sewer, there is a six-inch diameter main. For storm drain, there is a 48-inch diameter main.

- a), b), e) The Novato Sanitary District provides wastewater collection services for Novato High School and would continue to do so for the proposed buildings. There would be no change in the amount of wastewater generated onsite because the projects would not result in an increase in enrollment or staffing. Therefore, the Project would not require expansion of either sanitary sewer mains or the Novato Treatment Plant. Therefore, the Project would have **no impact** to wastewater conveyance or treatment facilities.
- c) Stormwater runoff from the Project site would be directed to a bioretention basin and through pipes and into existing City of Novato storm drain system. As described in the Hydrology section above, the Project would minimally increase runoff from the site, resulting in **less-than-significant impacts** to storm drainage.
- d) The proposed Project would be served with potable water supplied by the North Marin Water District. The Project would not increase overall water demand because there would be no increase in enrollment or staffing as a result of the project and only minimal changes in landscaping, which would not be expected to increase irrigation demands. Therefore, the Project would have a **less-than-significant impact** on water use.
- f, g) Recology is Novato Sanitary District's new solid waste franchisee. They provide recycling, organics (green waste), and garbage collection services to the City of Novato. Because there would be no increase in students or staff as a result of the project, there would be **no impact** on solid waste.

IV. MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Issue	Potentially Significant	Potentially Significant Unless Mitigated	Less Than Significant	No Impact
a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species or eliminate important examples of the major periods of California history or prehistory?			X	
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?				X
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	
d) Does the Project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?			X	

- a) The proposed tree removal could affect nesting habitat of special-status birds. This impact is mitigated to a **less-than-significant** level by mitigation measures in the Biological Resources section of this IS. The site is not likely to contain any known historic resources or prehistoric resources, as discussed above in Section V. Cultural Resources. Compliance with the

mitigation measures for the unearthing of any unknown cultural resources would ensure all potential impacts associated with cultural resources would be reduced to a **less-than-significant** level.

- b) The proposed Project would not result in cumulative impacts that could be cumulatively considerable and potentially affect the general public and the environment. According to data obtained from the City of Novato website, there are two proposed projects near the Novato High campus that are not yet built – the Oakmont Senior Living project and the Landing Court Homes project. The Oakmont project includes a 72,600 square foot building to support 50 senior assisted living units and 28 senior memory care units at project proposed at 1461 South Novato Boulevard. The Landing Court Homes project is a proposal to redevelop a site currently being used for RV, boat and trailer storage on the north side of Landing Ct., opposite Public Storage, with 32 to 34 condominium units. <https://novato.org/government/community-development/planning-division/planning-projects> (accessed October 29, 2018). However, because the Project would not generate any new ongoing trips that would significantly impact traffic (the only trips would be construction-related temporary trips), the Project would not affect cumulative noise, or air quality in the study area or region. The only additional improvements proposed for Novato High are as part of a separate fields improvement project to be reviewed under separate CEQA documentation. The fields improvement project would relocate the existing softball field adjacent to and southeast of the baseball field; replace the three older tennis courts with five new tennis courts, along with new replacement lighting; replace the grass on the baseball and softball fields with artificial turf; and create a combination soccer/lacrosse practice field. It is expected that this would take place between June and December of 2019. While the construction periods for portions of these on campus projects would overlap, the fields improvement projects would not be expected to significantly contribute to traffic, noise, air quality, or other impacts that would contribute to cumulatively considerable conditions. The new Center for the Sciences and Center for the Arts would also not contribute significantly to impacts associated with other projects because mitigation measures have been identified for the project to reduce them to less than significant levels. And, any projects with the potential for significant impacts would likewise require mitigation measures. Because the project would have no considerable contribution to the cumulative effects of other proposed projects in Novato, there would be **no impact**.
- c) The proposed Project would not increase long-term air pollutant emissions and greenhouse gasses because it would not add any of new workers or visitors to the site. Construction emissions would not be considered great enough to directly or indirectly have an adverse effect on residents living in the area, and mitigation measures would reduce any such emissions to less than significant levels. The Project's hazards to human health and safety would be less than significant, as described in Section VIII of this Initial Study. The impact would be **less than significant**.

- d) As described in this document, long-term environmental effects of the Project would be less than significant. The site already houses school and related facilities and would continue to do so with the Project, so long-term environmental values of the site would not be substantially altered compared to existing conditions. This impact would be **less than significant**.

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**APPENDIX A: CULTURAL AND TRIBAL RESOURCES
DOCUMENTATION**

**Native American
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NATIVE AMERICAN HERITAGE COMMISSION

Cultural and Environmental Department
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November 27, 2018

Jason Coleman
Solano Archaeological Services

Sent by Email: Jason@solanoarchaeology.com
Number of Pages:

RE: Novato Highschool STEM and Performing Arts Center, Marin County

Dear Mr. Coleman:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* (SLF) was completed for the area of potential project effect (APE) for the above referenced project. **Sacred sites were identified in the project area provided.** Please contact the Federated Indians of Graton Rancheria directly for more information about potential sacred sites and tribal cultural resources within your APE.

The absence of site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE. Other sources of cultural resources information should be contacted regarding known and recorded sites. Please contact all of the people on the attached list. The list should provide a starting place to locate areas of potential adverse impact within the APE. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. **By contacting all those on the list, your organization will be better able to respond to claims of failure to consult under applicable laws.** If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: Sharaya.Souza@nahc.ca.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Sharaya Souza".

Sharaya Souza
Staff Services Analyst
(916) 573-0168

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**NATIVE AMERICAN CONSULTATION LOG FOR
NOVATO HS CENTER FOR THE SCIENCES AND CENTER FOR THE ARTS
PROJECT**

Native American Consultant	Date of Correspondence	Responses
Buffy McQuillen, THPO	11/2/18	Emailed making transition to SAS from old archaeologist. SAS stated that once a full records search and NAHC Sacred Land File search were conducted that SAS would immediately give them the results.
	11/4/18	Ms. McQuillen asked if Ellen was no longer working on the project. SAS replied and said she has been replaced by SAS and not working on the project any longer.
	11/21/18	SAS emailed the records search results and asked for information regarding unrecorded sites in and adjacent to the project area.
	11/30/18	SAS emailed the NAHC results, indicating that both schools lie on Sacred Lands identified by the NAHC. The NAHC stated that the Graton Rancheria should be contacted for further information.
	12/3/18	SAS telephoned Ms. McQuillen and left a voicemail introducing myself and asking for a call back to discuss project recommendations and information on the Sacred Lands.
Antonette Tomic	11/2/18	Emailed making transition to SAS from old archaeologist. SAS stated that once a full records search and NAHC Sacred Land File search were conducted that SAS would immediately give them the results.
	11/21/18	SAS emailed the records search results and asked for information regarding unrecorded sites in and adjacent to the project area.
	11/30/18	SAS emailed the NAHC results, indicating that both schools lie on Sacred Lands identified by the NAHC. The NAHC stated that the Graton Rancheria should be contacted for further information.
Gene Buvelot	11/21/18	SAS emailed the records search results and asked for information regarding unrecorded sites in and adjacent to the project area.
	11/30/18	SAS emailed the NAHC results, indicating that both schools lie on Sacred Lands identified by the NAHC. The NAHC stated that the Graton Rancheria should be contacted for further information.

MARIN COUNTY, CALIFORNIA

SAS Contact: Jason A. Coleman, M.A., R.P.A.

APPENDIX B: COMMENTS AND RESPONSES ADDENDUM

APPENDIX C: MITIGATION MONITORING AND REPORTING PROGRAM