



Costco Fuel Center Project

Draft Environmental Impact Report

prepared by

City of Novato
Community Development Department
922 Machin Avenue
Novato, California 94945
Contact: Brett Walker, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
4825 J Street, Suite 200
Sacramento, California 95819

October 2025

Table of Contents

Executive Summary	ES-1
Project Synopsis	ES-1
Project Objectives	ES-2
Alternatives	ES-2
Areas of Known Controversy	ES-3
Issues to be Resolved	ES-4
Issues Not Studied in Detail in the EIR	ES-5
Summary of Impacts and Mitigation Measures	ES-5
1 Introduction	1-1
1.1 Environmental Impact Report Background	1-1
1.2 Purpose and Legal Authority	1-3
1.3 Scope and Content	1-4
1.4 Issues Not Studied in Detail in the EIR	1-5
1.5 Lead, Responsible, and Trustee Agencies	1-5
1.6 Environmental Review Process	1-5
2 Project Description	2-1
2.1 Project Applicant	2-1
2.2 Lead Agency Contact Person	2-1
2.3 Project Location	2-1
2.4 Existing Site Characteristics	2-4
2.4.1 Current Land Use Designation and Zoning	2-4
2.4.2 Surrounding Land Uses	2-4
2.5 Project Characteristics	2-4
2.5.1 Proposed Site Plan	2-5
2.5.2 Parking and Site Access	2-9
2.5.3 Utilities	2-9
2.5.4 Construction and Grading	2-10
2.5.5 Safety Features	2-10
2.6 Project Objectives	2-12
2.7 Required Approvals	2-12
3 Environmental Setting	3-1
3.1 Regional Setting	3-1
3.2 Project Site Setting	3-2
3.3 Cumulative Setting	3-2

4	Environmental Impact Analysis	4-1
4.1	Air Quality	4.1-1
4.1.1	Setting.....	4.1-1
4.1.2	Regulatory Setting	4.1-5
4.1.3	Impact Analysis	4.1-10
4.1.4	Cumulative Impacts	4.1-25
4.2	Biological Resources.....	4.2-1
4.2.1	Setting.....	4.2-1
4.2.2	Regulatory Setting	4.2-4
4.2.3	Impact Analysis	4.2-7
4.2.4	Cumulative Impacts	4.2-12
4.3	Cultural Resources	4.3-1
4.3.1	Setting.....	4.3-1
4.3.2	Regulatory Setting	4.3-8
4.3.3	Impact Analysis	4.3-11
4.3.4	Cumulative Impacts	4.3-15
4.4	Geology and Soils	4.4-1
4.4.1	Setting.....	4.4-1
4.4.2	Regulatory Setting	4.4-4
4.4.3	Impact Analysis	4.4-7
4.4.4	Cumulative Impacts	4.4-14
4.5	Energy and Greenhouse Gas Emissions	4.5-1
4.5.1	Setting.....	4.5-1
4.5.2	Regulatory Setting	4.5-8
4.5.3	Impact Analysis	4.5-19
4.5.4	Cumulative Impacts	4.5-29
4.6	Hazards and Hazardous Materials	4.6-1
4.6.1	Setting.....	4.6-1
4.6.2	Regulatory Setting	4.6-3
4.6.3	Impact Analysis	4.6-8
4.6.4	Cumulative Impacts	4.6-16
4.7	Hydrology and Water Quality	4.7-1
4.7.1	Setting.....	4.7-1
4.7.2	Regulatory Setting	4.7-5
4.7.3	Impact Analysis	4.7-12
4.7.4	Cumulative Impacts	4.7-18
4.8	Transportation	4.8-1
4.8.1	Setting.....	4.8-1
4.8.2	Regulatory Setting	4.8-3

4.8.3	Impact Analysis	4.8-6
4.8.4	Cumulative Impacts	4.8-13
4.9	Tribal Cultural Resources	4.9-1
4.9.1	Setting	4.9-1
4.9.2	Regulatory Setting	4.9-2
4.9.3	Impact Analysis	4.9-4
4.9.4	Cumulative Impacts	4.9-6
5	Other CEQA Required Discussions	5-1
5.1	Growth Inducement	5-1
5.1.1	Population Growth	5-1
5.1.2	Economic Growth	5-1
5.1.3	Removal of Obstacles to Growth	5-2
5.2	Irreversible Environmental Effects	5-2
6	Alternatives	6-1
6.1	Alternatives Considered but Rejected	6-1
6.2	Alternative 1: No Project	6-2
6.2.1	Description	6-2
6.2.2	Impact Analysis	6-2
6.3	Alternative 2: Reduced Project	6-4
6.3.1	Description	6-4
6.3.2	Impact Analysis	6-5
6.4	Alternative 3: Alternative Location	6-10
6.4.1	Description	6-10
6.4.2	Impact Analysis	6-11
6.5	Environmentally Superior Alternative	6-20
7	References	7-1
7.1	Bibliography	7-1
7.2	List of Preparers	7-15

Tables

Table ES-1	Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts	ES-6
Table 1-1	NOP Comments and EIR Response	1-2
Table 3-1	Cumulative Projects List	3-3
Table 4.1-1	Representative Annual Ambient Air Quality Data	4.1-5
Table 4.1-2	Federal and State Ambient Air Quality Standards	4.1-6
Table 4.1-3	Air Quality Thresholds of Significance	4.1-11
Table 4.1-4	Project Construction Emissions	4.1-18
Table 4.1-5	Project Operational Average Daily Emissions	4.1-18
Table 4.1-6	Project Operational Maximum Annual Emissions	4.1-19

Table 4.1-7	Construction Health Risk Results.....	4.1-21
Table 4.1-8	Operational Health Risk Results	4.1-21
Table 4.1-9	Combined Construction and Operational Health Risk Results	4.1-22
Table 4.1-10	Estimated Maximum Localized Construction &Operational NO2 Concentrations	4.1-23
Table 4.1-11	Estimated Maximum Localized Mitigated Construction NO2 Concentrations.....	4.1-24
Table 4.1-12	Cumulative Health Risk.....	4.1-26
Table 4.5-1	2022 Annual Electricity Consumption	4.5-3
Table 4.5-2	2022 Annual Gasoline and Diesel Consumption.....	4.5-4
Table 4.5-3	Estimated Fuel Consumption During Construction	4.5-22
Table 4.5-4	Project Compliance with Energy Efficiency Goals and Policies	4.5-24
Table 4.5-5	Combined Annual Emissions of Greenhouse Gases	4.5-25
Table 4.5-6	Project Consistency with Plan Bay Area 2050	4.5-27
Table 4.5-7	Project Consistency with City of Novato 2030 General Plan.....	4.5-27
Table 4.8-1	Transit Routes Near the Project Site	4.8-2
Table 4.8-2	Average Shared Warehouse Plus Gas Trip Lengths.....	4.8-9
Table 4.8-3	Change in VMT Associated with Regional Shared Warehouse Plus Gas Trips	4.8-10
Table 4.8-4	Change in VMT Associated with Internal Shared Warehouse Plus Gas Trips.....	4.8-10
Table 4.8-5	Change in VMT Associated with Primary Gas-Only Trips	4.8-11
Table 4.8-6	Change in VMT Associated with Diverted Gas-Only Trips.....	4.8-11
Table 4.8-7	Change in VMT Associated with Pass-By Gas-Only Trips.....	4.8-12
Table 4.8-8	Overall Change in Daily VMT Associated with the Proposed Project.....	4.8-12
Table 6-1	Alternative 2 Average Daily Operational Emissions	6-5
Table 6-2	Alternative 2 Annual Operational Emissions.....	6-5
Table 6-3	Alternative 2 GHG Emissions	6-7
Table 6-4	Change in Regional Daily VMT Associated with Project Alterative	6-10
Table 6-5	Change in VMT Associated with Regional Shared Warehouse Plus Gas Trips	6-18
Table 6-6	Change in VMT Associated with Internal Shared Warehouse Plus Gas Trips.....	6-18
Table 6-7	Change in VMT Associated with Primary Gas-Only Trips	6-19
Table 6-8	Change in VMT Associated with Diverted Gas-Only Trips.....	6-19
Table 6-9	Change in VMT Associated with Pass-By Gas-Only Trips.....	6-19
Table 6-10	Overall Change in Daily VMT Associated with the Proposed Project.....	6-19
Table 6-11	Impact Comparison of Alternatives.....	6-21

Figures

Figure 1-1	Environmental Review Process.....	1-7
Figure 2-1	Regional Location	2-2
Figure 2-2	Project Site Location.....	2-3
Figure 2-3	Architectural Drawings	2-6
Figure 2-4	Project Site Plan.....	2-7

Figure 2-5 Vintage Way Striping Modification..... 2-8
 Figure 6-1 Hanna Ranch Mixed Use Project Conceptual Site Master Plan With Costco
 Gas Station..... 6-12

Appendices

Appendix A Initial Study, Notice of Preparation, and Public Scoping Comments
 Appendix B Costco Fueling Facility Program
 Appendix C Site Plan Package
 Appendix D Transportation Impact Analysis
 Appendix E Air Quality and Greenhouse Gas Assumptions and Calculations
 Appendix F Health Risk Assessment
 Appendix G Special-Status Species Tables
 Appendix H Cultural Resources Technical Memorandum (Confidential)
 Appendix I Geotechnical Study
 Appendix J Fuel Consumption Calculations
 Appendix K Stormwater Control Plan
 Appendix L Alternative 2 Assumptions and Calculations
 Appendix M-1 Kittelson Vehicle Miles Traveled Analysis
 Appendix M-2 Trans Peer Review

This page intentionally left blank.

Executive Summary

This document is an Environmental Impact Report (EIR) analyzing the environmental effects of the proposed Costco Fuel Center Project (proposed project). This section summarizes the characteristics of the proposed project, alternatives to the proposed project, and the environmental impacts and mitigation measures associated with the proposed project.

Project Synopsis

Project Applicant

Costco Wholesale
999 Lake Drive
Issaquah, Washington 98027

Lead Agency Contact Person

Brett Walker, AICP, Senior Planner
City of Novato
Community Development Department
922 Machin Avenue
Novato, California 94945
(415) 493-4711
bwalker@novato.org

Project Description

This EIR has been prepared to examine the potential environmental effects of the Costco Fuel Center Project. The following is a summary of the full project description, which can be found in Section 2, *Project Description*.

The project entails development of a new fuel facility in place of an existing parking area adjacent to an existing Costco Wholesale store (Costco), on an approximately 1.15-acre portion of the Costco parking lot site. Costco is a membership-only store, and the proposed project would be for use by Costco members, and not open to the general public who are not members. The project includes a 10,244-square-foot fuel dispenser canopy, 14 dispensers (28 fueling positions), three 40,000-gallon gasoline underground storage tanks (UST), one 1,500-gallon additive¹ UST, an approximately 125 square-foot controller enclosure, a vapor processing unit, directional striping, and an approximately 6,086 square-foot net increase in landscaped areas. Costco's Fueling Facility Program (Appendix B) provides details on proposed safety and design features intended to provide environmental safeguards and prevent public health or hazardous materials issues. Such features include monitoring during operational hours, emergency and automatic shut-offs, video surveillance, alarm systems, leak detection systems, the use of joint sealers, an oil/water separator, double-walled tanks, anchoring straps and reinforced concrete slabs, flexible piping connections, and Phase I and II Enhanced Vapor Recovery (EVR) systems (98 and 95 percent effective, respectively).

¹ Costco uses deposit control additives, which prevent new deposits from accumulating on critical engine parts (Costco 2024).

Project design is consistent with existing Costco architecture and Vintage Oaks Design Manual, incorporating consistent materials, colors, and under-canopy lighting. Proposed signage would adhere to the Vintage Oaks Master Sign Plan, and the fuel canopy's proposed maximum height is approximately 18.5 feet. The project would reduce impervious surface area by 1,796 square feet and increase landscaped area by approximately 6,086 square feet.

The project site is zoned as Planned Development (PD) within the Vintage Oaks Precise Development Plan (PDP) zone, and has a General Plan land use designation of General Commercial (CG). The proposed project would not modify the project site's General Plan land use or zoning designations.

The project would install two bioretention areas to retain stormwater runoff. One drainage management area would connect to the existing sanitary sewer and employ an oil/water separator, while the other drainage management area would remain untreated. The project includes several permanent source control and operational source control best management practices, specified in the Stormwater Control Plan for the project.

The project would remove 129 existing parking spaces from the Costco warehouse development. Additionally, one row of 62 parking spaces and associated tree planters would be relocated two (2) feet to the northwest to allow for adequate drive aisle spacing between the parking row and fuel facility. The project would also relocate an existing driveway on Vintage Way from approximately 320 feet south to approximately 260 feet south of the existing commercial building at 208 Vintage Way. Costco would modify a segment of Vintage Way to provide a left-turn pocket providing access to the relocated driveway.

Project Objectives

- Develop a new fuel facility as an extension of the Costco Wholesale in the Vintage Oaks Shopping Center to support the fueling needs of Costco members.
- Design and construct a project in accordance with Costco's Fueling Facility Program that provides details on proposed safety and design features intended to provide environmental safeguards and prevent public health or hazardous materials issues.
- Develop a fuel facility of a design providing safe and efficient vehicle circulation (customer vehicles and fuel trucks) and minimizing customer wait and vehicle idling times.

Alternatives

As required by the California Environmental Quality Act (CEQA), this EIR examines alternatives to the proposed project. Studied alternatives include the following four alternatives. Based on the alternatives analysis, Alternative 2 was determined to be the environmentally superior alternative.

- Alternative 1: No Project
- Alternative 2: Reduced Project
- Alternative 3: Alternative Location

Alternative 1 (No Project) assumes that the proposed fuel facility would not be constructed, the existing driveway along Vintage Way would not be relocated, the lane reconfiguration on Vintage Way would not occur, and the proposed landscaping and parking lot modifications would not occur. The No Project Alternative would not involve removing 129 parking spaces and the project site

would remain a parking lot for Costco and the Vintage Oaks Shopping Center. The No Project Alternative would not fulfill any project objectives because this alternative would not include construction and operation of a new fuel facility.

Alternative 2 (Reduced Project) would involve removal of 129 parking spaces in the Costco parking lot and construction of a new fuel facility within the project site, with a reduced number of pumps (10) and fueling positions (20) as compared to the proposed project. This alternative would also involve relocation of the existing driveway along Vintage Way, reconfiguration of the lanes along Vintage Way, and proposed landscaping, the same components as the proposed project. The reduction in gasoline fueling positions would thus reduce the annual gasoline throughput of the project alternative.

This alternative would generally fulfill all three project objectives as it would involve development of a new fuel facility to support the fueling needs of local Costco members, construction of a fuel facility in accordance with Costco's Fueling Facility Program, and would develop a fuel facility of a design providing safe and efficient vehicle circulation and minimizing customer wait and vehicle idling times. However, this alternative would less effectively fulfill the first project objective compared to the proposed project as it would not meet the full demand for gasoline fueling services by local Costco members.

Alternative 3 (Alternative Location) would involve construction of the proposed fuel facility in a different location, instead of in the existing Costco parking lot as proposed. The alternative site considered in this analysis is within the approved Hanna Ranch Mixed Use Project area, which is within the currently undeveloped area immediately southeast of the Vintage Oaks Shopping Center. Under this alternative, the fuel facility would be constructed southeast of the existing Costco warehouse, across the intersection of Vintage Way and Rowland Boulevard, in the undeveloped area east of the Beverly Ehreth Ecological Preserve and west of the railroad tracks. Demolition of the existing Costco parking lot would not be required. A driveway would be constructed at the southern intersection of Vintage Way and Rowland Boulevard to provide access to the fuel facility and the rest of the Hanna Ranch Mixed Use Project site. Figure 1 shows the conceptual master plan for the Hanna Ranch Mixed Use Project and the Costco fuel facility site included therein.

This alternative would fulfill all three project objectives as it would involve development of a new fuel facility to support the fueling needs of local Costco members, construction of a fuel facility in accordance with Costco's Fueling Facility Program, and would develop a fuel facility of a design providing safe and efficient vehicle circulation and minimizing customer wait and vehicle idling times.

Refer to Section 6, *Alternatives*, for the complete alternatives analysis.

Areas of Known Controversy

The EIR scoping process did not identify any areas of known controversy for the proposed project. Responses to the Notice of Preparation of a Draft EIR and input received at the EIR scoping meeting held by the City are summarized in Table 1-1 of Section 1, *Introduction*. Public scoping comments are also included in Appendix A.

Issues to be Resolved

The City of Novato is the sole agency with the authority to approve the proposed project's land use entitlements, including:

- **Use Permit.** The Vintage Oaks Precise Development Plan (PDP), the primary zoning/land use regulatory document applicable to the site, requires approval of a use permit for gas stations.
- **Design Review.** Design Review is required for new commercial development projects. A recommendation from the Design Review Commission on the project's design, architecture, and landscaping was made on October 7, 2020.

The following service districts require their own permits to approve the construction detail design and inspection and acceptance of various project serving improvements:

- **Novato Fire Protection District (NFPD)** would determine compliance with local fire code requirements for emergency access and life safety systems (e.g., fire sprinklers).
- **Novato Sanitary District (NSD)** is the wastewater utility at the project site. The sanitary district would review the project design and construction of new wastewater infrastructure associated with the project.
- **North Marin Water District (NMWD)** is the domestic and recycled water provider at the site. New domestic and recycled water connections will need to be designed to NMWD standards and approved by NMWD.

The following regional, state, and federal agencies would require their own permits, inspections, reporting and/or certifications prior to construction and/or operation of the gas station:

- **United States Environmental Protection Agency (USEPA)**
 - USEPA National Emissions Standards for Hazardous Air Pollutants Subpart CCCCCC (National Emission Standards for Hazardous Air Pollutants [NESHAP] 6C)
 - 120-Day Initial Notification for Gasoline Dispensing Facilities
 - 60-Day Notification of Performance Test
 - 180-Day Notification of Compliance Status/ Testing and Reports for Gasoline Dispensing Facilities
 - Tier II Chemical Reporting
 - Emergency Planning and Community Right-to-Know Act Hazardous Chemical Inventory Reporting
 - Class A/B Operator Training
- **California Department of Industrial Relations**
 - Trench/Excavation Permit
- **Marin County Certified Unified Program Agency (CUPA)**
 - Hazardous Materials/Waste Management Plan
 - Underground Storage Tank Permit to Install
- **Marin County Department of Agriculture, Weights, and Measures**
 - Gas Pump Inspection/Certification

- **Bay Area Air Quality Management District**
 - Authority to Construct/Permit to Operate
- **Regional Water Quality Control Board**
 - NPDES Construction General Permit

Issues Not Studied in Detail in the EIR

Section 1.4, *Issues Not Studied in Detail in the EIR*, lists the issues from the environmental checklist that were addressed in the Initial Study (Appendix A).

As indicated in the Initial Study, there is no substantial evidence that significant impacts would occur to the following issue areas: Aesthetics, Agricultural and Forestry Resources, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Utilities and Service Systems, and Wildfire.

Impacts to Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Energy and Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Transportation, and Tribal Cultural Resources were found to be potentially significant and are addressed individually in this EIR in sections 4.1 through 4.9.

Summary of Impacts and Mitigation Measures

Table ES-1 summarizes the environmental impacts of the proposed project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if required). Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per Section 15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the CEQA Guidelines.
- **Less than Significant.** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact:** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure (s)	Residual Impact
Air Quality		
Impact AQ-1. The project would not conflict with or obstruct the implementation of the applicable air quality plan. Impacts would be less than significant.	None Required	Less than significant
Impact AQ-2. The project would not result in a cumulatively considerable net increase of any criteria pollutants for which the project region is in non-attainment under an applicable federal or state air quality standard. Impacts would be less than significant.	None Required	Less than significant
Impact AQ-3. The project would not expose sensitive receptors to substantial pollutant concentrations as to carbon monoxide or toxic air contaminants. The project would expose sensitive receptors to substantial pollutant concentrations of NO ₂ during construction without mitigation. Implementation of mitigation measures will reduce construction NO ₂ emissions to below regulatory thresholds, therefore impacts would be less than significant with mitigation.	<p>AQ-1: Construction Emissions Reduction. Prior to issuance of grading permits, the following measures shall be noted on all construction plans:</p> <ul style="list-style-type: none"> ▪ All mobile off-road equipment (wheeled or tracked) greater than 50 horsepower used during construction activities shall meet the U.S. EPA Tier 4 final standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 final standards. ▪ Alternative Fuel (natural gas, propane, electric, etc.) construction equipment shall be incorporated where available. These requirements shall be incorporated into the contract agreement with the construction contractor. A copy of the equipment’s certification or model year specifications shall be available upon request for all equipment on-site. ▪ Electricity shall be supplied to the site from the existing power grid to support the electric construction equipment. If connection to the grid is determined to be infeasible for portions of the project, a non-diesel fueled generator shall be used. ▪ The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. 	Less than significant
Impact AQ-4. The project would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people. Impacts would be less than significant.	None Required	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
Biological Resources		
<p>Impact BIO-1. The project would not have a substantial adverse effect on special-status plant and animal species. Impacts would be less than significant with mitigation.</p>	<p>BIO-1: Nesting Bird Surveys and Avoidance. To avoid impacts to nesting birds, vegetation removal during construction of the project shall be limited to the period between September 1 and January 31 (i.e., outside the nesting season), if feasible. If vegetation removal cannot be conducted during this period, a qualified biologist shall conduct a pre-construction survey for active nests in and around the project site, no more than two weeks (14 days) prior to any construction activities. The surveys shall include the disturbance area plus a 200-foot buffer around the site if feasible, and a 500-foot buffer for raptors. If construction is delayed more than 14 days after the survey is conducted, the survey shall be repeated. If active nests are located, an appropriate avoidance buffer shall be established within which no work activity will be allowed which would impact these nests. The avoidance buffer would be established by the qualified biologist on a case-by-case basis based on the species and site conditions. In no cases shall the buffer be smaller than 50 feet for non-raptor bird species or 200 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until juveniles have fledged and the nest is inactive. The qualified biologist shall confirm that breeding/nesting is complete and young have fledged the nest prior to removal of the buffer. The results of the pre-construction survey shall be submitted to the City for review and approval prior to the start of vegetation removal activities.</p>	<p>Less than significant with mitigation</p>
<p>Impact BIO-2. The project would not have a substantial adverse effect on sensitive natural communities. No impact would occur.</p>	<p>None required</p>	<p>No impact</p>
<p>Impact BIO-3. The project would not result in a substantial adverse effect on state- or federally-protected wetlands. Impacts would be less than significant.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact BIO-4. The project would not interfere substantially with wildlife movement. No impact would occur.</p>	<p>None required</p>	<p>No impact</p>
<p>Impact BIO-5. The project would not conflict with any local policies or ordinances protecting biological resources. This impact would be less than significant.</p>	<p>None required</p>	<p>Less than significant</p>

Impact	Mitigation Measure (s)	Residual Impact
<p>Impact BIO-6. The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There would be no impact.</p>	<p>None required</p>	<p>No impact</p>
<p>Cultural Resources</p>		
<p>Impact CUL-1. The project would not cause a substantial adverse change in the significance of a historical resource, as there are no such resources on the project site. There would be no impact.</p>	<p>None required</p>	<p>No impact</p>
<p>Impact CUL-2. Excavation required for the proposed project has the potential to unearth and adversely change or damage known and unknown archaeological resources. Impacts would be less than significant with mitigation.</p>	<p>CUL-2a: Archeological Monitoring. A qualified archaeological monitor shall be retained by the project proponent to observe all project-related ground disturbing activities. Ground disturbing activities include, but are not limited to, asphalt removal, hand excavation, clearing, grubbing, and removing and/or recompacting unconsolidated soils near the ground surface. Archaeological monitoring shall be performed under the direction of an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards for archaeology (National Park Service 1983). The archaeological monitor shall be present for all pavement removal on the fuel facility site. After pavement is removed, the archaeologist shall inspect all exposed ground surfaces prior to initiation of project grading and/or excavation. If suspected archaeological resources are encountered at any point during project construction, work within a minimum of 60 feet of the suspected resource shall halt and the find evaluated for listing in the CRHR. The 60-foot radius may be reduced or expanded at the discretion of the qualified archaeologist. If a resource is determined to be a tribal cultural resource, Mitigation Measures TCR-1a and TCR-1b, as described in Section 4.9, <i>Tribal Cultural Resources</i>, shall be implemented. Archaeological monitoring may be reduced to spot-checking or eliminated at the discretion of the qualified archaeologist, in consultation with the Native American monitor required pursuant to TCR-1c, summarized below and in Section 4.9, <i>Tribal Cultural Resources</i>, and lead agency, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur, at minimum, when ground-disturbance moves to a new location within the projects site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock).</p>	<p>Less than significant with mitigation</p>

Impact	Mitigation Measure (s)	Residual Impact
	<p>CUL-2b: Unanticipated Discovery of Archaeological Resources. In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 60 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR and significant impacts to the resource cannot be avoided via project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of the California Code of Regulations Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource’s significance. The City shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the California Historical Resources Information System, per California Code of Regulations Guidelines Section 15126.4(b)(3)(C).</p> <p>If a resource is determined to be a tribal cultural resource under CEQA as being either 1) a site, feature, place, cultural landscape, sacred place, or object with cultural value to a tribe that is listed, or determined to be eligible for listing, in the national or state register of historical resources, or listed in a local register of historic resources; or 2) determined by the lead agency as a tribal cultural resource, then the provisions of Mitigation Measures TCR-1a and TCR-1b shall control.</p> <p>TCR-1a: Avoidance of Tribal Cultural Resources. [The full text of this measure is provided below.]</p> <p>TCR-1b: Tribal Cultural Resources Treatment Plan. [The full text of this measure is provided below.]</p> <p>TCR-1c: Native American Monitoring. [The full text of this measure is provided below.]</p>	

Impact	Mitigation Measure (s)	Residual Impact
Impact CUL-3. Grading and excavation required for the proposed project would have the potential to unearth and disturb previously unidentified or unknown human remains. Impacts would be less than significant with mandatory adherence to existing regulations pertaining to discovery of human remains.	None required	Less than significant
Geology and Soils		
Impact GEO-1. The project site is not underlain by a known earthquake fault. The project site would not be subject to rupture of a known earthquake fault, and there would be no impact.	None required	No Impact
Impact GEO-2. The project site would be subject to seismic ground shaking and the project would be required to comply with the CBC. Impacts would be less than significant.	None required	Less than significant
Impact GEO-3. The project site has low potential for liquefaction and project components would be constructed in compliance with the CBC. Impacts would be less than significant.	None required	Less than significant
Impact GEO-4. The project site is flat and not within a landslide hazard zone. There would be no impact.	None required	No impact
Impact GEO-5. Construction of the proposed project could result in soil erosion or loss of topsoil. The project would be required to comply with existing regulations. Impacts would be less than significant.	None required	Less than significant
Impact GEO-6. The project is not located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Impacts would be less than significant.	None required	Less than significant
Impact GEO-7. The project site is underlain by potentially expansive soils. The project would incorporate seismic and soil stability measures included in the geotechnical study. Impacts would be less than significant.	None required	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
<p>Impact GEO-8. The project would not involve construction or operation of septic tanks or alternative wastewater disposal systems. There would be no impact.</p>	<p>None required</p>	<p>No impact</p>
<p>Impact GEO-9. Ground-disturbing activities for the project have the potential to significantly impact paleontological resources. Impacts would be less than significant with mitigation.</p>	<p>GEO-9: Unanticipated Discovery of Paleontological Resources. <i>Paleontological Worker Environmental Awareness Program.</i> Prior to the start of construction, a Qualified Professional Paleontologist (as defined by Society of Vertebrate Paleontology [2010]) or their designee shall conduct a paleontological Worker Environmental Awareness Program training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.</p> <p><i>Unanticipated Discovery of Paleontological Resources.</i> In the event a fossil is discovered during construction of the project, excavations within 50 feet of the find shall be temporarily halted or delayed until the discovery is examined by a Qualified Professional Paleontologist. The project applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. If the find is determined to be significant, the applicant shall retain a Qualified Professional Paleontologist to direct all mitigation measures related to paleontological resources. The Qualified Professional Paleontologist shall design and carry out a data recovery plan consistent with the Society of Vertebrate Paleontology (2010) standards.</p>	<p>Less than significant with mitigation</p>
<p>Energy and Greenhouse Gas Emissions</p>		
<p>Impact GHG-1. The proposed project would not result in wasteful or unnecessary energy consumption, and impacts would be less than significant.</p>	<p>None Required</p>	<p>Less than significant</p>
<p>Impact GHG-2. The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, impacts would be less than significant.</p>	<p>None Required</p>	<p>Less than significant</p>
<p>Impact GHG-3. The project would conflict with air district thresholds for GHG emissions as the project does not incorporate the Tier 2 voluntary requirements for electric vehicle charging stations. Therefore, impacts would be less than significant with mitigation.</p>	<p>GHG-3: Compliance with CalGreen Tier 2 Electric Vehicle Standards. Required EV charging stations may be included in the parking lot associated with the adjacent Costco store to further encourage use of these spaces. CalGreen Tier 2 standards stipulate that Table A5.106.5.3.2 shall be used to determine the number of EV capable spaces required. New EV spaces shall adhere to Section 5.106.5.3 of the CalGreen Tier 2 standards for design requirements. EV capable spaces and Electric Vehicle Charging Stations (EVCS) shall be installed pursuant to Table A5.106.5.3.1 of the CalGreen Tier 2 standards. During building permit</p>	<p>Less than significant with mitigation</p>

Impact	Mitigation Measure (s)	Residual Impact
	review, the City shall calculate the number of required EV capable spaces and EVCS spaces, which shall meet the minimum CalGreen Tier 2 standards provided in Table A5.106.5.3.1.	
Hazards and Hazardous Materials		
Impact HAZ-1. The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Impacts would be less than significant.	None required	Less than significant
Impact HAZ-2. The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. There would be no impact.	None required	No impact
Impact HAZ-3. Although the project is located on a site that is included on a list of hazardous material sites compiled pursuant to government code section 65962.5, there are no known hazardous materials issues associated with historical uses of the project site. Impacts would be less than significant.	None required	Less than significant
Impact HAZ-4. The project would not result in a safety hazard or excessive noise for people residing or working in the project area. There would be no impact.	None required	No impact
Impact HAZ-5. The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.	None required	Less than significant
Impact HAZ-6. The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. Impacts would be less than significant.	None required	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
Hydrology and Water Quality		
Impact HYD-1. The project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Impacts would be less than significant.	None required	Less than significant
Impact HYD-2. The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. Impacts would be less than significant.	None required	Less than significant
Impact HYD-3. The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site, result in flooding on- or off-site, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or impede or redirect flood flows. Impacts would be less than significant.	None required	Less than significant
Impact HYD-4. The project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. Impacts would be less than significant.	None required	Less than significant
Impact HYD-5. The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.	None required	Less than significant
Transportation		
Impact TRA-1. The project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Impacts would be less than significant.	None required	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
<p>Impact TRA-2. The project would not conflict or be inconsistent with CEQA guidelines section 15064.3, subdivision (b). The project would result in a net decrease in vehicle miles traveled. Impacts would be less than significant.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact TRA-3. The project would not substantially increase hazards due to a geometric design feature or incompatible use. Impacts would be less than significant.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact TRA-4. The project would not result in inadequate emergency access to the project site. Impacts would be less than significant.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Tribal Cultural Resources</p>		
<p>Impact TCR-1. Grading and excavation required for the proposed project has the potential to impact tribal cultural resources. Impacts would be less than significant with mitigation.</p>	<p>TCR-1a: Avoidance of Tribal Cultural Resources. When feasible, project construction shall avoid tribal cultural resources.</p> <p>TCR-1b: Tribal Cultural Resources Treatment Plan. Prior to construction of the fuel facility project, the City of Novato, project proponent, or its consultant(s), shall prepare a tribal cultural resource treatment plan to be implemented in the event an unanticipated archaeological resource that may be considered a tribal cultural resource is identified during construction, subject to review and acceptance by the City of Novato. The plan would include suspension of all earth-disturbing work in the vicinity of the find, avoidance of the resource or, if avoidance of the resource is infeasible, the plan would outline the appropriate treatment of the resource in coordination with the FIGR and, if applicable, a qualified archaeologist. Examples of appropriate treatment for tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, or heritage recovery.</p> <p>TCR-1c: Native American Monitoring. All earth-disturbing work, including archaeological excavation, associated with the fuel facility project shall be observed by a local Native American monitor affiliated with the FIGR. In the event of a discovery of tribal cultural resources, the steps identified in the tribal cultural resources plan prepared under measure CUL-2b shall be implemented.</p>	<p>Less than significant with mitigation</p>

1 Introduction

This document is an Environmental Impact Report (EIR) for a proposed Costco fuel center development located at 300 Vintage Way, Novato, California. The proposed Costco Fuel Center Project (hereafter referred to as the “proposed project” or “project”) would be constructed on a site currently developed with a surface parking lot that serves the adjacent Costco within the Vintage Oaks Shopping Center. The project would develop a new fuel facility in place of an existing parking area adjacent to an existing Costco Wholesale store (Costco), on an approximately 1.15-acre portion of the Costco parking lot site.

This section discusses (1) the project and EIR background; (2) the legal basis for preparing an EIR; (3) the scope and content of the EIR; (4) issue areas found not to be significant by the Initial Study; (5) the lead, responsible, and trustee agencies; and (6) the environmental review process required under the California Environmental Quality Act (CEQA). The proposed project is described in detail in Section 2, *Project Description*.

1.1 Environmental Impact Report Background

In March 2021, the City of Novato adopted an Initial Study-Mitigated Negative Declaration for the Costco Fuel Center and Rowland Boulevard Public Works Project. While the Costco Fuel Center portion of the approved project was challenged in the Superior Court of California, the Rowland Boulevard Public Works portion of the approved project was completed in November 2022. Completion of the Rowland Boulevard Public Works Project occurred prior to issuance of the Notice of Preparation (NOP) of this EIR; therefore, it is considered as part of the baseline condition.

The City of Novato distributed a NOP of the EIR for a 30-day agency and public review period starting on August 10, 2023, and ending on September 11, 2023. In addition, the City held an EIR Scoping Meeting on August 28, 2023. The meeting, held at 7:00 PM, was aimed at providing information about the proposed project to members of public agencies, interested stakeholders and residents/community members. The meeting was held in person at Novato City Hall at 901 Sherman Avenue, as well as virtually via Zoom. The City received comment letters from one agency, two community organizations, and five individuals in response to the NOP during the public review period, as well as various verbal comments during the EIR Scoping Meeting. The NOP is presented in Appendix A of this EIR, along with the Initial Study that was prepared for the project and the NOP responses received. Table 1-1 summarizes the content of the letters and verbal comments and where the issues raised are addressed in the EIR.

Table 1-1 NOP Comments and EIR Response

Commenter	Comment/Request	How and Where It Was Addressed
Native American Heritage Commission (NAHC)	States that the proposed project is subject to the requirements and provisions under Assembly Bill (AB 52) for tribal cultural resources.	Consultation required by AB 52 was carried out by the City of Novato. Subsequent issues are discussed in Section 4.3, <i>Cultural and Tribal Cultural Resources</i> .
350 Marin	Consider the Novato City Council Climate Emergency declaration (2020) and Novato Strategic Plan 2021-2023 regarding energy and greenhouse gas (GHG) emission impacts. Electrification of transportation modes would reduce GHG emissions.	Comments are addressed in Section 4.5, <i>Energy and Greenhouse Gas Emissions</i> .
Marin Conservation League	Requests an analysis of sea level rise, and how that could affect the conclusions of the geotechnical report.	Sea level rise is addressed in Section 4.5, <i>Energy and Greenhouse Gas Emissions</i> ; and Section 4.7, <i>Hydrology and Water Quality</i> .
	Consider GHG emissions from gas fumes, spills, and idling vehicles.	GHG emissions are addressed in Section 4.5, <i>Energy and Greenhouse Gas Emissions</i> . Gas fumes and idling vehicles are discussed in Section 4.1, <i>Air Quality</i> , and spills are discussed in Section 4.6, <i>Hazards and Hazardous Materials</i> .
	Requests that the EIR describe the relationship between local surface waters, groundwater, and sea level rise.	Comments are addressed in Section 4.7, <i>Hydrology and Water Quality</i> .
Kate Powers	Perform a subterranean analysis of the project site.	Comments are addressed in Section 4.4, <i>Geology and Soils</i> , and Appendix I.
	Clarify if the project requires an amendment to the Vintage Oaks Master Plan.	The project would not require an amendment to the Vintage Oaks Master Plan. Project approvals are listed in Section 2.7, <i>Required Approvals</i> .
	Discuss impacts on surface and subsurface water flow, wildlife, noise and vibration, and air quality.	Comments are addressed in Section 4.7, <i>Hydrology and Water Quality</i> ; Section 4.2, <i>Biological Resources</i> ; Environmental Checklist Section 13 (Noise) of Appendix A; and Section 4.1, <i>Air Quality</i> .
	Address sea level rise, Novato Creek, subsidence, flooding, and liquefaction.	Comments are addressed in Section 4.5, <i>Energy and Greenhouse Gas Emissions</i> ; Section 4.4, <i>Geology and Soils</i> ; and Section 4.7, <i>Hydrology and Water Quality</i> .
	Consider GHG reduction measures in the City's General Plan, and Novato's Climate Change Emergency Resolution.	Comments are addressed in Section 4.5, <i>Energy and Greenhouse Gas Emissions</i> . Consistency with City General Plan policies is also discussed in Environmental Checklist Section 11, Land Use and Planning, of the Initial Study provided in Appendix A.
	The 2020 vehicle miles traveled analysis overestimates vehicle trip reductions and underestimates vehicle trip generation.	Comments are addressed in Appendix F and Section 4.8, <i>Transportation</i> .
	Address air quality impacts on migratory wildlife.	In lieu of established air quality thresholds specific to wildlife species, please refer to the analysis included for sensitive human receptors in Section 4.1, <i>Air Quality</i> , for a discussion of the project's potential impacts related to air quality emissions.

Commenter	Comment/Request	How and Where It Was Addressed
Marilyn Price	The use of fossil fuels should not be encouraged, electric chargers should be funded instead.	Comments are addressed in Section 6, <i>Alternatives</i> .
Lonna Richmond	The project is not necessary.	This comment does not pertain to the scope of the EIR.
Judy Slater	The project would impact GHG emissions, transportation, air quality, pollution, and health of residents.	Comments are addressed in Section 4.5, <i>Energy and Greenhouse Gas Emissions</i> ; Section 4.8, <i>Transportation</i> ; and Section 4.1, <i>Air Quality</i> .
Tim Valentine	Air quality and health impacts are a key concern, especially to Tamalpais Pediatrics and residences to the west and southwest.	Comments are addressed in Section 4.1, <i>Air Quality</i> .
	Request electric vehicle charging be addressed as an alternative.	Comments are addressed in Section 6, <i>Alternatives</i> .
Public Scoping Meeting Comments	Consider impacts from earthquakes and liquefaction. Consider completing soil studies for the underground storage tanks. Ensure the underground storage tanks are earthquake-protected.	Comments are addressed in Section 4.4, <i>Geology and Soils</i> .
	Concern regarding the proposed project's impacts on climate change and GHG emission contribution.	Comments are addressed in Section 4.5, <i>Energy and Greenhouse Gas Emissions</i> .
	Consider consistency with State GHG reduction goals.	
	Previous vehicle miles traveled analysis was counter intuitive.	Comments are addressed in Section 4.8, <i>Transportation</i> , and Appendix F.
	Address impacts of wildfire.	Comments are addressed in Environmental Checklist Section 19 (Wildfire) of Appendix A.
	Consider the project's incremental contribution to climate change.	Comments are addressed in Section 4.5, <i>Energy and Greenhouse Gas Emissions</i> .
Consider an alternative that reduces the number of fueling positions (e.g., 6 pumps instead of 14).	Comments are addressed in Section 6, <i>Alternatives</i> .	
	Consider housing as an alternative use of the project site.	

1.2 Purpose and Legal Authority

The proposed project requires the discretionary approval of the City of Novato Planning Commission; therefore, the project is subject to the environmental review requirements of CEQA. In accordance with Section 15121 of the *CEQA Guidelines* (California Code of Regulations, Title 14), the purpose of this EIR is to serve as an informational document that:

...will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

This EIR has been prepared as a project EIR pursuant to Section 15161 of the *CEQA Guidelines*. A Project EIR is appropriate for a specific development project. As stated in the *CEQA Guidelines*:

This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project, including planning, construction, and operation.

This EIR is to serve as an informational document for the public and City of Novato decision-makers. The process will include public hearings before the Planning Commission to consider certification of a Final EIR and approval of the proposed project.

1.3 Scope and Content

This EIR addresses impacts identified by the Initial Study (Appendix A) to be potentially significant. The following issues were found to include potentially significant impacts and have been studied in the EIR:

- Air Quality
- Biological Resources
- Cultural and Tribal Resources
- Geology and Soils
- Energy and Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Transportation

In preparing the EIR, use was made of pertinent City policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents. A full reference list is contained in Section 7, *References and Preparers*.

The alternatives section of the EIR (Section 6) was prepared in accordance with Section 15126.6 of the *CEQA Guidelines* and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the project while feasibly attaining most of the basic project objectives. In addition, the alternatives section identifies the “environmentally superior” alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required “No Project” alternative and two alternative development scenarios for the project area.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. Section 15151 of the *CEQA Guidelines* provides the standard of adequacy on which this document is based. The *CEQA Guidelines* state:

An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure.

1.4 Issues Not Studied in Detail in the EIR

Section 15128 of the *CEQA Guidelines* requires an EIR to briefly describe any possible effects that were determined not to be significant and were therefore not discussed in detail in the EIR. The resource areas below, included in the environmental checklist listed in Appendix G of the *CEQA Guidelines*, were determined to have less than significant environmental impacts:

- Aesthetics
- Agricultural and Forestry Resources
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems
- Wildfire

These issues are discussed further in the Initial Study (Appendix A). Remaining issues, including those listed above in Section 1.3, are analyzed in Section 4 of this EIR.

1.5 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* define lead, responsible, and trustee agencies. The City of Novato is the lead agency for the project because it holds principal responsibility for approving the project.

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. There are no responsible agencies with discretionary approval over the project.

A trustee agency refers to a state agency having jurisdiction by law over natural resources affected by a project. Trustee agencies include the California Department of Fish and Wildlife (CDFW), which has jurisdiction over fish and wildlife of the state.

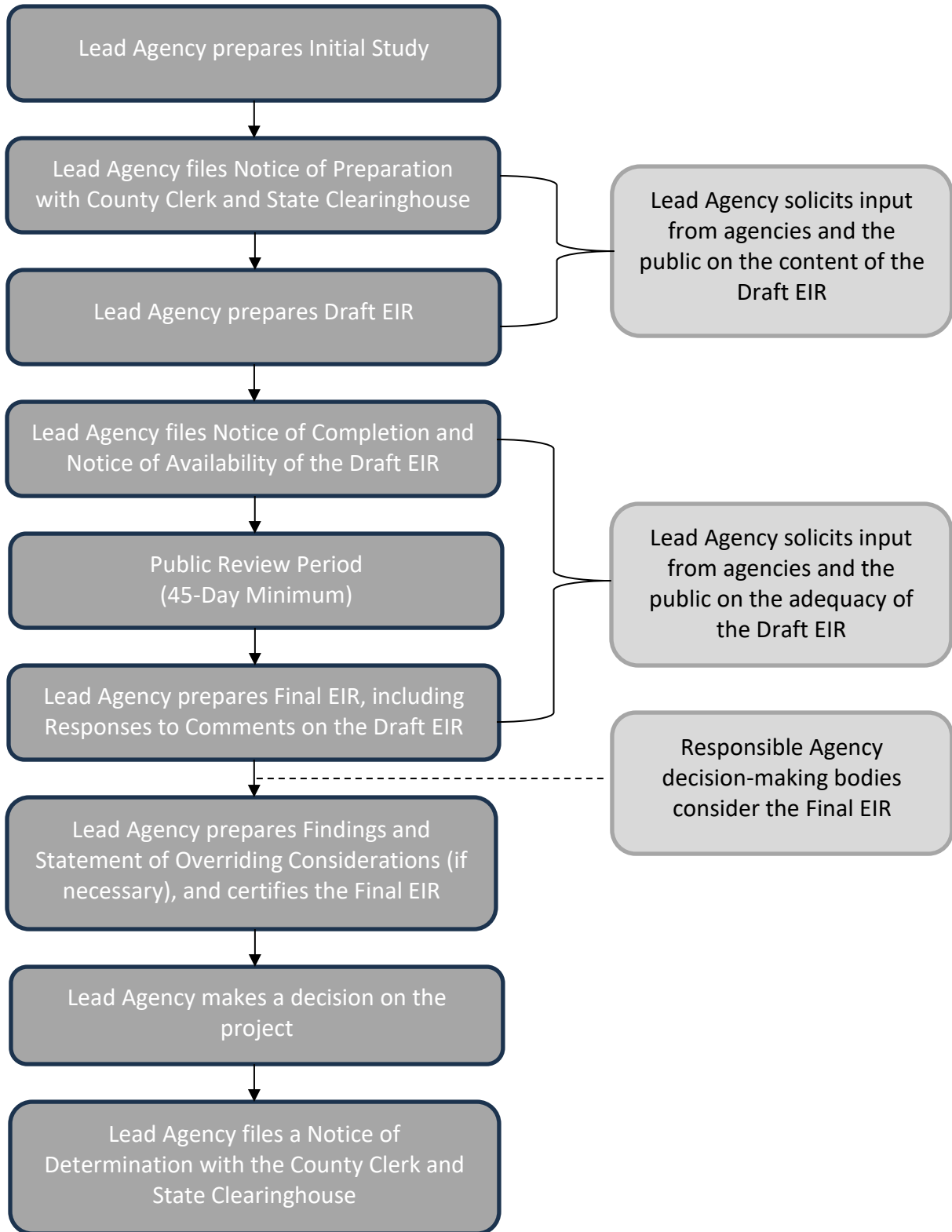
1.6 Environmental Review Process

The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP) and Initial Study.** After deciding that an EIR is required, the lead agency (City of Novato) must file an NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office and State Clearinghouse for 30 days. The NOP may be accompanied by an Initial Study that identifies the issue areas for which the project could create significant environmental impacts.
2. **Draft EIR Prepared.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.

3. **Notice of Completion (NOC) and Notice of Availability (NOA).** The lead agency must file a NOC and NOA with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the NOA in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the NOA to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally, public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (Public Resources Code 21091).
4. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of Final EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision-making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).
6. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination (NOD).** The lead agency must file a NOD after deciding to approve a project for which an EIR is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk and State Clearinghouse. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).

Figure 1-1 Environmental Review Process



This page intentionally left blank.

2 Project Description

This section describes the proposed project, including the project applicant, the project site and surrounding land uses, major project characteristics, project objectives, and discretionary actions needed for approval.

2.1 Project Applicant

Costco Wholesale
999 Lake Drive
Issaquah, Washington 98027

2.2 Lead Agency Contact Person

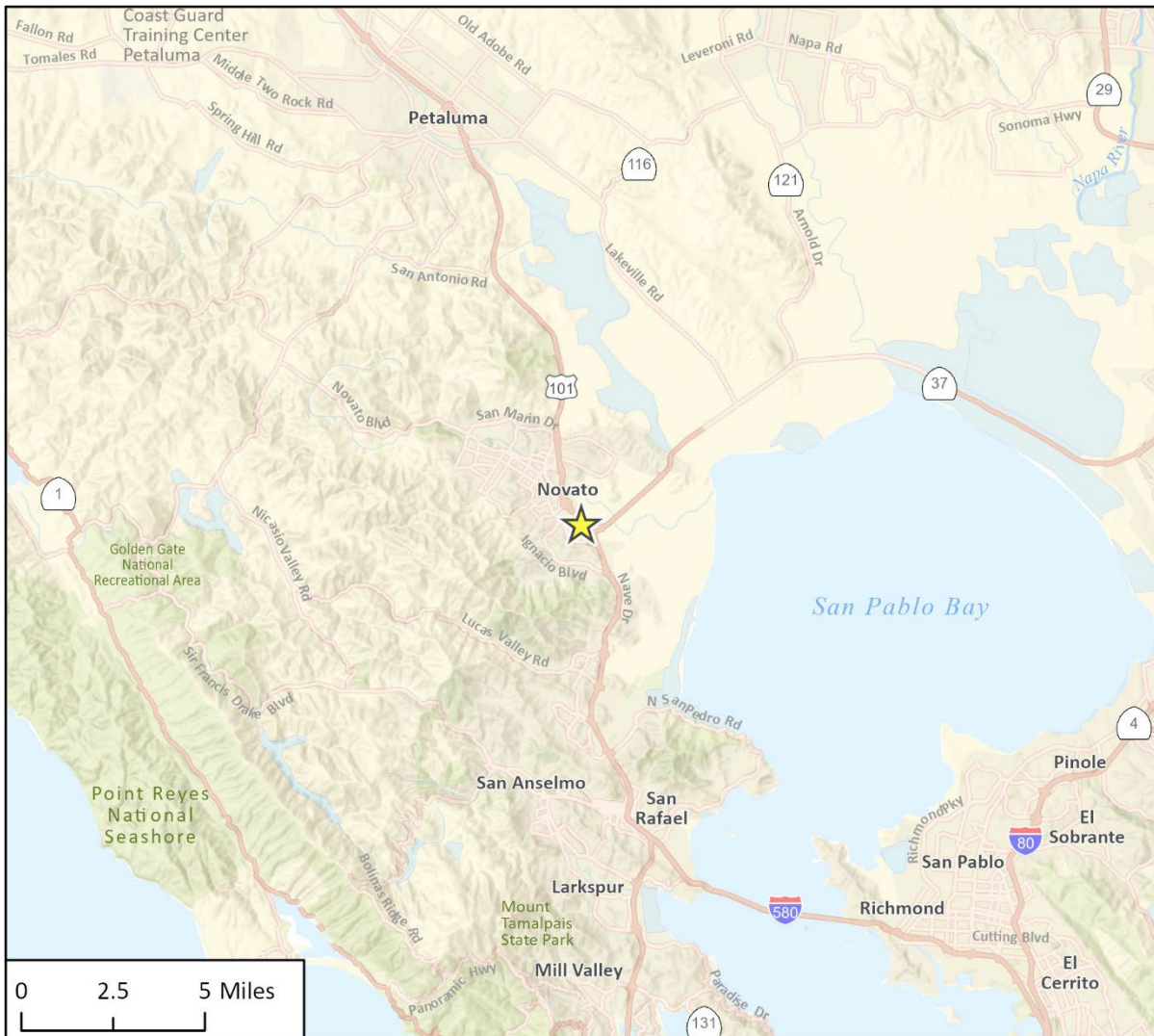
Brett Walker, AICP, Senior Planner
City of Novato
Community Development Department
922 Machin Avenue
Novato, California 94945
(415) 493-4711
bwalker@novato.org

2.3 Project Location

Novato is located in the greater North Bay region of the San Francisco Bay Area and is the northernmost city in Marin County. The City is located northwest of San Pablo Bay approximately 29 miles north of San Francisco, 37 miles northwest of Oakland, and approximately 35 miles north of the San Francisco International Airport.

The project is located within and adjacent to the Vintage Oaks Shopping Center in Novato, Marin County, California. Vintage Oaks is located southeast of the Highway 101 (US 101) and Rowland Boulevard freeway interchange. The applicant proposes to construct a fuel facility (gas station) at an existing Costco Wholesale (Costco) at 300 Vintage Way. The project would occupy a portion of an existing parking lot, located southwest of the existing Costco building and includes approximately 1.15 acres of Assessor's Parcel Number 153-340-36 (project site). Costco would also modify Vintage Way to accommodate a left-turn pocket providing access to a driveway serving the project site. Figure 2-1 shows the regional location of the project area, and Figure 2-2 shows the proposed project locations and surrounding uses.

Figure 2-1 Regional Location



Imagery provided by Esri and its licensors © 2024.

22-13565 EPS
Fig 1. Regional Location

★ Project Location

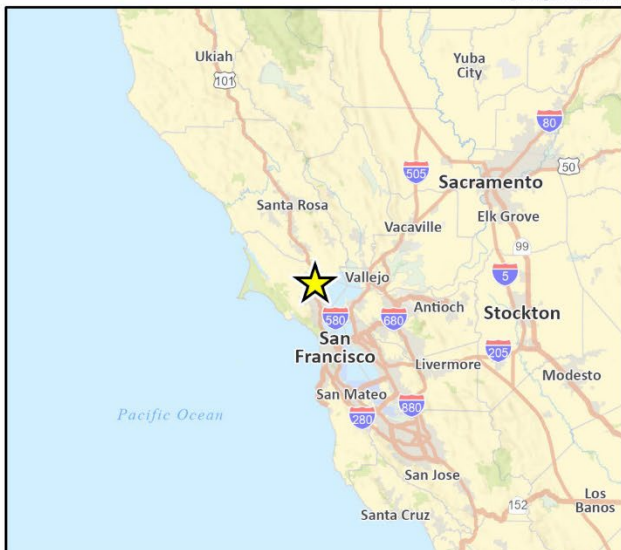
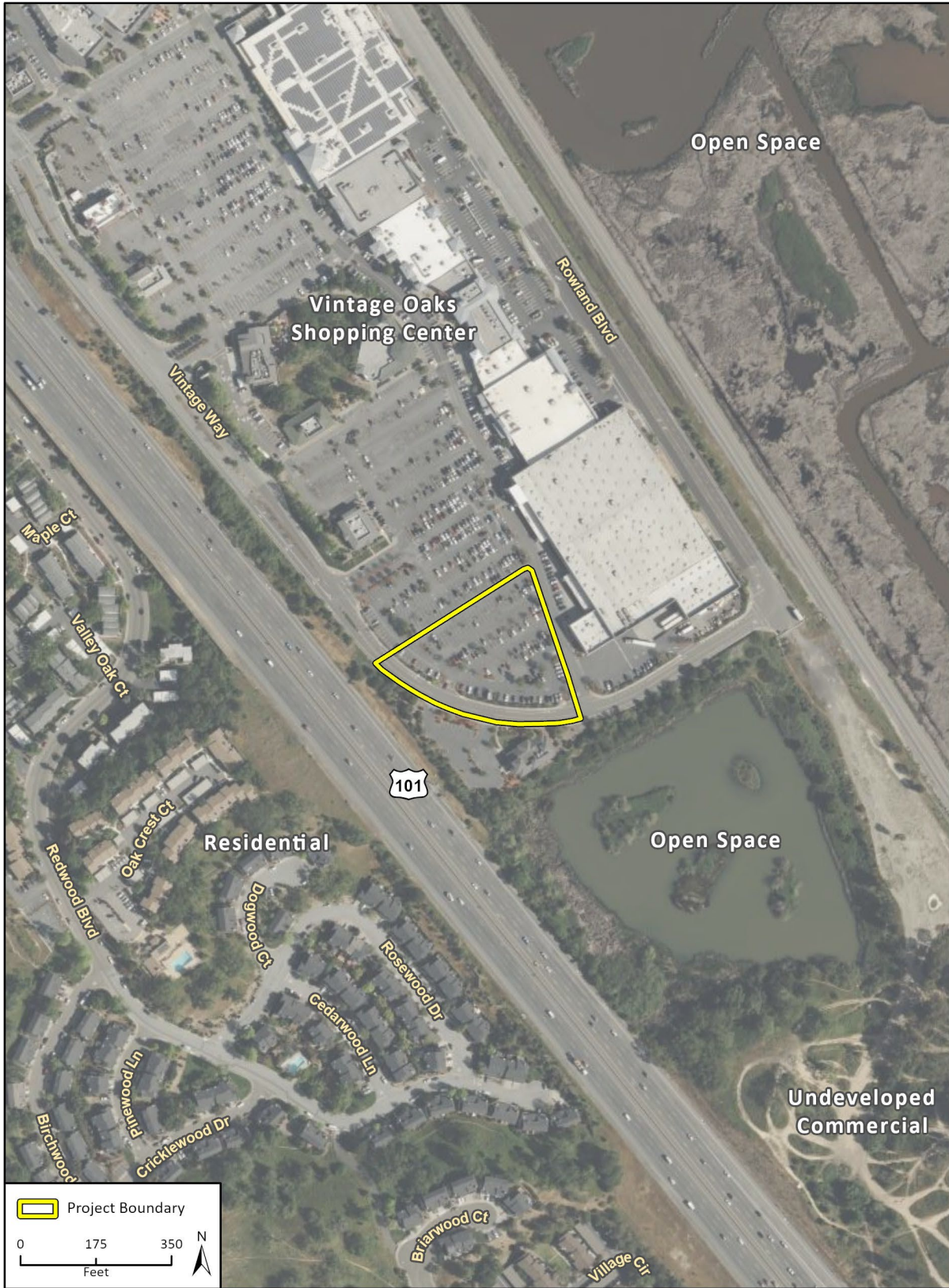


Figure 2-2 Project Site Location



2.4 Existing Site Characteristics

2.4.1 Current Land Use Designation and Zoning

The project site is currently developed with a surface parking lot that serves the adjacent Costco within the Vintage Oaks Shopping Center. The existing parking lot is accessed via several driveways along Vintage Way, the main driveway of which is located approximately 830 feet from the southern Rowland Boulevard and Vintage Way intersection. The project site has a General Plan land use designation of General Commercial (CG). The site is zoned Planned District (PD), as defined by the City's Zoning Ordinance and the Land Use Element of the General Plan. In addition, the project site is regulated by the Vintage Oaks Precise Development Plan (PDP). The PDP, as required by PD zoning district regulations, was adopted by Novato Resolution No. 128-90 in 1990 and specifies acceptable land uses and development intensity (e.g., floor area ratio), provides development standards, and directs the permitting procedures for development within Vintage Oaks. The proposed project would not require amendments to the City's General Plan, Novato Municipal Code, the PD zoning district, or the Vintage Oaks PDP.

2.4.2 Surrounding Land Uses

As shown in Figure 2-2, the project site is surrounded by similar commercial uses associated with the Vintage Oaks Shopping Center and other areas east of US 101. An additional commercial building is located immediately across Vintage Way from the project site to the south. The Beverly Ehreth Ecological Preserve is located to the south of Vintage Way, and open space and wetland areas are located to the east of the Vintage Oaks Shopping Center, across Rowland Boulevard. The SMART rail line train tracks are located immediately east of Rowland Boulevard. South and east of the Beverly Ehreth Ecological Preserve is the currently undeveloped Hanna Ranch property. Across US 101 to the southwest are single family and multi-family residential uses, approximately 450 feet from the nearest property line of the project site to the nearest residential structure.

Surrounding General Plan land use designations include General Commercial (GC) within the entirety of Vintage Oaks Shopping Center, as well as the parcel located south of Vintage Way, which is currently developed with Tamalpais Pediatrics. The Beverly Ehreth Ecological Preserve and area east of Rowland Boulevard (between Vintage Way [north] and Vintage Way [south]) are designated as Open Space (OS). The area west and southwest of the project site and across US 101 is zoned as Planned Development (PD) and has a land use designation of Medium Density Multiple Family Residential (R10). Similarly, surrounding zoning designations include Planned District (PD) in the above-mentioned GC-designated areas and Open Space (OS) in the above-mentioned OS-designated areas.

2.5 Project Characteristics

The project entails development of a new fuel facility in place of an existing parking area adjacent to an existing Costco Wholesale store (Costco), on an approximately 1.15-acre portion of the Costco parking lot site. Costco is a membership-only store, and the proposed project would be for use by Costco members, and not open to the general public who are not members. The project includes a 10,244-square-foot fuel dispenser canopy, 14 dispensers (28 fueling positions), three 40,000-gallon gasoline underground storage tanks (UST), one 1,500-gallon additive¹ UST, an approximately 125

¹ Costco uses deposit control additives, which prevent new deposits from accumulating on critical engine parts (Costco 2024).

square-foot controller enclosure, a vapor processing unit, directional striping, and an approximately 6,086 square-foot net increase in landscaped areas. Costco's Fueling Facility Program (Appendix B) provides details on proposed safety and design features intended to provide environmental safeguards and prevent public health or hazardous materials issues. Such features include monitoring during operational hours, emergency and automatic shut-offs, video surveillance, alarm systems, leak detection systems, the use of joint sealers, an oil/water separator, double-walled tanks, anchoring straps and reinforced concrete slabs, flexible piping connections, and Phase I and II Enhanced Vapor Recovery (EVR) systems (98 and 95 percent effective, respectively).

As shown in Figure 2-3, the fuel canopy would be designed consistent with the architecture of the existing Costco Wholesale building, with a flat roof, metal-wrapped canopy fascia, and painted metal columns. The materials and colors would be similar to those used at the existing Costco Wholesale building. The design would also be consistent with the Vintage Oaks Design Manual description for the Costco Wholesale building. Under-canopy lighting would consist of Costco's standard Cree light emitting diode lighting fixtures, focused downward and/or shielded per City Council Resolution No. 128-90, which is the Vintage Oaks Precise Development Plan approval document. Signage is proposed on each side of the fuel canopy, consistent with the Vintage Oaks Master Sign Plan, including maximum letter height and painted metal sign type requirements. Signage lighting would include downward 'gooseneck' fixtures. The maximum height of the fuel canopy would be approximately 18.5 feet above finished grade.

The project would reduce the total existing impervious surface area by approximately 1,796 square feet, from 62,061 square feet to 60,265 square feet. This reduction is related to the removal of existing landscaped islands throughout the existing parking lot, as well as the proposed addition of new pervious bioretention areas throughout the project site, with the largest bioretention area located along the southern boundary of the project site (Appendix C, refer to Sheet C5.0).

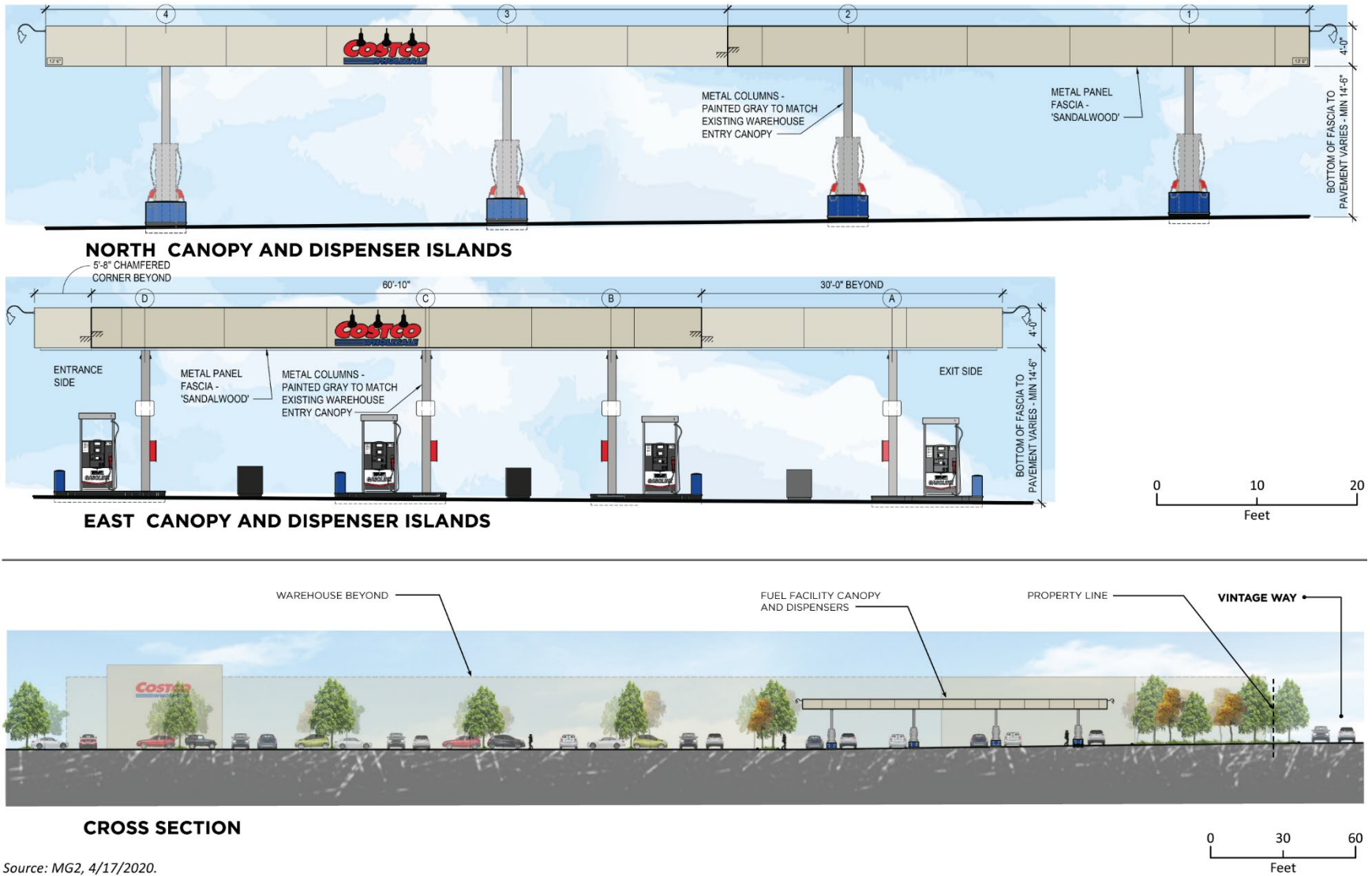
The project would implement low impact development (LID) strategies. The project would install two bioretention areas sized to retain stormwater runoff from the entire project site. The drainage management area (DMA #8, 10,643 square feet in size) that collects runoff from the proposed fueling area would drain to the existing sanitary sewer and be treated by an oil/water separator, consistent with Section SC-20 of the California Stormwater Quality Association (CASQA) Stormwater Best Management Practice Handbook. Runoff from one drainage management area (DMA #9, 944 square feet in size) that encompasses the proposed driveway, would remain untreated.² Additionally, the project includes several permanent source control and operational source control best management practices, specified in the Stormwater Control Plan for the project.

2.5.1 Proposed Site Plan

See Figure 2-4 for the project site plan and Figure 2-5 for the proposed Vintage Way striping improvements. Additional site plan details are provided in Appendix C.

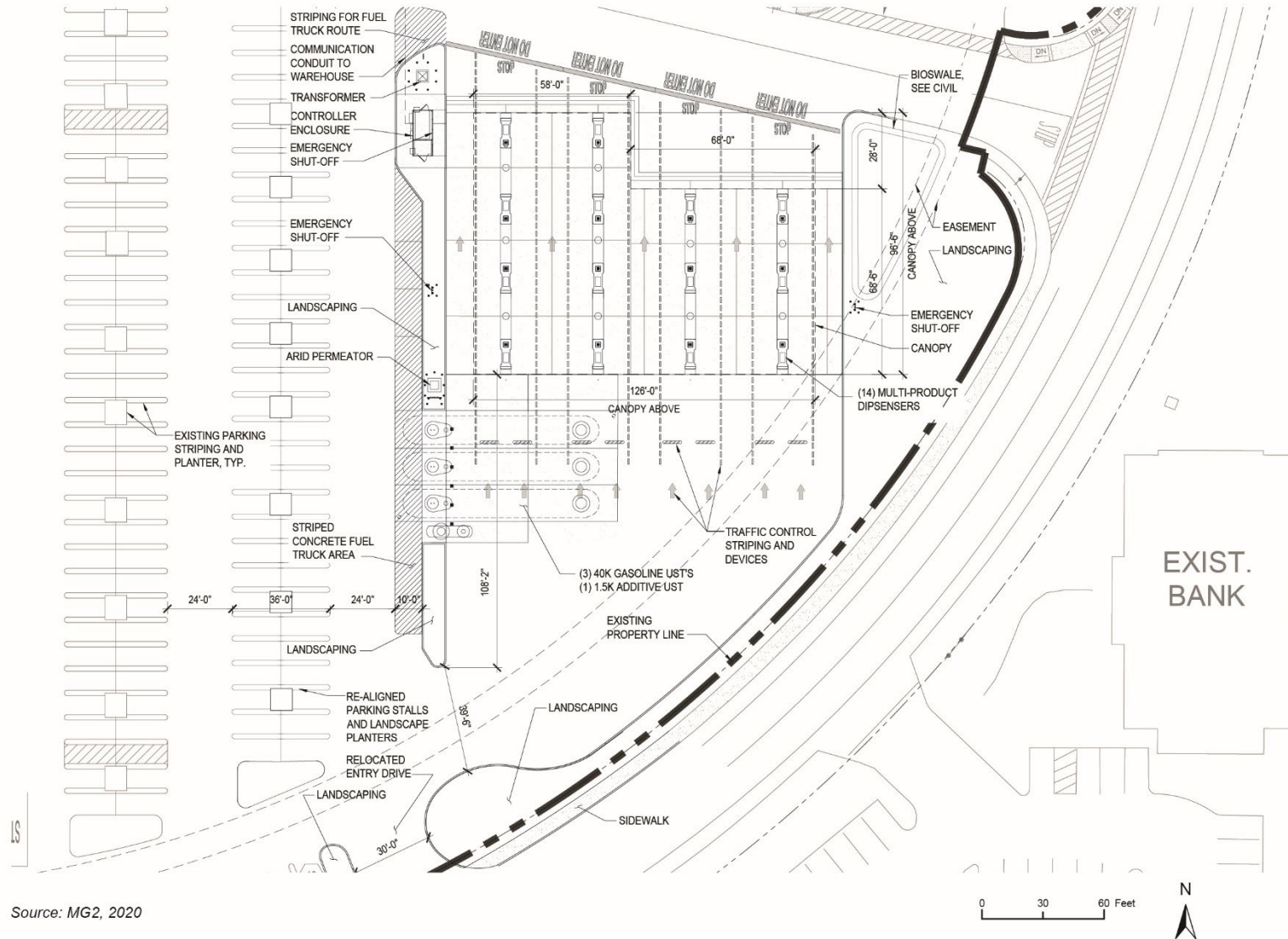
² DMA #9 would remain untreated due to the existing grading of the area, which includes a valley gutter located at a high point along the driveway. To maintain the existing drainage pattern and conform to the existing pavement, DMA #9 would not drain to the new bioretention planter.

Figure 2-3 Architectural Drawings



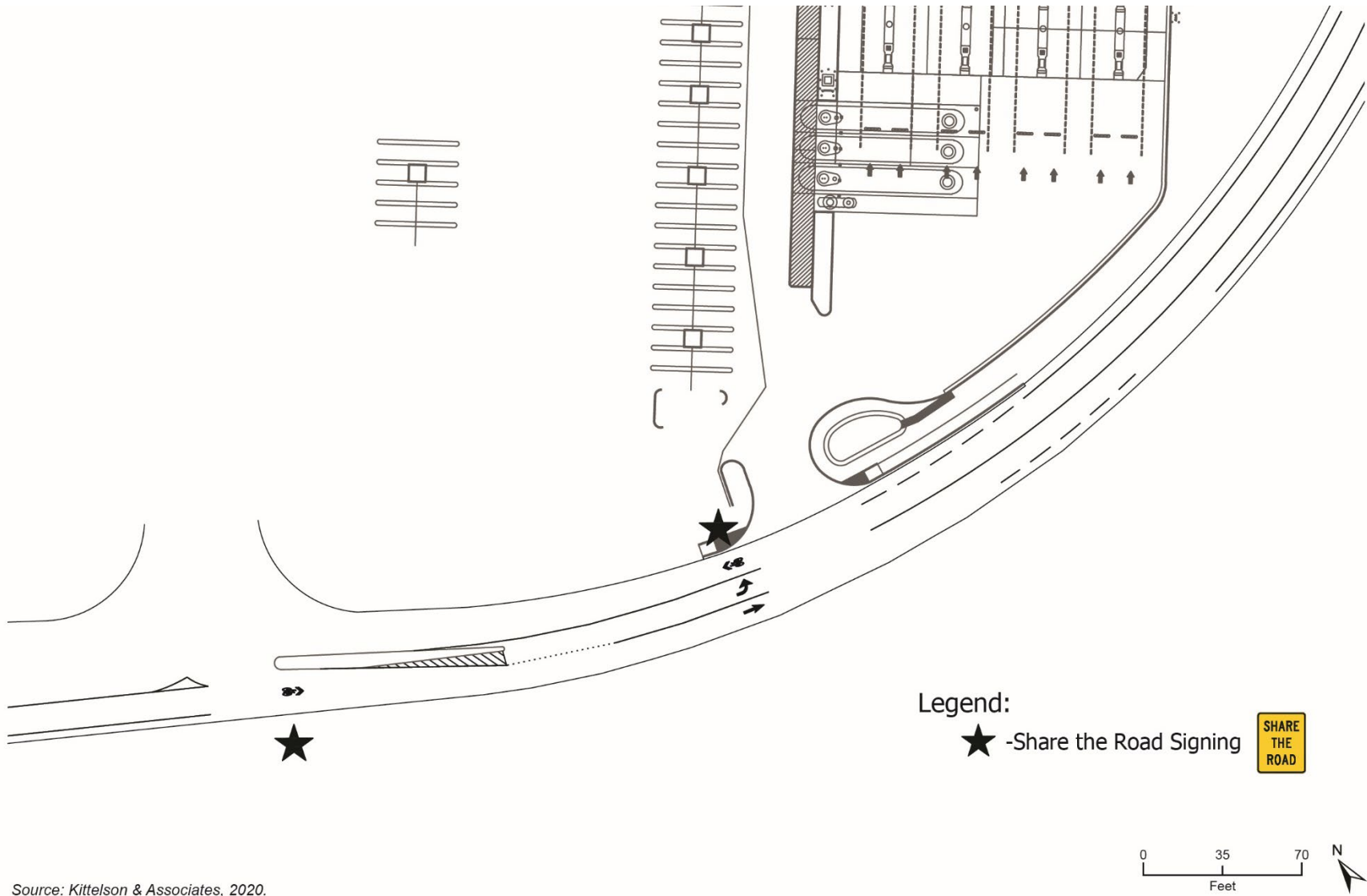
Source: MG2, 4/17/2020.

Figure 2-4 Project Site Plan



Source: MG2, 2020

Figure 2-5 Vintage Way Striping Modification



Source: Kittelson & Associates, 2020.

The project will provide a net increase of approximately 6,086 square feet of landscape area for the overall Costco development. The Vintage Oaks Design Manual requires a minimum of five percent (5%) of the interior parking area to be landscaped exclusive of required perimeter landscaping. The Precise Development Plan requires a minimum of 30 percent of shade coverage for the parking area. The project would remove 27 trees and install 6,086 square feet of new landscaping.

2.5.2 Parking and Site Access

The project would remove 129 existing parking spaces from the Costco warehouse site. Additionally, one row of 62 parking spaces and associated tree planters would be relocated two (2) feet to the northwest to allow for adequate drive aisle spacing between the parking row and fuel facility. Despite removing 129 parking stalls, Vintage Oaks would continue to conform to Novato's parking requirements for shopping centers. Notably, the Rowland Boulevard Public Works Project, which was completed in November 2022, implemented traffic calming measures and added 195 parking stalls along Rowland Boulevard behind Vintage Oaks. The additional parking stalls expand parking for employees of the businesses at Vintage Oaks, thereby reserving on-site parking for shoppers.

The project would also relocate an existing driveway on Vintage Way from approximately 320 feet south to approximately 260 feet south of the existing commercial building at 208 Vintage Way. Costco would modify a segment of Vintage Way to provide a left-turn pocket providing access to the relocated driveway. Adding the left-turn pocket would involve modifying lane striping to accommodate two vehicle travel lanes and the left turn-pocket within the existing curb-to-curb width of Vintage Way. This lane reconfiguration would result in the replacement of an approximately 200-foot segment of Class II bike lane with a Class III bicycle route (i.e., bicycles and vehicles share the same lane) and associated pavement markings and signs.

2.5.3 Utilities

The North Marin Water District (NMWD) will continue to be responsible for providing water to the project site. Wastewater services are provided by the Novato Sanitary District (NSD) and wastewater is treated at the Novato Treatment Plant (NTP). Pacific Gas & Electric Company (PG&E) supplies electricity. The project would enroll in PG&E's solar choice program and be supplied by 100 percent renewable energy. The proposed project would not connect to or utilize natural gas sources. The NSD and its franchise service provider, Recology, provide solid waste and recycling disposal services in the project vicinity for the provision of trash, recycling, and organics services to the proposed project.

The project proponent has prepared a Stormwater Control Plan (SCP), which is included as Appendix K. The SCP includes the following permanent and operational source control best management practices:

- All inlets will be marked with "No Dumping! Flows to Local Waterways" or similar.
- Landscaping will minimize irrigation and runoff and be selected for pest resistance, and will minimize the need for fertilizers and pesticides.
- Plants will be selected appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.
- Landscaping will be maintained using minimum or no pesticides.
- Integrated pest management information will be provided to new owners, lessees, and operators.

Costco Fuel Center Project

- Fueling areas will have impermeable floors that are graded at the minimum slope necessary to prevent ponding. This area will be separated from the rest of the site by a grade break that prevents run-on of stormwater. The fueling area will be covered by a canopy that extends the area within the grade break. The canopy will not drain into the fueling area.
- Maintain and periodically repaint or replace inlet markings.
- Provide stormwater pollution prevention information to new site owners, lessees, or operators.
- Lease agreements will include the following provision: “Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains.”
- Inspect and maintain drains to prevent blockages and overflow.
- The property owner shall dry sweep the fueling area routinely.
- Plazas, sidewalks, and parking lots will be regularly swept to prevent accumulation of litter and debris. Debris from pressure washing will be collected to prevent entry to storm drain system. Washwater containing any cleaning agent or degreaser will be collected and discharged into the sanitary sewer and not into the storm drain.

2.5.4 Construction and Grading

Costco Fuel Facility construction is anticipated to last approximately three months. Grading and excavation are required for the installation of canopy footings, USTs, product piping, stormwater improvements, and utility installation. USTs would require excavation to depths of approximately 16 feet and would be installed with 5 to 7 feet of cover. The USTs would be constructed from double-walled fiberglass and secured in place with anchoring straps (tie-downs) connected to concrete hold down deadmen. The tank excavation area would be backfilled with pea gravel and capped with an 8-inch-thick reinforced concrete slab. Flexible connections would be used for all piping connections to the tanks and dispensers. The USTs would also be equipped with the latest Phase I and Phase II Enhanced Vapor Recovery (EVR) control equipment.

2.5.5 Safety Features

The proposed facility would be constructed using Costco’s standard Fueling Facility Program (included as Appendix B). This program includes the following safety feature, which would be protective of public health and safety during operation of the project:

- Employees would be trained to identify maintenance requirements and physically inspect the fuel islands regularly during operating hours. Their training would include the proper spill cleanup and emergency response procedures. Trained employees check for leaking hoses, malfunctioning nozzles, fuel spills, and physical damage to the dispensers and controller enclosure. During non-operating hours, the power to the dispensers is turned off and each nozzle pad is locked. Should the system require attention beyond what the trained site person could handle, the local authorized and certified service contractor would be contacted and dispatched to repair the equipment.
- Emergency shutoff switches would be installed next to the controller enclosure and in locations near the dispensers, as dictated by the fire code. In addition, the facility would be equipped with a “911” telephone that automatically contacts emergency dispatch in addition to a regular telephone line and roam phones.

- The tank and piping monitoring system would be programmed to activate visual/audible alarms in the event of an alarm condition. A visual/audible alarm would be located on the outside of the controller enclosure and a visual/audible alarm would be located in the Costco Warehouse entry/exit area. Further, the monitoring system would be designed so that if power is lost to the monitoring console the facility is shut down and will not operate.
- Certification of the tank and piping system to meet the Federal UST leak detection standards of 95 percent probability of detection and five percent probability of false alarm. Certification of the system by SWRCB under LG-113.
- Utilize durable joint sealers to seal concrete control joints. Prevention Technologies, Inc (PTi) sealer is a petroleum-resistant sealant developed by PTi. The sealer is used to prevent petroleum products from entering the underlying soil at the concrete joints. The elasticity allows the product to maintain a tight seal even with concrete expansion.
- The underground tank and piping control units would be housed inside the controller enclosure. The enclosure would contain the power console, the dispenser interface unit, the submersible pump variable speed controllers, and the monitoring system console. An air conditioner mounted on the side of the enclosure would have a preset thermostat to maintain a safe operating temperature.
- The USTs and all containment sumps, including the dispenser sumps would be constructed with double-walled fiberglass. Fiberglass is used for its corrosion resistance and plasticity. The double-walled storage tank system includes a hydrostatic interstitial space sensor that monitors the primary and secondary tank walls. If a tank wall is compromised, the interstitial sensor would immediately shut down the product delivery system and activate a visual/audible alarm.
- The tanks would be secured in place with anchoring straps (tie-downs) connected to concrete hold down deadmen. The entire tank excavation hole would be backfilled with pea gravel and capped with an 8-inch-thick reinforced concrete slab (overburden). The tie-downs, together with the overburden, overcome any possible buoyancy factors and resist buckling under hydrostatic pressures.
- All product, vapor, and vent piping would be non-corrosive and provide three levels of protection. First, all product piping would be monitored with pressure line leak detection. Second, all piping would be double walled to provide secondary containment. Third, all fiberglass piping would be additionally monitored under vacuum per California AB 2481 regulations such that if a breach is detected in the vacuum, the product delivery system shut down and sound an audible alarm.
- All piping connections to the tanks and dispensers would be flexible. Flexible connectors are used to prevent rupture from any form of ground movement.
- All piping would slope to the sumps at the USTs. If a piping leak occurs, the gasoline would flow through the secondary pipe to the sump, where a sensor would be triggered to immediately shut down the system and activate an audible/visual alarm.
- All tanks and dispensers would be equipped with the latest Phase I and Phase II EVR air pollution control equipment technology per CARB regulations and associated Executive Orders. Phase I EVR equipment controls the vapors in the return path from the tanks back to the tanker truck during offloading filling operations. Stage I EVR systems are 98 percent effective in controlling fugitive emissions from escaping into the environment. Phase II EVR equipment controls the vapors in the return path from the vehicles back to the tanks and are 95 percent effective in controlling fugitive emissions from escaping into the environment.

- The UST monitoring system would incorporate automatic shutoffs. If gasoline is detected in the sump at the fuel dispenser, the dispenser would shut down automatically and an alarm sounded. If a problem is detected with a tank, the tank would be automatically shut down and an alarm sounded. If the product piping system detects a failure of the 0.1 gallons per hour test, the line would be automatically shut down and the alarm sounded. Pursuant to federal requirements, monitoring equipment must be able to detect a minimum leak of 3 gallons per hour (equivalent to the accuracy of a mechanical leak detector). Proposed monitoring equipment would detect leaks at 0.1 gallons per hour.
- Each fuel dispenser would include several safety devices. Specifically, each dispenser sump would be equipped with an automatic shutoff valve to protect against vehicle impact. In addition, each fuel hose would include a poppeted breakaway device that will stop the flow of fuel at both ends of the hose in the event of an accidental drive-off. Also, each dispenser would be equipped with internal fire extinguishers. Lastly, all dispensers would include leak detection sensors connected to the alarm console inside the controller enclosure.

2.6 Project Objectives

- Develop a new fuel facility as an extension of the Costco Wholesale in the Vintage Oaks Shopping Center to support the fueling needs of Costco members.
- Design and construct a project in accordance with Costco's Fueling Facility Program that provides details on proposed safety and design features intended to provide environmental safeguards and prevent public health or hazardous materials issues.
- Develop a fuel facility of a design providing safe and efficient vehicle circulation (customer vehicles and fuel trucks) and minimizing customer wait and vehicle idling times.

2.7 Required Approvals

The City of Novato is the sole agency with the authority to approve the proposed project's land use entitlements, including:

- **Use Permit.** The Vintage Oaks Precise Development Plan (PDP), the primary zoning/land use regulatory document applicable to the site, requires approval of a use permit for gas stations.
- **Design Review.** Design Review is required for new commercial development projects. A recommendation from the Design Review Commission on the project's design, architecture, and landscaping was made on October 7, 2020.

The following service districts require their own permits to approve the construction detail design and inspection and acceptance of various project serving improvements:

- **Novato Fire Protection District (NFPD)** would determine compliance with local fire code requirements for emergency access and life safety systems (e.g., fire sprinklers).
- **Novato Sanitary District (NSD)** is the wastewater utility at the project site. The sanitary district would review the project design and construction of new wastewater infrastructure associated with the project.
- **North Marin Water District (NMWD)** is the domestic and recycled water provider at the site. New domestic and recycled water connections will need to be designed to NMWD standards and approved by NMWD.

The following regional, state, and federal agencies would require their own permits, inspections, reporting and/or certifications prior to construction and/or operation of the gas station:

- **United States Environmental Protection Agency (USEPA)**
 - USEPA National Emissions Standards for Hazardous Air Pollutants Subpart CCCCCC (National Emission Standards for Hazardous Air Pollutants [NESHAP] 6C)
 - 120-Day Initial Notification for Gasoline Dispensing Facilities
 - 60-Day Notification of Performance Test
 - 180-Day Notification of Compliance Status/ Testing and Reports for Gasoline Dispensing Facilities
 - Tier II Chemical Reporting
 - Emergency Planning and Community Right-to-Know Act Hazardous Chemical Inventory Reporting
 - Class A/B Operator Training
- **California Department of Industrial Relations**
 - Trench/Excavation Permit
- **Marin County Certified Unified Program Agency (CUPA)**
 - Hazardous Materials/Waste Management Plan
 - Underground Storage Tank Permit to Install
- **Marin County Department of Agriculture, Weights, and Measures**
 - Gas Pump Inspection/Certification
- **Bay Area Air Quality Management District**
 - Authority to Construct/Permit to Operate
- **Regional Water Quality Control Board**
 - NPDES Construction General Permit

This page left intentionally blank.

3 Environmental Setting

This section provides a general overview of the environmental setting for the proposed project. This section establishes the baseline conditions at the time of publication of the Notice of Preparation (NOP), against which the potential environmental impacts of the proposed project are analyzed in Section 4, *Environmental Impact Analysis*. Any deviations from the baseline condition at the time of NOP publication are also described below and/or in Section 4, *Environmental Impact Analysis*, if applicable. More detailed descriptions of the environmental setting for each specific environmental issue area can be found in Section 4, *Environmental Impact Analysis*.

3.1 Regional Setting

The project site is located in the City of Novato, in the greater North Bay region of the San Francisco Bay Area. Novato is the northernmost city in Marin County. The North Bay is topographically varied, with mountains, valleys, agricultural land, and distinct urban areas all within close proximity of the Pacific Ocean and bays. The Mediterranean climate and coastal influence produce moderate temperatures year round, with rainfall concentrated in the winter months. The region is subject to a range of natural hazards, including earthquakes, flooding, landslides, and wildfires.

Novato is a suburban-scaled city framed by undeveloped hillsides and the open water of San Pablo Bay. The City is located northwest of San Pablo Bay approximately 29 miles north of San Francisco, 37 miles northwest of Oakland, and approximately 35 miles north of the San Francisco International Airport. The City is bordered by unincorporated areas of Marin County. Much of the urbanized area of Novato occupies a flat northwest-trending valley that follows Novato Creek, Vineyard Creek, Warner Creek and other tributaries flowing southeast from the hills to the Bay.

Highway 101 transverses the City from north to south and State Route (SR) 37 transverses the eastern portion of the City. Rail lines are located in the vicinity of the project site east of Highway 101. The rail line connects to the City of Petaluma to the north and the City of San Rafael to the south and connects to a national rail line to the east via the railroad tracks along SR 37. The Sonoma-Marin Area Rail Transit (SMART) Main Line has three stops in the City of Novato: Novato San Marin at 7700 Redwood Boulevard, Novato Downtown at 695 Grant Avenue, and Novato Hamilton at 10 Main Gate Road.

Novato is a primarily a residential community where most of the development is single-family one- and two-story buildings. The Vintage Oaks Shopping Center, which contains the project site, is one of the larger commercial areas in the city.

Novato is located within the Marin County subregion of the San Francisco Air Basin (Basin). Due to the proximity of the San Francisco Bay and Pacific Ocean, the climate in the Basin is characterized by warm dry summers and cool moist winters. The average annual maximum and minimum temperature at this air monitoring site is 70.0 and 47.9 degrees Fahrenheit, respectively. The average maximum temperature in July and August is around 81 degrees Fahrenheit, with average minimum temperatures in December and January around 41 degrees Fahrenheit. The average annual rainfall at this air monitoring location is 35.59 inches (Western Regional Climate Center 2023).

3.2 Project Site Setting

As shown in Figure 2-2 in Section 2, *Project Description*, the project site is located at the southern end of the Vintage Oaks Shopping Center. The site is located across US 101 from a residential development and is located near open space areas to the south and east. The site includes a segment of Vintage Way, which is located adjacent to a commercial building and parking lot to the south of the site.

The project site is currently developed with a surface parking lot that provides parking for customers of the Vintage Oaks Shopping Center. The site has a General Plan land use designation of General Commercial (CG) and is zoned Planned District (PD) and is subject to the land use and development requirements of the Vintage Oaks Precise Development Plan (PDP).

3.3 Cumulative Setting

In addition to the specific impacts of the individual proposed project, CEQA requires an EIR to consider potential cumulative impacts of the proposed project. CEQA defines “cumulative impacts” as two or more individual impacts that, when considered together, are substantial or will compound other environmental impacts. Cumulative impacts are the combined changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, noise impacts of two nearby projects may be less than significant when analyzed separately, but could have a significant impact when analyzed together. Cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects. Cumulative analysis involves a two-step process. In the first step, the impacts of the proposed project and cumulative projects are considered together to gauge whether a cumulative impact would occur compared to baseline/background conditions. If the first step indicates a significant cumulative impact, the second step is to determine whether the proposed project’s incremental contribution to the cumulative significant impact is deemed to be of a “cumulatively considerable” nature. If it is, then the project is found to have a significant cumulative impact.

CEQA requires cumulative impact analysis in EIRs to consider either a list of planned and pending projects that may contribute to cumulative effects or a forecast of future development potential. This EIR uses the list-based approach for the cumulative analysis in Section 4, *Environmental Impact Analysis*, unless otherwise stated in the topical sections. Each chapter within Section 4, *Environmental Impact Analysis*, explains the geographic setting for the cumulative analysis given that some cumulative effects tend to be fairly localized while others (e.g., greenhouse gas emissions or energy) are more appropriately considered at a regional or statewide scale based on their nature.

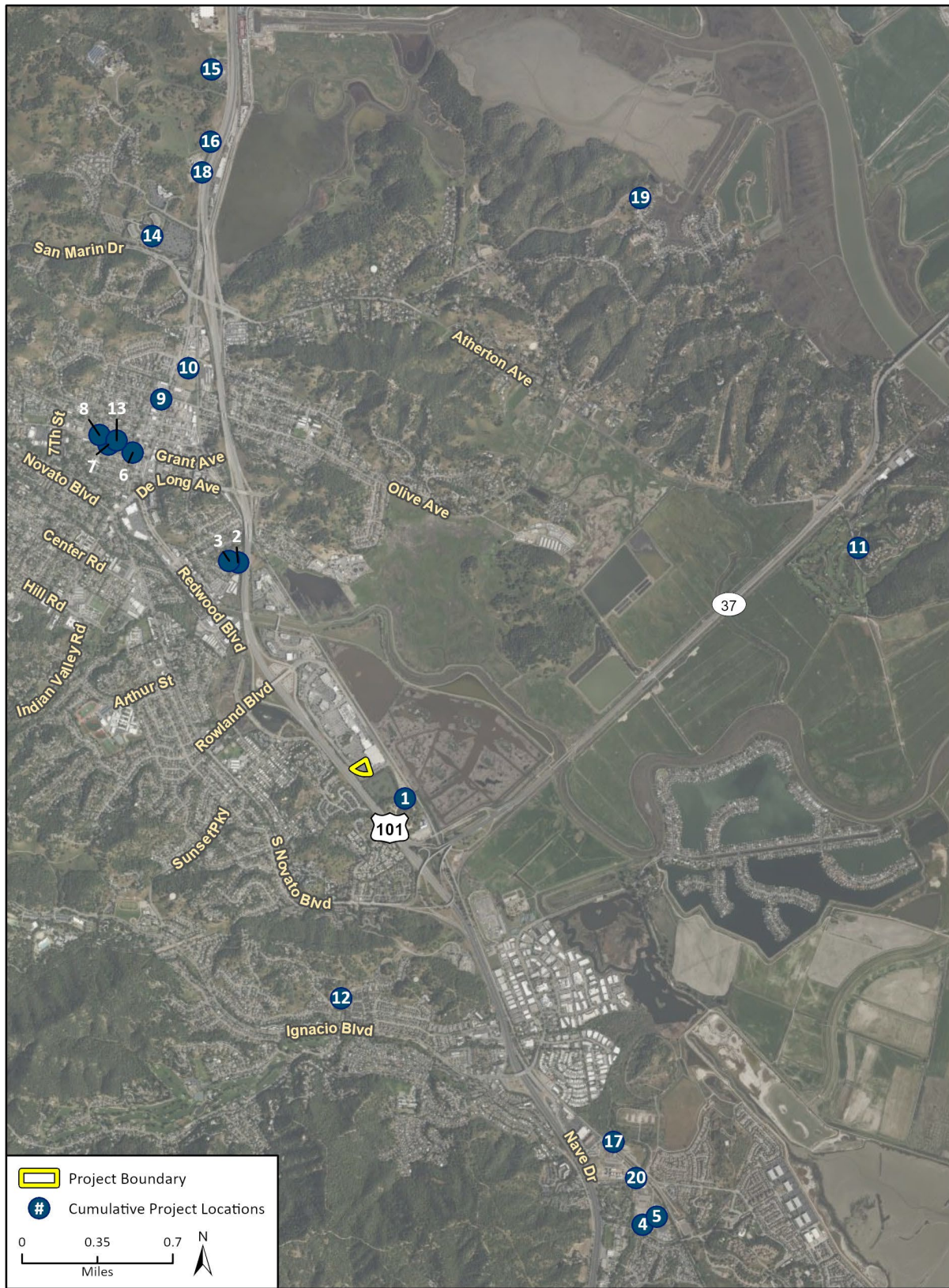
Currently planned and pending projects in Novato are listed in Table 3-1 and shown in Figure 3-1. In particular, the Hannah Ranch Mixed Use project is located in close proximity and along the same roadways as the project site. These projects are considered in the cumulative analyses in Section 4, *Environmental Impact Analysis*.

Table 3-1 Cumulative Projects List

Project Number	Project Name	Project Location¹	Proposed Development	Project Status
1	Hanna Ranch Mixed Use	End of Rowland Boulevard at Vintage Way	125-room hotel with 1,000 -square feet (sf) meeting facilities; 12,500-sf retail; 26,200-sf office; 11,158-sf restaurant; 24-pump gas station	Under Review
2	Landing Court Apartments	200 Landing Court	301 residential units	Under Review
3	The Pavilions at Eco Village	200 Landing Court	28 live/work units	Under Review
4	C Street Village	970 C Street	32 townhomes; 8 carriage flats; 3,738-sf common clubhouse	Under Review
5	North Bay Children's Center	932 C Street	19,824-sf childcare center	Approved
6	First and Grant Mixed Use	1107 Grant Avenue	170 residential units; 6,800-sf commercial	Under Review
7	1301 Grant Ave	1301 Grant Avenue	3,250-sf retail	Construction Completed
8	4th and Grant Mixed Use	1316 Grant Avenue	209 dwelling units; 5,300-sf commercial	Under Review
9	Village at Novato	Redwood Boulevard at Olive Avenue	178 residential units; 14,000-sf retail	Approved
10	Residence Inn	7546 Redwood Boulevard	100-room hotel	Under Construction
11	Stone Tree Driving Range	9 Stone Tree Lane	Golf course driving range	Under Review
12	Greek Orthodox Church	1110 Highland Drive	3,500-sf addition	Under Review
13	3rd and Grant Mixed Use	1212 Grant Avenue	56 residential units; 1,735-sf commercial	Approved
14	777 San Marin	777 San Marin Drive	1,300 residential units	Approved
15	Habitat Redwood	8161 Redwood Boulevard	80 residential units	Approved
16	Valley Oaks	Redwood Boulevard at Pinkston Road	81 residential units	Approved
17	Homeward Bound	1339 North Hamilton Parkway	50 residential units	Under Construction
18	7711 Redwood (Verandah)	7711 Redwood Boulevard	80 residential units	Under Construction
19	Bahia River View	Bahia Drive, west of Topaz Drive	5 residential units	Approved
20	Hamilton Village	804 State Access Road	75 residential units	Construction Completed

Source: City of Novato 2023

Figure 3-1 Cumulative Project Locations



Imagery provided by Microsoft Bing and its licensors © 2024.

22-13565 EPS
Fig 3-1 Cumulative Project Locations

4 Environmental Impact Analysis

This section discusses the possible environmental effects of the Costco Fuel Center Project for the specific issue areas that were identified through the scoping process as having the potential to experience significant effects. A “significant effect” as defined by the *CEQA Guidelines* Section 15382:

...means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The assessment of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the “significance thresholds,” which are those criteria adopted by the City and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, any feasible mitigation measures for significant impacts, and the level of significance after implementation of mitigation measures. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be adopted if the project is approved per Section 15093 of the *CEQA Guidelines*.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the *CEQA Guidelines*.
- **Less than Significant.** An impact that may be adverse but does not exceed the threshold levels and thus does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if the impact is significant and one or more mitigation measure is deemed feasible) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other planned and pending developments as discussed in Section 3, *Environmental Setting*.

City of Novato
Costco Fuel Center Project

The Executive Summary of this EIR summarizes all impacts and mitigation measures that would be generated by the proposed project.

4.1 Air Quality

This section addresses the air emissions generated by construction and operation of the project, including emissions that may lead to odors. The analysis also addresses the consistency of the project with the air quality policies in the Bay Area Air District's (Air District) Clean Air Plan. The analysis of project-generated air emissions focuses on whether the project would cause an exceedance of an ambient air quality standard or Air District significance thresholds.

4.1.1 Setting

a. Climate and Topography

Novato is located in Marin County, a subregion of the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County. Marin County is south of Sonoma County, bounded by San Pablo Bay and San Francisco Bay to the south and east, and bounded by the Pacific Ocean to the west.

Due to the proximity of San Francisco Bay and the Pacific Ocean, the climate in the SFBAAB is characterized by warm dry summers and cool moist winters. The nearest weather station data is approximately six miles from Novato at the San Rafael Civic Center. The average annual maximum and minimum temperature at this air monitoring site is 70.0 and 47.9 degrees Fahrenheit, respectively. The average annual rainfall at this air monitoring location is 35.59 inches (Western Regional Climate Center 2023).

The major large-scale weather feature controlling climate in Novato is a large high-pressure system located in the eastern Pacific Ocean, known as the Pacific High. During winter months, marine air trapped in the lower atmosphere is often condensed into fog by the cool Pacific Ocean. Stratus-type clouds usually form offshore and move into the area during the evening hours. During winter months, the Pacific High becomes weaker and shifts south, allowing weather systems associated with the polar jet stream to affect the region. Low pressure systems produce periods of cloudiness, strong shifting winds, and precipitation. High-pressure systems are also common in winter, with low-level inversions that produce cool stagnant conditions.

b. Air Pollutants of Primary Concern

The federal and State Clean Air Act (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the United States Environmental Protection Agency (USEPA) and the California Air Resource Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants, which are discussed in more detail under Section 4.1.2, *Regulatory Setting*. Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere and include carbon monoxide (CO), volatile organic compounds (VOC)/reactive organic gases (ROG),¹ nitric dioxide (NO₂), particulate matter, sulfur dioxide (SO₂), and lead (Pb). Secondary criteria pollutants are created by atmospheric chemical and photochemical

¹ CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this EIR.

reactions primarily between VOC and NO_x. Secondary pollutants include oxidants, ozone (O₃), and sulfate and nitrate particulates (smog). The characteristics, sources and effects of criteria pollutants are discussed in the following subsections.

Reactive Organic Gases

ROGs are compounds that have a high vapor pressure and low water solubility. Many are human made chemicals used in manufacturing paints, pharmaceuticals, and refrigerants and are used as industrial solvents. ROGs are emitted from both solids and liquids and include a variety of chemicals with adverse short and long-term adverse health effects (USEPA 2024). ROGs typically associated with gasoline fueling include benzene, ethylbenzene, toluene, xylene and naphthalene.

Ozone

Ozone (O₃) is a highly oxidative unstable gas produced by a photochemical reaction (triggered by sunlight) between NO_x and ROG. ROG is composed of non-methane hydrocarbons (with specific exclusions), and NO_x is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide and nitrogen dioxide (NO₂). NO_x is formed during the combustion of fuels, while VOC is formed during the combustion and evaporation of organic solvents. As a highly reactive molecule, O₃ readily combines with many different atmosphere components. Consequently, high O₃ levels tend to exist only while high VOC and NO_x levels are present to sustain the O₃ formation process. Once the precursors have been depleted, O₃ levels rapidly decline. Because these reactions occur on a regional rather than local scale, O₃ is considered a regional pollutant. In addition, because O₃ requires sunlight to form, it mainly occurs in concentrations considered serious between April and October. People most at risk from O₃ include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers. In addition, people with reduced intake of certain nutrients, such as vitamins C and E, are at greater risk from O₃ exposure. Depending on the level of exposure, O₃ can cause coughing and a sore or scratchy throat; make it more difficult to breathe deeply and vigorously and cause pain when taking a deep breath; inflame and damage the airways; make the lungs more susceptible to infection; aggravate lung diseases such as asthma, emphysema, and chronic bronchitis; and increase the frequency of asthma attacks (USEPA 2023a).

Carbon Monoxide

Carbon Monoxide (CO) is a localized pollutant found in high concentrations only near its source. The primary source of CO, a colorless, odorless, poisonous gas, is automobile traffic's incomplete combustion of petroleum fuels. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. When CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability to get oxygenated blood to their hearts in situations where they need more oxygen than usual. As a result, they are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain, also known as angina (USEPA 2023b).

Nitrogen Oxides

Nitrogen oxides (NO_x), include nitrogen dioxide (NO₂), nitrogen oxide (NO), and other compounds of nitrogen and oxygen. The principal form of NO_x produced by combustion of fuels is nitric oxide (NO). NO reacts rapidly with atmospheric oxygen to form NO₂, creating a mixture of NO and NO₂, in

proximity to the combustion source. This mixture of NO and NO₂ is commonly called NO_x. NO₂ is a by-product of coal, oil, gas, or diesel fuel combustion. The primary sources are motor vehicles and industrial boilers, and furnaces. NO₂ is a reactive, oxidizing gas and an acute irritant capable of damaging cell linings in the respiratory tract. Breathing air with a high concentration of NO₂ can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO₂ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma and children and the elderly are generally at greater risk for the health effects of NO₂ (USEPA 2023c). NO₂ absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of O₃/smog and acid rain.

Particulate Matter

Suspended atmospheric PM₁₀ (particulate matter with diameter of 10 microns or less) and PM_{2.5} (particulate matter with diameter of 2.5 microns or less) are comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mist. Both PM₁₀ and PM_{2.5} are emitted into the atmosphere as by-products of coal, gas, or diesel fuel combustion and wind erosion of soil and unpaved roads. The atmosphere, through chemical reactions, can form particulate matter. The characteristics, sources, and potential health effects of PM₁₀ and PM_{2.5} can be very different. PM₁₀ is generally associated with dust mobilized by wind and vehicles. In contrast, PM_{2.5} is generally associated with combustion processes and formation in the atmosphere as a secondary pollutant through chemical reactions. PM₁₀ can cause increased respiratory disease, lung damage, cancer, premature death, reduced visibility, and surface soiling. For PM_{2.5}, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases (CARB 2023a).

Sulfur Dioxide

Sulfur Dioxide (SO₂) is included in a group of highly reactive gases known as “oxides of sulfur.” The largest sources of SO₂ emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of SO₂ emissions include industrial processes such as extracting metal from ore and burning fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Short-term exposures to SO₂ can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO₂ (USEPA 2023d).

Lead

Lead (Pb) is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial. However, due to the USEPA’s regulatory efforts to remove lead from gasoline, atmospheric lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred before 1990 due to the removal of lead from gasoline sold for most highway vehicles. Lead emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least partly due to national emissions standards for

hazardous air pollutants (USEPA 2014). As a result of phasing out leaded gasoline, metal processing is currently the primary source of lead emissions. The highest lead level in the air is generally found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and cardiovascular system depending on exposure. Lead exposure also affects the oxygen-carrying capacity of the blood. The lead effects most likely encountered in current populations are neurological in children. Infants and young children are susceptible to lead exposures, contributing to behavioral problems, learning deficits, and lowered IQ (USEPA 2023e).

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TAC) are airborne substances and a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about 1/70th the diameter of a human hair) and thus is a subset of PM_{2.5}. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2023a).

TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health. People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2023f).

Current Air Quality

CARB operates a network of air quality monitoring stations throughout Marin County. The monitoring stations aim to measure ambient concentrations of pollutants and determine whether ambient air quality meets the California and federal standards. The closest monitoring station to the project site is the San Rafael Station, located at 534 4th Street in San Rafael, approximately 9 miles southwest of the project site. The San Rafael Station monitors for O₃, PM₁₀, PM_{2.5} and NO₂. Table 4.1-1 indicates the number of days each federal and state standard were exceeded. As shown, no state or federal standards were exceeded at these monitoring stations between 2021 and 2023. Since SO₂ is in attainment with the SFBAAB region, it is not monitored at the nearest air monitoring stations and therefore ambient air quality is not reported for this pollutant. CO is no longer monitored at this site. CO is taken from USEPA data for Marin County.

Table 4.1-1 Representative Annual Ambient Air Quality Data

Pollutant	2021	2022	2023
Ozone (ppm), Highest 1-Hour	0.082	0.074	0.066
Number of days above CAAQS (>0.09 ppm)	0	0	0
Ozone (ppm), Highest 8-Hour Average	0.066	0.066	0.053
Number of days above NAAQS and CAAQS (>0.070 ppm)	0	0	0
Carbon Monoxide (ppm), Highest 8-Hour Average	0.8	0.8	0.8
Number of days above CAAQS or NAAQS (>9.0 ppm)	0	0	0
Nitrogen Dioxide (ppm), Highest 1 Hour	0.038	0.035	0.040
Number of days above CAAQS (>0.180 ppm)	0	0	0
Number of days above NAAQS (>0.100 ppm)	0	0	0
PM₁₀- Particulate Matter <10 microns (mg/m³), Highest 24-Hour Average	30	40	41.9
Number of days above CAAQS (>50 mg/m ³)	0	0	0
Number of days above NAAQS (>150 mg/m ³)	0	0	0
PM_{2.5}- Particulate Matter <2.5 microns (mg/m³), Highest 24-Hour Average	29.1	30.8	34.7
Number of days above NAAQS (>35 mg/m ³)	0	0	0

ppm = parts per million; µg/m³ = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard

Note: The ambient air quality data presented in this table is intended to be representative of existing conditions and is not a comprehensive summary of all monitoring efforts for all the CAAQS and NAAQS. Additional ambient air quality data can be accessed at <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report>.

Source: CARB 2025; USEPA 2025g

Sensitive Receptors

According to CARB, sensitive receptors include residences, long-term health care facilities, rehabilitation centers, convalescent centers, hospitals, retirement homes, schools, playgrounds, and childcare centers (CARB 2005). The closest sensitive receptor to the project site is the residential development located approximately 450 feet west of the project site. The pediatric medical offices directly across from the Costco parking lot do not represent a sensitive receptor with respect to health risk because, while sensitive groups (children) do occupy the building at times, an individual child is only there for a limited amount of time per day and daily occupation by the same child is limited to only a few times per year. These offices are included as worker receptors for health risk and as receptors for acute impacts where people may be located for over an hour. The exposure time of children at this location is considered minimal and the facility is considered a non-sensitive receptor.

4.1.2 Regulatory Setting

a. Federal Laws and Regulations

The CAA was enacted in 1970 and amended in 1977 and 1990 [42 United States Code (USC) 7401] for the purposes of protecting and enhancing the quality of the nation’s air resources to benefit public health, welfare, and productivity. In 1971, to achieve the purposes of Section 109 of the CAA (42 USC 7409), USEPA developed primary and secondary NAAQS.

The primary NAAQS “in the judgment of the Administrator², based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health,” and the secondary standards are to “protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air” (42 USC 7409[b][2]). USEPA classifies specific geographic areas as either “attainment” or “nonattainment” areas for each pollutant based on the comparison of measured data with the NAAQS³. Each state is required to adopt an enforceable plan, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS. State plans also must control emissions that drift across state lines and harm air quality in downwind states. Once a nonattainment area has achieved the air quality standards for a particular pollutant, it may be redesignated to an attainment area for that pollutant. To be redesignated, the area must meet air quality standards and have a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. Areas that have been redesignated to attainment are called maintenance areas. Table 4.1-1 lists the current federal standards for regulated pollutants. The project site is within Marin County jurisdiction, which currently exceeds the NAAQS for 8-hour O₃ and 24-hour PM_{2.5}.

Table 4.1-2 Federal and State Ambient Air Quality Standards

Pollutant	NAAQS	CAAQS	NAAQS Status	CAAQS Status
Ozone	0.070 ppm (8-hr avg)	0.09 ppm (1-hr avg) 0.070 ppm (8-hr avg)	Nonattainment (Marginal)	Nonattainment
Carbon Monoxide	35.0 ppm (1-hr avg) 9.0 ppm (8-hr avg)	20.0 ppm (1-hr avg) 9.0 ppm (8-hr avg)	Unclassified/ Attainment	Unclassified/ Attainment
Nitrogen Dioxide	0.100 ppm (1-hr avg) 0.053 ppm (annual avg)	0.18 ppm (1-hr avg) 0.030 ppm (annual avg)	Unclassified/ Attainment	Unclassified/ Attainment
Sulfur Dioxide	0.075 ppm (1-hr avg) 0.5 ppm (3-hr avg) 0.14 ppm (24-hr avg) 0.030 ppm (annual avg)	0.25 ppm (1-hr avg) 0.04 ppm (24-hr avg)	Unclassified/ Attainment	Unclassified/ Attainment
Lead	0.15 mg/m ³ (rolling 3-month avg) 1.5 mg/m ³ (calendar quarter)	1.5 mg/m ³ (30-day avg)	Unclassified/ Attainment	Unclassified/ Attainment
Particulate Matter (PM ₁₀)	150 mg/m ³ (24-hr avg)	50 mg/m ³ (24-hr avg) 20 mg/m ³ (annual avg)	Unclassified/ Attainment	Nonattainment
Particulate Matter (PM _{2.5})	35 mg/m ³ (24-hr avg) 12 mg/m ³ (annual avg)	9 mg/m ³ (annual avg)	Nonattainment (Moderate)	Nonattainment
Visibility-Reducing Particles	No federal standards	Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape. (8-hr avg)	N/A	Unclassified/ Attainment

² The term “Administrator” means the Administrator of the USEPA.

³ Air quality in a geographic area meets or is cleaner than the national standard is called an attainment area (designated “attainment/unclassifiable”). Areas that don't meet the national standard are called nonattainment areas.

Pollutant	NAAQS	CAAQS	NAAQS Status	CAAQS Status
Sulfates	No federal standards	25 mg/m ³ (24-hr avg)	N/A	Unclassified/ Attainment
Hydrogen Sulfide	No federal standards	0.03 ppm (1-hr avg)	N/A	Unclassified/ Attainment
Vinyl Chloride	No federal standards	0.01 ppm (24-hr avg)	N/A	Unclassified/ Attainment

NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; ppm = parts per million; avg = average; µg/m³ = micrograms per cubic meter
 Source: CARB 2016, 2022; USEPA 2023i

To derive the NAAQS, USEPA reviews data from integrated science assessments and risk/exposure assessments to determine the ambient pollutant concentrations at which human health impacts occur, then reduces these concentrations to establish a margin of safety (USEPA 2022). As a result, human health impacts caused by the air pollutants discussed above may affect people when ambient air pollutant concentrations are at or above the concentrations established by the NAAQS. The closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant (San Joaquin Valley Air Pollution Control District 2015). Accordingly, ambient air pollutant concentrations below the NAAQS are considered to be protective of human health (CARB 2023c, 2023d). The NAAQS and the underlying science that forms the basis of the NAAQS are reviewed every five years to determine whether updates are necessary to continue protecting public health with an adequate margin of safety (USEPA 2015).

Construction Equipment Fuel Efficiency Standard

The USEPA sets emission standards for construction equipment. The first federal standards (Tier 1) were adopted in 1994 for all off-road engines over 50 horsepower (hp) and were phased in by 2000. A new standard was adopted in 1998 that introduced Tier 1 for all equipment below 50 hp and established the Tier 2 and Tier 3 standards. The Tier 2 and Tier 3 standards were phased in by 2008 for all equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements, which are contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068 (originally adopted in 69 Federal Register 38958 [June 29, 2004], and most recently updated in 2014 [79 Federal Register 46356]). Emissions requirements for new off-road Tier 4 vehicles were completely phased in by the end of 2015. This requirement is for the manufacture and purchase of new equipment and does not prohibit construction contractors from using non-Tier 4 equipment in their operations.

b. State Laws and Regulations

California Clean Air Act

The California Clean Air Act (CCAA) was enacted in 1988 (California Health & Safety Code Section 39000 et seq.). Under the CCAA, the state has developed the CAAQS, which are generally more stringent than the NAAQS. Table 4.1-2 lists the current state standards for regulated pollutants. In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. Similar to the federal CAA, the CCAA classifies specific geographic areas as either “attainment” or “nonattainment” areas for each pollutant, based on the comparison of measured data within the CAAQS. Marin County is

currently classified as a nonattainment area under the CAAQS for O₃, PM₁₀, and PM_{2.5}, and classified as an attainment area for the remaining criteria pollutants (CARB 2022).

California Air Toxics Program

In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process. Accordingly, the California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk.

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, identify facilities having localized impacts, ascertain health risks, notify nearby residents of significant risks, and reduce those significant risks to acceptable levels.

The Children's Environmental Health Protection Act, California Senate Bill (SB) 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air quality monitoring network, and develop any additional air toxic control measures needed to protect children's health.

State Implementation Plan

The SIP is a collection of documents that set forth the state's strategies for achieving the CAAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, and permitting), district rules, state regulations, and federal controls. CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The items included in the California SIP are listed in the Code of Federal Regulations at 40 Code of Federal Regulations 52.220.

Air District's 2017 Clean Air Plan is the governing plan for Marin County. The Clean Air Plan accommodates growth by projecting the growth in emissions based on different indicators. For example, population forecasts adopted by Air District are used to forecast population-related emissions, as discussed in *Local Regulations*. Through the planning process, emissions growth is offset by basin-wide controls on stationary, area, and transportation sources of air pollution.

In-Use Off-Road Diesel-Fueled Fleets Regulation

The In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation), adopted in 2007, applies to all self-propelled off-road diesel vehicles 25 horsepower or greater used in California and most two-engine vehicles (except on-road two-engine sweepers). This includes vehicles that are rented or leased (rental or leased fleets). CARB amended the Off-Road Regulation on November 17, 2022, which went into effect January 1, 2024.

California Code of Regulations

The California Code of Regulations is the official compilation and publication of the regulations adopted, amended, or repealed by state agencies pursuant to the Administrative Procedure Act. They are compiled into Titles and organized into Divisions containing the regulations of state agencies. The following policies in the California Code of Regulations would be applicable to the proposed project:

- **Motor Fuel Dispensing Facilities and Service Stations.** In accordance with Section 2540.7 of Title 8 of the California Code of Regulations, dispensing pumps must be equipped with a switch or other approved means to disconnect all circuits simultaneously from the source of electrical supply.
- **Engine Idling.** In accordance with Section 2485 of Title 13 of the California Code of Regulations, the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location.

c. Local Regulations

Air Quality Management Plan

The Air District is responsible for assuring that the federal and state ambient air quality standards are attained and maintained in the Bay Area. The Air District is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, as well as many other activities.

The Air District adopted the 2017 Clean Air Plan (2017 Plan) as an update to the 2010 Clean Air Plan in April 2017. The 2017 Plan provides a regional strategy to protect public health and the climate. To fulfill state O₃ planning requirements, the 2017 control strategy includes all feasible measures to reduce emissions of O₃ precursors—ROG and NO_x—and reduce transport of O₃ and its precursors to neighboring air basins. The 2017 Plan builds upon and enhances the Air District's efforts to reduce emissions of fine particulate matter TACs (Air District 2017).

Bay Area Air District Permits, Rules, and Regulations

Air District is responsible for the issuance of air quality permits for stationary equipment in the Bay Area and the management of the resulting air emissions. Nearly all stationary equipment that emits to the atmosphere requires an Air District permit. An air quality permit is a document that gives the permit holder authorization to build equipment and/or to operate that equipment. Each project is evaluated before a business can build and operate their equipment to ensure that all air quality requirements are met.

The Air District implements rules and regulations for emissions that may be generated by various uses and activities. The rules and regulations detail pollution-reduction measures that must be implemented during construction and operation of projects. The most notable rules and regulations applicable to the project include the following:

- **Regulation 2 (Permits):** This regulation specifies the requirements for authorities to construct and issue permits to operate facilities, including stationary sources such as gasoline stations.

- **Regulation 8, Rule 3 (Architectural Coatings):** This rule limits the quantity of volatile organic compounds that can be supplied, sold, applied, and manufactured within the Air District region.
- **Regulation 8, Rule 7 (Gasoline Dispensing Facilities):** The purpose of this rule is to limit emissions of organic compounds from gasoline dispensing facilities.

Additionally, based upon its expertise and study, Air District has published CEQA Guidelines for analyzing air quality impacts, including thresholds of significance, recommended methodology, and mitigation measures, that can be employed when evaluating projects within the Air District jurisdictional area. The specific guidelines and thresholds as applied to the project are discussed in more detail in Section 4.1.3(a), below.

Novato General Plan

The following goals and policies from the 2035 Novato General Plan are applicable to air quality.

- **ES 17:** Clean Air. Work to protect and improve air quality.
- **ES 17a:** Clean Air Plan. Cooperate with the Bay Area Air Quality Management District in implementing the regional Clean Air Plan.

4.1.3 Impact Analysis

a. Significance Thresholds

To determine whether a project would result in a significant impact to air quality, Appendix G of the *CEQA Guidelines* requires consideration of whether a project would:

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
3. Expose sensitive receptors to substantial pollutant concentrations; or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Bay Area Air District Significance Thresholds

The Air District has adopted guidelines for quantifying and determining the significance of air quality emissions in its 2022 *CEQA Air Quality Guidelines*. CARB has given jurisdiction to the individual air quality management districts to develop appropriate thresholds and policies that govern the reduction of pollutant emissions within each district's boundaries. The Air District's suggested significance thresholds for project operations within the SFBAAB are the most appropriate thresholds for use in determining air quality impacts of the proposed project. Air District developed criteria to provide lead agencies and project applicants with a conservative indication of whether a project could result in potentially significant air quality impacts, including conflicting with state and federal ambient air quality standards. Air District thresholds are developed to ensure that projects that meet the Air District thresholds would also meet the state and federal ambient air quality standards (NAAQS and CAAQS).

Criteria Pollutant Thresholds (Threshold 2)

Table 4.1-3 presents the significance thresholds for construction and operational-related criteria air pollutant and precursor emissions used for the purposes of assessing criteria pollutant emissions for this analysis. These represent the levels at which a project’s individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB’s existing air quality conditions. For the purposes of this analysis, the proposed project would result in a significant impact if construction or operational emissions would exceed any of the thresholds shown in Table 4.1-3.

Table 4.1-3 Air Quality Thresholds of Significance

Pollutant/Precursor	Construction: Average Daily Emissions (lbs/day)	Operation: Maximum Annual Emissions (tpy)	Operation: Average Daily Emissions (lbs/day)
ROG	54	10	54
NO _x	54	10	54
PM ₁₀	82 (exhaust)	15	82
PM _{2.5}	54 (exhaust)	10	54

Notes: lbs/day = pounds per day; tpy = tons per year; ROG = reactive organic gases; NO_x = oxides of nitrogen; PM₁₀ = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less.; PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less

Source: Bay Area Air District 2023a: Table 3-1.

Toxic Air Contaminant Thresholds (Threshold 3)

Additionally, the Air District’s *CEQA Air Quality Guidelines* include risk and hazard significance thresholds to assess potential health risk impacts associated with a project’s emissions of TACs. In accordance with these guidelines, a significant impact would occur if a project would result in:

- Non-compliance with a qualified risk reduction plan;
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0; or
- An incremental increase of greater than 0.3 micrograms per cubic meter (µg/m³) annual average PM_{2.5} concentration.

Additionally, a project would have a cumulatively considerable impact from exposing sensitive receptors to pollutant concentrations if the aggregate total of all past, present, and foreseeable future sources of TACs within a 1,000-foot radius from the property boundary results in the following:

- Non-compliance with a qualified risk reduction plan;
- An excess cancer risk level of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0; or
- An annual average of PM_{2.5} greater than 0.8 µg/m³.

CO Hotspot Screening (Threshold 3)

Preliminary screening provides lead agencies with a conservative indication of whether implementing the proposed project could result in carbon monoxide emissions that exceed the thresholds of significance. If all the following screening criteria are met, operation of the proposed project would result in a less-than-significant impact related to carbon monoxide:

Costco Fuel Center Project

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Localized NO₂ Analysis (Threshold 3)

Criteria pollutants such as NO_x carry local health risks to surrounding communities. The Air District has established project-level thresholds to determine if emissions from the project would result in a significant adverse air quality impact for NO_x, which includes combined levels of NO and NO₂. As such, the project-level thresholds were developed and are intended to ensure that the NAAQS and CAAQS are met. Table 4.1-3 shows the significance thresholds adopted by the Air District to determine significance for NO_x (and thus NAAQS and CAAQS). Although NO₂ analysis is not required or recommended under Air District guidance, additional localized NO₂ analysis is incorporated here based on comments submitted to the City to further determine the potential impacts on nearby receptors. Localized NO₂ concentrations are compared to the 1 hour and annual NAAQS and CAAQS as converted from parts per million to micrograms per meter cubed. In this EIR, the project impact on the environment would be conservatively considered significant if project emissions plus background concentrations exceeded the following thresholds:

- NAAQS 1-hour 188 µg/m³
- CAAQS 1-hour 339 µg/m³
- Annual NAAQS 100 µg/m³
- Annual CAAQS 57 µg/m³

b. Methodology

CalEEMod Modeling Assumptions and Inputs

CalEEMod is the air quality model that quantifies ozone precursors, criteria pollutants, and greenhouse gas emissions from the construction and operation of new land use development and linear projects in California. The following assumptions were used in providing inputs to the CalEEMod model runs for the project.

Construction

Project construction is anticipated to last approximately three months and was calculated assuming that construction would begin in November of 2024. This is a conservative assumption because construction would commence in 2025 at the earliest. Using the 2024 start year provides a more conservative estimate of emissions as a less efficient standard fleet is assumed in modeling. Grading and excavation are required for the installation of canopy footings, USTs, product piping, stormwater improvements, and utility installation. USTs would require excavation to depths of approximately 16 feet and would be installed with 5 to 7 feet of cover. The analysis of construction

emissions uses default assumptions for equipment and worker, hauling, and vendor trips except as to the following more conservative assumptions that were included in this analysis:

- An excavator was added to the demolition/excavation stage to account for the excavation of the area for the underground storage tanks
- 61 daily haul truck trips were added to demolition and excavation to account for removal of parking lot demolition debris and soil exports
- 2 daily vendor trips in the building construction phase were added for material delivery;
- Worker trips were increased to 16 for building construction and 4 for architectural coating to account for the building of the station canopy as well as the control structure.

CalEEMod outputs are provided in Appendix E.

Operation

Project traffic is consistent with what is presented in the Costco Gasoline Fuel Station Addition: Transportation Impact Analysis by Kittelson & Associates Inc., dated February 2024, included as Appendix D. As stated in Appendix D, the proposed project reduces vehicle miles traveled (VMT) regionally by 702 VMT per day. The addition of the gas station would increase daily trips to the site by 4,620 trips. The energy consumption is based on the regional decrease in gasoline vehicle trips along with the increase in diesel truck trips as well as increase in idling and queuing emissions at the site.

CalEEMod outputs are provided in Appendix E.

CO Hotspot

The Air District recommends comparing a project's attributes with the following screening criteria as a first step to evaluating whether the project would result in the generation of CO concentrations that would substantially contribute to an exceedance of the thresholds of significance. The project would result in a less than significant impact to localized CO concentrations if:

1. The project is consistent with an applicable congestion management program for designated roads or highways, regional transportation plan, and local congestion management agency plans;
2. The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
3. The project traffic would not increase traffic volumes at the affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage).

Rowland Boulevard and Vintage Way would directly serve the proposed project. These roadways are not monitored in the Marin County Congestion Management Plan (2019).

TAC

To evaluate the potential impacts of TACs emitted during construction and operation of the proposed gas station component of the project, Rincon used CARB's Hotspots Analysis and Reporting Program (HARP 2) model. The USEPA's AERMOD atmospheric dispersion modeling system was used to determine concentrations to import into HARP2 for risk quantification. Potential health

risks to nearby sensitive receptors from the emission of TACs during operations at the proposed gasoline dispensing facility were analyzed in accordance with the Air District's *Recommended Methods for Screening and Modeling Local Risks and Hazards* (Bay Area Air District 2022), CAPCOA's *Gasoline Service Station Industrywide Risk Assessment Technical Guidance* (Risk Assessment Technical Guidance) (CAPCOA 1997; CAPCOA 2022), and the OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015). Methodology for the Construction and Operational Health Risk Assessment is summarized below and is detailed in the Health Risk Assessment included as Appendix F.

AERMOD requires meteorological and topographic data. Pre-processed meteorological data was obtained from the Air District's Gness Field station approximately 3.7 miles north of the project site. The dataset was developed by the Air District for use in AERMOD and includes five years of meteorological data between 2013 and 2017. AERMOD's Urban Dispersion option was applied based on an estimated population of 260,206 people for Marin County.

Construction

The Air District identifies construction activities as a common source of TAC and PM_{2.5} emissions due to the operation of diesel-powered equipment and heavy-duty trucks that emit DPM (Bay Area Air District 2017). Although construction activity is short-lived, it may increase TAC concentrations in the short term at nearby sensitive receptors. DPM is the primary contaminant of concern for the project and would be the TAC emitted in the largest quantity; thus, health risks were assessed as they relate to DPM exposure. The nearest sensitive receptors to the project site are single and multi-family residences located approximately 450 feet⁴ west of the project site across US 101. A quantified construction health risk was provided for the project. Maximum cancer risk, chronic hazard index, and annual average PM_{2.5} concentrations were determined for the residential properties located directly across the 101 Freeway within 1,000 feet of the project site and for workers located directly across Vintage Way at the pediatric medical offices to the south of the site. Construction vehicle sources were assigned as line volume sources to account for the demolition, building construction, paving, and architectural coating. Volume sources for construction equipment have a plume height of 2.6 meters, a width of 10 meters, and a release height of 1.3 meters.

Operational

Risk Assessment procedures include a methodology for modeling speciated emissions commonly associated with gasoline fuel stations. Gasoline emissions for the project site operations were speciated into benzene, ethylbenzene, n-hexane, naphthalene, propylene, toluene and xylenes. Gasoline emissions for on-road vehicles were speciated into benzene, ethylbenzene, n-hexane, naphthalene, propylene, toluene, xylenes, 1,3-butadiene, formaldehyde, acrolein, and acetaldehyde. Diesel emissions for on-road vehicles (fuel delivery trucks) used DPM only. In accordance with this methodology, emissions were modeled in AERMOD based on eight primary emissions sources associated with gasoline fuel stations:

- **Loading** – Loading emissions are point source emissions that occur when fuel tanker trucks unload gasoline to the storage tanks, displacing storage tank vapors and causing emissions through the vent pipe.
- **Breathing** – Breathing emissions are driven by temperature and pressure changes in the storage tank and, like loading emissions, are considered a point source for modeling purposes.

⁴ Measured from the fuel facility site boundary to the nearest residential building.

- **Refueling** – Refueling emissions are those that occur between the vehicle/nozzle interface. In AERMOD, refueling is modeled as a volume source.
- **Spillage** – Spillage emissions result from evaporating gasoline that spills during vehicle fueling. In AERMOD, spillage is modeled as a volume source.
- **Hose Permeation** – These emissions occur when gasoline, in liquid or vapor form, diffuses through the hose’s outer surface to the atmosphere. Hose permeation is modeled as a volume source.
- **Queuing** – These emissions occur while cars are idling waiting to access the gas pumps.
- **Idling** – Emissions associated with fuel trucks idling at the station prior to or after tank filling activities.
- **Trip emissions** – These emissions are associated with passenger and fuel trucks travelling to and from the site from the 101 freeway.

The underground gasoline tanks are proposed to be located directly west of the fueling canopy. Therefore, truck idling, loading and breathing emissions sources were sited at the approximate location of the proposed storage tanks. Refueling, spillage, and hose permeation sources were sited at the approximate locations of the pumps based on the project site plan, as such emissions would occur throughout the refueling area. Queueing for the passenger vehicles is assumed to encompass the area around and including the fuel pumps. Trip emissions are assumed along Rowland Boulevard based on the Transportation Impact Analysis by Kittelson & Associates Inc., dated February 2024.

The gas station was assumed to operate 17 hours per day between 5 am and 10 pm. Speciated emissions factors per 1,000 gallons of throughput are based on CARB’s *Gasoline Service Station Industrywide Risk Assessment Technical Guidance* (CARB 2022). Emissions calculations are based on a proposed maximum throughput of approximately 36 million gallons annually.

Localized NO₂ Analysis

A localized NO₂ analysis was conducted to assess the potential impacts of construction and operational activities on nearby receptors from NO₂. The Air District thresholds analyze NO_x, which is a combination of NO and NO₂. State and Federal Ambient Air Quality Standards are based on the levels of NO₂ as NO₂ is a reactive, oxidizing gas and an acute irritant capable of damaging cell linings in the respiratory tract. Breathing air with a high concentration of NO₂ can irritate airways in the human respiratory system and therefore is the pollutant of concern. NO and O₂ combine in the atmosphere to form NO₂, therefore the Air District’s use of NO_x at the source accounts for the additional formation of NO₂ that will occur as the NO from the source reacts with the O₂ from the atmosphere. The localized NO₂ analysis accounts for the conversion of NO to NO₂ over distance and the results represent the NO₂ concentrations at the receptors and therefore are compared to the state and federal NO₂ standards.

Daily and annual NO₂ emissions burdens for construction were estimated based on the maximum daily and annual NO_x emissions as determined through CalEEMod modeling for onsite and on-road equipment used during construction. Daily emissions for onsite equipment, worker trips and haul trips are 16.4, 0.05 and 7.33 pounds per day respectively. Annual emissions for onsite equipment, worker trips and truck (haul/vendor) trips are 0.29, 0.12, and 0.09 tons per year respectively.

Daily and annual emissions burdens for operational activities were estimated based on the number of daily vehicles accessing the site for the use of the gas station, 6,870 passenger vehicle trips and 12 truck trips, in addition to queueing and idling emissions for passenger vehicles and the trucks

accessing the site. Refined air dispersion modeling of the daily emissions was conducted using AERMOD to show the project's maximum local impacts from NO₂. Emissions in grams per second (g/sec) were input directly to AERMOD to determine actual concentrations and the conversion from NO to NO₂ is accounted for in the modeling, using the Tier 2/ARM2 conversion method in AERMOD.

The average daily localized pollutant levels related to travel on site, on Vintage Way and on Rowland Boulevard were used to determine concentrations. Traffic volumes along each of these roadways were identified in Appendix D. Emissions were modeled as line volume sources.

To account for the impact of localized pollutants in combination with pollution from other sources, the modeled results were added to the background level as recommended by USEPA and the Air District. Unique background levels are based on measured concentrations at the San Rafael monitoring station. The resulting pollutant concentrations (modeled result and background) were then compared to the applicable NAAQS and CAAQS. For the one hour threshold CAAQS uses the first highest concentration while NAAQS uses the 98th percentile which is accounted for in the modeling and results.

Dispersion modeling was performed using the USEPA-approved AERMOD with meteorological data from the Gness Field monitoring station. Emissions sources were located on the project site and corresponding off site roadways. Operational activities are anticipated to occur 17 hours per day, 7 days per week, consistent with the TAC modeling. The same receptor grid and discrete receptors as used for the health risk analysis were used for the localized analysis. In addition, fence line receptors were added to identify the closest off-site location where people might be located, such as sidewalks and in the parking lots where receptors may experience an acute non-cancer impact over the course of one hour. These were similarly analyzed for exposure to NO₂ over 1 hour which is one of the NAAQS and CAAQS standards for NO₂.

Background concentrations were determined using a 3-year average of hourly and annual concentrations taken from the San Rafael monitoring station (CARB 2024). The average concentrations between 2021 and 2023 were then converted from parts per billion to µg/m³ in order to be added to project concentrations and compared to the regulatory thresholds. One hour average background concentrations are 75.0 µg/m³ and annual background concentrations are 11.3 µg/m³.

c. Project Impacts and Mitigation Measures

Threshold 1: Would the project conflict with or obstruct implementation of the applicable air quality plan?
--

Impact AQ-1 THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT THE IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The CCAA requires that air districts create a clean air plan that describes how the jurisdiction will meet air quality standards. The most recently adopted air quality plan for the Air District is the 2017 Plan. The 2017 Plan builds upon and enhances the Air District's efforts to reduce emissions of fine particulate matter and TACs. The 2017 Plan does not include control measures that apply directly to individual development projects. Instead, the control strategy includes control measures related to stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants (pollutants such as SF₆ that have a high global warming potential).

The 2017 Plan focuses on two paramount goals:

- Protect air quality and health at the regional and local scale by attaining all national and state air quality standards and eliminating disparities among Bay Area communities in cancer health risk from TACs.
- Protect the climate by reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

Under Air District methodology, a determination of consistency with the 2017 Plan should demonstrate that a project:

- Supports the primary goals of the air quality plan.
- Includes applicable control measures from the air quality plan.
- Does not disrupt or hinder implementation of any air quality plan control measures.

The proposed project supports the primary goal of attaining national and state standards and eliminating disparities among Bay Area communities in cancer health risk and TAC as discussed in detail in Impacts AQ-2 and AQ-3 below. The overall reduction in VMT from the implementation of the project would be consistent with the plan goals to reduce GHG emissions. In addition, the project is consistent with the site's existing land use designation, would not increase the population of the city, and would not require a general plan amendment. Furthermore, the fuel center would be a permitted source and would have to meet the permitting requirements of the Air District and other regulatory agencies, thus further ensuring compliance with plan goals and measures. Control measures required by law, such as reducing fugitive dust during construction, would be implemented as part of the permit to construct. Therefore, the project would not conflict with or obstruct the implementation of an applicable air quality plan and the project would have a less than significant impact.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

This impact would be less than significant.

Threshold 2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?

Impact AQ-2 THE PROJECT WOULD NOT RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF ANY CRITERIA POLLUTANTS FOR WHICH THE PROJECT REGION IS IN NON-ATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AIR QUALITY STANDARD. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Project construction would result in temporary air pollutant emissions. Construction activities such as the operation of construction vehicles and equipment over unpaved areas, grading, trenching, and disturbance of stockpiled soils have the potential to generate fugitive dust (PM₁₀) through the

exposure of soil to wind erosion. In addition, exhaust emissions associated with heavy-duty construction equipment could potentially degrade regional air quality.

Construction of the project would occur over three months with operations conservatively assumed to begin in November 2024. Additionally, project construction would be required to comply with Air District rules and regulations, including standard dust control measures such as watering disturbed open areas and unpaved roads as conditions of the permit to construct.

Table 4.1-4 summarizes the estimated average daily emissions of ROG, NO_x, PM₁₀ and PM_{2.5} during project construction. As shown therein, the project would not exceed Air District construction air quality emission thresholds. Impacts would be less than significant.

Table 4.1-4 Project Construction Emissions

Year	Daily Emissions (lbs/day)					
	ROG	NO _x	CO	PM ₁₀ (exhaust)	PM _{2.5} (exhaust)	SO _x
2024	2	24	22	1	1	<1
2025	3	14	18	1	<1	<1
Threshold	54	54	N/A	82	54	N/A
Threshold Exceeded?	No	No	N/A	No	No	N/A

Source: Appendix E (Table 2.2 "Construction Emissions By Year" from CalEEMod output. Results rounded to nearest whole number.)

Operational Emissions

Operational emissions were estimated using CalEEMod for 28 fuel dispensers, and supporting calculations for mobile emissions and fuel station were provided in the assumptions and calculations section of Appendix E]. Modeling assumptions are summarized above and included in Appendix E. Long-term emissions associated with project operation are shown in Table 4.1-5 and Table 4.1-6. Emissions would not exceed Air District average daily or annual thresholds for any criteria pollutant. Since project emissions would not exceed Air District thresholds for operation, the project would not violate an air quality standard or result in a cumulatively considerable net increase in criteria pollutants and impacts would be less than significant. Mobile emission estimates account for the regional reduction in VMT.

Table 4.1-5 Project Operational Average Daily Emissions

Sources	Average Daily Emissions (pounds/day)					
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	SO _x
Mobile	2	6	1	<1	<1	<1
Area	<1	<1	<1	<1	<1	<1
Energy	0	0	0	0	0	0
Fuel Station	52	-	-	-	-	-
Total Project Emissions	52	6	1	<1	<1	<1
Thresholds	54	54	N/A	82	54	N/A
Threshold Exceeded?	No	No	N/A	No	No	N/A

Note: Numbers may not add up due to rounding.

N/A = not applicable; there is no BAAQMD threshold for CO or SO_x

Source: Appendix E (Table 2.5 from CalEEMod output. Results rounded to the nearest whole number.)

Table 4.1-6 Project Operational Maximum Annual Emissions

Sources	Maximum Annual Emissions (tons/year)					
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	SO _x
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile	<1	1	<1	<1	<1	<1
Fuel Station	9	-	-	-	-	-
Total Project Emissions	9	1	<1	<1	<1	<1
Thresholds	10	10	N/A	15	10	N/A
Threshold Exceeded?	No	No	N/A	No	No	N/A

Note: Numbers may not add up due to rounding.

N/A = not applicable; there is no Air District threshold for CO or SO_x

Source: Appendix E (Table 2.5 from CalEEMod output. Results rounded to the nearest whole number.)

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-3 THE PROJECT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS AS TO CARBON MONOXIDE OR TOXIC AIR CONTAMINANTS. THE PROJECT WOULD EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS OF NO₂ DURING CONSTRUCTION WITHOUT MITIGATION. IMPLEMENTATION OF MITIGATION MEASURES WILL REDUCE CONSTRUCTION NO₂ EMISSIONS TO BELOW THRESHOLDS, THEREFORE IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Certain population groups, such as children, the elderly, and people with health problems, are particularly sensitive to air pollution. Per the Air District's *CEQA Air Quality Guidelines*, sensitive receptors are defined as population groups that are more susceptible to exposure to pollutants, including children, the elderly, off-site workers, students, and those with medical conditions, who are typically found in residences, schools, parks and playgrounds, daycare centers, nursing homes, and residential medical facilities such as hospitals or congregate care facilities (Bay Area Air District 2023a). Sensitive receptors nearest to the project site include residences approximately 450 feet⁵ west of the project site across US 101. The project's gasoline fuel station would create a new source of CO and TAC emissions that may impact nearby receptors.

Carbon Monoxide Hotspots

The project would generate 576 weekday PM peak hour trips and 696 Saturday midday peak hour trips associated with the gasoline station. Of these, 270 weekday and 274 Saturday trips would be pass-by or diverted trips that are already on the roadways, and 189 weekday and 250 Saturday trips would be existing warehouse trips that are already on the roadways and would now also visit the

⁵ Measured from the project site boundary to the nearest residential building.

gasoline station (Appendix D). The addition of project trips would not cause any nearby roadways such as Rowland Boulevard and Vintage Way (currently with less than 3,000 vehicles per hour [Appendix D]) to exceed 44,000 vehicles per hour or nearby intersections to exceed 24,000 vehicles per hour.

The fuel station is anticipated to generate queuing as customers wait to fuel their vehicles. Proposed queuing generally would be accommodated within the designated queuing areas and would not spill into the internal drive aisle or off site. The project's 696 midday peak hour trips (between 11 a.m. and 2 p.m.), in addition to existing vehicle trips on local roadways, would be well below the 24,000 and 44,000 vehicle per hour screening levels, with approximately 232 vehicles per hour visiting the project site. Because queuing would be temporary as vehicles move through the gasoline fuel facility, and the total vehicles per hour queuing for the project would be equal to or less than 232 vehicles per hour (which would be served by 28 fueling positions), the concentration of CO emissions would be low and rapidly disperse. Therefore, the impact of localized CO emissions would be less than significant.

Toxic Air Contaminants

Health impacts associated with TACs are generally due to long-term (i.e., 30-year residence or 70-year lifetime) exposure. Typical sources of TACs include industrial processes such as petroleum refining operations, commercial operations such as gasoline stations and dry cleaners, and diesel exhaust. Additionally, Air District recommends that lead agencies should review risks from nearby roadways, freeways, and stationary sources for new receptor projects. Project construction would involve the use of diesel-fueled equipment during the approximately 3-month construction period, which would result in emissions of TACs during construction. Operation of the proposed project would create a new source of TAC emissions from the proposed gasoline dispensing facility. Sources include the underground storage tanks, the pumps, the hoses, as well as the vehicles themselves.

Prevailing winds in Novato average approximately 5.1 miles per hour and originate from the northwest and southwest, pushing potential emissions toward largely undeveloped land to the east.

Construction TAC Impacts

Maximum cancer risk, chronic hazard index, and annual PM_{2.5} concentrations were determined for the residential properties located directly across US 101 within 1,000 feet of the project site, and workers at the Tamalpais Pediatrics center directly across Vintage Way from the project site (Maximum Exposed Individual Worker, or MEIW). The Maximum Exposed Individual Resident (MEIR) was identified at the multi-family residential building closest to US 101, east of the intersection of Redwood Boulevard and Valley Oak Court. As shown in Table 4.1-7, the calculated cancer risk, chronic risk, or PM_{2.5} concentrations would not exceed the regulatory thresholds at the MEIR or the MEIW. Acute risk is not identified as DPM does not result in acute risk. Therefore, construction health risk impacts would be less than significant.

Table 4.1-7 Construction Health Risk Results

Gasoline Fuel Facility	Cancer Risk	Chronic Hazard Index	Annual PM _{2.5} (µg/m ³)
MEIR	0.12 in 1 million	0.0003	0.01
MEIW	0.12 in 1 million	0.0046	0.16
Significance Threshold	10 in 1 million	1.0	0.3
Exceeds Threshold?	No	No	No

PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; µg/m³ = micrograms per cubic meter; MEIR = Maximum Exposed Individual Resident; MEIW = Maximum Exposed Individual Worker
Source: Appendix F

Operational TAC Impacts

The project includes a new fuel station, which may expose sensitive receptors west of US 101 to TACs from fuel emissions. An operational health risk assessment was conducted to determine the cancer risk, chronic hazard index, and acute hazard index to residential and worker receptors within 1,000 feet of the project site (Appendix F). PM_{2.5} is not associated with gasoline fueling stations and therefore is not included in the operational analysis.

As noted in Section 2.5, *Project Characteristics*, proposed tanks and dispensers would be equipped with the latest Phase I and Phase II EVR air pollution control equipment technology per CARB regulations and associated Executive Orders. Phase I EVR equipment controls the vapors in the return path from the tanks back to the tanker truck during offloading filling operations. The Stage I EVR systems are 98 percent effective in controlling fugitive emissions from escaping into the environment. Phase II EVR equipment controls the vapors in the return path from the vehicles being refueled back to the tanks and are 95 percent effective in controlling fugitive emissions from escaping into the environment.

For purposes of this analysis, it is conservatively assumed that up to 36 million gallons of gasoline could be distributed from the gasoline fuel facility annually. Benzene, ethylbenzene, toluene, xylenes, and naphthalene are the primary contaminants of concern with the operation of a fueling station while benzene, 1,3-butadiene, acetaldehyde, acrolein, and formaldehyde are the primary contaminants of concern with idling cars on site. The nearest sensitive receptors to the project site are single and multi-family residences located approximately 450 feet west of the project site across US 101. As shown in Table 4.1-8 below, the project would not cause regulatory thresholds to be exceeded at either the MEIR or the MEIW and therefore would result in less than significant impacts.

Table 4.1-8 Operational Health Risk Results

Gasoline Fuel Facility	Cancer Risk	Chronic Hazard Index	Acute Hazard Index
MEIR	1.61 in 1 million	0.0006	0.11
MEIW	2.66 in 1 million	0.082	0.47
Significance Threshold	10 in 1 million	1.0	1.0
Exceeds Threshold?	No	No	No

PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; MEIR = Maximum Exposed Individual Resident; MEIW = Maximum Exposed Individual Worker
Source: Appendix F

Combined TAC Impacts

As cancer risk is cumulative, a combined construction and operational health risk has been calculated to show the total risk for off-site receptors based on the combined construction and operational risk. Chronic risk, acute risk, and PM_{2.5} concentrations are not cumulative over the life of the project, therefore the maximum between the construction and operational values are used. Table 4.1-9 shows the results of the combined analysis. As shown, the combined risk values and PM_{2.5} concentrations are below regulatory thresholds and would result in less than significant impacts.

Table 4.1-9 Combined Construction and Operational Health Risk Results

Gasoline Fuel Facility	Cancer Risk	Chronic Hazard Index	Acute Hazard Index	Annual PM_{2.5} Concentration
MEIR	1.70 in 1 million	0.006	0.11	0.01
MEIW	2.78 in 1 million	0.082	0.47	0.16
Significance Threshold	10 in 1 million	1.0	1.0	0.3
Exceeds Threshold?	No	No	No	No

PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; µg/m³ = micrograms per cubic meter; MEIR = Maximum Exposed Individual Resident; MEIW = Maximum Exposed Individual Worker

Totals may not add, as combined risks represent the maximum at one receptor where the MEIR from construction and operational risks are not from the same receptors.

Source: Appendix F

Localized NO₂ Concentrations

The maximum localized pollutant levels modeled in the localized NO₂ analysis for construction and operational concentrations are presented in Table 4.1-10. Modeling and AERMOD output files are included in Appendix E. The locations of the maximum impact are along the project property line at the western border. As shown, maximum localized pollutant levels or NO₂ would not exceed the 1-hour or annual NAAQS and CAAQS for operational activities. Therefore, the operational impacts from the additional local traffic generated from the operation of the proposed project would not result in a significant impact. However, maximum localized construction NO₂ levels along the property line at the western border would exceed the 1-hour NAAQS, 188 µg/m³. Therefore, impacts at the fence line (where people could potentially congregate for up to one hour such as sidewalks or parking lots) from construction activities would result in a potentially significant impact without mitigation.

Table 4.1-10 Estimated Maximum Localized Construction & Operational NO₂ Concentrations

Pollutant (units)	Averaging Period	Background	On-Site Increment (Modeled Result)	Proposed Action (Modeled Result Plus Background) ¹	CAAQS	NAAQS	Exceed Threshold
Construction							
NO ₂ (µg/m ³)	1-hour	75.0	140.0	279	188		Yes
	1-hour	75.0	160.0	317		339	No
	Annual	11.3	24.5	28	100	57	No
Operational							
NO ₂ (µg/m ³)	1-hour	75.0	10.0	85	188		No
	1-hour	75.0	11.1	86.1		339	No
	Annual	11.3	0.8	12.1	100	57	No

¹ Numbers may not add up due to rounding.

µg/m³ = micrograms per cubic meter

Mitigation Measures

AQ-1 Construction Emissions Reduction

Prior to issuance of grading permits, the following measures shall be noted on all construction plans and shall be implemented during construction:

- All mobile off-road equipment (wheeled or tracked) greater than 50 horsepower used during construction activities shall meet the U.S. EPA Tier 4 final standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 final standards.
- Alternative Fuel (natural gas, propane, electric, etc.) construction equipment shall be incorporated where available. These requirements shall be incorporated into the contract agreement with the construction contractor. A copy of the equipment's certification or model year specifications shall be available upon request for all equipment on-site.
- Electricity shall be supplied to the site from the existing power grid to support the electric construction equipment. If connection to the grid is determined to be infeasible for portions of the project, a non-diesel fueled generator shall be used.
- The project shall comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction.

Significance After Mitigation

Implementation of Mitigation Measure AQ-1 would reduce the NO_x (and as a result NO₂) emissions from the construction activities through the incorporation of more efficient/cleaner construction equipment. The maximum localized pollutant levels modeled in the localized NO₂ analysis for mitigated construction are presented in Table 4.1-11. Modeling and AERMOD output files are included in Appendix E. As shown, maximum localized pollutant levels for construction NO₂ would be reduced to below the thresholds of significance with the implementation of mitigation measure AQ-1. Therefore, with implementation of Mitigation Measure AQ-1, impacts from construction of the proposed project would not result in a significant impact.

Table 4.1-11 Estimated Maximum Localized Mitigated Construction NO₂ Concentrations

Pollutant (units)	Averaging Period	Background	On-Site Increment (Modeled Result)	Proposed Action (Modeled Result Plus Background) ¹		Exceed Threshold
				CAAQS	NAAQS	
Construction						
NO ₂ (µg/m ³)	1-hour	75.0	60.8	120.8	188	No
	1-hour	75.0	76.0	150.9	339	No
	Annual	11.3	6.69	7.7	100	57

¹ Numbers may not add up due to rounding.

µg/m³ = micrograms per cubic meter

Threshold 4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact AQ-4 THE PROJECT WOULD NOT RESULT IN OTHER EMISSIONS (SUCH AS THOSE LEADING TO ODORS) THAT WOULD ADVERSELY AFFECT A SUBSTANTIAL NUMBER OF PEOPLE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Table 5-4 in the Air District’s 2022 *CEQA Air Quality Guidelines* provides odor screening distances for land uses that have the potential to generate substantial odor complaints. These uses include wastewater treatment plants, landfills or transfer stations, refineries, composting facilities, confined animal facilities, food processing, smelting plants, and chemical plants (Bay Area Air District 2023a). The project would involve development of a 28-pump gas station. Although gasoline fumes from the fueling station may be considered a nuisance odor, this use is not identified by the Air District as a significant odor-generating use, and fuel pumps would be located approximately 640 feet away from the nearest residences. CARB recommends siting sensitive land uses, such as residences, at least 300 feet from large gasoline fuel facilities, and the proposed fuel pumps would be located outside the recommended buffer of 300 feet, which would meet CARB-recommended setbacks of gasoline fuel facilities from nearby sensitive receptors (CARB 2005). Furthermore, implementation of required vapor recovery systems for gas pump and tanker truck dispensing, which can reduce emissions of certain odor-generating compounds (i.e., benzene) by 95 to 98 percent, would further reduce any potential odor impacts associated with the project. Therefore, the proposed project would not generate objectionable odors affecting a substantial number of people during operation.

During construction activities, heavy equipment and vehicles would emit odors associated with vehicle and engine exhaust both during normal use and when idling. However, such emissions would be intermittent in nature and would dissipate rapidly with increasing distance from the source to the nearest receptors approximately 450 feet west. Furthermore, prevailing winds in Novato average approximately 5.1 miles per hour and originate from the northwest and southwest, pushing potential odorous emissions toward largely undeveloped land to the east. Therefore, the proposed project would not generate objectionable odors affecting a substantial number of people. This impact would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

4.1.4 Cumulative Impacts

The geographic scope for the cumulative air quality impact analysis is the SFBAAB for criteria air pollutants and for conflicts with local air quality plans. This is appropriate because air quality pollutants are monitored on an air basin-wide scale. The geographic scope for the analysis of odors and TACs is the City of Novato since effects of odors and TACs are more localized. As identified in Table 3-1, *Cumulative Project List*, in Section 3.3, *Cumulative Development*, there are 20 currently planned and pending projects (“cumulative project” or “cumulative projects”) in Novato, which may contribute to cumulative air quality impacts. Each cumulative project could generate emissions during construction and operation. However, neither the proposed project nor any of the cumulative projects are part of an ongoing regulatory program or have been analyzed within a Program EIR. Therefore, consistent with Air District methodology, project-specific air quality impacts are used to determine if a project’s contribution to cumulative air quality impacts would be significant for all impacts except TACs and odors. With respect to TACs, those planned projects that have stationary source permits on file with the Air District would be included. The majority of the cumulative projects are residential or commercial where permissible stationary sources are not typically present and therefore were not addressed. The Hanna Ranch Development has the potential to incorporate a gasoline station similar to the proposed project. Therefore, with respect to TACs, the only cumulative project addressed in the analysis is the potential Hanna Ranch gasoline station.

Cumulative Criteria Air Pollutants Impacts

SFBAAB is designated as nonattainment area for the federal and state one-hour and eight-hour O₃ standards, state PM₁₀ standards, and federal and state annual PM_{2.5} standard, there is an existing significant cumulative air quality impact in the SFBAAB relative to these pollutants. Therefore, this cumulative impact analysis is based on the Air District’s recommendations included in its 2022 *CEQA Air Quality Guidelines* (Bay Area Air District 2023a). Individual projects under the Air District’s jurisdiction would cause a cumulatively considerable increase in emissions for which the SFBAAB is in non-attainment if unplanned growth in the area has the potential to exacerbate the pollution and hinder the achievement of the Air District 2017 Plan. As discussed under Impact AQ-1, the proposed project would not result in unplanned growth and was demonstrated to be consistent with the Air District 2017 Plan. Therefore, the proposed project would not result in a considerable contribution to impacts associated with plan compliance.

Additionally, a cumulatively considerable finding may occur if the individual project exceeds the Air District’s recommended thresholds, as well as for the AAQS for NO₂. As discussed under Impact AQ-2, construction and operation of the project would not exceed regional significance thresholds. Therefore, the proposed project would not result in a considerable contribution to impacts associated with criteria pollutant concentrations for which the project region is non-attainment.

Cumulative Odor Impacts

Cumulative projects would adversely affect sensitive receptors from odor emissions if cumulative projects were typical odor-producing land uses. Construction of cumulative projects would result in construction equipment-related odors; however, the temporary nature of construction would

ensure less than significant cumulative odor impacts since construction activities would not overlap or would be different distances from receptors. Cumulative air quality impacts related to odors would be less than significant. Since the proposed project’s construction would be temporary and operational activities would not produce substantial odors, the project would not result in a considerable contribution to any cumulative odor emission impacts.

Cumulative TAC Impacts

The Air District recommends that the cumulative impact of a project be assessed by evaluating current and proposed substantial sources of TACs, including roadways and stationary sources, within a 1,000-foot radius of the identified MEIR and MEIW. Existing potential sources within 1,000 feet of the MEIR and MEIW include US 101, nearby major streets, and a railway to the northeast of the site across Rowland Boulevard. There are no permitted stationary sources within 1,000 feet of the MEIR or MEIW⁶. Cumulative risk impacts to the MEIR and MEIW from freeway, roadway, and rail sources were based on health risk and PM_{2.5} concentrations obtained from the Air District for major roadways, highways and railways (Bay Area Air District 2022a, 2022b, 2022c). In addition, the proposed Hanna Ranch project, which is located approximately 900 feet south of the project site, could also incorporate a gasoline station similar to the size of the proposed project, if approved and constructed.⁷ To account for potential cumulative risk from the development of this facility, the 2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool was used to assess the proposed Hanna Ranch GDF. The analysis assumes operation of the Hanna Ranch Facility consistent with the proposed project, conservatively assuming 36 million gallons per year of throughput for each facility. Table 4.1-12 summarizes cumulative health risk at the MEIR and MEIW. As shown in Table 4.1-12, cumulative sources of TACs would not exceed Air District’s cumulative health risk thresholds of 100 in a million for cancer risk, hazard indices of 10 for chronic and acute risk, and 0.8 µg/m³ for PM_{2.5} concentrations at the MEIR or MEIW. Therefore, the health risk to nearby residents and workers due to cumulative impacts would be less than significant.

Table 4.1-12 Cumulative Health Risk

Project Receptors & other Source	Cancer Risk	Chronic Hazard Index	Acute Hazard Index	PM _{2.5} Concentration (mg/m ³)
MEIR				
Project	1.70 in 1 million	0.006	0.108	0.010
Gasoline station at Hanna Ranch	2.46 in 1 million	0.010	0.020	-
Roadway	21.41 in 1 million	0.075	-	0.568
Railway	0.91 in one million	<0.001	-	0.001
Cumulative Impact associated with the MEIR	26.48 in one million	0.090	0.13	0.58
MEIW				
Project	2.78 in 1 million	0.08	0.47	0.158
Gasoline station at Hanna Ranch	0.34 in 1 million	0.020	0.030	-
Roadway	19.01 in 1 million	0.067	-	0.521
Railway	1.25 in 1 million	<0.001	-	0.002

⁶ One permitted stationary source, Target Corporation – Store T-692 (Facility ID 15851) is located within 1,000 feet of the project site property line. However, this source is not associated with any cancer, non-cancer, or PM_{2.5} risk (BAAQMD 2023b).

⁷ While the Hanna Ranch project originally proposed a gasoline station as specifically a Costco facility, it is conservatively assumed that a large gasoline facility is still a part of the Hanna Ranch project as the developer’s application showing the fueling facility is still active.

Project Receptors & other Source	Cancer Risk	Chronic Hazard Index	Acute Hazard Index	PM_{2.5} Concentration (mg/m³)
Cumulative Impact associated with the MEIW	23.38 in 1 million	0.17	0.50	0.68
Significance Threshold	100 in 1 million	10.0	10.0	0.8
Exceeds Threshold?	No	No	No	No

PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; µg/m³ = micrograms per cubic meter; MEIR = Maximum Exposed Individual Resident; MEIW = Maximum Exposed Individual Worker

¹ Air District Highway and Major Streets raster files do not provide a chronic health risk value for these sources.

Source: 2022a, 2022b, 2022c; Appendix F

Cumulative development projects within the City of Novato could expose sensitive receptors to cancer risks that exceed the Air District health risk thresholds; however, cumulative projects requiring permits would be required to comply with Air District regulations to reduce the potential for significant impacts to sensitive receptors. Further, as discussed above, the only cumulative project anticipated to have a potential to result in a new TAC emission source based on the type of development is the Hanna Ranch development. Therefore, as emissions are below regulatory thresholds, this cumulative impact related to health risks would be less than significant. As described under Impact AQ-3, TAC emissions from project construction and cumulative impacts would not exceed Air District thresholds for health risks. Therefore, the proposed project would not result in a considerable contribution to cumulative TAC impacts.

This page left intentionally blank.

4.2 Biological Resources

This section evaluates the potential for significant impacts to biological resources resulting from project construction and operation. The analysis in this section is based on a literature review and a site reconnaissance survey conducted by Rincon Consultants, Inc. (Rincon) in June 2023.

4.2.1 Setting

The project site is located within the Vintage Oaks Shopping Center in the southern portion of the City of Novato and within the North Bay region of the San Francisco Bay Area. The Coastal Mountain Range lies to the west, San Pablo Bay to the southeast, and the Petaluma River to the east. The vicinity of the project site includes the Beverly Ehreth Ecological Preserve to the south, the Sonoma-Marín Area Rail Transit (SMART) commuter rail line, the Petaluma Marsh Wildlife Area and Novato Creek to the east, commercial development to the north, and US 101 and residential development to the west.

a. Topography and Soils

The project site is at an elevation of approximately 10 feet above mean sea level, and the site topography is relatively flat. The project site contains the following soil map unit (United States Department of Agriculture, Natural Resources Conservation Service [USDA, NRCS] 2023a):

- **Xerorthents, fill:** This soil type is comprised of man-modified material, such as soils placed to fill and dike bay lands. This soil type is found on valley floors and tidal flats, and is derived from igneous, metamorphic and sedimentary rock. This soil type is considered nonhydric (USDA, NRCS 2023b).

b. Land Cover Types

The project site is developed, consisting of a paved parking lot with curbs, driveways, concrete sidewalks, storm drains, and landscaped islands (Figure 2-2). No natural vegetation communities, waters, or wetlands occur within the project site. Species observed within landscaped areas are largely non-native, consisting of purple robe locust (*Robinia pseudoacacia*), pin oak (*Quercus palustris*), sycamore (*Plantanus racemose*), honey locus (*Gleditsia triacanthos*), Chinese pistache (*Pistacia chinensis*), coast live oak (*Quercus agrifolia*), and crape myrtle (*Lagerstroemia* sp.) (ArborWell 2020). Shrubs and other ornamental species observed on the project site include juniper (*Juniperus* sp.), redclaws (*Escallonia rubra*), star jasmine (*Trachelospermum jasminoides*), purple fountain grass (*Pennisetum setaceum*), and African iris (*Dietes iridioides*).

c. Special-status Species

Special-status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the United States Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) under the federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened, or endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA) or Native Plant Protection Act; animals designated as “Species of Special Concern,” “Fully Protected,” or “Watch List” by CDFW; and plants with a California Rare Plant Rank (CRPR) of 1 or 2, which are defined as:

- List 1A = Plants presumed extinct in California

Costco Fuel Center Project

- List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- List 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80 percent occurrences threatened)
- List 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20 percent of occurrences threatened or no current threats known)
- List 2 = Rare, threatened or endangered in California, but more common elsewhere

Information regarding the occurrences of special-status species in the vicinity of the project site was obtained from searching the California Natural Diversity Database (CNDDDB; CDFW 2023a), Biogeographic Information and Observation System (CDFW 2024), and Critical Habitat Portal (USFWS 2024). Other resources included the online Inventory of Rare and Endangered Plants of California (Online Inventory; California Native Plant Society [CNPS] 2023). For this review, the search included all occurrences within the *Novato* USGS 7.5-minute topographic quadrangle, on which the project occurs, and the surrounding eight quadrangles (*Petaluma*, *Petaluma River*, *Sears Point*, *San Geronimo*, *Petaluma Point*, *Bolinas*, *San Rafael*, and *San Quentin*).

Based on the agency queries, there are 67 special-status plant species, 33 special-status wildlife species, and one sensitive natural community documented within the *Novato* quadrangle and the eight surrounding quadrangles (Appendix G).

Special Status Plants

Sixty-seven (67) special-status plant species documented in the CNDDDB for the region were evaluated for their potential to occur in the project site (see Appendix G). None of these species were observed during the site survey or would be expected to occur within the project site. All 67 special-status plant species could be excluded based on known ranges and suitable elevations, the lack of natural vegetation communities on site, level of development and impervious surfaces, lack of connectivity to natural vegetation communities, and the lack of species-specific habitat requirements.

Special Status Wildlife

Rincon identified 33 special-status wildlife species that have been documented within the nine-quadrangle search radius in the CNDDDB (see Appendix G). None of these special-status wildlife species were observed during the reconnaissance survey or would be expected to occur within the project site. All 33 special-status wildlife species could be excluded based on the lack of natural vegetation communities and connectivity to natural vegetation communities, existing level of development and landscape maintenance, and the lack of species-specific habitat requirements such as specific aquatic habitat types, large nest trees, and caves and mines.

Nesting Birds

Non-game migratory birds and native birds protected under the California Fish and Game Code (CFGF) Section 3503 and the federal Migratory Bird Treaty Act (MBTA), such as native avian species common to developed and ruderal areas, have the potential to breed and forage in the project site and vicinity. Common bird species that typically occur in urban areas of the region, such as mourning dove (*Zenaidura macroura*), house finch (*Haemorhous mexicanus*), and Brewer's blackbird (*Euphagus cyanocephalus*) may nest in the project site. Nesting by a variety of common birds

protected by CFGC Section 3503 and the MBTA could occur in virtually any location throughout the project site containing landscaped vegetation, or on adjacent buildings.

d. Sensitive Natural Communities and Critical Habitat

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in the CNDDDB. The Sensitive Natural Communities List in the CNDDDB is not currently maintained and no new information has been added in recent years. CDFW is working to classify and rank vegetation statewide according to State standards that comply with the National Vegetation Classification System, consistent with the approach used in CNPS (Sawyer et al. 2009). Currently, CDFW publishes the California Natural Community List online (CDFW 2023b). Vegetation rarity ranking in that list is based on a rank calculator developed by NatureServe. According to CDFW Vegetation Program, alliances with State ranks of S1 to S3, as well as certain additional associations specifically noted as sensitive in the list, are considered imperiled, and thus, potentially of special concern.

No natural vegetation communities or riparian areas are present on site, and the site is not located within federally designated critical habitat.

e. Jurisdictional Waters and Wetlands

No potential jurisdictional features were mapped within the project site (USGS 2024; USFWS 2023) and none were observed during the site reconnaissance survey.

f. Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Other corridors may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The CDFW Biogeographic Information and Observation System (BIOS) database (2024) and the California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California (Spencer et al. 2010) were reviewed for information on wildlife corridors in the region.

The project site contains a paved parking lot that does not provide habitat or habitat linkages. Additionally, the site is located within the existing development of the Vintage Oaks Shopping Center and is bordered by Vintage Way and US 101 to the west and the Costco Warehouse and Rowland Boulevard to the east, both of which limit the ability for terrestrial wildlife to access the project site. Overall, the project site does not provide a corridor for wildlife movement.

4.2.2 Regulatory Setting

a. Federal Regulations

Federal Endangered Species Act

FESA protects federally listed wildlife species from harm or take, which is broadly defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as take even if it is unintentional or accidental. Listed plant species are legally protected from take under the FESA only if they occur on federal lands. USFWS and NMFS have jurisdiction over federally listed, threatened and endangered species under the FESA. USFWS also maintains lists of proposed and candidate species, which are not legally protected under FESA, but may become listed in the near future.

Migratory Bird Treaty Act

The MBTA (16 United States Code Section 703) prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests; and prohibits the possession of all nests of protected bird species whether they are active or inactive. Nest starts (nests that are under construction and do not yet contain eggs) and inactive nests are not protected from destruction.

b. State Regulations

California Endangered Species Act

CESA (CFGC, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with CESA, CDFW has jurisdiction over State-listed species (CFGC Section 2070). CDFW regulates activities that may result in take of individuals (i.e., “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”).

California Fish and Game Code

CFGC Sections 3503, 3513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by CDFW. Raptors (i.e., eagles, hawks, and owls) and their nests are specifically protected in California under CFGC Section 3503.5, which states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

National Pollutant Discharge Elimination System Construction General Permit

Construction projects in California causing land disturbances that are equal to one acre or greater must comply with State requirements to control the discharge of stormwater pollutants under the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit; Water Board Order No. 2009-0009-DWQ). Prior to the start of construction/demolition, a Notice of Intent

must be filed with State Water Resources Control Board describing the project. A Stormwater Pollution Prevention Plan must be developed and maintained during construction of the project, and it must include the use of best management practices (BMP) to protect water quality until the site is stabilized.

c. Local Regulations

City of Novato 2035 General Plan

The City of Novato 2035 General Plan Environmental Stewardship Chapter, Section 3.2 Natural Communities and Ecological Resources, contains goals and policies to conserve natural habitats and sensitive biological resources. The General Plan provides the following policies pertaining to biological resources that are applicable to the project:

Goal ES 1: Preserve, enhance and restore natural areas and features, including Novato’s scenic hillsides, water-ways, riparian corridors, wetlands, baylands, and special status species.

- **ES 1: Ecology of Creeks and Streams.** Preserve and enhance the ecology of creeks and streams, including riparian vegetation. Prohibit further degradation and require restoration of previously degraded riparian areas as a condition of development approval when restoration is feasible, taking into account the project’s size and cumulative impacts.
 - *ES 1a: Waterway and Riparian Protection.* Ensure that new development complies with the requirements of the Waterway and Riparian Protection ordinance in the Zoning Code for watercourses shown on Figure ES-1.
- **ES 2: Watershed Management.** Minimize the effects of pollution in stormwater runoff in Novato and its effective watersheds. Retain and restore where feasible the natural hydrological characteristics of watersheds in Novato, including daylighting of drainages that were previously buried.
 - *ES 2a: NPDES Compliance.* Ensure that new development complies with the requirements of the NPDES and the applicable Urban Runoff Pollution Prevention Ordinance.
 - *ES 2b: Maintenance.* Prioritize storm drain maintenance and street sweeping programs to reduce urban runoff pollutants.
- **ES 3: Wildlife Habitat.** Endeavor to preserve and enhance wildlife habitat areas and wildlife movement corridors in watercourse areas and control human use of these areas as necessary to protect them.
- **ES 6: Wetlands Ecology.** Preserve and enhance wetlands ecology.
 - *ES 6a: Wetland Protection.* Ensure that new development complies with the requirements of the Wetland Protection and Restoration ordinance in the Zoning Code.
- **ES 11: Species Diversity and Habitat.** Protect biological resources, including migratory birds, anadromous fish, and threatened and endangered species, that are necessary to maintain a diversity of plant and animal species.
 - *ES 11a: Agency Cooperation.* Cooperate with state and federal agencies to ensure that development does not substantially adversely affect special status species appearing on the state or federal list for any rare, endangered, or threatened species. Require a special status species survey as appropriate.

Goal ES 4: Protect trees and woodlands that provide ecological, economic and aesthetic benefits for Novato.

- **ES 22: Trees on Private Property.** Encourage and, where appropriate, require actions by private property owners to protect the health of native woodlands and trees.
 - *ES 22a: Parking Lot Standards.* Revise parking lot landscape standards to maximize tree size, cover and growth to reduce heat gain.
 - *ES 22b: Tree Replacement.* Consider amending the woodland tree removal/replacement requirements of the Zoning Code to prioritize replacement planting of native species and to consider tradeoffs of requiring fewer but larger replacement trees based on site conditions.
- **ES 23: Trees in New Development.** Require that the site planning, construction and maintenance of development preserve existing healthy trees and native vegetation on site to the maximum extent feasible. Replace trees and vegetation not able to be saved.

Vintage Oaks Precise Development Plan

The Vintage Oaks Precise Development Plan (City of Novato 1990) was developed to ensure compatibility of future development within the Vintage Oaks Shopping Center. A Design Manual was approved by the City in 1991 to help the Design Review Commission review proposed projects for compatibility, and aide architectural design development. The Design Manual includes a landscape concept, including a Plant Legend of approved trees and shrubs. The PDP landscape standards include, but are not limited to:

- Landscape plans shall be prepared by a landscape architect registered in the state of California.
- Conformance to the City’s thirty percent (30%) shade ordinance is required.
- Not less than five percent (5%) of the interior areas of all parking lots shall be devoted to appropriate landscaping. Required landscaping along public streets shall not be credited to this requirement.

City of Novato Municipal Code

The City of Novato Municipal Code (NMC) Chapter XVII, Trees and Shrubs, makes it unlawful for any person or group of persons to alter or remove or cause to be altered or removed, any tree on undeveloped parcels or any heritage tree on any parcel in the City of Novato without a permit from the City. A heritage tree is defined as any native or non-native woody plant with a diameter of 24 inches or more measured at 24 inches above existing grade, or any tree designated as such by the City Council. A tree is defined as any woody native or non-native plant with a diameter of six inches. Additionally, NMC Section 19.39, Woodland and Tree Preservation, includes regulations and guidelines regarding the preservation of native trees and forest resources.

Section 19.36.070 of the City of Novato’s Municipal Code (“Development Standards and Design Criteria”) requires a minimum 50-foot buffer area adjacent to a wetland, in part to maintain a sufficient watershed to support the wetland. The Beverly Ehreth Ecological Preserve wetland is located more than 50 feet from the project site; therefore, this section of the Municipal Code does not apply.

4.2.3 Impact Analysis

a. Methodology and Significance Thresholds

The impact analysis is based on the existing biological resources documented by Rincon's reconnaissance survey and literature review of CDFW's CNDDDB, CDFW's Biogeographic Information and Observation System, USFWS's Critical Habitat Portal, and CNPS's Inventory of Rare and Endangered Plants of California, described above. Project impacts to biological resources are focused upon rare, threatened, endangered species, or species listed under CEQA Guidelines Section 15380.

According to Appendix G of the *CEQA Guidelines*, a proposed project would have a significant impact on biological resources if it would:

1. 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 CDFW or USFWS;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
3. Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
4. Interfere substantially (i.e., direct/indirect reduction) 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;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

b. Project Impacts and Mitigation Measures

<p>Threshold 1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</p>
--

Impact BIO-1 THE PROJECT WOULD NOT HAVE A SUBSTANTIAL ADVERSE EFFECT ON SPECIAL-STATUS PLANT AND ANIMAL SPECIES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

The site is fully developed, with a paved parking lot and landscaped islands, and there are no native vegetation communities or habitats on site. The ornamental vegetation at the site is not suitable habitat for any species listed under FESA or CESA. Demolition of the sidewalk on the north side of Vintage Way is the closest project element to natural areas and is approximately 150 feet from the Beverly Ehreth Ecological Preserve, 640 feet from the Petaluma Marsh Wildlife Area, and 0.7 miles from Novato Creek.

As discussed in the project Initial Study Environmental Checklist Section 13, Noise (refer to Appendix A), existing ambient noise levels within the project site from vehicles (e.g., automobiles, buses, and

trucks) along Rowland Boulevard, Vintage Way, US 101, and the SMART commuter train and Northwestern Pacific Railroad Company freight train, are within the 65-decibel noise contour, which is between the levels of a normal conversation and busy street traffic (60 dB and 70 dB respectively; Caltrans 2023). Project construction is estimated to occur over approximately three months, and would include site preparation and grading, trenching and utilities, building construction, architectural coating, and paving. Construction activity would result in temporary noise in the project site vicinity. Construction equipment would not all operate at the same time or location, and would not be in constant use during the 8-hour operating day. Construction activities (the exit driveway) would be located as close as 100 feet to the fence of the Beverly Ehreth Ecological Preserve, and approximately 150 feet from the wetland edge, but construction would typically be located at an average distance further away due to the nature of construction. Construction equipment is typically dispersed in various areas of the site, with only a limited amount of equipment operating near a given location at a particular time. The Federal Transit Administration (2018) *Transit Noise and Vibration Impact Assessment Manual* recommends this approach on page 177, stating that for the distance variable in their construction noise calculation “assumes that all equipment operates at the center of the project.” Therefore, it is common, industry standard practice to analyze average construction noise from the center of the site because this is the approximate center of where noise is being generated as equipment moves around the site throughout the workday. At a distance of 160 feet (distance from the center of the construction area), construction would generate a noise level of approximately 72 decibels (Appendix A). These levels are consistent with the typical noise level of busy street traffic and the existing levels of ambient noise on site. Additionally, construction would not require any blasting or pile driving, and sources of vibration would be limited to equipment such as loaded trucks, bulldozers, jackhammers, and rollers. Expected groundborne vibration from vibratory construction equipment at a reference distance of 25 feet range from 58 VdB to 94 VdB (Appendix A: Initial Study Environmental Checklist Section 14, Noise). The approximate threshold of human perception of vibration is 65 VdB, and a disagreeable level of vibration is approximately 90 VdB (Federal Transit Administration 2018). The expected level of vibration at the Beverly Ehreth Ecological Preserve during construction would be substantially lower due to the distance from the construction site and infrequent nature of expected work at 150 feet from sensitive areas of the preserve. Given the site’s proximity to US 101, Vintage Way, the SMART rail line, and ambient levels of noise, off-site impacts to wildlife in these natural areas due to noise or vibration from project construction or operation are not anticipated.

There is potentially suitable habitat on and adjacent to the project site, including the Beverly Ehreth Ecological Preserve, for nesting birds protected under MBTA and Section 3503 of the CFGC. Ornamental landscaping and the existing trees within the site may provide nesting habitat for common species such as mourning dove, house finch, and Brewer’s blackbird. Direct impacts to nesting birds could occur if construction activities take place during the nesting season (February 1st through August 31st) and could include the destruction of active bird nests if they occur on the project site or abandonment of nests due to construction-related noise off site. To avoid or reduce potential adverse impacts to nesting birds, implementation of Mitigation Measure BIO-1, to conduct nesting bird surveys and establish appropriate non-disturbance buffers, would be required. Impacts to nesting birds would be less than significant with implementation of this measure.

Mitigation Measures

BIO-1 Nesting Bird Surveys and Avoidance

To avoid impacts to nesting birds, vegetation removal during construction of the project shall be limited to the period between September 1 and January 31 (i.e., outside the nesting season), if feasible. If vegetation removal cannot be conducted during this period, a qualified biologist shall conduct a pre-construction survey for active nests in and around the project site, no more than two weeks (14 days) prior to any construction activities. The surveys shall include the disturbance area plus a 200-foot buffer around the site if feasible, and a 500-foot buffer for raptors. If construction is delayed more than 14 days after the survey is conducted, the survey shall be repeated. If active nests are located, an appropriate avoidance buffer shall be established within which no work activity will be allowed which would impact these nests. The avoidance buffer would be established by the qualified biologist on a case-by-case basis based on the species and site conditions. In no cases shall the buffer be smaller than 50 feet for non-raptor bird species or 200 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until juveniles have fledged and the nest is inactive. The qualified biologist shall confirm that breeding/nesting is complete and young have fledged the nest prior to removal of the buffer. The results of the pre-construction survey shall be submitted to the City for review and approval prior to the start of vegetation removal activities.

Significance After Mitigation

If construction occurs during the bird nesting season, Mitigation Measure BIO-1 would require pre-construction surveys to identify any nesting birds that could be affected by project implementation. If nesting birds are identified, impacts would be avoided through establishment of no-work buffers until the juveniles fledge the nest or the nest is otherwise determined inactive. Therefore, with implementation of Mitigation Measure BIO-1, impacts would be less than significant.

Threshold 2: Would the project 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?

Impact BIO-2 THE PROJECT WOULD NOT HAVE A SUBSTANTIAL ADVERSE EFFECT ON SENSITIVE NATURAL COMMUNITIES. NO IMPACT WOULD OCCUR.

The site is paved, with ornamental vegetation. No sensitive natural communities defined by CDFW in the Natural Communities list occur on the project site. No riparian habitat occurs on site and riparian and aquatic habitats occurring off site to the southeast would not be impacted by the project. No impacts on sensitive natural communities would occur as a result of the project.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

There would be no impact.

Threshold 3: Would the project have a substantial adverse effect on state or federally protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact BIO-3 THE PROJECT WOULD NOT RESULT IN A SUBSTANTIAL ADVERSE EFFECT ON STATE- OR FEDERALLY-PROTECTED WETLANDS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

No wetlands occur on the site (USGS 2024; USFWS 2023). The Beverly Ehreth Ecological Preserve is approximately 150 feet southeast. Construction of the fuel facility site would take place north of Vintage Way and entirely outside of the wetlands and freshwater pond to the southeast. The project would not involve direct or cause indirect removal, filling, or hydrological interruption of these features. As described in more detail in Section 4.7, *Hydrology and Water Quality*, the fuel facility site drainage would be contained within the site itself, and stormwater would be directed to two bioretention basins for filtration before being discharged into existing stormwater systems within Vintage Oaks Shopping Center and Vintage Way. In addition, drainage collected near the canopy structure would be directed to an oil/water separator before being discharged into the sanitary sewer system. This drainage design would ensure no operational runoff from the site travels into the nearby wetland and pond features. Therefore, impacts to jurisdictional wetlands or waters would be less than significant.

Additionally, the project would be required to comply with the NPDES Construction General Permit requirements and prepare a Stormwater Pollution Prevention Plan (SWPPP), which includes BMPs (best management practices) for erosion control (see Section 4.7, *Hydrology and Water Quality*). This would ensure any pollutants carried in stormwater runoff do not enter nearby wetland features during construction or operation. Construction would not involve direct or cause indirect removal, filling, or hydrological interruption of these features.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Impact BIO-4 THE PROJECT WOULD NOT INTERFERE SUBSTANTIALLY WITH WILDLIFE MOVEMENT. NO IMPACT WOULD OCCUR.

The site is approximately 150 feet from the Beverly Ehreth Ecological Preserve, 640 feet from the Petaluma Marsh Wildlife Area, and 0.7 miles from Novato Creek. These areas provide corridors for wildlife movement in eastern Novato and San Pablo Bay. However, the site is developed with urban uses and does not provide a corridor for wildlife movement. Construction and operation of the project would be limited to the parking lot and would not expand urban uses into nearby open space areas. Further, the project site is bounded by the SMART commuter rail line and US 101, which are lined with chain link fencing creating an existing barrier to wildlife entering the project sites. In addition, the Beverly Ehreth Ecological Preserve to the southeast has a 4-foot chain link

fence to control access to this area. The existing fencing constrains wildlife movement into the project site. Therefore, the proposed project would not result in any impacts that would 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.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

There would be no impact.

Threshold 5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact BIO-5 THE PROJECT WOULD NOT CONFLICT WITH ANY LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The Vintage Oaks Design Manual, an element of the Vintage Oaks Precise Development Plan, requires a minimum of five percent of the interior parking area to be landscaped exclusive of required perimeter landscaping. The Precise Development Plan also requires a minimum of 30 percent shade coverage for the parking area. NMC Chapter XVII (Trees and Shrubs), Section 17-1.3 makes it unlawful for any person or group of persons to alter or remove or cause to be altered or removed, any heritage tree on any parcel in the City of Novato without a permit from the City. A heritage tree is defined as any native or non-native woody plant with a diameter of 24 inches or more measured at 24 inches above existing grade, or any tree designated as such by the city council. The site is developed, so NMC Chapter XVII permit requirements applicable to non-heritage trees on undeveloped properties do not apply.

The project would remove 27 trees from landscaped islands within the parking lot and driveways, none of which meet the NMC definition of heritage trees, as their sizes are considerably smaller than the 24-inch minimum diameter. These trees were planted as typical parking lot landscaping and are mainly non-native purple robe locust, pin oak, honey locust, and Chinese pistache. Two California sycamores are proposed for removal. While this species is native to California, these individuals are part of ornamental landscaping and are in poor health (ArborWell 2020).

The landscape plan includes 6,086 square feet of new landscaping, meeting the five percent landscaping, and 30 percent shade coverage required by the Vintage Oaks Design Manual. Additionally, the project includes the installation of new landscaping, including 36 new trees, within the parking lot and along Vintage Way. The 27 removed trees would be replaced with the 36 new trees, resulting in a net increase in on-site landscaping.

The Novato General Plan 2035 and the NMC also contain policies, development standards, and permitting procedures applicable to sites hosting wetlands, waterways and riparian habitat, hillsides, and woodland resources. None of these policies, development standards, and permitting procedures apply to the project since the project site is developed with urban uses and there are no wetlands, waterways, riparian habitat, or woodland resources located therein.

Therefore, the project would not conflict with local policies and ordinances and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact BIO-6 THE PROJECT WOULD NOT CONFLICT WITH THE PROVISIONS OF AN ADOPTED HABITAT CONSERVATION PLAN, NATURAL COMMUNITY CONSERVATION PLAN, OR OTHER APPROVED LOCAL, REGIONAL, OR STATE HABITAT CONSERVATION PLAN. THERE WOULD BE NO IMPACT.

The project site is not located within the boundaries of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, the project would not conflict with the provisions of an applicable plan, and no impact would occur.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

There would be no impact.

4.2.4 Cumulative Impacts

The geographic scope for cumulative biological resources impacts includes the areas surrounding the project site, including the City of Novato, unincorporated Marin County, the City of San Rafael, and the San Pablo Bay National Wildlife Refuge, within approximately 10 miles of the City. This geographic scope is appropriate for biological resources because it encompasses the mosaic of representative land cover, habitat types, and associated biological resources affected by the project, including primarily urban, residential, commercial, and industrial development with areas of natural habitats.

The planned and pending projects in the project vicinity are listed in Table 3-1 of Section 3, *Environmental Setting*. Cumulative development in the area could contribute to the loss of habitat for special-status species and the decline of special-status species, cause further fragmentation of habitat and isolation of populations, and decrease movement opportunities. Together, cumulative projects could result in the degradation of the suite of habitat types and associated biological resources, including special-status plant and wildlife species, that occur within the cumulative setting and could result in overall diminished regional ecological functions and values. Impacts to biological resources would most likely be mitigated on a project-by-project basis. However, permanent losses of sensitive habitats, including sensitive natural communities and listed species, would be a potentially significant cumulative impact.

The project would not impact natural communities, wetlands, wildlife movement, or wildlife nursery sites. The removal of trees and landscaping on site could result in project-level impacts to nesting birds; however, Mitigation Measure BIO-1 would reduce this impact to a less than significant level. As such, the project would not make a cumulatively considerable contribution to any significant cumulative biological resource impacts.

This page left intentionally blank.

4.3 Cultural Resources

This section analyzes the proposed project's potential impacts related to cultural resources, including historical and archeological resources as well as human remains. Impact analyses on cultural resources are not indicative of tribal cultural resources, and any such impacts assessments should be reviewed in Section 4.9, *Tribal Cultural Resources*. The analysis in this section is based on a Cultural Resources Study prepared for the project by Rincon Consultants, Inc. (Rincon) in October 2020 and additional background research conducted by Rincon in April 2023. The full Cultural Resources Technical Memorandum is referenced as confidential Appendix H of this EIR; this Memorandum is not included in the EIR to protect sensitive information about cultural resources.

4.3.1 Setting

a. Natural Setting

The project site lies within the San Francisco Bay Area at an approximate elevation of 3 meters (10 feet) above mean sea level. The project site is fully developed due to the commercial development of the Vintage Oaks Shopping Center. The surrounding area is also largely developed for residential and commercial purposes with paved or landscaped features; however, areas to the east retain some natural setting as part of Deer Island Preserve. The general vicinity of the project site includes wetlands and marshlands with native species of oak trees such as coast live oak, blue oak, black oak, and white oak. The closest freshwater source to the project site is Novato Creek located approximately 0.45 miles to the northeast.

According to published geologic mapping, the project site is underlain largely by Jurassic and Cretaceous age Franciscan Complex sandstone and shale, specifically thick bedded, arkosic sandstone and interbedded shale (Rice et al. 2002; Graymer et al. 2006). Jurassic- and Cretaceous-aged geologic units do not typically contain archaeological resources as these time periods predate human existence. In addition, the overlying soils recorded in the project site consist of artificial fill between three and four feet deep placed over alluvial deposits and Bay Mud extending to a depth of 30 feet. Soils within the project site have been further characterized exclusively as Xerorthents, which refers to man-modified material, either soils rearranged in a cut and fill or as tailings. These soils are comprised largely of fill or disturbances related to urban developments and do not typically retain their original characteristics or context (California Soil Resource Lab 2023).

Geotechnical results have also identified a layer of Holocene-aged alluvium present between 3 and 17 feet below the surface of the project site (Dockendorf and Traum 2020). While fill soils may be disturbed, Holocene-aged alluvial soils, and to a lesser extent, later Pleistocene-aged soils, have the potential to contain intact archaeological deposits because of the episodic nature of alluvial sedimentation making the sudden burial of artifacts possible (Waters 1983; Borejaza et al. 2014).

b. Cultural Setting

Indigenous History

The project site lies in the San Francisco Bay Area archaeological region (Milliken et al. 2007; Moratto 1984). Milliken et al. (2007) generally divided the pre-contact chronology of the Bay Area into five periods: The Early Holocene (8000 to 3500 before common era [BCE]), Early Period (3500 to

500 BCE), Lower Middle Period (500 BCE to 430 common era [CE]), the Upper Middle Period (430 to 1050 CE), and the Late Period (1050 CE to contact).

It is presumed that early Paleoindian groups lived in the area prior to 8000 BCE due to evidence in Alta California and the Channel Islands (McLaren et al. 2019). However, no evidence for this period has been discovered in the San Francisco Bay Area (Milliken et al. 2007). Sites dating to this period may be submerged or deeply buried as a result of rising sea levels and widespread sediment deposition that has occurred since the Terminal Pleistocene (Byrd et al. 2017). For this reason, the Terminal Pleistocene Period (ca. 11,700 to 8000 BCE) is not discussed here.

The earliest intensive study of archaeology of the San Francisco Bay Area began with N. C. Nelson of the University of California, Berkeley, between 1906 and 1908. Mr. Nelson documented over 400 shell mounds throughout the area. Nelson was the first to identify the Bay Area as a discrete archaeological region (Moratto 1984).

Early Holocene (8000 to 3500 BCE)

Archaeological evidence from the early Holocene is limited as sites dating to this period are likely buried under Holocene alluvial deposits (Moratto 1984; Ragir 1972). Available data suggests that the Early Holocene in the San Francisco Bay Area is characterized by a mobile forager pattern and the presence of millingslabs, handstones, and a variety of leaf-shaped projectile points. The two oldest archaeological sites (CA-CCO-696 and CA-CCO-637) dating to this period in the San Francisco Bay Area have been identified in Contra Costa County. The earliest dates for the Early Holocene comes specifically from CA-CCO-696, dating to approximately 7000 BCE (Milliken et al. 2007).

Early Period (3500 to 600 BCE)

The Early Period saw increased sedentism with the introduction of new ground stone technologies (i.e., mortar and pestle) with an increase in regional trade, and the first cut shell beads. The earliest evidence for the use of the mortar and pestle in the San Francisco Bay Area dates to 3800 BCE and comes from CA-CCO-637. By 1500 BCE, mortars and pestles had almost completely replaced millingslabs and handstones, indicating a greater reliance on processing nuts, especially acorns. Faunal evidence from various sites during this period indicate a diverse faunal exploitation pattern based on the presence mussel and other shellfish, marine mammals, terrestrial mammals, and birds within sites dating to this period (D'Oro 2009).

The earliest cut bead horizon is also associated with this period. Rectangular *Haliotis* spp. (abalone) and Olivella (snail) beads have been identified at several Early Period sites (Milliken et al. 2007). These early examples of cut beads were recovered from mortuary contexts.

Lower Middle Period (500 BCE to 430 CE)

The Lower Middle Period saw numerous changes from the previous period. The presence of chipped stone points and bone tools became typical. Rectangular shell beads, common during the Early Period, disappear completely and are replaced by split-beveled and saucer Olivella beads. *Haliotis* spp. ornaments, bone tools and ornaments, and basketry awls also became typical, indicating the development of coiled basketry technology. Mortars and pestles continued to be the dominant grinding tool (Luby and Gruber 1999; Milliken et al. 2007).

Evidence for the Lower Middle Period in the Bay Area comes from sites such as the Emeryville shell mound (CA-ALA-309) and Ellis Landing (CA-CCO-295). CA-ALA-309 is one of the largest shell mounds in the San Francisco Bay Area and contains multiple cultural sequences. The lower levels of the site,

which date to the Middle Period, contain flexed burials with bone implements, chert bifaces, charmstones, and oyster shells (Moratto 1984).

Upper Middle Period (430 to 1050 CE)

Around 430 CE, Olivella saucer bead trade networks that had been established during earlier periods collapsed and over half of known sites in the San Francisco Bay Area occupied during the Lower Middle Period were abandoned. Olivella saucer beads were replaced with Olivella saddle beads. New types of material culture appear within these sites, including elaborate, decorative blades, fishtail charmstones, new *Haliotis* spp. ornament forms, and mica ornaments. Sea otter bones became more abundant, while salmon and other fish became less so, suggesting changes in faunal exploitation patterns from earlier periods (Milliken et al. 2007; Simons and Carpenter 2009). Excavations at CA-ALA-309 indicate that a shift from mussels to oysters, and oysters to clams may have occurred (Gifford 1916). Isotopic analysis confirms that San Francisco Bay Area individuals shifted from hunting higher trophic-level foods in the Early Period to gathering foods like plants and shellfish in the Middle and Upper periods (Burns et al. 2012). Subsistence analyses at various sites dating to this period indicate a diverse diet that included numerous species of fish, mammals, birds, shellfish, and plant resources that varied by location in the San Francisco Bay Area (Hylkema 2002).

Late Period (1050 CE to Contact)

The Late Period saw an increase in social complexity, indicated by differences in burials and an increased level of sedentism relative to preceding periods, evidenced by mortars weighing up to 90.7 kilograms (Lentz 2012:198). An increase in imported Napa Valley obsidian occurred during this time for the production of smaller points, preforms and simple flake tools. Small, finely worked projectile points of the Stockton Serrated series associated with bow and arrow technology appear around 1250 CE. Olivella shell beads disappeared and were replaced with Olivella-lipped and spire-lopped beads in the south bay and clamshell disk beads in the north bay. Thicker and larger beads indicated higher affluence. The toggle harpoon, hopper mortar, and magnesite tube beads also appeared during this period (Milliken et al. 2007; Lentz 2012; Van Der Porten et al. 2014). As did an increase in the intensity of resource exploitation that correlates with an increase in population (Moratto 1984). Many of the well-known sites of earlier periods, such as the Emeryville shell mound (CA-ALA-309) and the West Berkeley site (CA-ALA-307), were abandoned, as indicated by the lack of Late Period elements. Researchers have suggested that the abandonment of these sites may have resulted from fluctuating climates and drought that occurred throughout the Late Period (Lightfoot and Luby 2002).

Ethnographic Background

The project site is located in the traditional tribal territory of the Coastal Miwok. The Coastal Miwok are members of the larger Miwokan subgroup of the Utian language family inhabiting the northern area of Sherman Island surrounding Mount Diablo (Kroeber 1925; Levy 1978). Coastal Miwok territory is bordered by the Pomo to the north, Wappo to the northeast, and Patwin to the east.

Miwok settlements typically included thatched, conical houses and semi-subterranean earth-covered dwellings in winter, constructed by higher status families. Houses generally had a central hearth and an earth oven for cooking purposes. Large, semi-subterranean assembly houses were constructed for use as a ritual and social gathering place. In summer, a circular brush hut was constructed for use in mourning ceremonies. Other structures included sweathouses for curing disease and purification prior to hunting, small conical structures used by menstruating women, and

grinding houses built over bedrock mortars to permit food processing in inclement weather. Acorn granaries were constructed for long-term acorn storage (Kroeber 1925; Levy 1978).

Miwok social organization is characterized by the moiety pattern, with all living things belonging to one of two categories: land and water. Moieties typically married outside their own groups which played an important role in many ceremonies (Levy 1978). On the other hand, political organization centered on small tribelets of approximately 300 to 500 people and several distinct settlements. A chief headed each tribelet, and a representative of the chief of each settlement had oversight of local affairs. Chiefs acted as advisors and managed use of natural resources by preventing trespassing on tribelet territory and determining the appropriate time to begin the acorn harvest each season. The chief also arbitrated any disputes and sanctioned the punishment of criminal offenders (Kroeber 1925; Levy 1978).

Traditional Miwok artistry includes twined and coiled basketry, usually from willow and redbud trees. Other activities included the manufacturing of tule mats used as floor covering. Woven blankets were often made of rabbit skin strips or feathers attached to cordage woven from plant fibers. Tule balsa rafts would be used to navigate rivers and sloughs (Levy 1978).

Traditional Miwok subsistence practices centered on the use of acorns and other seeds as primary plant food sources and on hunting of mule deer, tule elk, pronghorn antelope, and various species of waterfowl. Hunting was done typically with a sinew-backed bow and arrow. Fishing was a particularly important activity for the Miwok, primarily with various types of nets. Seines were used in large rivers and sloughs where the pace of water flow was slow. Hook and line was typically used to take sturgeon, while harpoons were the most common implement for salmon fishing (Levy 1978).

The Coast Miwok were exploited for labor by Mission Dolores, established in 1800 in San Francisco, and later by the Mexican land grant holders. As a direct result of the establishment of the mission system, the Coast Miwok population dramatically declined. After the establishment of the United States, the Coast Miwok were legally prevented from owning land in their traditional territories. Despite this, Coast Miwok continue to populate the Marin area, with the federal recognition of the Federated Indians of Graton Rancheria restored in 2000 (Milliken et al. 2009; Federated Indians of Graton Rancheria 2016). The Coast Miwok Tribal Council of Marin was established in 2020 with the purpose of renewing the traditional customs and practices of their ancestors and continue, with prayer and ceremony, to feed the land (Coast Miwok of Marin 2023).

Post-Contact Setting

Post-contact history for the state of California is generally divided into three periods: the Spanish Period (1769 to 1822), Mexican Period (1822 to 1848), and American Period (1848 to present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769 to 1822)

Spanish explorers made sailing expeditions along the coast of California between the mid-1500s and mid-1700s. Juan Rodriguez Cabrillo in 1542 led the first European expedition to observe what was known by the Spanish as Alta (upper) California. For more than 200 years, Cabrillo and other

Spanish, Portuguese, British, and Russian explorers sailed the Alta California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003). The Spanish crown laid claim to Alta California based on the surveys conducted by Cabrillo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

By the eighteenth century, Spain developed a three-pronged approach to secure its hold on the territory and counter against other foreign explorers. The Spanish established military forts known as presidios, as well as missions and pueblos (towns) throughout Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. Portolá established the Presidio of San Diego as the first Spanish settlement in Alta California in 1769.

Construction of missions and associated presidios was a major emphasis during the Spanish Period in California to aggressively convert the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns; just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles).

Spain began making land grants in 1784, typically to retiring soldiers, although the grantees were only permitted to inhabit and work the land. The land titles technically remained property of the Spanish king (Livingston 1914).

Mexican Period (1822 to 1848)

Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Hackel 1997).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos. Commonly, former soldiers and well-connected Mexican families were the recipients of these land grants, which now included the title to the land.

In 1839, Rancho de Novato was given as a land grant to Fernando Feliz by Mexican Governor Juan Bautista Alvarado and was originally an 8,870-acre rancho (Novato Historical Guild 2023). The rancho changed hands and was subdivided several times after it was first granted (Coady 2005; Novato Historical Guild 2023). During the supremacy of the ranchos (1834 to 1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities.

American Period (1848 to Present)

The United States went to war with Mexico in 1846. During the first year of the war, John C. Fremont traveled from Monterey to Los Angeles with reinforcements for Commodore Stockton, and evaded Californian soldiers in Santa Barbara's Gaviota Pass by taking the route over the San Marcos

grade instead (Kyle 2002). The war ended in 1848 with the Treaty of Guadalupe Hidalgo, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as United States territories (Waugh 2003). Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the California economy through the 1850s. The discovery of gold in the northern part of the state led to the Gold Rush beginning in 1848, and with the influx of people seeking gold, cattle were no longer desired mainly for their hides but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from Southern to Northern California to feed that region's burgeoning mining and commercial boom.

A severe drought in the 1860s decimated cattle herds and drastically affected many rancheros' source of income. In addition, property boundaries that were loosely established during the Mexican era led to disputes with new incoming settlers, problems with squatters, and lawsuits. Rancheros often were encumbered by debt and the cost of legal fees to defend their property. As a result, much of the rancho lands were sold or otherwise acquired by Americans. Most of these ranchos were subdivided into agricultural parcels or towns (Dumke 1944).

Local History

Shortly after California was incorporated into the Union, Marin County Court of Sessions divided the county into four townships, Novato being one of the four on September 15, 1849. In 1856, the land was sold to Joseph Sweetser and Francis DeLong who planted 44,000 fruit trees, and eventually became America's largest apple orchard. In 1879, the first train depot was built in Novato to facilitate the Northwestern Pacific Railroad and helped jumpstart commercial development in Novato (Novato Historical Guild 2023).

Residential lots were first put up for sale in 1888, and by 1918, First through Seventh Streets were laid out and developed. In the 1890s, multiple buildings such as Loustonau Hall and Scott's Halls were erected that facilitated social events (Novato Historical Guild 2023). Novato grew steadily throughout the early twentieth century with the building of the town's second train depot in 1903 and the first hospital in 1907. There was major development in Novato in the 1920s with frequent construction of buildings and establishment of institutions, including Novato's third grammar school in 1922, the Novato Sanitary District and the Novato Library in 1925, the Novato Fire District in 1926, and multiple other establishments crucial for a growing town (Novato Historical Guild 2023). In the late 1920s, construction began at Hamilton Air Force Base, resulting in major economic growth for the region and an eventual population boom when World War II brought numerous recruits and their families to the base (Coady 2005, 2006; City of Novato 2014). In 1954 Novato became the first community in Marin County to form a unified school district. On January 20, 1960, Novato was incorporated as a city and has continued to grow in population and establish other amenities for the city.

Existing Conditions

Rincon completed a cultural resources study of the project site in October 2020 (Appendix H). The study consisted of a California Historical Resources Information System records search of the project site as well as a 0.5-mile radius around the project site at the Northwest Information Center (NWIC) including a review of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and the California State Office of Historic Preservation Built Environment Directory, a review of the Sacred Lands File, informal Native American outreach, and a pedestrian

field survey. Following the cultural resources study, Rincon conducted additional background research in April 2023 to determine the likelihood of the site containing subsurface archaeological resources. Background research included a review of historical aerial photographs, topographic maps, ethnographic publications, and a geotechnical report conducted for the project.

Built Environment Cultural Resources in the Project Site

The NWIC records search, including a review of the NRHP, CRHR, and Built Environment Directory identified two previously recorded built environment cultural resources within a 0.5-mile of the project site, none of which are located within or adjacent to the project site. Additionally, both resources were evaluated and recommended ineligible for the NRHP and CRHR (Tom Origer & Associates 2018a, 2018b). The field survey did not identify any age-eligible built environment cultural resources within or adjacent to the project site.

Archaeological Resources in the Project Site

Ethnographic maps and records place the project site within an area known to have been populated by a number of Coast Miwok villages, and specifically Tchoc'eche: a named village depicted as south of the city of Novato between two unnamed tributaries matching the location of Novato Creek located near the project site (Kroeber 1925; Kelly 1991; Milliken 2009). Historical topographic maps and aerial photographs between 1914 and 1968 show two mounds within the project site (USGS 1914, 1954; Nationwide Environmental Title Research Online 1952). Additionally, a flat graded area is depicted in aerials following 1973 (Nationwide Environmental Title Research Online 1983), consistent with the description and subsequent destruction described in the resource record. No further disturbance is depicted in the aerial photographs or topographic maps until 1993, when the project site is depicted as paved with the currently extant parking lot (Nationwide Environmental Title Research Online 1993). Geotechnical testing of the project site confirmed that the project site is generally underlain by one to five feet of artificial fill with the northeast half of the project site containing alluvial soils commonly associated with archaeological midden deposits between 5 and 15 feet below ground surface and the southwest half of the project site containing only a thin alluvial layer with underlying bedrock approximately five feet below ground surface (Dockendorf and Traum 2020).

The results of the Sacred Lands File search were positive for the presence of Native American sacred lands and resources. The NWIC records search identified one previously recorded archaeological resource within the project site consisting of a Native American archaeological resource. The most recent update to the resource record by Tom Origer in 1978 indicated that the resource was destroyed in 1973 by grading and removing soils for the construction of the Highway 101 bypass. The NWIC also identified 28 previously conducted studies overlapping the project site, of which three discussed the resource. None of these studies included subsurface testing, and all three concluded that the resource had been destroyed by grading activities associated with the construction of Highway 101 in 1973.

The field survey conducted by Rincon confirmed that the area was paved over with a parking lot. The field survey had nearly no ground visibility with few exceptions in ornamental landscaped islands scattered throughout the area. No surficial remnants of the resource or any other archaeological artifacts were observed within the project site during the field survey.

4.3.2 Regulatory Setting

a. State Regulations

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that a lead agency determine whether a project could have a significant effect on historical resources (Public Resources Code [PRC] Section 21074 [a][1][A]-[B]). A historical resource is a resource listed in or determined to be eligible for listing in the CRHR (Section 21084.1), a resource included in a local register of historical resources (Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (Section 15064.5[a][3]).

PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, as enumerated according to CEQA and quoted below.

15064.5(a)(3) [...] Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (PRC, § 5024.1, Title 14 California Code of Regulations, Section 4852) including the following:

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

15064.5(a)(4) The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the PRC), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC sections 5020.1(j) or 5024.1.

15064.5(b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

In addition, if a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b], and [c]).

PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it does one or more of the following:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

Impacts to significant cultural resources that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (*CEQA Guidelines* Section 15064.5 [b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion or eligibility for inclusion in the CRHR (*CEQA Guidelines* Section 15064.5[b][2][A]).

Codes Governing Human Remains

The disposition of human remains is governed by Section 7050.5 of the California Health and Safety Code and Sections 5097.94 and 5097.98 of the PRC and falls within the jurisdiction of the Native American Heritage Commission (NAHC). If human remains are discovered, the County Coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

b. Local Regulations

City of Novato Municipal Code

The City of Novato Municipal Code (NMC) Section 4-7 provides the procedure for preserving and studying valuable cultural resources in the City. NMC Section 4-7 states that certain deposits and sites of cultural significance shall be preserved in an undisturbed state whenever possible. The ordinance further clarifies that if preservation is not possible, the resource should be excavated and studied with regard first to be given to the value the resource has to the descendants of Native Americans and the general public. In NMC Section 4-7, cultural resources are defined as all evidence of human occupation and activity which may be used to reconstruct the history and culture of past peoples. This evidence shall include but not be limited to sites, structures, artifacts, and physical remains which existed prior to 1860. The following was taken from the NMC Section 4-7:

4.7-3 Archaeological Investigations Permit Required.

- (a) Whenever construction or other activities are proposed which will disturb a recorded or otherwise previously encountered cultural resource or a cultural site, an archaeological investigation permit shall be obtained prior to commencement of work and prior to the issuance of any building or grading permit.
- (b) Whenever a recorded or unrecorded archaeological resource is encountered and an archaeological investigation permit has not been issued, all activities which may disturb the resource shall be stopped, and any city building permit or other authorization which may disturb the resource shall be suspended until issuance of an archaeological investigation permit.

4-7-4 Permit Procedure.

Mitigation measures may be required as conditions of approval, and the City may work with the permittee to find independent funding for the mitigation measures. Conditions of approval may include, but shall not be limited to, any or all of the following example conditions:

- Preliminary site planning shall be done under the supervision of a qualified archaeologist to relocate construction away from the resource.
- Prior to any construction activity, archaeological excavation, identification, classification, and property [sic] scientific analysis of artifacts and other materials having historical or archaeological significance shall be accomplished by a person with qualifications satisfactory to the community development director.
- A qualified archaeologist and qualified Native American shall be permitted to make periodic visits to the archaeological resource to observe the work in progress.

4-7-5 Records of Archaeological Findings.

Whenever work is performed by an archaeologist pursuant to this section, complete and accurate records shall be kept and filed with the State Historic Preservation Officer or representative, and copies thereof placed in the site report files at California State University at San Francisco, California State University at Sonoma, the Marin Miwok Museum, and the City of Novato Community Development Department. The portions of the report which describe the specific location of a cultural site shall be confidential and not available to the general public in order to prevent unauthorized disturbance.

Novato Zoning Code

NMC Section 19.16.060 establishes standards and regulations for the Historic (H) overlay district. The purpose of the H overlay district is to “protect areas and structures identified by the community as historically significant elements that contribute to Novato’s cultural, social, economic, political, aesthetic, architectural heritage, identity, and character.” The development of new structures, demolition, or alteration of existing structures and establishment of new uses within the H district require Design Review approval and must be consistent with specified design standards. Any request for demolition approval must include an evaluation of the architectural significance of the structure prepared by a qualified person approved by the City.

City of Novato General Plan

The City of Novato General Plan 2035, which was adopted in October 2020, includes policies relating to cultural resources (City of Novato 2020). As presented in the Community Character section of Chapter 2: Great Places, these policies include:

- **CC 1: Historic Buildings, Sites and Districts.** Identify, recognize, and protect sites, buildings, structures and districts with significant cultural aesthetic and social characteristics which are part of Novato's heritage.
- **CC 2: Archaeological Resources Protection.** Recognize the importance of protecting significant archaeological resources and implement measures to preserve such resources.

4.3.3 Impact Analysis

a. Methodology and Significance Thresholds

If a project may cause a substantial adverse change in the characteristics of a resource that convey its significance or justify its eligibility for inclusion in the CRHR or a local register, either through demolition, destruction, relocation, alteration, or other means, then the project would have a significant effect on the environment (*CEQA Guidelines* Section 15064.5[b]). Appendix G of the *CEQA Guidelines* indicates that a project's impacts to cultural resources would be significant if the project would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
3. Disturb any human remains, including those interred outside of formal cemeteries; and/or

Threshold 1 broadly refers to historical resources. To more clearly differentiate between archaeological and built environment resources, analysis under Threshold 1 has been limited to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to Section 15064.5 and those that may be considered unique archaeological resources pursuant to Section 21083.2, are considered under Threshold 2.

Direct impacts can be assessed by identifying the types and locations of proposed development, determining the exact locations of cultural resources within the project site, assessing the significance of the resources that may be affected, and determining the appropriate mitigation. Removal, demolition, or alteration of historical resources can permanently impact the historic fabric of an archaeological site, building, structure, or historic district.

The State Legislature, in enacting the CRHR, amended CEQA to clarify which properties are significant, as well as which project impacts are considered to be significantly adverse. A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have significant effect on the environment (*CEQA Guidelines* Section 150645[b]). A substantial adverse change in the significance of a historical resource means demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (*CEQA Guidelines* Section 150645[b][1]).

The *CEQA Guidelines* further state that “[t]he significance of an historical resource is materially impaired when a project... [d]emolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in the California Register ... local register of historic resources... or its identification in an historic resources survey.” As such, the test for determining whether or not the project will have a significant impact on identified historical resources is whether it will materially impair physical integrity of the historic resource such that it could no longer be listed in the CRHR or a local landmark program.

b. Project Impacts and Mitigation Measures

Threshold 1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Impact CUL-1 THE PROJECT WOULD NOT CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF A HISTORICAL RESOURCE, AS THERE ARE NO SUCH RESOURCES ON THE PROJECT SITE. THERE WOULD BE NO IMPACT.

For the purposes of this analysis, historical resources include buildings, structures, and objects over 45 years of age that have been listed in, or found eligible for, the NRHP, CRHR, or a local register. CEQA and local regulations do not specify an age threshold for historical resources. However, guidance from the State Office of Historic Preservation makes the recommendation in Title 14 Section 4852 that “sufficient time”—typically 50 years—“must have passed to obtain a scholarly perspective” necessary to evaluate the significance of the historical events with which a property is associated. A threshold of 45 years is recommended because there is often “a five-year lag between resource identification and the date that planning decisions are made” (California Office of Historic Preservation 1995).

No historical resources were identified within or adjacent to the project site and no age-eligible properties were identified within the project site during the field survey. Therefore, there would be no impact to historical resources.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

There would be no impact.

Threshold 2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?
--

Impact CUL-2 EXCAVATION REQUIRED FOR THE PROPOSED PROJECT HAS THE POTENTIAL TO UNEARTH AND ADVERSELY CHANGE OR DAMAGE KNOWN AND UNKNOWN ARCHAEOLOGICAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Based on the results of the cultural resources study prepared for the project, one archaeological resource of Native American origin has been previously recorded within the project site. Three previously conducted studies that overlap the project site concluded that the resource had been destroyed during grading conducted in 1973; however, none of these studies included subsurface

testing to confirm the presence or absence of the resource. Additionally, the geotechnical study conducted for the project identified alluvial soils beneath the project site with the potential to preserve archaeological deposits. Therefore, the resource may be present beneath the existing pavement. The presence of pavement and overlying fill render archaeological excavation to determine the presence or absence of the archaeological resource infeasible. The resource is therefore assumed to be eligible for the CRHR and qualifies as a historical resource.

Soils with the potential to contain significant archaeological resources are present between 1 and 5 feet below ground surface to a depth of at least 17 feet. Construction of the project includes excavation reaching up to 18 feet below ground surface. Consequently, damage to or destruction of known or previously unknown archaeological resources could occur as a result of project construction, and impacts to such resources are potentially significant. Therefore, mitigation measures would be required. Further, the significant archaeological resource that the project has the potential to impact is also a tribal cultural resource as discussed in Section 4.9, *Tribal Cultural Resources*. The following combination of cultural resources and tribal cultural resources mitigation measures would reduce archaeological impacts to less than significant levels by requiring a tribal cultural resources Treatment Plan, archaeological and tribal monitoring during ground disturbing activities, halting construction in the vicinity of any cultural or tribal cultural resources found during construction, and evaluating and treating potentially eligible resources through data recovery or other work as recommended by a qualified archaeologist and consulting tribes. With adherence to CUL-2a and CUL-2b in tandem with TCR-1a, TCR-1b, and TCR-1c described in Section 4.9, *Tribal Cultural Resources*, impacts to archaeological resources would be less than significant.

Mitigation Measure

CUL-2a Archaeological Monitoring

A qualified archaeological monitor shall be retained by the project proponent to observe all project-related ground disturbing activities. Ground disturbing activities include, but are not limited to, asphalt removal, hand excavation, clearing, grubbing, and removing and/or recompacting unconsolidated soils near the ground surface. Archaeological monitoring shall be performed under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983). The archaeological monitor shall be present for all pavement removal on the fuel facility site. After pavement is removed, the archaeologist shall inspect all exposed ground surfaces for the presence of surficial cultural resources prior to initiation of project grading and/or excavation. If suspected archaeological resources are encountered at any point during project construction, work within a minimum of 60 feet of the suspected resource shall halt and the find evaluated for listing in the CRHR. The 60-foot radius may be reduced or expanded at the discretion of the qualified archaeologist. If a resource is determined to be a tribal cultural resource, Mitigation Measures TCR-1a and TCR-1b, as described in Section 4.9, *Tribal Cultural Resources*, shall be implemented. Archaeological monitoring may be reduced to spot-checking or eliminated at the discretion of the qualified archaeologist, in consultation with the Native American monitor required pursuant to TCR-1c, summarized below and in Section 4.9, *Tribal Cultural Resources*, and lead agency, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur, at minimum, when ground-disturbance moves to a new location within the projects site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock).

CUL-2b Unanticipated Discovery of Archaeological Resources

In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 60 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR and significant impacts to the resource cannot be avoided via project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of the California Code of Regulations Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. The City shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the California Historical Resources Information System, per California Code of Regulations Guidelines Section 15126.4(b)(3)(C).

If a resource is determined to be a tribal cultural resource under CEQA as being either 1) a site, feature, place, cultural landscape, sacred place, or object with cultural value to a tribe that is listed, or determined to be eligible for listing, in the national or state register of historical resources, or listed in a local register of historic resources; or 2) determined by the lead agency as a tribal cultural resource, then the provisions of Mitigation Measures TCR-1a and TCR-1b shall control.

Significance After Mitigation

By implementing Mitigation Measures CUL-2a and CUL-2b in tandem with TCR-1a, TCR-1b, and TCR-1c, the City would require steps to protect or treat significant archaeological resources if encountered during construction. CUL-2a allows for the review of ground disturbance by a qualified archaeologist, thereby creating a greater opportunity to stop work and prevent disturbance or destruction of an unanticipated archaeological resource. CUL-2b outlines the procedures in the event of an unanticipated discovery of an archaeological resource, thereby preventing confusion or delay in the treatment of that resource. Therefore, CUL-2a and CUL-2b, in tandem with TCR-1a through TCR-1c, which require steps to protect and treat tribal cultural resources, result in a less than significant impact.

Threshold 3: Would the project disturb any human remains, including those interred outside of formal cemeteries?

Impact CUL-3 GRADING AND EXCAVATION REQUIRED FOR THE PROPOSED PROJECT WOULD HAVE THE POTENTIAL TO UNEARTH AND DISTURB PREVIOUSLY UNIDENTIFIED OR UNKNOWN HUMAN REMAINS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MANDATORY ADHERENCE TO EXISTING REGULATIONS PERTAINING TO DISCOVERY OF HUMAN REMAINS.

The Sacred Lands File search for the project was returned with positive results for the presence of Native American sacred lands and the NWIC records search identified one previously recorded

Native American archaeological resource within the project site that has the potential to contain human remains. Additionally, there is always potential for previously unrecorded or unidentified human remains to exist below ground surface. Construction of the project would require grading and excavation. Grading and excavation activities would have the potential to unearth and disturb previously unidentified human remains, if present.

Human burials have specific provisions for treatment in California Health and Safety Code Sections 7050.5, 7051, and 7054. Existing regulations address the illegality of interfering with human burial remains and protects them from disturbance, vandalism, or destruction. PRC Section 5097.98 also addresses the disposition of Native American burials, protects such remains, and establishes the NAHC as the entity to resolve any related disputes.

If human remains are found, the State of California Health and Safety Code Section 7050.5 states no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner would notify the NAHC, which would determine and notify a most likely descendant. The most likely descendant has 48 hours from being granted site access to make recommendations to the land owner for the disposition of the remains. If the most likely descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance. This impact would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant without mitigation because existing laws with which the project must comply outline the procedures in the event of the unanticipated discovery of human remains, thereby preventing confusion or delay in the treatment of those human remains.

4.3.4 Cumulative Impacts

The geographic scope for cumulative cultural resource impacts includes areas in the vicinity of the project area, including adjacent City land, unincorporated County land, and adjacent incorporated cities. This geographic scope is appropriate for cultural resources because such resources are regionally specific. Cumulative buildout in this region, including projects listed in Table 3-1 in Section 3, *Environmental Setting*, would have the potential to adversely impact cultural resources.

Cumulative development within the vicinity of the project site would continue to disturb areas with the potential to contain historical resources, archaeological resources, and human remains.. For other developments that would have significant impacts on cultural resources, similar conditions and mitigation measures described herein would be imposed on those other developments consistent with the requirements of CEQA, along with requirements to comply with all applicable laws and regulations governing said resources.

Future cumulative projects could result in impacts to previously unknown historical resources. Such impacts would be addressed on a case-by-case basis, and appropriate mitigation measures developed; however, cumulative impacts to historic resources is conservatively considered to be significant. Because of the lack of known historical resources on the project site or in the immediate

vicinity, the project would not make a cumulatively considerable contribution to significant cumulative historic resource impacts.

Cumulative development could impact known or unknown archaeological resources, and archaeological resources that may be considered historical resources. This would be a potentially significant cumulative impact. Cumulative projects would undergo project-specific environmental review when it is determined that the potential for significant impacts exists. If future cumulative projects would result in impacts to known or unknown archaeological resources, impacts to such resources would be addressed on a case-by-case basis and would likely be subject to mitigation measures similar to those imposed for the proposed project. As such, cumulative impacts would be less than significant with mitigation. As described under Impacts CUL-2, Mitigation Measures CUL-2a, CUL-2b, TCR-1a, TCR-1b, and TCR-1c, as described in Section 4.9, *Tribal Cultural Resources*, would ensure that project-level impacts to unknown archaeological resources are adequately mitigated. After implementation of these proposed mitigation measures, the project would not have a considerable contribution to cumulative archaeological resources impacts.

Cumulative projects that involve ground-disturbing activities could encounter human remains. If human remains are found, the cumulative projects would be required to comply the State of California Health and Safety Code Section 7050.5, as described for the proposed project under Impact CUL-3, above. With adherence to existing regulations relating to human remains, cumulative impacts would be less than significant and the proposed project would not make a cumulatively considerable contribution to significant cumulative human remains impacts.

4.4 Geology and Soils

This section addresses the proposed project's potential impacts related to geology and soils. Specifically, this analysis addresses impacts related to risks from earthquakes, fault ruptures, seismicity, landslides, and soil erosion. This section also addresses potential impacts to paleontological resources.

The City of Novato requires that a geotechnical report be submitted with the grading permit application when required grading is equal to or exceeds 100 cubic yards. A Geotechnical Study was prepared for the proposed project by Kleinfelder in April 2020, which is included as Appendix I.

4.4.1 Setting

a. Topography and Soils

The project site encompasses approximately 1.15 acres within an existing parking lot, southwest of the existing Costco building in the Vintage Oaks Shopping Center. The project site is generally flat with an elevation of approximately 10 feet above sea level. The parking lot is entirely underlain by a well-drained fill material with a high content of gravel and cobbles from mixed rock sources (Natural Resources Conservation Service 2023). Below the fill soil (three to four feet in depth), subsurface explorations determined the project site is also underlain by alluvial deposits, Bay Mud, and siltstone bedrock at depths of seven to 40 feet. The alluvial deposits consist of interbedded layers of medium to very stiff sandy clays and dense clayey sands. Bay Mud, which consists of thick deposits of soft, saturated silty clay, was encountered at depths of 17.5 to 25 feet below ground surface. Beneath the Bay Mud, a stiff, elastic layer of silt was encountered above the siltstone bedrock, which was encountered at a depth of approximately 30 feet below ground surface. In the area where underground storage tanks (UST) would be located, bedrock was encountered at five to seven feet below ground surface. Groundwater was encountered at three to five feet below ground surface, and is anticipated to occur at approximately 10 feet below ground surface across the project site (Appendix I).

b. Seismicity and Seismic-Related Hazards

The site is located in the greater San Francisco Bay Area, which is considered one of the most seismically active regions in the United States. The project site is within an area characterized by moderate to high seismic activity due to the proximity of several known fault lines. The project site is located approximately 1.7 miles northeast of the Burdell Mountain Fault; 7 miles southwest of the Rodgers Creek Fault; 11 miles northwest of the Hayward Fault; 14 miles east of the San Andreas Fault; and 14 miles west of the West Napa Fault. The project site is not located within an Alquist-Priolo Earthquake Fault Zone (California Geological Survey [CGS] 2023; United States Geological Survey 2019).

Due to the proximity of these active faults, seismic ground shaking is a possibility at the project site. Fault displacement can generate seismic ground-shaking, which is the greatest cause of widespread damage in an earthquake. Whereas surface rupture affects a narrow area above an active fault, ground-shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater.

c. Soil Hazards

Liquefaction occurs when water-saturated soils lose structural integrity due to seismic activity. Soils that are most susceptible to liquefaction are loose to moderately dense, saturated granular soils with poor drainage. Lateral spreading occurs when foundational support is lost due to vertical or horizontal settling of these soils. Because the subsurface explorations did not encounter saturated, granular soils with poor drainage, the potential for liquefaction or lateral spreading at the project site is low (Appendix I).

Expansive soils tend to swell with increases in soil moisture and shrink as the soil moisture decreases. For example, expansive soils could swell during and hours after a precipitation event but then shrink in the following weeks if no additional precipitation occurs. Shrinking and swelling of soils can cause damage to building foundations, roads and other structures. Due to the saturated, silty to clayey soils that underlie the project site, soil expansion could occur within the project site (Appendix I).

d. Paleontological Resources

Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., trackways, imprints, burrows, etc.). Paleontological resources occur within bedrock geologic deposits that underly the soil layer and are almost exclusively preserved in sedimentary rocks; however, in rare cases, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions. The Society of Vertebrate Paleontology (SVP; SVP 2010) has defined fossils as being remains or traces of plants and animals that are greater than 5,000 years old (i.e., older than middle Holocene in age). Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors.

The project site is located in the Coast Ranges geomorphic province, one of the eleven geomorphic provinces of California (CGS 2002). The Coast Ranges extend along the majority of California's coast from the California-Oregon border to Point Arguello in Santa Barbara County in the south and consist of northwest-trending mountain ranges and valleys. The Coast Ranges are composed of Mesozoic and Cenozoic sedimentary, igneous, and metamorphic strata. The eastern side is characterized by strike-ridges and valleys in the Upper Mesozoic strata. The Coast Ranges province runs parallel to and overlaps the San Andreas Fault in some areas (CGS 2002).

The paleontological sensitivity of the geologic units that underlie the project site were evaluated to assess the project's potential for significant impacts to scientifically important paleontological resources. Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

In the absence of other sensitivity criteria required by certain federal, state, or local regulatory agencies, the paleontological sensitivity scale explained in the SVP's *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* is generally used (SVP 2010). According to this system, geologic units can be assigned a high, low, undetermined, or no

potential for containing scientifically significant nonrenewable paleontological resources. Following the literature review, a paleontological sensitivity classification was assigned to each geologic unit mapped within the project site. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units.

According to published geologic mapping, the project region is underlain by sandstone and shale of the Franciscan Complex (Blake et al. 2000; Wagner and Gutierrez 2017). The project's geotechnical investigation conducted several test borings and found four additional types of sediment within the project site: artificial fill, two distinct layers of alluvium, and Bay Mud (Appendix I). The geotechnical investigation, due to its much more focused scope, is a more reliable source of information than the geologic maps of Blake et al. (2000) and Wagner and Gutierrez (2017), so its description of the subsurface conditions within the project site will be relied upon for this analysis. Blake et al. (2000) and Wagner and Gutierrez (2017) will still be consulted to understand the regional-scale geology.

Artificial fill was found from the surface to 3 to 5 feet deep throughout the project site (Appendix I). Artificial fill represents sediments deposited by humans to raise the elevation of a site. Given that it represents unnaturally deposited sediments, artificial fill has no paleontological sensitivity.

Two distinct layers of unnamed alluvium occur below the surface in the project site (O). The upper layer of alluvium directly underlies the artificial fill layer and extends down to 5 to 7.5 feet below the surface in the western part of the project site and down to 17.5 feet below the surface in the eastern part of the project site. This upper layer consists of sandy clay and clayey sand and is likely late Holocene in age, due to its stratigraphic position overlying Bay Mud (see below). Late Holocene sediments are generally considered too young (i.e., less than 5,000 years old) to preserve paleontological resources. Therefore, the upper layer of alluvium has low paleontological sensitivity. Conversely, the lower layer of alluvium only occurs in the eastern part of the project site (i.e., canopy fueling area) from 26 to 30 feet below the surface (Appendix I). This lower layer of alluvium is found below the maximum depth of excavation for this project, so it will not be assessed here.

Bay Mud occurs below the surface in the eastern part of the project site (i.e., canopy fueling area) between 17.5 and 26 feet below the surface (Appendix I) and is mapped at the surface just west of the project site. Bay Mud consists of Holocene-aged dark-colored, plastic clay (Wagner and Gutierrez 2017). Holocene sediments are generally considered too young (i.e., less than 5,000 years old) to preserve paleontological resources. Therefore, Bay Mud has low paleontological sensitivity.

Sandstone and shale of the Franciscan Complex is mapped at the surface by Blake et al. (2000) and Wagner and Gutierrez (2017), but the geotechnical investigation discovered that it lay below the various layers described above. This layer of bedrock was found at depths ranging from 5 to 7.5 feet below the surface in the western part of the project site (i.e., UST area) down to 30 feet below the surface in the eastern part of the project site (i.e., canopy fueling area). Sandstone and shale of the Franciscan Complex consists primarily of thick-bedded sandstone with shale and conglomerate interbeds and is Late Jurassic to Cretaceous in age. The geotechnical report stated that the bedrock underlying the project site consisted of siltstone (Appendix I). Fossils are known from siltstone beds of the Franciscan Complex, but these fossils are rare and generally consist of common invertebrates (e.g., bivalves and gastropods), although vertebrates (marine reptiles, sharks, fish) are also known (Paleobiology Database 2023; University of California Museum of Paleontology 2023). Due to the scarcity of significant paleontological resources from sandstone and shale of the Franciscan Complex, this geologic unit has low paleontological sensitivity.

4.4.2 Regulatory Setting

a. Federal

Clean Water Act

Congress enacted the Clean Water Act (CWA), formerly the Federal Water Pollution Control Act of 1972, with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is administered by the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB). Marin County encompasses watersheds that are administered by the North Coast RWQCB. Individual projects within the County that disturb more than one acre would be required to obtain NPDES coverage under the California General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit).

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which must include Best Management Practices (BMP) the discharger would use to prevent and retain stormwater runoff and to prevent soil erosion. The SWPPP should contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. The SWPPP must list BMPs the discharger would use to protect stormwater runoff and the placement of those BMPs. The SWPPP must contain a visual monitoring program, and a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP.

b. State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (A-P Act) was passed into law following the destructive February 9, 1971, magnitude 6.6 San Fernando earthquake. The A-P Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the A-P Act is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. The A-P Act groups faults into categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive.

California Building Code

The California Building Code (CBC), Title 24, Part 2 provides building codes and standards for the design and construction of structures in California. The CBC requires, among other things, seismically-resistant construction and foundation and soil investigations prior to construction. The CBC also establishes grading requirements that apply to excavation and fill activities, and requires the implementation of erosion control measures. California's building codes are updated in their entirety every three years. The 2022 California Building Standards Code, California Code of

Regulations, and Title 24 were approved and adopted by the California Building Standards Commission in December 2021. The 2022 CBC is based on the 2021 International Building Code with the addition of more extensive structural seismic provisions. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures.

The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. In addition, the CBC contains necessary California amendments, which are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, wind, etc.) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure, or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements of the CBC consider the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC. Part 2, Volume 2, Chapter 18, Soils and Foundations, of the CBC outlines the minimum standards for structural design and construction. This includes geotechnical evaluations, which among other requirements, includes a record of the soil profile, regulation of active faults in the area, recommendations for foundation type and design criteria that address issues, as applicable, such as (but not limited to) bearing capacity of soils, provisions to address expansive soils, settlement, and varying soil strength. If a building department or other appropriate enforcement agency, determines that recommended action(s) presented in the geotechnical evaluations are likely to prevent structural damage, the approved recommended action(s) must be made a condition to the building permit (Section 1803.1.1.3 of Chapter 18).

The CBC provides standards for various aspects of construction, including but not limited to excavation, grading, and earthwork construction, preparation of the site prior to fill placement, specification of fill materials and fill compaction and field testing, retaining wall design and construction, foundation design and construction, and seismic requirements. It includes provisions to address issues such as (but not limited to) construction on expansive soils and soil strength loss. The California Code of Regulations requires that project design and construction comply with provisions of the CBC.

California Fire Code

The California Fire Code (CFC) is a comprehensive set of fire safety regulations that govern fire prevention and fire protection measures within California. The CFC is based on the International Fire Code and was last updated in January 2023. The City of Novato adopted the CFC into the Novato Municipal Code by reference through Ordinance 2022-1. The CFC contains requirements for the design of fuel-dispensing facilities, including standards for the siting of fuel dispensers, protecting the dispensers at grade with concrete fill and footings, control of sources of ignition and spills, and installing emergency disconnect switches that shall stop the transfer of fuel from the storage tank to the fuel dispensers in the event of a spill or emergency.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act addresses geo-seismic hazards, other than surface faulting, and applies to public buildings and most private buildings intended for human occupancy. The Seismic Hazards Mapping Act identifies and maps seismic hazard zones to assist cities and counties in preparing the safety elements of their general plans and encourages land use management policies and regulations that reduce seismic hazards. The Seismic Hazards Mapping Act mandated the preparation of maps delineating “Liquefaction and Earthquake-Induced Landslide Zones of Required Investigation.”

California Public Resources Code

Section 5097.5 of the California Public Resource Code (PRC) states “no person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface” any “vertebrate paleontological site” on public lands without the “permission of the public agency having jurisdiction over such lands.” Violation of this section is a misdemeanor.

As used in this PRC section, “public lands” means lands owned by or under the jurisdiction of the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with PRC Section 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

California Code of Regulations

California Code of Regulations Title 8, Article 144, *Service Stations*, outlines requirements for the storage, transfer, and dispensing of fuel at fuel stations in California. Sections 5566, 5567, and 5569 outline design and safety requirements for the storage, enclosure, and transfer of fuel within storage tanks and pipes, and Section 5571 requires dispensers to be located away from fixed sources of ignition. Other sections of Title 8, Article 144 outline other fuel dispensing requirements in accordance with the CFC.

c. Local Regulations

City of Novato 2035 General Plan

Chapter 6, A City That Works, of the Novato 2035 General Plan provide the following policies pertaining to geology and soils that are relevant to this analysis.

- **SH 1: Seismic and Geologic Hazards.** Reduce the risk of loss of life, personal injury and property damage resulting from seismic and geologic hazards including ground shaking, land sliding, liquefaction and slope failure.
 - *SH 1a: Geotechnical Evaluation.* Require preparation of a report by an engineering geologist or geotechnical engineer for new construction and grading as required by City code on sites in seismically and geologically hazardous areas and for all critical (high occupancy, health or emergency response) structures. These reports should include, but not be limited to: evaluation and recommendations to mitigate the effects of ground shaking, landslides, surficial debris flows, expansive soils, subsidence and settlement, fault displacement, and Bay mud areas. Implement the recommendations of geotechnical reports through the planning, grading and building permit processes.

- *SH 1b: Slope and Soil Instability.* Enforce existing regulations and procedures to identify and avoid or mitigate potential hazards relating to geologic and soil conditions. Require repair, stabilization, or avoidance of landslides, or areas of soil creep or possible debris flow, as a condition of project approval. Require financial protection for public agencies and individuals as a condition of development approval where geological conditions indicate a potential for high maintenance costs.

City of Novato Municipal Code

The City of Novato Municipal Code (NMC) contains several regulations and standards implementing the 2035 General Plan policies identified above that address geology and soils. Plans for the project shall be reviewed for consistency with the following NMC sections.

Chapter 5-2 Grading

This chapter regulates excavation, grading, drainage and erosion control measures and activities. The purpose of these regulations is to retain and enhance the natural physical characteristics of the community while also recognizing growth as projected by the General Plan. This chapter specifies limits for cut and fill slopes, subsurface drainage, erosion and dust control, and construction activities to minimize impacts to the environment and the community. All proposed developments are required to submit an erosion control plan and drainage plan prior to issuance of a grading permit.

Chapter 4-1 Building Regulations Ordinance

This chapter adopts, with modifications pertaining to local conditions, the provisions of the CBC. As stated above, the CBC requires, among other things, seismically resistant construction and foundation and soil investigations prior to construction. The CBC also establishes grading requirements that apply to excavation and fill activities and requires the implementation of erosion control measures. The City is responsible for enforcing the CBC in the case of the project. All proposed developments are required to prepare construction detail plans demonstrating compliance with the CBC. These plans are subject to City review prior to issuance of a building permit. Additionally, the City performs inspections to confirm a project is being constructed in a manner consistent with its approved construction plans.

4.4.3 Impact Analysis

a. Methodology and Significance Thresholds

Based on the environmental checklist included in Appendix G of the *CEQA Guidelines*, impacts would be considered potentially significant if the proposed project would:

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault,
 - ii. Strong seismic ground shaking,
 - iii. Seismic-related ground failure, including liquefaction, and
 - iv. Landslides;

2. Result in substantial soil erosion or the loss of topsoil;
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; and/or
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

b. Project Impacts and Mitigation Measures

Threshold 1.i: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Impact GEO-1 THE PROJECT SITE IS NOT UNDERLAIN BY A KNOWN EARTHQUAKE FAULT. THE PROJECT SITE WOULD NOT BE SUBJECT TO RUPTURE OF A KNOWN EARTHQUAKE FAULT, AND THERE WOULD BE NO IMPACT.

As described above in Section 4.4.1, *Setting*, the project site is proximate to several faults but is not underlain by a known earthquake fault. Therefore, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, and there would be no impact.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

There would be no impact.

Threshold 1.ii: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Impact GEO-2 THE PROJECT SITE WOULD BE SUBJECT TO SEISMIC GROUND SHAKING AND THE PROJECT WOULD BE REQUIRED TO COMPLY WITH THE CBC. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As described above in Section 4.4.1, *Setting*, the project site is proximate to several faults, including the Burdell Mountain Fault, the Rodgers Creek Fault, the Hayward Fault, the San Andreas Fault, and the West Napa Fault. Because the project site is within a seismically-active region, the project site and proposed fuel facility could be subject to seismic ground shaking. Ground shaking refers to movement of the Earth's surface during a seismic event, and is normally the major cause of structural damage in earthquakes.

The fuel facility, including the controller structure, fuel canopy, fuel dispensers, and USTs, would be required to comply with the requirements of the CBC. The underground fuel storage tanks are

proposed to be designed to withstand ground movement, including being secured in place with anchoring straps (tie-downs) connected to concrete hold downs (deadmen), backfilled with pea gravel, and capped with an 8-inch thick reinforced concrete slab (please refer to Appendix B). Further, the tank systems will feature flexible pipe joints and flexible fiberglass double walled tank construction, which would minimize breakage and leaks in the event of seismic ground shaking. The tank system also includes leak detection equipment to immediately identify any fuel escaping from a tank(s), which is considered a low probability given the redundancies built into the system. The fuel dispenser system is designed with break-away connections that include cut-off valves immediately stopping the flow of fuel through the dispenser if it is knocked off its anchoring or a hose is pulled from a unit (please refer to Appendix B). These features are mandated by federal and state design and construction standards for fuel facilities, including but not limited to the California Fire Code and the California Code of Regulations, as discussed above in Section 4.4.2, *Regulatory Setting*. The project would also be subject to associated permits and inspections during construction to determine compliance with such standards, including inspections performed by the Novato Fire Protection District; the United States Environmental Protection Agency; and the Marin County Department of Agriculture, Weights, and Measures; and permits issued by the California Department of Industrial Relations, Marin County Certified Unified Program Agency, and the Bay Area Air Quality Management District. Therefore, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, and impacts would be less than significant.

The City will review construction details plans prepared for the project to ensure compliance with the uniform standards and project features noted above. This review will occur prior to the issuance of a grading and/or building permit to construct the project. Thereafter, the City will perform inspections to confirm compliance with the construction plans approved for the project.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 1.iii: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Impact GEO-3 THE PROJECT SITE HAS LOW POTENTIAL FOR LIQUEFACTION AND PROJECT COMPONENTS WOULD BE CONSTRUCTED IN COMPLIANCE WITH THE CBC. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As described above in Section 4.4.1, *Setting*, the potential for liquefaction at the project site is low (Appendix I). Additionally, the fuel canopy would be designed as required by the CBC. Sections 1804 through 1812 of the CBC contain information for the design and verification of adequate soils and foundation support for individual elements of the project. Section 1802 of the CBC requires the use of this information in the seismic analyses prepared for the site-specific investigations that must be prepared in connection with the permits for individual elements of the project. Furthermore, the Geotechnical Study (Appendix I) recommends standard construction techniques to ensure liquefaction does not pose a risk to project components, including the USTs. Recommended construction techniques include but are not limited to:

- Ensuring the relative compaction and moisture content of fill soils are within specified tolerances;
- Scarifying, moisture conditioning, and compacting exposed subgrades to a depth of six to eight inches to minimize soft and yielding material;
- Compacting on-site clayey soils;
- Extending soldier piles below the maximum depth of excavation to provide lateral resistance; and
- Moisture conditioning, recompacting, and over-excavating subgrade soils prior to casting exterior flatwork.

Compliance with these recommendations would minimize the risk of liquefaction by reducing the moisture content and increasing the density of soils that underlay the project site. Therefore, the project would not increase the risk of loss, injury, or death due to liquefaction, and impacts would be less than significant.

The City will review construction details plans prepared for the project to ensure compliance with the uniform standards, project features, and geotechnical recommendations noted above. This review will occur prior to the issuance of a grading and/or building permit to construct the project. Thereafter, the City will perform inspections to confirm compliance with the construction plans approved for the project.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 1.iv: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Impact GEO-4 THE PROJECT SITE IS FLAT AND NOT WITHIN A LANDSLIDE HAZARD ZONE. THERE WOULD BE NO IMPACT.

The project site is relatively flat and is not located in an identified landslide hazard zone (City of Novato 2020; CGS 2021). Therefore, the project would not expose people or structures to risk of loss, injury, or death involving landslides, and there would be no impact.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

There would be no impact.

Threshold 2: Would the project result in substantial soil erosion or the loss of topsoil?

Impact GEO-5 CONSTRUCTION OF THE PROPOSED PROJECT COULD RESULT IN SOIL EROSION OR LOSS OF TOPSOIL. THE PROJECT WOULD BE REQUIRED TO COMPLY WITH EXISTING REGULATIONS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction of the project would require grading and excavation, which would involve removal of the existing parking lot, installation of the USTs, and filling excavated areas with soil. Grading and excavation activities would temporarily expose bare soils, which could be removed from the site and transported through wind shearing or stormwater runoff. Construction would disturb more than one acre of land, which mandates implementation of a NPDES-compliant SWPPP, as discussed under Section 4.4.2, *Regulatory Setting*, above. The SWPPP includes BMPs to reduce soil erosion and sedimentation. BMPs include but are not limited to the development of inspection and maintenance procedures for stormwater control, containment of leaks and spills of pollutants in storage areas on-site, prevention of sediment flow into storm drains, and watering of exposed soil to reduce erosion. Additionally, the project would require a grading permit pursuant to Chapter 5-23 of Novato Municipal Code, and the project applicant would be required to prepare an erosion control plan pursuant to Novato Municipal Code Section 19.36.070. With mandatory implementation of the SWPPP and erosion control measures, the proposed project would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 3: Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Impact GEO-6 THE PROJECT IS NOT LOCATED ON A GEOLOGIC UNIT OR SOIL THAT IS UNSTABLE, OR THAT WOULD BECOME UNSTABLE AS A RESULT OF THE PROJECT, AND WOULD NOT RESULT IN ON- OR OFF-SITE LANDSLIDE, LATERAL SPREADING, SUBSIDENCE, LIQUEFACTION, OR COLLAPSE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed under Impacts GEO-3 and GEO-4, the project would not result in impacts related to landslide or liquefaction. As discussed in Section 4.4.1, *Setting*, the potential for lateral spreading at the project site is low (Appendix I). In addition, the project would implement construction recommendations to further minimize this risk, as summarized under Impact GEO-3 and discussed fully in the Geotechnical Study (Appendix I). Therefore, the project would not result in on- or off-site lateral spreading, and impacts would be less than significant.

Subsidence occurs when large amounts of groundwater are withdrawn from fine-grained sediments, which results in compaction of the soil and collapse of the ground surface. While dewatering may occur during project construction, the project would not involve withdrawing a substantial amount of groundwater from the project site. Additionally, the project would implement construction recommendations, including but not limited to moisture conditioning and compacting exposed subgrades; compacting clayey soils; and moisture conditioning, recompacting, and over-excavating

subgrade soils prior to casting exterior flatwork to minimize the potential for soil settling and compaction once construction is complete. The project would also be required to comply with soil fill and compaction standards of the CBC. Therefore, the project would not result in on- or off-site lateral spreading or collapse and impacts would be less than significant.

Overall, the project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 4: Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Impact GEO-7 THE PROJECT SITE IS UNDERLAIN BY POTENTIALLY EXPANSIVE SOILS. THE PROJECT WOULD INCORPORATE SEISMIC AND SOIL STABILITY MEASURES INCLUDED IN THE GEOTECHNICAL STUDY. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As described in Section 4.4.1, *Setting*, the project site is underlain by saturated, silty to clayey soils that underlie the project site that could be subject to expansion. Compliance with the CBC would reduce the risk to life and property involving expansive soil. As described under Impact GEO-3, the project would incorporate seismic and soil stability measures included in the Geotechnical Study (Appendix I) pursuant to the CBC and NMC requirements. Incorporation of these recommendations would ensure that impacts related to expansive soils would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 5: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Impact GEO-8 THE PROJECT WOULD NOT INVOLVE CONSTRUCTION OR OPERATION OF SEPTIC TANKS OR ALTERNATIVE WASTEWATER DISPOSAL SYSTEMS. THERE WOULD BE NO IMPACT.

The project involves construction and operation of a fuel facility, and would not involve the installation or operation of septic tanks or alternative wastewater disposal systems. There would be no impact.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

There would be no impact.

Threshold 6: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact GEO-9 GROUND-DISTURBING ACTIVITIES FOR THE PROJECT HAVE THE POTENTIAL TO SIGNIFICANTLY IMPACT PALEONTOLOGICAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Significant impacts to paleontological resources include the destruction, damage, or loss of scientifically important paleontological resources or associated stratigraphic data. Ground-disturbing activities (i.e., grading, excavating, trenching) in undisturbed sediments or geologic units with high paleontological sensitivity have the potential to significantly impact paleontological resources under CEQA. Project excavations have the potential to impact four distinct geologic units (artificial fill, upper layer of alluvium, Bay Mud, and sandstone and shale of the Franciscan Complex; Blake et al. 2000; Wagner and Gutierrez 2017; Appendix I), none of which have high paleontological sensitivity.

Ground-disturbing activities for this project will include site grading and excavations for canopy footings, pipelines, stormwater drainage, and USTs. Of these excavations, those for the USTs would be deepest, reaching up to 16 feet below the surface, meaning artificial fill, upper layer of alluvium, and sandstone and shale of the Franciscan Complex would be impacted. Although these geologic units are assigned no (artificial fill) or low (upper layer of alluvium, sandstone and shale of the Franciscan Complex) paleontological sensitivity, excavations in the low-sensitivity geologic units do still have a small chance to significantly impact paleontological resources. Therefore, this impact is potentially significant and Mitigation measure GEO-9 is required.

Mitigation Measures

GEO-9 Unanticipated Discovery of Paleontological Resources

Paleontological Worker Environmental Awareness Program. Prior to the start of construction, a Qualified Professional Paleontologist (as defined by Society of Vertebrate Paleontology [2010]) or their designee shall conduct a paleontological Worker Environmental Awareness Program training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.

Unanticipated Discovery of Paleontological Resources. In the event a fossil is discovered during construction of the project, excavations within 50 feet of the find shall be temporarily halted or delayed until the discovery is examined by a Qualified Professional Paleontologist. The project applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. If the find is determined to be significant, the applicant shall retain a Qualified Professional Paleontologist to direct all mitigation measures related to paleontological resources. The Qualified Professional Paleontologist shall design and carry out a data recovery plan consistent with the Society of Vertebrate Paleontology (2010) standards.

Significance After Mitigation

Mitigation Measure GEO-9 would ensure that unanticipated paleontological resources are identified and treated such that adverse impacts to such resources do not occur. Impacts would be less than significant with implementation of Mitigation Measure GEO-9.

4.4.4 Cumulative Impacts

The geographic scope for considering cumulative impacts to geology and soils is the project site and the immediately adjacent areas. This scope is appropriate because geological materials and soils occur at specific locales and are generally affected by activities directly on or immediately adjacent to the soils, and not by activities occurring outside the area. In addition, any geologic impacts of the project would be site-specific. Of the cumulative projects listed in Table 3-1 in Chapter 3, *Environmental Setting*, the Hanna Ranch Mixed Use project would occur adjacent to the project site.

Cumulative projects in the area would increase the population of the region, as well as the number of structures and supporting infrastructure in the region. Such development would expose new residents and property to seismic and other geologic hazards. However, these seismic and soil issues are specific to each project and therefore, for purposes of this cumulative analysis, the geographic context is narrower as well. It is expected that because of the site-specific nature of these issues, each cumulative development would be required to address the issues on a case-by-case basis through preparation of required soils and geotechnical engineering studies and adherence to the recommendations therein, in addition to adherence to existing local and state laws and regulations including, among others, applicable CBC standards and requirements. Therefore, cumulative geology and soils impacts would be less than significant. With the implementation of the identified mitigation for the project as well as its adherence to the applicable laws and regulations, the project would not make a cumulatively considerable contribution to any significant cumulative geology and soils impacts, including those associated with paleontological resources.

4.5 Energy and Greenhouse Gas Emissions

This section analyzes the potential impacts of the project related to greenhouse gas (GHG) emissions, climate change, and energy. The physical environmental impacts associated with the consumption of electricity and burning of fuels have also been accounted for in Section 4.1, *Air Quality*.

4.5.1 Setting

a. Energy

Energy relates directly to environmental quality. Energy use, when sourced from fossil fuels, can adversely affect air quality, and generate GHG emissions that contribute to climate change. Fossil fuels are burned to create electricity to power residences and commercial/industrial buildings, heat and cool buildings, and power vehicles. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes such as auto, carpool, and public transit; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy.

Energy Fundamentals

Energy is generally consumed either in the form of electricity, measured in kilowatts or megawatts; natural gas, measured in British thermal units (Btu) or cubic feet; and petroleum fuels, such as gasoline or diesel, measured in gallons or liters. Electricity is used primarily for lighting, appliances, and other uses associated with building and vehicle operations. Electricity sources range from renewable (hydroelectric, solar, wind, geothermal, biomass) to nonrenewable (natural gas, oil, nuclear, coal). Natural gas is used primarily for heating, water heating, and cooking purposes and is typically associated with building operations. Petroleum fuels are used primarily for powering off-road equipment and vehicles (commercial trucks and other vehicles).

Energy Supply

Electricity

Electricity is distributed through the various electric load-serving entities in California. These entities include investor-owned utilities, publicly-owned load-serving entities, rural electric cooperatives, community choice aggregators, and electric service providers (California Energy Commission [CEC] 2023a).

According to the CEC, California generated approximately 194,127 gigawatt-hours (GWh) of electricity in-state in 2021. Approximately 40 percent of this electricity was sourced from natural gas, 34 percent from renewable sources (i.e., solar, wind, geothermal, biomass, small hydroelectric), 9 percent from large hydroelectric sources, and the remaining 17 percent from coal, nuclear, oil, other and unspecified sources (CEC 2023b).

Pacific Gas and Electric (PG&E) is responsible for supplying power to end-users in Marin County while complying with county, state, and federal regulations. PG&E's power system is one of the nation's largest electric and gas utilities and maintains 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines (PG&E 2023). In 2021, PG&E's power mix, including all PG&E-owned generation plus PG&E's power purchases, consisted of 48

percent renewable resources, including wind, geothermal, biomass, solar, and small hydroelectric facilities; 39 percent nuclear generation; 9 percent natural gas; and 4 percent large hydroelectric facilities (PG&E 2022).

Natural Gas

Natural gas would not be consumed by the project and therefore natural gas is not discussed further in this section.

Petroleum Fuels

California is one of the top producers of petroleum in the nation, with drilling operations occurring throughout the state, but primarily concentrated in Kern and Los Angeles counties. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received in ports in Los Angeles, Long Beach, and the San Francisco Bay Area. Crude oil production in California and Alaska is in decline, and California refineries have become increasingly dependent on imports. In 2022, 59 percent of the crude oil refined in California was imported (CEC 2023d). In 2022, major foreign sources of crude oil imports to California were led by Iraq (22.3 percent), Ecuador (16.9 percent), and Saudia Arabia (16.4 percent; CEC 2023e). According to the United States Energy Information Administration (EIA), California's field production of crude oil totaled 130.1 million barrels in 2022 (CEC 2023d).

Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. The use of these fuels is encouraged through various statewide regulations and plans, such as the Low Carbon Fuel Standard and Senate Bill (SB) 32. Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle with alternative energy sources such as hydrogen, biodiesel, and electricity, which are discussed in the following subsections.

HYDROGEN

Hydrogen is being explored for use in combustion engines and fuel cell electric vehicles (EV). The interest in hydrogen as an alternative transportation fuel stems from its clean-burning qualities, its potential for domestic production, and the fuel cell vehicle's potential for high efficiency, which is two to three times more efficient than gasoline vehicles. There is currently one hydrogen fueling stations in Marin County (United States Department of Energy [DOE] 2023).

BIODIESEL

Biodiesel is a renewable alternative fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases. Biodiesel is biodegradable and cleaner-burning than petroleum-based diesel fuel. Biodiesel can run in any diesel engine generally without alterations but fueling stations have been slow to make it available. There are currently no biodiesel refueling stations in Marin County (DOE 2023).

ELECTRIC VEHICLES

Electricity can be used to power electric and plug-in hybrid EVs directly from the power grid. Electricity used to power vehicles is generally provided by the electricity grid and stored in the vehicle's batteries. Fuel cells are being explored to use electricity generated onboard the vehicle to

power electric motors. There are numerous publicly available electrical charging stations throughout Marin County (DOE 2023).

The 2021 Federal Infrastructure Bill allocates approximately \$384 million to California over the next 5 years to support the expansion of an EV charging network and includes a provision that allows the State to apply for the \$2.5 billion in grant funding dedicated to EV charging infrastructure. It is unclear at this time when and how the funds will be utilized.

BIOGAS

There is growing interest regarding biogas¹ production potential in California from non-hazardous-waste landfills, landfill diversion of organic waste material, wastewater treatment, concentrated animal feeding operations, and food and green waste processing. When biogas is conditioned and upgraded to pipeline quality specifications, it can be interconnected to a gas utility’s pipeline and distributed to a specific customer. Biomethane may also be consumed on site for a variety of uses, including electrical power generation from internal combustion engines, fuel cells, and turbines, or as a fuel source for natural gas vehicles. Currently, there are instances where biogas is being vented naturally or flared to the atmosphere, rather than being utilized as a valuable renewable resource (California Gas and Electric Utilities 2023).

Energy Demand

Electricity

The United States Energy Information Administration (EIA) estimates that California electricity consumption in 2020 represents approximately 6.7 percent of total United States electricity consumption in 2020 (EIA 2021a). As shown in Table 4.5-1, total electricity consumption within California in 2022 was approximately 287,826 GWh. In Marin County, total electricity consumption in 2022 was approximately 1,293 GWh, representing approximately 0.5 percent of electricity usage in California (CEC 2023e). According to the California Department of Finance (DOF), Marin County’s estimated 2022 population totaled 255,470 people (DOF 2023). As such, annual per capita electricity consumption is estimated at approximately 5,061 kWh.

Table 4.5-1 2022 Annual Electricity Consumption

Energy Type	California Consumption	Marin County Consumption	Percentage of Statewide Consumption	County per Capita Consumption ¹
Electricity	287,826 GWh	1,293 GWh	0.5 percent	5,061 kWh

GWh = gigawatt hours; kWh = kilowatt hours

¹ Per capita consumption based on Marin County’s estimated 2022 population of 255,470 people (DOF 2023).

Source: CEC 2023e

Petroleum Fuels

According to the EIA, transportation accounted for nearly 40 percent of California’s total energy demand, amounting to approximately 3,073 trillion Btu in 2019 (EIA 2021b). State and county fuel consumption is further illustrated in Table 4.5-2. In 2022, California consumed approximately 13.6 billion gallons of gasoline and 3.1 billion gallons of diesel fuel, and Marin County consumed an estimated 86 million gallons of gasoline and 5 million gallons of diesel fuel (CEC 2023g). Marin

¹ Biogas is a mixture of methane and carbon dioxide produced by the bacterial degradation of organic matter.

County’s estimated 2022 population totaled 255,470 people (DOF 2023). As such, annual per capita gasoline consumption is estimated at approximately 337 gallons of gasoline and 20 gallons of diesel per person.

Table 4.5-2 2022 Annual Gasoline and Diesel Consumption

Fuel Type	California Consumption	Marin County Consumption	Percentage of Statewide Consumption	County per Capita Consumption ¹
Gasoline	13,640,000,000 gallons	86,000,000 gallons	0.6 percent	337 gallons
Diesel	2,290,000,000 gallons	5,000,000 gallons	0.2 percent	20 gallons

¹ Per capita consumption based on Marin County’s estimated 2022 population of 255,470 people (DOF 2023).

Source: CEC 2023g

b. Climate Change and Greenhouse Gases

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO₂); methane (CH₄); nitrous oxides (N₂O); fluorinated gases such as hydrofluorocarbons (HFC) and perfluorocarbons (PFC); and sulfur hexafluoride (SF₆). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as “carbon dioxide equivalent” (CO₂e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a 100-year GWP of 30, meaning its global warming effect is 30 times greater than CO₂ on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).²

GHGs are emitted by natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are usually by-products of fossil fuel combustion, and CH₄ results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases and SF₆ (United States Environmental Protection Agency [USEPA] 2023a).

Climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term “climate change” is often used interchangeably with the term “global warming,” but climate change is preferred because it conveys that other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the past, such as during previous ice ages. The global climate is changing continuously, as evidenced in the geologic record, which indicates repeated episodes of substantial warming and cooling. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental

² The Intergovernmental Panel on Climate Change’s (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change’s (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes a GWP of 25.

warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming over the past 150 years. The IPCC expressed in its Sixth Assessment Report that the rise and continued growth of atmospheric CO₂ concentrations is unequivocally due to human activities (IPCC 2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, a total of 2,390 gigatons of anthropogenic CO₂ was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 33 degrees Celsius (°C) cooler (World Meteorological Organization 2013). However, since 1750, estimated concentrations of CO₂, CH₄, and N₂O in the atmosphere have increased by 47 percent, 156 percent, and 23 percent, respectively, primarily due to human activity (IPCC 2021). GHG emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

Greenhouse Gas Emissions Inventory

Global Emissions Inventory

Worldwide anthropogenic GHG emissions totaled 47,000 million metric tons (MMT) of CO₂e in 2015, which is a 43 percent increase from 1990 GHG levels (USEPA 2023b). Specifically, 34,522 MMT of CO₂e of CO₂, 8,241 MMT of CO₂e of CH₄, 2,997 MMT of CO₂e of N₂O, and 1,001 MMT of CO₂e of fluorinated gases were emitted in 2015. The largest source of GHG emissions were energy production and fuel use from vehicles and buildings, which accounted for 75 percent of the global GHG emissions. Agriculture uses and industrial processes contributed 12 percent and 6 percent, respectively. Waste sources contributed three percent and international transportation sources contributed two percent. These sources account for approximately 98 percent because there was a net sink of 2 percent from land-use change (including afforestation/reforestation and emissions removals by other land use activities) (USEPA 2023b).

United States Emissions Inventory

Total U.S. GHG emissions were 6,558 MMT of CO₂e in 2019. Emissions decreased by 1.7 percent from 2018 to 2019. Since 1990, total U.S. emissions have increased by an average annual rate of 0.06 percent for a total increase of 1.8 percent between 1990 and 2019. The decrease from 2018 to 2019 reflects the combined influences of several long-term trends, including population changes, economic growth, energy market shifts, technological changes such as improvements in energy efficiency, and decrease carbon intensity of energy fuel choices. In 2019, the industrial and transportation end-use sectors accounted for 30 percent and 29 percent, respectively, of nationwide GHG emissions; while the commercial and residential end-use sectors accounted for 16 percent and 15 percent of nationwide GHG emissions, respectively, with electricity emissions distributed among the various sectors (USEPA 2023c).

California Emissions Inventory

Based on the California Air Resources Board (CARB) California Greenhouse Gas Inventory for 2000-2019, California produced 418.2 MMT of CO₂e in 2019, which is 7.2 MMT of CO₂e lower than 2018 levels. The major source of GHG emissions in California is the transportation sector, which comprises 40 percent of the state's total GHG emissions. The industrial sector is the second largest source, comprising 21 percent of the state's GHG emissions, while electric power accounts for approximately 14 percent (CARB 2021). The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, its relatively mild climate is a factor that reduces California's per capita fuel use and GHG emissions as compared to other states. In 2016, the State of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels, as emissions fell below 431 MMT of CO₂e (CARB 2021).

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Each of the past three decades has been warmer than all the previous decades on record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature from 2015 to 2017 was approximately 1.0°C higher than the average global mean surface temperature over the period from 1880 to 1900 (National Oceanic and Atmospheric Administration 2020). Furthermore, several independently-analyzed data records of global and regional Land-Surface Air Temperature obtained from station observations jointly indicate that Land-Surface Air Temperature and sea surface temperatures have increased.

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, larger forest fires, and more drought years (State of California 2018). In addition to statewide projections, *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state and regionally specific climate change case studies (State of California 2018). However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. A summary follows of some of the potential effects that could be experienced in California because of climate change.

Air Quality

Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C in the next 50 years and by 3.1 to 4.9°C in the next century (State of California 2018). Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone. The magnitude of the effect of the increased concentration of ground-level ozone, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains (State of California 2018). If higher temperatures continue to be accompanied by an increase in the incidence and

extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains could tend to temporarily clear the air of particulate pollution, which would effectively reduce the number of large wildfires and thereby ameliorate the pollution associated with them (California Natural Resources Agency 2009).

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts (State of California 2018). The Sierra snowpack provides most of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack (State of California 2018). Projections indicate that the average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (State of California 2018).

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding (State of California 2018). Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels between 1993 to 2022, observed by satellites, is approximately 3.5 millimeters per year, double the 20th century trend of 1.6 millimeters per year (World Meteorological Organization 2013; National Aeronautics and Space Administration 2023). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The City now faces new threats of sea level rise and climate change (Marin County Flood Control and Water Conservation District 2023). As shown in the City of Novato's *General Plan 2035 Policy White Paper, Sea Level Rise and Adaptation* (City of Novato 2015), a rise in sea level of two feet (anticipated to occur by 2050 in worst-case prediction models, per Table 1 of the City's White Paper) would not inundate the project site. Similarly, the combination of a 20-inch rise in sea level with a 20-year storm event would not inundate the project site. For informational purposes, the National Oceanic and Atmospheric Administration Sea Level Rise Viewer indicates that the project site would not be inundated with four feet of sea level rise but would be inundated with five feet of sea level rise. A five-foot rise in sea level could occur by 2100 in worst-case prediction models, per Table 1 of the City's White Paper (City of Novato 2015). Sea level rise may also jeopardize California's water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of buried infrastructure (State of California 2018).

Agriculture

California has an over \$50 billion annual agricultural industry that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts (California Department of Food and Agriculture 2020). Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks (State of California 2018). Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems

Climate change and the potential resultant changes in weather patterns could have ecological effects on the global and local scales. Soil moisture is likely to decline in many regions because of higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; State of California 2018).

4.5.2 Regulatory Setting

a. Federal Laws and Regulations

Energy Independence and Security Act of 2007

The Energy Independence and Security Act, enacted by Congress in 2007, is designed to improve vehicle fuel economy and help reduce United States dependence on foreign oil. It expands the production of renewable fuels, thereby reducing dependence on oil and confronting global climate change. Specifically, it does the following:

- Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard, requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels.
- Reduces United States demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy standards of 40 percent.

Corporate Average Fuel Economy Standards and Safer Affordable Fuel-Efficient Vehicles Rule

The Energy Policy and Conservation Act of 1975 established the Corporate Average Fuel Economy Standards (CAFE standards). The CAFE standards are federal rules established by the National Highway Traffic Safety Administration (NHTSA) that set fuel economy standards for all new passenger cars and light trucks sold in the United States. The CAFE standards become more stringent each year, reaching an estimated 38.3 miles per gallon for the combined industry-wide fleet for model year 2020 (77 Federal Register 62624 et seq. [October 15, 2012, Table I-1]).

In September 2019, the USEPA and the NHTSA issued the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, Part One “One National Program” (84 Federal Register 51310), revoking a waiver granted by USEPA to the State of California under Section 209 of the Clean Air Act to enforce more stringent emission standards for motor vehicles than those required by USEPA for the explicit purpose of GHG reduction, and indirectly, criteria air pollutants and ozone precursor emission reduction. This revocation became effective on November 26, 2019, and could have restricted the ability of CARB to enforce more stringent GHG emission standards for new vehicles and set zero-emission vehicle mandates in California. However, on December 21, 2021, the NHTSA published its CAFE Preemption rule, which finalizes its repeal of the 2019 SAFE Rule, Part One. On April 30, 2020, the USEPA and the NHTSA published Part Two of the SAFE Vehicles Rule, which revised corporate average fuel economy and CO₂ emissions standards for passenger cars and trucks of model years 2021-2026, such that the standards increase by approximately 1.5 percent each year through model year 2026, as compared to the approximately 5 percent annual increase required under the 2012 standards (NHTSA 2023).

Part Two addresses CAFE standards for passenger cars and light trucks for model years 2021 to 2026. This rulemaking proposed new CAFE standards for model years 2022 through 2026 and amended existing CAFE standards for model years 2021 through 2026. The proposal retained the model year 2020 standards (specifically, the footprint target curves for passenger cars and light trucks) through model year 2026. The proposal addressing CAFE standards was jointly developed by NHTSA and USEPA, with USEPA simultaneously proposing tailpipe carbon dioxide emission standards for the same vehicles covered by the same model years.

Energy Star Program

In 1992, USEPA introduced Energy Star as a voluntary-labeling program designed to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specification for maximum energy use established under the program are certified to display the Energy Star label. In 1996, USEPA joined with the Energy Department to expand the program, which now also includes qualifying commercial and industrial buildings, and homes.

Federal Clean Air Act

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the USEPA has the authority to regulate motor vehicle GHG emissions under the federal Clean Air Act. The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that established the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. As of August 2025, the USEPA has released a proposal to rescind the 2009 Endangerment Finding that led to the Final Rule development. If the proposal is finalized, GHG emissions standards for light-duty, medium-duty, and heavy-duty vehicles and engines would be removed.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 Supreme Court 2427 [2014]), the U.S. Supreme Court held the USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

Construction Equipment Fuel-Efficiency Standard

USEPA sets emission standards for construction equipment. The first federal standards (Tier 1) were adopted in 1994 for all off-road engines over 50 horsepower and were phased in by 2000. A new standard was adopted in 1998 that introduced Tier 1 for all equipment below 50 horsepower and established the Tier 2 and Tier 3 standards. The Tier 2 and Tier 3 standards were phased in by 2008 for all equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements, which are contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068 (originally adopted in 69 Federal Register 38958 [June 29, 2004] and most recently updated in 2014 [79 Federal Register 46356]). Emissions requirements for the sale of new off-road Tier 4 vehicles were completely phased in by the end of 2015.

b. State Laws and Regulations

CARB and the CEC are responsible for the coordination and oversight of State and local air pollution control and energy programs in California, respectively. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

California Energy Plan

The CEC is responsible for preparing the California Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The California Energy Plan calls for the State of California to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

California's 2023 Integrated Energy Policy Report

Every 2 years, the CEC prepares the Integrated Energy Policy Report (IEPR). The IEPR identifies actions the state and others can take to ensure a clean, affordable, and reliable energy system. California's innovative energy policies strengthen energy resiliency, reduce GHG emissions, improve air quality, and contribute to an equitable future (CEC 2023h). The 2023 IEPR discusses speeding connection of clean resources to the electricity grid, the potential use of clean and renewable hydrogen, and the California Energy Demand Forecast to 2040. The report also provides updates on topics such as gas decarbonization, energy efficiency, the Clean Transportation Program, Assembly Bill 1257 (Bocanegra, Chapter 749, Statutes of 2013), and publicly owned utilities' progress toward peak demand reserves and margins.

California Advanced Clean Cars Program

AB 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the USEPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the USEPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, the rules will be fully implemented, and new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011). In May 2025, the United States Senate voted to repeal California's waiver for the Advanced Clean Cars II Program, which established increasingly stringent vehicle emissions standards and provided targets for zero-emissions vehicle sales within the state.

California Global Warming Solutions Act of 2006 (Assembly Bill 32, Senate Bill 32, and Assembly Bill 1279)

The "California Global Warming Solutions Act of 2006," (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT of CO₂e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008).

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan.

On September 8, 2016, the governor signed SB 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100 (discussed below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies.

AB 1279, "The California Climate Crisis Act," was passed on September 16, 2022, and declares the State would achieve net zero greenhouse gas emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative greenhouse gas emissions thereafter. In addition, the bill states that the State would reduce GHG emissions by 85 percent below 1990 levels no later than 2045. The 2022 Scoping Plan lays out a path to achieve AB 1279 targets (CARB 2022). The actions

and outcomes in the 2022 Scoping Plan would achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

CARB In-Use On-Road and Off-Road Diesel Rules

The CARB rule imposes limits on idling, restricts the addition of older vehicles, and requires the retirement or replacement of older engines depending on their fleet size category. This policy indirectly impacts energy consumption.

More specifically, CARB is also charged with developing air pollution control regulations based upon the best available control measures and implementing feasible control measures under the State and Federal Clean Air Act (Health & Safety Code, Sections 39602.5, 39667, 43013, subdivisions [a] and [h], 43018, 40600, 40601, 40612[a][2] and [c][1][A]). Pursuant to these statutory authorities, more stringent emission standards were adopted in 2004 for off-road construction equipment (i.e. “Tier 4” standards) (40 Code of Federal Regulations Parts 1039, 1065, and 1068; California Code of Regulations [CCR], Title 13, Section 2025; AR 2854). CARB also adopted emission standards for on-road heavy duty diesel vehicles (i.e., haul trucks) (CCR Title 13, Section 1956.8). These haul truck regulations mandate fleets ensuring that nearly all on-road diesel trucks had 2010 model year engines or equivalent (i.e., Tier 4) by 2023. To ensure this was achieved, starting in 2020, only vehicles compliant with this regulation are allowed to be registered in California.

California Integrated Waste Management Act (Assembly Bill 341)/Assembly Bill 1826 (Mandatory Recycling/Composting)

The California Integrated Waste Management Act of 1989, as modified by AB 341, requires each jurisdiction’s source reduction and recycling element to include an implementation schedule that shows diversion away from landfills of 75 percent of all solid waste by 2020 and annually thereafter. AB 1826 requires recycling of organic waste (i.e., composting). All businesses and public entities that generate four or more cubic yards of solid waste per week and multi-family residential dwellings that have five or more units are required to recycle and compost.

California Building Standards Code

The CCR Title 24 is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction, including plumbing, electrical, interior acoustics, energy efficiency, and accessibility for persons with physical and sensory disabilities. The California Building Standards Code’s energy-efficiency and green building standards are outlined below. These standards are updated every three years and the project would be subject to the 2022 California Building Standards.

Part 6 Building Energy Efficiency Standards/Energy Code

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings to reduce California’s energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. The current iteration is the 2022 Title 24 standards. The California Building Standards Code’s energy-efficiency and green building standards are outlined below.

Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective on January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- Minimum 20 percent reduction in indoor water use relative to specified baseline levels;³
- Waste Reduction:
 - Minimum 65 percent non-hazardous construction/demolition waste diverted from landfills;
 - Non-residential and Multifamily dwellings with 5 or more units shall provide readily accessible areas identified for the depositing, storage and collection of nonhazardous materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastic, organic waste, and metals;
 - Nonresidential: 100 percent of trees, stumps, rocks and associated vegetation soils resulting from primary land clearing shall be reused or recycled.
- Inspections of energy systems to ensure optimal working efficiency;

The CALGreen voluntary standards are only mandatory if a local ordinance requires them. The City has made some of the voluntary measures mandatory. The CALGreen voluntary standards are divided into two tiers. Tier 1 adds additional requirements beyond the mandatory measures, whereas Tier 2 further increases the requirements. The City's mandatory Tier 1 measures are indicated below.

- **Tier 1**
 - Stricter energy efficiency requirements;
 - (Mandatory) Stricter water conservation requirements for specific fixtures;
 - (Mandatory) Minimum 65 percent reduction in construction waste with third-party verification, Minimum 10 percent recycled content for building materials;
 - (Mandatory) Minimum 20 percent permeable paving;
 - (Mandatory) Minimum 20 percent cement reduction;
 - (Mandatory) Table A5.106.5.3.1 shall be used to determine the number of EV capable spaces required. Section 5.106.5.3 includes design space requirements. When EV capable spaces are provided with EV supply equipment to create EVCS per Table A5.106.5.3.1, refer to Section 5.106.5.3.2 for the allowed use of Level 2 or Direct Current Fast Charger and Section 5.106.5.3.3 for the allowed use of Automatic Load Management Systems. Specifically, Table A5.106.5.3.1 requires that projects with:

³ Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

- 0 to 9 total actual parking spaces shall have 2 EV capable spaces and 0 EVCS;
 - 10 to 25 total actual parking spaces shall have 5 EV capable spaces and 2 EVCS;
 - 26 to 50 total actual parking spaces shall have 11 EV capable spaces and 4 EVCS;
 - 51 to 75 total actual parking spaces shall have 19 EV capable spaces and 5 EVCS;
 - 75 to 100 total actual parking spaces shall have 26 EV capable spaces and 9 EVCS;
 - 101 to 150 total actual parking spaces shall have 38 EV capable spaces and 13 EVCS;
 - 151 to 200 total actual parking spaces shall have 53 EV capable spaces and 18 EVCS; and
 - More than 201 total actual parking spaces shall have 30 percent of total spaces as EV capable spaces and 33 percent of EV capable spaces as EVCS.
- **Tier 2**
- Stricter energy efficiency requirements,
 - Stricter water conservation requirements for specific fixtures;
 - Minimum 75 percent reduction in construction waste with third-party verification,
 - Minimum 15 percent recycled content for building materials;
 - Minimum 30 percent permeable paving;
 - Minimum 25 percent cement reduction;
 - Table A5.106.5.3.2 shall be used to determine the number of EV capable spaces required. Section 5.106.5.3 includes design requirements. When EV capable spaces are provided with EV supply equipment to create EVCS per Table A5.106.5.3.1, refer to Section 5.106.5.3.2 for the allowed use of Level 2 or Direct Current Fast Charger and Section 5.106.5.3.3 for the allowed use of Automatic Load Management Systems. Specifically, Table A5.106.5.3.1 requires that projects with:
 - 0 to 9 total actual parking spaces shall have 2 EV capable spaces and 0 EVCS;
 - 10 to 25 total actual parking spaces shall have 5 EV capable spaces and 2 EVCS;
 - 26 to 50 total actual parking spaces shall have 11 EV capable spaces and 4 EVCS;
 - 51 to 75 total actual parking spaces shall have 19 EV capable spaces and 5 EVCS;
 - 75 to 100 total actual parking spaces shall have 26 EV capable spaces and 9 EVCS;
 - 101 to 150 total actual parking spaces shall have 38 EV capable spaces and 13 EVCS;
 - 151 to 200 total actual parking spaces shall have 53 EV capable spaces and 18 EVCS; and
 - More than 201 total actual parking spaces shall have 30 percent of total spaces as EV capable spaces and 33 percent of EV capable spaces as EVCS.

Assembly Bill (AB) 2076: Reducing Dependence on Petroleum

Pursuant to AB 2076 (Chapter 936, Statutes of 2000), the CEC and CARB prepared and adopted a joint agency report, Reducing California's Petroleum Dependence, in 2003. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road-transportation-fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT. One of the performance-based goals of AB 2076 is to reduce petroleum demand to 15 percent below 2003 demand. Furthermore, in response to the CEC's 2003 and 2005 Integrated Energy Policy Reports, the Governor directed the CEC to take the lead in developing a long-term plan to increase alternative fuel use.

AB 1493 (Reduce GHG Emissions from Vehicle Use)

AB 1493 (Chapter 200, Statutes of 2002), known as the Pavley Bill, amended Health and Safety Code Sections 42823, and added Section 43018.5 requiring CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California.

AB 1007 (State Alternative Fuels Plan)

AB 1007 (Chapter 371, Statutes of 2005) required the CEC to prepare a State plan to increase the use of alternative fuels in California. The CEC prepared the State Alternative Fuels Plan (SAF Plan) in partnership with CARB and in consultation with other federal, State, and local agencies. The SAF Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The SAF Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-State production of biofuels without causing a significant degradation of public health and environmental quality

Senate Bill (SB) 350: Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires doubling of the energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

SB 375

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations are required to adopt a Sustainable Communities Strategy, which allocates land uses in the Metropolitan Planning Organization's Regional Transportation Plan. Qualified projects consistent with an approved Sustainable Communities Strategy or Alternative Planning Strategy (categorized as "transit priority projects") can receive incentives to streamline CEQA processing.

The City of Novato is within the planning area of the Association of Bay Area Governments. Association of Bay Area Governments was assigned targets of a 10 percent reduction in GHGs from transportation sources by 2020 and a 19 percent reduction in GHGs from transportation sources by 2035 (CARB 2023).

SB 1383

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

SB 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state’s Renewables Portfolio Standard Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. The 2020 goal was met, with approximately 36 percent of electricity coming from renewable sources in March 2021 (CARB 2021b).

SB 1020

SB 1020, signed into law on September 16, 2022, requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035, 95 percent by 2040, and 100 percent by 2045. All State agency facilities must be served by 100 percent renewable and zero-carbon resources by 2030. SB 1020 also requires the Public Utilities Commission, Energy Commission, and CARB to issue a joint progress report outlining the reliability of the electrical grid with a focus on summer reliability and challenges and gaps. Additionally, SB 1020 requires the Public Utilities Commission to define energy affordability and use energy affordability metrics to develop protections, incentives, discounts, or new programs for residential customers facing hardships due to energy or gas bills.

Executive Order (EO) S-06-06

EO S-06-06, April 25, 2006, establishes targets for the use and production of biofuels and biopower, and directs state agencies to work together to advance biomass programs in California, while providing environmental protection and mitigation. The EO establishes the following targets to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources, and to produce a minimum of 20 percent of its biofuels in California by 2010, 40 percent by 2020, and 75 percent by 2050. EO S-06-06 also calls for California to meet a target for use of biomass electricity.

EO N-79-20

Governor Gavin Newsom signed EO N-79-20 in September 2020, which sets a Statewide goal that 100 percent of all new passenger car and truck sales in the State will be zero-emissions by 2035. It also sets a goal that 100 percent of statewide new sales of medium- and heavy-duty vehicles will be zero emissions by 2045, where feasible, and for all new sales of drayage trucks to be zero emissions by 2035. Additionally, the EO targets 100 percent of new off-road vehicle sales in the State to be zero emission by 2035. CARB is responsible for implementing the new vehicle sales regulation.

EO B-55-18

On September 10, 2018, the former Governor Brown issued EO B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

c. Local Regulations

Plan Bay Area 2050

Plan Bay Area 2050, adopted and administered by the Metropolitan Transportation Commission and Association of Bay Area Governments, is a State-mandated, integrated long-range transportation, land-use, and housing plan, known as a Regional Transportation Plan/Sustainable Communities Strategy, that would support a growing economy, provide more housing and transportation choices and reduce transportation-related pollution in the nine-county San Francisco Bay Area. Plan Bay Area 2050 builds on earlier efforts to develop an efficient transportation network and grow in a financially and environmentally responsible way. Plan Bay Area 2050 focuses on advancing equity and improving resiliency in the Bay Area by creating strategies in the following four elements: Housing, Economy, Transportation, and Environment. The Plan discusses how the future is uncertain due to anticipated employment growth, lack of housing options, and outside forces, such as climate change and economic turbulence. These uncertainties will impact growth in the Bay Area and exacerbate issues for those who are historically and systemically marginalized and underserved and excluded. Thus, Plan Bay Area 2050 has created strategies and considered investments that will serve those systemically underserved communities and provide equitable opportunities. The Plan presents a total of 35 strategies to outline how the \$1.4 trillion investment would be utilized. The strategies include, but are not limited to, the following: providing affordable housing, allowing higher-density in proximity to transit-corridors, optimizing the existing roadway network, creating complete streets, providing subsidies for public transit, reducing climate emissions, and expanding open space area. To bring these strategies to fruition, it will require participation by agencies, policymakers, and the public. An implementation plan is also included as part of the Plan to assess the requirements needed to carry out the strategies, identify the roles of pertinent entities, create an appropriate method to implement the strategies, and create a timeline for implementation.

City of Novato Climate Change Action Plan

The City of Novato's Climate Action Plan (CAP) is incorporated into General Plan 2035 and Appendix E to the General Plan includes the specific GHG reduction measures. General Plan 2035 provides goals and associated measures, also referred to as climate change mitigation measures, in the sectors of energy use, transportation, water conservation, land use, and solid waste. In addition, Appendix E of General Plan 2035 includes reduction measures and an emissions reduction summary with the anticipated reduction in emissions for each local action. The intent of the CAP is to guide Novato towards achieving or exceeding the State's emissions reductions targets. The CAP documents and forecasts 2015, 2020, and 2035 GHG emissions (City of Novato 2020). Per the requirements of CEQA 15183.5(b), the CAP is considered a qualified GHG reduction plan. Therefore, the CAP could have been employed as the threshold of significance for the project. However, based on the age of the CAP, it does not account for AB 1279 2045 reduction goals and was conservatively not used as the sole basis to judge the GHG impact of the project.

In July 2023, the City of Novato began development of Climate Action Plan 2030, which will serve as an update to the current CAP. The draft of Climate Action Plan 2030 was updated in August 2025, and it is in the final stages of review.

Novato General Plan

The following goals and policies from the 2035 Novato General Plan are applicable to energy and GHG emissions.

- **ES 17: Clean Air.** Work to protect and improve air quality.
 - **ES 17ab: Clean Air Plan.** Cooperate with the Bay Area Air Quality Management District in implementing the regional Clean Air Plan.
- **ES 22: Trees on Private Property.** Encourage and, where appropriate, require actions by private property owners to protect the health of native woodlands and trees.
 - **ES 22a: Parking Lot Standards.** Revise parking lot landscape standards to maximize tree size, cover and growth to reduce heat gain.
 - **ES 22b: Tree Replacement.** Consider amending the woodland tree removal/replacement requirements of the Zoning Code to prioritize replacement planting of native species and to consider tradeoffs of requiring fewer but larger replacement trees based on site conditions.
- **ES 23: Trees in New Development.** Require that the site planning, construction and maintenance of development preserve existing healthy trees and native vegetation on site to the maximum extent feasible. Replace trees and vegetation not able to be saved.
- **ES 24: Emission Reduction Targets.** Establish reduction targets for greenhouse gas emissions and actively implement local strategies to reduce the effects of climate change.
 - **ES 24a: Emission Reduction Goals.** Implement cost-effective strategies to achieve reductions in greenhouse gas emissions consistent with the City's goal of a 15% reduction below 2005 emission levels by 2020, and a 40% reduction in 2005 emissions by 2035.
 - **ES 24b: Implementation.** Implement the Emission Reduction Measures contained in Appendix E to achieve projected reductions in greenhouse gas emissions as feasible.
- **ES 25: Energy and Water Conservation.** Increase energy and water efficiency and conservation in City buildings, equipment and operations. Promote energy and water conservation and building upgrades to the community.
 - **ES 25a: Reduce Resource Use in Buildings.** Require new development to minimize impacts on the environment, including use of energy and water-efficient design features and materials consistent with local building codes and Water District regulations. Strive to achieve sustainable development that, through on-site conservation and renewable energy generation or off-site offsets, has no increased demand on energy and water resources pursuant to the Water District's Urban Water Management Plan.
 - **ES 25b: Green Building Regulations.** Adopt green building regulations that exceed minimum code requirements when found to be cost-effective for long-term building operations. Consider local modifications to the CALGreen Code to require Tier 1, including energy reduction measures, for new construction and for building remodels and additions.
 - **ES 25d: Energy Efficiency Program.** Assist in efforts of the Marin Energy Watch Partnership and non-profit providers of energy and water conservation services to homeowners and businesses. Target services to 1,200 homes and 480 businesses by 2020 and 3,000 homes and 1,200 businesses by 2035.

- **ES 26: On-site Energy Production.** Support on-site renewable energy facilities that help reduce community energy demand.
- **ES 27: Solid Waste Reduction.** Encourage solid waste reduction methods towards achieving an 80% diversion rate by 2025 and a 90% diversion rate by 2035.
 - **ES 27a: Zero Waste.** Revise and update the City of Novato’s Zero Waste Resolution to reflect an 80% diversion rate by 2025 and a 90% diversion rate by 2035.
 - **ES 27c: Demolition Debris.** Consider adopting a more stringent Construction and Demolition Ordinance that mandates a reported 65% construction and demolition waste diversion rate.
 - **ES 27f: Recycling in Commercial Development.** Consider amending the Municipal Code to require interior and exterior recycling receptacles.

City of Novato Climate Emergency Resolution/Ordinance No. 1693

The Novato City Council passed and adopted the Climate Emergency Resolution (Ordinance No. 1693) in November 2022. This ordinance amended several sections of Novato Municipal Code Chapter 19, *Zoning*, to prohibit new gas stations on any parcel zoned Planned District and to establish regulations for nonconforming gas stations. The ordinance acknowledges that these revisions to the City’s municipal code are not applicable to pending, complete applications to construct new gas stations in Novato, including the proposed project.

4.5.3 Impact Analysis

a. Significance Thresholds

The following thresholds of significance were developed in accordance with Appendix G of the *CEQA Guidelines*. Energy and GHG-related impacts would be significant if the project would:

1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation;
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency;
3. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
4. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Most individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence on climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project’s contribution towards an impact is cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines*, Section 15064[h][1]). The Bay Area Air District (Air District) adopted updated thresholds of significance for climate impacts on April 20, 2022 (Bay Area Air District 2023). Under the updated thresholds, a project must include, at a minimum, the following project design elements, or must be consistent with a local GHG reduction strategy that meets the criteria under *CEQA Guidelines* Section 15183.5(b):

- Buildings
 - The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
 - The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under Public Resources Code Section 21100(b)(3) and Section 15126.2(b) of the *CEQA Guidelines*.
- Transportation
 - Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor’s Office of Planning and Research’s Technical Advisory on Evaluating Transportation Impacts in CEQA:
 - Residential projects: 15 percent below the existing VMT per capita
 - Office projects: 15 percent below the existing VMT per employee
 - Retail projects: no net increase in existing VMT
 - Achieve compliance with off-street EV requirements in the most recently adopted version of CALGreen Tier 2.

b. Methodology

Energy

Public Resources Code Section 21100(b)(3) states that an EIR shall include “mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy.” The physical environmental impacts associated with the use of energy, including the consumption of electricity and burning of fuels, have been accounted for in Section 4.1, *Air Quality*, and with respect to GHG impacts below.

Energy consumption is analyzed here in terms of construction and operational energy. Construction energy demand accounts for anticipated energy consumption during construction of the project, such as fuel consumed by construction equipment and construction workers’ vehicles traveling to and from construction sites in the county. Project construction activities would also use building materials that would require energy use during the manufacturing and/or procurement of that material. Section 15126.2(b) of the *CEQA Guidelines* states, “This [energy] analysis is subject to the rule of reason and shall focus on energy use that is caused by the project.” This analysis reasonably assumes that manufacturers of building materials such as concrete, steel, lumber, or other building materials would employ energy conservation practices in the interest of minimizing the cost of doing business. Therefore, the consumption of energy required for the manufacturing and/or procurement of building and construction material is not in the scope of this analysis.

Operational energy demand accounts for the anticipated energy consumption during operation of the project, including but not limited to, electricity, lighting, space and water heating, appliances, and vehicle fuel consumption, which includes 12 truck trips (6 trucks) associated with fuel trucks accessing the project as well as 8 employee trips and 4,600 customer trips. Customer vehicles are gasoline fueled and burning gasoline is a form of energy consumption.

Project traffic is consistent with what is presented in the *Costco Gasoline Fuel Station Addition: Transportation Impact Analysis* by Kittelson & Associates Inc., dated February 2024, included as Appendix D. As stated in Appendix D, the proposed project would reduce vehicle miles traveled (VMT) regionally by 702 VMT per day. The addition of the gas station would increase daily trips to the site by 4,620 trips. The energy consumption modeling is based on the regional decrease in gasoline vehicle trips along with the increase in diesel truck trips (for bringing fuel to the station) as well as increase in idling and queuing emissions at the site.

Calculations for energy consumption are contained in Appendix J.

Greenhouse Gas

Project construction is anticipated to last approximately three months. Grading and excavation are required for the installation of canopy footings, USTs, product piping, stormwater improvements, and utility installation. USTs would require excavation to depths of approximately 16 feet and would be installed with 5 to 7 feet of cover.

Transportation assumptions are detailed in the methodology for energy above.

The project does not include the use of natural gas so natural gas consumption was set to zero for the analysis. To ensure that the energy needed to operate the pumps, lights and other operational activities required by the project, the default electrical consumption from CalEEMod for a 28-pump gas station was used. This results in a consumption of approximately 36,759 kilowatt hours per year.

As detailed construction activities are not known, unless where noted, CalEEMod defaults were used for modeling. CalEEMod outputs are provided in Appendix E.

c. Project Impacts and Mitigation Measures

Threshold 1: Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Impact GHG-1 THE PROPOSED PROJECT WOULD NOT RESULT IN WASTEFUL OR UNNECESSARY ENERGY CONSUMPTION, AND IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

During project construction, petroleum-based fuels would be used for construction vehicles and equipment on the project site, travel by construction workers to and from the project site, and vehicles used to deliver materials to the site. The project would involve demolition of existing asphalt; utilities trenching and grading; pavement and asphalt installation; fuel facility construction; architectural coating; and installation of landscaping and hardscaping.

The total consumption of gasoline and diesel fuel during project construction was estimated using the assumptions and factors from CalEEMod used to estimate construction air emissions for the air quality analysis (Appendix E). Table 4.5-3 presents the estimated construction phase energy consumption, indicating construction equipment, vendor trips, and worker trips would consume approximately 8,460 gallons of fuel over the project construction period.

Construction activity and associated fuel consumption and energy use would be temporary and typical for the development of the project. Additionally, the City of Novato Municipal Code

incorporates the California Green Building Standards Code. This code includes specific requirements related to recycling, construction materials, and energy efficiency standards that would apply to project construction to minimize wasteful, inefficient, and unnecessary energy consumption. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and the construction-phase impact related to energy consumption would be less than significant.

Due to the large number of materials and manufacturers involved in the production of construction materials, including manufacturers in other states and countries, upstream energy use cannot be estimated reasonably or accurately.

Table 4.5-3 Estimated Fuel Consumption During Construction

Fuel Type	Gallons of Fuel	MMBtu⁴
Diesel Fuel (Construction Equipment) ^{1,2}	7,840	999
Other Petroleum Fuel (Worker Trips) ³	620	68
Total	8,460	1,067

Note: Totals may not add due to rounding.

¹ Fuel demand rate for construction equipment is derived from the total hours of operation, the equipment’s horsepower, and the equipment’s fuel usage per horsepower per hour of operation, which are taken from CalEEMod outputs (see Appendix E). Fuel consumed for construction equipment is assumed to be diesel fuel.

² Fuel demand rates for hauling and vendor trips (cut material imports) are derived from vendor trip number, vendor trip length, and vendor vehicle class from “Unmitigated” Table contained in Section 5.3, *Construction Vehicles*, of the CalEEMod results (see Appendix E). The fuel economy for vendor trip vehicles is derived from the United States Department of Transportation (United States Department of Transportation 2020). Fuel consumed for hauling trucks is assumed to be diesel fuel.

³ The fuel economy for worker trip vehicles is derived from derived from U.S. Department of Transportation National Transportation Statistics (24.4 mpg) (United States Department of Transportation 2020). Fuel consumed for worker trips is assumed to be gasoline fuel.

⁴ CaRFG CA-GREET 3.0 fuel specification of 109,786 Btu/gallon used to identify conversion rate for fuel energy consumption for worker trips specified above (California Air Resources Board [CARB] 2018). Low-sulfur Diesel CA-GREET 3.0 fuel specification of 127,460 Btu/gallon used to identify conversion rate for fuel energy consumption for construction equipment specified above (CARB 2018). Due to rounding, numbers may not add up precisely to the totals indicated.

Source: Appendix J

Operation

Operation of the project would result in energy demand from electricity consumption for lighting, fuel dispenser operation, and energy demand from gasoline consumption attributed to the daily trips to the fuel facility. The estimated number of daily VMT is used to determine the energy consumption associated with fuel use from the operation of the project. The project would result in a net increase in daily trips but a net decrease of 702 regional passenger VMT (Appendix D, Table 22), and a net increase in 360 daily truck VMT (Appendix E, combined from CalEEMod Table 5.9.1 in both “Novato Costco Custom Report, 2/4/2025” and “Novato Costco_Truck Trips Custom Report, 2/4/2025”), resulting in a net annual reduction in VMT of 124,830. This results in an overall decrease in gasoline consumption of 8,541 gallons per year due to the decrease in passenger VMT, and an increase in 18,771 gallons of diesel fuel per year due to an increase in truck VMT, for a net increase of 10,230 gallons of fuel per year. While overall fuel use would increase with the project, the project would not result in a wasteful use of fuel as the project would provide a local resource for Costco members to obtain fuel they would’ve otherwise have obtained in any case. Implementation of the project results in reduced vehicle miles traveled from passenger vehicles throughout the region, therefore, operation of the project would not result in an inefficient consumption of fossil fuel. The project would not use natural gas as an energy source, therefore no

increase in natural gas usage would occur as a result of the project. Project operation would require permanent grid connections for electricity. Approximately 80,641 kilowatt-hours of electricity per year, or 275 MMBtu, would be required from PG&E and would be used for lighting and fuel dispenser operation. The proposed fuel canopy would total approximately 10,244 square feet, which is an average energy use intensity of 0.0269 MMBtu per square foot⁴. Additionally, it should be noted that the project would participate in the PG&E's Solar Choice program, in which 100 percent of electricity consumed by the project will be from renewable sources. The size and engineering design of the canopy precludes the effective use of on-site solar. Coupled with the project being 100 percent electric and the use of PG&E's Solar Choice program, the project incorporates renewable energy to the extent feasible for the project.

The project would comply with the mandatory standards set in California Building Code (CBC) Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation. CALGreen (CCR Title 24, Part 11) uniformly requires implementation of energy efficient light fixtures and building materials into the design of new construction projects. These mandatory standards ensure new construction does not result in wasteful, inefficient, or unnecessary consumption of energy.

Overall, project operation would result in consumption of fuels from vehicle trips and electricity from the fuel facility. Project energy consumed would represent an incremental increase in energy usage compared to existing conditions, but the project would implement energy-efficient components to reduce energy demand, including the installation of light-emitting diode lighting fixtures, as described in Section 2, *Project Description*. Therefore, operational energy impacts would be less than significant.

Conclusion

Construction of the project would be temporary and typical of similar projects and would not result in wasteful energy use. Project operation would increase energy use on the site compared to existing conditions. However, the energy use would be in conformance with the latest version of California's Green Building Standards Code and the California Building Code, and the project is not anticipated to increase overall demand for gasoline in the region, but rather redistribute demand from existing gas stations. Therefore, the project would not result in wasteful or unnecessary energy consumption, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

⁴ Calculation: 275 MMBtu divided by 10,244 square feet = 0.0269 MMBtu per square foot.

Threshold 2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Impact GHG-2 THE PROPOSED PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Table 4.5-4 lists applicability to Novato’s current CAP (City of Novato 2020) GHG Reduction Measures that are included as Appendix E to the City’s General Plan 2035 energy efficiency goals and policies and summarizes the project’s compliance with these policies. As shown in Table 4.5-4, the project would be consistent with applicable energy efficiency goals and policies from the City of Novato’s current CAP (City of Novato 2020). Therefore, potential impacts associated with renewable energy and energy efficiency would be less than significant.

Table 4.5-4 Project Compliance with Energy Efficiency Goals and Policies

Energy Efficiency Goal or Policy	Project Consistency
Reduction Measure 11. Cool Paving: Require the use of high “albedo” material for future outdoor surfaces such as parking lots, median barriers, roadway improvements, and sidewalks in order to reduce the urban heat island effect and save energy.	Consistent. The fuel facility canopy would be constructed from lightly colored material, replacing the existing darker asphalt parking area. This would increase the albedo of the project site, consistent with this policy.
Reduction Measure 12. Urban Forest: Update landscaping requirements to ensure strategic placement of plantings to shade east and west walls of structures. Revise parking lot standards to maximize tree size, cover and growth to reduce heat gain and maximize greenhouse gas sequestration. Consider amending tree removal and replacement requirements to maximize tree cover and tree growth. Consider prohibiting trees with high biogenic emissions.	Consistent. While the project will remove 27 existing trees, the project would plant 36 replacement trees and the total amount of landscaping would increase by 6,086 square feet, including new vegetation and drainage management areas. The new landscaped area would be located along the southern and western boundary of the project site.
Reduction Measure 15. Vehicle Idling: Improve traffic flow and reduce VMT within the City.	Consistent. As described in Section 4.8, <i>Transportation</i> , operation of the project would reduce overall VMT associated with Costco members who are currently purchasing fuel at other fuel stations, including Costco fuel centers located outside Novato. Further, many Costco members will combine a stop at the fuel center with a trip already destined for the Costco Warehouse or Vintage Oaks Shopping Center thereby further reducing VMT.

Source: City of Novato 2009

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 3: Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
Threshold 4: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact GHG-3 THE PROJECT WOULD CONFLICT WITH AIR DISTRICT THRESHOLDS FOR GHG EMISSIONS AS THE PROJECT DOES NOT INCORPORATE THE TIER 2 VOLUNTARY REQUIREMENTS FOR ELECTRIC VEHICLE CHARGING STATIONS. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Project implementation would generate GHG emissions through the burning of fossil fuels or other emissions of GHGs, thus potentially contributing to cumulative impacts related to climate change.

The project emissions are shown in Table 4.5-5 for informational purposes only because there is not a quantitative emissions threshold. Table 4.5-5 provides the project’s estimated construction and operational GHG emissions. Estimated GHG emissions would be approximately 580 MT CO₂e per year with the primary source of emissions from mobile sources (Appendix J).

Table 4.5-5 Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO ₂ e in metric tons)
Construction	
2024	95.8
2025	30.1
Total	125.9
Amortized ¹	4
Operational	
Area	<1
Energy	8
Solid Waste	5
Water	1
Mobile	692
Operational Subtotal	705
Total Combined²	709

¹ Construction activity would generate 126 MT CO₂e over the entire three-month construction period. Construction emissions were amortized over 30 years consistent with South Coast AQMP guidance, as the Air District has no guidance for no construction emissions.

² Total annual emissions are comprised of the sum of amortized construction emissions, all operational emissions, and mobile emissions.

Source: Appendix J

Applicable plans and policies to the project for reducing GHG emissions includes CARB’s 2022 Scoping Plan, Plan Bay Area 2050, and the City’s General Plan. The project would result in a potentially significant impact if it would conflict with these plans.

Project Consistency with 2022 Scoping Plan

The principal State plans and policies for reducing GHG emissions are SB 32 and AB 1279. The quantitative goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030; and the goal of AB 1279 is to achieve net zero GHG emissions no later than 2045 and reduce GHG

emissions by 85 percent below 1990 levels no later than 2045. The 2022 Scoping Plan expands upon earlier plans to include the AB 1279 targets.

The Air District has determined criteria by which projects within the Air District’s jurisdiction would be consistent with the 2022 Scoping Plan. Consistency with these criteria is discussed below. The project must be consistent with a verified local climate action plan or meet each of the following criteria.

a. Buildings

1. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development),
2. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under Public Resources Code Section 21100(b)(3) and Section 15126.2(b) of the *CEQA Guidelines*.

a. Transportation

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

As detailed in Impacts GHG-1 and GHG-2 above, the proposed project would not include natural gas appliances or plumbing and would not result in wasteful, inefficient, or unnecessary energy usage. Therefore, the project would be consistent with criterion a of the Air District’s GHG thresholds.

As detailed in Section 4.8, *Transportation*, the project would result in a net decrease of 702 VMT. The proposed project would be required to comply with CalGreen measures with respect to electrical vehicle charging stations; however, the City does not require projects to comply with Tier 2 voluntary requirements concerning EV charging stations. Therefore, the proposed project would not be consistent with the Tier 2 voluntary requirements and would be deemed to be in conflict with the Air District thresholds of significance and thus with the 2022 Scoping Plan. As a result, GHG impacts would be significant without mitigation.

Project Consistency with Plan Bay Area 2050

Table 4.5-6 shows the proposed project’s consistency with Plan Bay Area 2050. As shown therein, the proposed project would be consistent with Plan Bay Area 2050, and impacts would be less than significant.

Table 4.5-6 Project Consistency with Plan Bay Area 2050

Measure	Project Consistency
<p>T8. Build a Complete Streets network. Enhance streets to promote walking, biking and other micro-mobility through sidewalk improvements, car-free slow streets, and 10,000 miles of bike lanes or multi-use paths.</p>	<p>Consistent. The proposed project would relocate an existing driveway on Vintage Way and would modify a segment of Vintage Way to include a left-turn pocket providing access to the relocated driveway. These modifications would result in the replacement of an approximately 200-foot segment of Class II bike lane with a Class III bicycle route. No removal of sidewalks or bicycle facilities would occur as a result of this change. Therefore, the project would not conflict with this measure.</p>
<p>EN4. Maintain urban growth boundaries. Using urban growth boundaries and other existing environmental protections, focus new development within the existing urban footprint or areas otherwise suitable for growth, as established by local jurisdictions.</p>	<p>Consistent. The project would maintain urban growth boundaries through infill development on an existing parking lot.</p>
<p>EN8. Expand clean vehicle initiatives. Expand investments in clean vehicles, including more fuel-efficient vehicles and electric vehicle subsidies and chargers.</p>	<p>Consistent. As discussed above under <i>Project Consistency with the 2022 Scoping Plan</i>, the project would be required to comply with CalGreen measures with respect to electrical vehicle charging stations which would expand the support for clean vehicle use within the region.</p>

Source: Association of Bay Area Governments 2021

Project Consistency with City of Novato Climate Energy Resolution/Ordinance No. 1693

As detailed in Section 4.5.2, *Regulatory Setting*, the proposed project would be exempt from the ordinance prohibiting new gas stations as the project application was pending at the time the Ordinance was adopted. Therefore, the project would be consistent with the Ordinance.

Project Consistency with the City of Novato General Plan

Table 4.5-7 shows the proposed project’s consistency with City of Novato’s 2035 General Plan policies that are applicable to the proposed project. As shown therein, the proposed project would be consistent with the General Plan and impacts would be less than significant.

Table 4.5-7 Project Consistency with City of Novato 2030 General Plan

Measure	Project Consistency
<p>ES 17: Clean Air. Work to protect and improve air quality. ES 17a: Clean Air Plan. Cooperate with the Bay Area Air Quality Management District in implementing the regional Clean Air Plan</p>	<p>Consistent: As discussed in detail in the Air Quality Section, the proposed project would be consistent with the Clean Air Plan.</p>
<p>ES 22: Trees on Private Property. Encourage and, where appropriate, require actions by private property owners to protect the health of native woodlands and trees.</p>	<p>Consistent: The proposed project would incorporate trees in the landscaping of the project consistent with what is currently onsite and consistent with City requirements.</p>
<p>ES 23: Trees in New Development. Require that the site planning, construction and maintenance of development preserve existing healthy trees and native vegetation on site to the maximum extent feasible. Replace trees and vegetation not able to be saved.</p>	<p>Consistent: The proposed project would incorporate trees in the landscaping of the project consistent with what is currently onsite and consistent with City requirements.</p>

Measure	Project Consistency
<p>ES 24: Emission Reduction Targets: Establish reduction targets for greenhouse gas emissions and actively implement local strategies to reduce the effects of climate change.</p>	<ul style="list-style-type: none"> ▪ Consistent. The 2030 General Plan incorporated a Climate Action Plan to foster the reduction of GHG emissions within the City with a goal of reducing emissions to the 2035 State reduction standards. The proposed project would not conflict with measure ES 24 with respect to meeting the 2035 reduction standards. The GHG reduction measures not specifically called out below are not applicable to the project due to the nature of the project. The Project would be consistent with the following GHG Reduction measures and therefore consistent with General Plan measure ES 24.. ▪ Measure E-6 (Clean Electricity) would be directly supported as the project would use PG&E’s Solar Choice program, and the project would incorporate all renewable energy to the extent feasible ▪ Measure E-9 (Renewable Energy -community) would be supported by the project through incorporation of renewable energy into the project as required under Title 24. ▪ Measure 12 (Urban Forest) would be supported by planting 36 replacement trees and the total amount of landscaping would increase by 6,086 square feet, including new vegetation and drainage management areas. ▪ Measure 15 (Vehicle Idling) –The measure calls for improving traffic flow and reducing VMT within the City. This measure is supported as the project reduces Regional VM. ▪ Measure 17 (Low-Emission Vehicle Infrastructure) – Will be incorporated through Mitigation Measure GHG-3 which requires the incorporation of Title 24 Tier 2 Electric Vehicle Standards.
<p>ES 25: Energy and Water Conservation: Increase energy and water efficiency and conservation in City buildings, equipment and operations. Promote energy and water conservation and building upgrades to the community</p>	<p>Consistent. While the project will remove 27 existing trees, the project would plant 36 replacement trees and the total amount of landscaping would increase by 6,086 square feet, including new vegetation and drainage management areas. The new landscaped area would be located along the southern and western boundary of the project site. The proposed project would be consistent with the 2022 Title 24 mandatory measures, which require energy efficiencies and water conservation measures be incorporated into the project. In addition, the project would reduce regional VMT by 702 VMT and would be provided 100 percent renewable energy through PG&E’s Solar Choice program.</p>
<p>ES 26: On-site Energy Production. Support on-site renewable energy facilities that help reduce community energy demand.</p>	<p>Not Applicable. The fuel facility canopy is too small of a site to have enough area where implementation of solar on site would be beneficial to either the project or the grid as a whole. Therefore, the proposed project would not be required by the 2022 Title 24 Standards to incorporate renewable energy on site. Additionally, the project would be provided 100 percent renewable energy through PG&E’s Solar Choice program.</p>
<p>ES 27: Solid Waste Reduction. Encourage solid waste reduction methods towards achieving an 80% diversion rate by 2025 and a 90% diversion rate by 2035.</p>	<p>Consistent. The solid waste reduction goals are for the local and State governments to achieve and not for individual projects. However, by following the required garbage collection rules of the City, the project would be consistent with the measures incorporated within the City to reduce waste delivered to landfills.</p>

Source: City of Novato 2020

Mitigation Measures

The following mitigation measure would be required to address the significant impact discussed above.

GHG-3 Compliance with CalGreen Tier 2 Electric Vehicle Standards

Required EV charging stations may be included in the parking lot associated with the adjacent Costco store to further encourage use of these spaces. CalGreen Tier 2 standards stipulate that Table A5.106.5.3.2 shall be used to determine the number of EV capable spaces required. New EV spaces shall adhere to Section [5.106.5.3](#) of the CalGreen Tier 2 standards for design requirements. EV capable spaces and Electric Vehicle Charging Stations (EVCS) shall be installed pursuant to Table A5.106.5.3.1 of the CalGreen Tier 2 standards. During building permit review, the City shall calculate the number of required EV capable spaces and EVCS spaces, which shall meet the minimum CalGreen Tier 2 standards provided in Table A5.106.5.3.1. .

Significance After Mitigation

Implementation of Mitigation Measure GHG-3 requires that Tier 2 EV chargers be installed at the Costco gasoline facility or adjacent Costco store to better encourage the use of the EV charging stations. The implementation of Tier 2 electric chargers meets compliance with criterion b.2 of the Air District criteria by which projects within the Air District's jurisdiction would be consistent with the 2022 Scoping Plan. With implementation, the proposed project would not conflict with an applicable plan, policy or regulations adopted for the purpose of reducing the emissions of GHGs and the project would be less than significant.

4.5.4 Cumulative Impacts

a. Energy

The geographic scope for energy consumption impacts is Marin County. This geographic scope is appropriate for the cumulative analysis because of the county level scale at which energy consumption information is readily available.

Cumulative development in Marin County would increase demand for energy resources. These projects would also consume energy related to transportation (i.e., gasoline and diesel consumption for passenger vehicles, trucks, buses, and other vehicles), building energy, and construction. However, new iterations of the California Building Energy Efficiency Standards and CALGreen would require increasingly more efficient appliances and building materials that reduce energy consumption in new development. In addition, vehicle fuel efficiency is anticipated to continue improving through implementation of the existing Pavley regulations under AB 1493. Furthermore, the policies included in the General Plan would serve to minimize the potential for wasteful, inefficient, and unnecessary energy usage to occur as a result of future development. Therefore, cumulative energy impacts would not be significant. As described under Impact GHG-1, the proposed project would similarly adhere to energy efficiency requirements, and would therefore not result in a considerable contribution to cumulative energy impacts.

Projects throughout the state would be required to adhere to applicable renewable energy and energy efficiency laws, programs, and policies such as California's Renewables Portfolio Standard, AB 1493, and Title 24 standards. Cumulative projects would be required to adhere to the General Plan policies to mitigate energy impacts where feasible. In addition, all pending and future projects

would be reviewed for consistency with the General Plan or the general plan of the local jurisdiction (i.e., an incorporated city or county). Therefore, the cumulative impact would be less than significant. As discussed under Impact GHG-2, construction and operation of the project would be consistent with the energy-related goals and policies of the statewide plans; therefore, the project would not result in a considerable contribution to a significant cumulative impact with respect to consistency with renewable energy and energy efficiency plans. There is also no evidence to suggest that implementation of cumulative development would result in wasteful or inefficient use of energy, and the cumulative energy impact of past, present, and reasonably foreseeable future projects would be less than significant.

b. GHG

The geographic scope for related projects considered in the cumulative impact analysis for GHG emissions is global because impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources. GHG emissions and climate change are, by definition, cumulative impacts. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. Cumulative development could result in significant impacts related to GHGs. As discussed under Impact GHG-3, with implementation of Mitigation Measure GHG-3, GHG emissions from development of the project would be consistent with Air District's GHG thresholds for buildings and transportation. The analysis and conclusions under Impact GHG-3 are by nature the cumulative impacts discussion for GHG.

4.6 Hazards and Hazardous Materials

This section addresses impacts associated with exposure to hazards and hazardous materials from implementation of the proposed project. Specifically, this analysis addresses impacts related to hazardous materials use and transportation, the accidental release of hazardous materials, new development or re-development on contaminated sites, air traffic hazards, interference with emergency response and evacuation plans, and the risk of exposure to wildland fires.

4.6.1 Setting

a. Definition of Hazardous Materials

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in California Health and Safety Code, Section 25501) as follows:

A material...that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment, or a material specified in an ordinance adopted pursuant to paragraph (3). (California Health and Safety Code, Section 25501).

Hazardous materials include but are not limited to hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or environment. The release of hazardous materials into the environment can contaminate soils, surface water, and groundwater supplies through a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage.

b. Land Use Patterns

Small quantities of hazardous materials in Novato are routinely used, stored, and transported in commercial and retail businesses as well as in educational facilities, hospitals, and households. Hazardous materials users and waste generators in the City include businesses, public and private institutions, and households. Federal, state, and local agency databases maintain comprehensive information on the locations of facilities using large quantities of hazardous materials, as well as facilities generating hazardous waste. Some of these facilities use certain classes of hazardous materials that require accidental release scenario modeling and risk management plans to protect surrounding land uses.

Past and present land use patterns are good predictors of the potential for past contamination by hazardous materials and the current use and storage of hazardous materials. Industrial sites and certain commercial land uses, such as dry cleaners, are more likely to use and store large quantities of hazardous materials than residential land uses. Land use patterns are also useful for identifying the location of sensitive receptors, such as residences, schools, day-care facilities, hospitals, and nursing homes surrounding this project site.

The nearest public school is Lynnwood Elementary School, which is approximately 2,800 feet west of the project site. Private schools near the project site include Good Shepherd Lutheran School located 2,400 feet southwest of the site, and North Bay Christian Academy located 4,500 feet

northwest of the project site. Public educational services within Novato are provided by the Novato Unified School District (NUSD). These schools are not considered sensitive receptors because they are located more than 0.25 mile away from the project site.

c. Existing Hazardous Material Contamination

The United States Environmental Protection Agency (USEPA) describes household hazardous waste as leftover household products that can catch fire, react, explode under certain circumstances, or that are corrosive or toxic. Household hazardous wastes are similar to the operational project-related hazardous materials described above, and include products such as paints, cleaners, oils, batteries, and pesticides (USEPA 2023). The Geotechnical Report identified no soil or groundwater contamination within the project site (Appendix I).

The State Water Resources Control Board (SWRCB) GeoTracker website identifies Leaking Underground Storage Tanks (LUST) cleanup sites, Cleanup Program Sites (formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites), military sites, land disposal sites (landfills), permitted underground storage tank sites, Waste Discharge Requirement sites, Irrigated Lands Regulatory Program sites, and Department of Toxic Substances Control cleanup and hazardous waste permit sites. A search of the GeoTracker database was conducted on September 1, 2023 (SWRCB 2023a). In addition, the Department of Toxic Substances Control's (DTSC) EnviroStor database was searched on September 1, 2023, for cleanup sites in the City (DTSC 2023a). According to the database search, there are no sites with or potentially containing hazardous materials within 0.25 mile of the project site.

d. Airports and Aircraft Hazards

There are no public or private airports in Novato; however, the Gness Field Marin County Airport is located approximately 3.5 miles north of the project site near the Marin and Sonoma County border. A portion of Novato between San Marin Drive and Olive Street is inside the area of influence for the airport. The airport currently covers over 91.4 acres in unincorporated Marin County. In accordance with State law, the County of Marin and the City of Novato amended their respective general plans and zoning ordinances to incorporate the compatibility criteria and compatibility zones established by the Marin County Airport Land Use Commission (ALUC) for Gness Field Marin County Airport.

e. Wildland Fire Hazards

Many factors contribute to an area being at risk of structural fires in terms of local fire departments' capabilities to control them, including the construction size and type, built-in protection, density of construction, and street widths. The City's daytime population levels may also add to the congestion and difficulty of ingress and egress of emergency response vehicles. Older homes that were constructed prior to modern building standards and fire code requirements are more susceptible to urban fires.

Topography is an important factor in determining the level of wildland fire risk. Flat, urban areas generally present a lower probability risk of wildland fire compared to hilly, less developed areas. Novato is surrounded on three sides by wildland or agriculture, which makes the City vulnerable to fires. The California Department of Forestry and Fire Protection (CAL FIRE) determines a fire hazard severity zone based on the potential fire hazard that is expected to prevail there. Factors that are included in this determination include: fuel (material that can burn), slope, and weather. There are three zones, based on increasing hazard severity: moderate, high, and very high. Moderate hazard

zones are typically identified as either wildland areas supporting areas of typically low fire frequency and relatively modest fire behavior, or are developed/urbanized areas with a very high density of non-burnable surfaces including roadways, irrigated lawn/parks, and low total vegetation cover (less than 30 percent) that is highly fragmented and low in flammability (e.g., irrigated, manicured, managed vegetation). CAL FIRE has identified that the project site is not in a fire hazard severity zone and is located approximately 1.5 miles north of the nearest very high fire hazard severity zone (CAL FIRE 2023).

CAL FIRE works in cooperation with the Governor's Office of Emergency Services (OES), as well as neighboring state governments through a network of mutual aid agreements to fight wildland fires.

4.6.2 Regulatory Setting

f. Federal

United States Environmental Protection Agency

The USEPA is the agency primarily responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Applicable federal regulations pertaining to hazardous materials are contained in the Code of Federal Regulations (CFR) Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in 49 CFR 172.101. The management of hazardous materials is governed by the following laws:

- Resource Conservation and Recovery Act of 1976 (RCRA) (42 United States Code [USC] 6901 et seq.); Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also called the Superfund Act) (42 USC 9601 et seq.)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 USC 136 et. Seq.)
- Superfund Amendments and Reauthorization Act of 1986 (Public Law 99 499)

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. USEPA provides oversight and supervision for Federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976

These acts established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Among other things, the use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

The Federal Insecticide, Fungicide, and Rodenticide Act

FIFRA (7 USC 136 et seq.) provides Federal control of pesticide distribution, sale, and use. USEPA was given authority under FIFRA not only to study the consequences of pesticide usage, but also to require users (farmers, utility companies, and others) to register when purchasing pesticides. Later amendments to the law required users to take exams for certification as applicators of pesticides. All pesticides used in the United States must be registered (licensed) by the USEPA. Registration

ensures that pesticides are properly labeled and that, if used in accordance with specifications, do not cause unreasonable harm to the environment.

The Comprehensive Environmental Response, Compensation and Liability Act (enacted 1980), amended by the Superfund Amendments and Reauthorization Act (1986)

This law provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Among other things, CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priorities List.

Emergency Response Plans

Homeland Security Presidential Directive 5 identifies steps for improved coordination in response to incidents and requires a National Response Plan and a National Incident Management System (NIMS). NIMS is a comprehensive, national approach to incident management developed to improve the coordination of federal, State and local emergency response nationwide. The State of California's NIMS Advisory Committee issued "California Implementation Guidelines for the National Incident Management System" to assist local governments and other entities to incorporate NIMS into already existing programs, plans, training, and exercises.

The foundation of California's emergency planning and response is a statewide mutual aid system which is designed to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation. In an emergency, governmental response is an extension of responsibility and action, coupled with normal day-to-day activity. Normal governmental duties will be maintained, with emergency operations carried out by those agencies assigned specific emergency functions.

The California Disaster and Civil Defense Master Mutual Aid Agreement (California Government Code Section 8555–8561) requires signatories to the agreement to prepare operational plans to use within their jurisdiction, and outside their area. These plans include fire and non-fire emergencies related to natural, technological, and war contingencies. The State of California, all state agencies, all political subdivisions, and all fire districts signed this agreement in 1950.

California Government Code Section 8568, the "California Emergency Services Act," states that "the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof." The Act provides the basic authorities for conducting emergency operations following the proclamations of emergencies by the Governor or appropriate local authority, such as a City Manager. The provisions of the act are further reflected and expanded on by appropriate local emergency ordinances. The Act further describes the function and operations of government at all levels during extraordinary emergencies, including war.

All local emergency plans are extensions of the State of California Emergency Plan. The State Emergency Plan conforms to the requirements of California's Standardized Emergency Management System (SEMS), which is the system required by Government Code 8607(a) for managing emergencies involving multiple jurisdictions and agencies (Cal OES 2017). The SEMS incorporates the functions and principles of the Incident Command System, the Master Mutual Aid Agreement, existing mutual aid systems, the operational area concept, and multi-agency or inter-agency coordination (Cal OES 2017). Local governments must use SEMS to be eligible for funding of their response-related personnel costs under state disaster assistance programs (Cal OES 2017). The SEMS consists of five organizational levels that are activated as necessary, including: field response, local government, operational area, regional, and state. The State of California Governor's Office of Emergency Services divides the state into six mutual aid regions. The City of Novato is located in Mutual Aid Region II, which includes Del Norte, Humboldt, Mendocino, Sonoma, Lake, Napa, Marin, Solano, Contra Costa, San Francisco, San Mateo, Alameda, Santa Clara, Santa Cruz, San Benito, and Monterey Counties (Cal OES 2017).

The 2018 Marin County Multi-Jurisdictional Local Hazard Mitigation Plan (MCM LHMP) (County of Marin 2018) was adopted by the Novato City Council in February 2019. There is currently a process in place to update and adopt the 2023 MCM LHMP. The MCM LHMP assesses risks posed by natural hazards and develops a strategy for reducing the County's risks, in accordance with the Disaster Mitigation Act of 2000.

g. State

Department of Toxic Substances Control

As a department of the California Environmental Protection Agency, the DTSC is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code.

DTSC also administers the California Hazardous Waste Control Law to regulate hazardous wastes. While the Hazardous Waste Control Law is generally more stringent than RCRA, until the USEPA approves the California program, both state and federal laws apply in California. The Hazardous Waste Control Law lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Government Code Section 65962.5 requires the DTSC, the State Department of Health Services, the SWRCB, and CalRecycle to compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the state. The Secretary for Environmental Protection consolidates the information submitted by these agencies and distributes it to each city and county where sites on the lists are located. Before the lead agency accepts an application for any development project as complete, the applicant must consult these lists to determine if the site at issue is included.

If any soil is excavated from a site containing hazardous materials, it would be considered a hazardous waste if it exceeded specific criteria in Title 22 of the California Code of Regulations. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed, or if certain other soil disturbing activities would occur. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste,

remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking jurisdiction.

Hazardous Waste Control Act

The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which is implemented by regulations described in California Code of Regulations Title 26. The State program is similar to, but more stringent than, the Federal program under RCRA. The regulations list materials that may be hazardous, and establish criteria for their identification, packaging, and disposal. Environmental health standards for management of hazardous waste are contained in California Code of Regulations Title 22, Division 4.5. In addition, as required by California Government Code Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the State called the Cortese List.

California Fire and Building Code (2022)

The 2022 Fire and Building Code establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.

California Occupational Safety and Health Administration Regulations, Section 2540.7 Motor Fuel Dispensing Facilities and Service Stations

The California Occupational Safety and Health Administration regulations provided by the Department of Industrial Relations defines and sets forth safety orders regarding storage and service of motor fuel dispensing facilities. An area may be classified as nonhazardous if it is determined that flammable liquids having a flashpoint below 38°C (100°F), such as gasoline, will not be handled. If an area is deemed hazardous, Title 24, Part 3, California Electrical Code, Article 514 shall be used to delineate classified locations for electrical installations.

California Fire Code, Section 3803.7 Liquefied Petroleum Gases

Section 3803.7 of Chapter 38 of the California Fire Code states that liquefied petroleum gases shall not be released to the atmosphere.

h. Local

Marin County Multi-Jurisdictional Local Hazard Mitigation Plan

The MCM LHMP was developed in 2018 to assess risk posed by natural hazards and to develop a mitigation strategy for reducing the County's risks in accordance with the requirements of the Disaster Mitigation Act of 2000. The MCM LHMP replaces the County LHMP that was approved by the Federal Emergency Management Agency on August 29, 2013, and will serve as the current

LHMP for all participating jurisdictions. The City of Novato is currently participating in an update of the MCM LHMP, which is a component of the General Plan.

County of Marin Agricultural Commissioner

The regulation of pesticide storage, application, and waste disposal is under the jurisdiction of the County Agricultural Commissioner; the Commissioner implements the California Environmental Protection Agency Department of Pesticide Regulation program. Since 1990 the Commissioner's office has compiled reports required of farmers and other users of agricultural pesticides which provide complete, site-specific documentation of every pesticide application. These requirements include pesticides used on crops, parks, golf courses, cemeteries, rangeland and pastures, and along roadside and railroad rights-of-way. The reports are transferred to the Department of Pesticide Regulation and entered into a statewide database.

Marin County Environmental Health and Safety Department

The Marin County Environmental Health and Safety Department protects health, prevents disease, and promotes health for all persons in Marin County. The department has programs that employ strategies to prevent health hazards.

City of Novato 2035 General Plan

The City of Novato 2035 General Plan, Great Places Chapter, contains the following policy related to hazards and hazardous materials that are applicable to the project:

Goal CC 2: Promote high-quality and sustainable development.

- **CC 4: Environmental Constraints.** Assess environmental constraints when considering development of lands with high environmental value (e.g., wetlands or scenic ridgelines) or significant hazards (e.g., soil stability, fire or flood hazards).

The City of Novato 2035 General Plan, A City That Works Chapter, contains the following goals and policies related to hazards and hazardous materials that are applicable to the project:

Goal SH 1: Maintain high levels of public safety and emergency preparation.

- **SH 1: Seismic and Geologic Hazards.** Reduce the risk of loss of life, personal injury and property damage resulting from seismic and geologic hazards including ground shaking, land sliding, liquefaction and slope failure.
- **SH 2: Flood Hazards.** Reduce the risk of loss of life, personal injury and property damage resulting from flooding by properly maintaining storm drainage systems, natural flood control channels and waterways and regulating runoff from new construction and development projects. Encourage flood control measures that retain the natural features and conditions of watercourses to the maximum feasible extent.
- **SH 3: Fire Hazards.** Reduce the risk of loss of life, personal injury and property damage resulting from wildland and urban fire hazards through code enforcement and coordination with the Novato Fire Protection District.
 - *SH 3a: Fire Risk in New Development.*
 1. Review all development proposals for fire risk, and require mitigation measures to reduce the probability of fire. Require all new development and substantial remodels to meet the adopted state and local fire codes. Refer all applications for new development

- that is subject to NFPD regulation to the District for review, comment and conditions of approval.
2. Encourage attractive native and drought-tolerant, low-maintenance landscaping responsive to fire hazards.
 3. Require adequate access for emergency vehicles, adequate street width and vertical clearance, driveway access and parking restrictions for new development.
 4. Ensure new development meets the peak load water supply standard for fire hydrants of the Novato Fire Protection District.
 5. All development that includes private access roads or fire roads shall provide recorded access rights and keys to any gates to the Novato Fire Protection District.
- *SH 3b: Fire Sprinklers.* Continue to enforce the Fire Safety Ordinance requirements for sprinkler systems for new commercial/industrial and residential development and substantial remodels.
 - *SH 3f: Fire Hazard Mitigation.* Actively implement the applicable elements of the Novato Fire Protection District All Hazards Mitigation Program.
- **SH 5: Hazardous Materials.** Minimize risks and health impacts from environmental and human-induced disasters.
 - *SH 5a: Measures to Reduce Hazards.* Consider measures to protect the public health from the hazards associated with the transportation, storage, and disposal of hazardous wastes. Continue to refer land use and transportation decisions and other programs involving hazardous materials regulations to the appropriate regulatory agencies.
 - **SH 7: Emergency Management.** Minimize exposure to all hazards through emergency management, planning and training.

4.6.3 Impact Analysis

a. Methodology and Thresholds of Significance

This section describes the potential environmental impacts of the proposed project relevant to hazards and hazardous materials. The impact analysis is based on an assessment of baseline conditions for project site, including locations of hazardous materials use and storage, existing contaminated sites, air traffic hazards, emergency response and evacuation plan requirements, and the risk of exposure to wildland fires, as described in Section 4.6.1, *Setting*. This analysis identifies potential impacts based on the predicted interaction between the affected environment and construction, operation, and maintenance activities related to the construction and operation that would occur under the proposed project. This section describes impacts in terms of location, context, duration, and intensity.

The following thresholds of significance are based on Appendix G of the *CEQA Guidelines*. For the purposes of this EIR, implementation of the proposed project may have a significant adverse impact if it would do any of the following:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

2. 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;
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
5. 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, result in a safety hazard for people residing or working in the project area;
6. For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or
8. 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.

b. Project Impacts and Mitigation Measures

Threshold 1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
Threshold 2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Impact HAZ-1 THE PROJECT WOULD NOT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH THE ROUTINE TRANSPORT, USE, OR DISPOSAL OF HAZARDOUS MATERIALS OR THROUGH REASONABLY FORESEEABLE UPSET AND ACCIDENT CONDITIONS INVOLVING THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Project construction would require the use of heavy equipment and machinery, such as trucks and pavers, the operation of which could result in a spill or accidental release of hazardous materials, including fuels, engine oil, engine coolant, and lubricants. The transport, storage, labeling, use and disposal of any hazardous materials would be subject to federal, state, and local regulations, which would minimize risks associated with hazardous materials used during construction. Therefore, the potential to create a significant hazard to the public or environment from the use of fuels, engine oil, engine coolant, and lubricants during construction would be less than significant. Additionally, the National Pollutant Discharge Elimination System (NPDES) permit requirements would ensure that impacts related to hazardous materials from spills would be reduced through the Construction General Permit BMPs, including use of straw wattles and other features. The project would not create a hazard through use or release of hazardous materials during construction; therefore, impacts pertaining to construction of the project would be less than significant.

Operation

Operation of the gas station would include the use, transport, and handling of hazardous materials. Specifically, operation would include the regular transportation of gasoline, refilling USTs, pumping gasoline to fuel dispensers, and use of the fuel dispensers by motorists. The proposed project could result in potentially adverse impacts to people and the environment as a result of hazardous materials being accidentally released into the environment (e.g. operators or motorists could spill gasoline while refueling, USTs or pipes dispensing fuel from USTs could leak, automobiles could crash into fuel dispensers, or motorists could refuel while having engine running causing a fire hazard).

However, the proposed project would be required to operate in compliance with all applicable federal, state, and local requirements which lessen the potential for these impacts. Some of these regulations include:

- SWRCB Health and Safety Code, Section 25284.1, requires USTs installed after 1988 to have a leak detection system consisting of at least one of the following detection methods: secondary containment with interstitial monitoring, automatic tank gauging systems (including continuous automatic tank gauging systems), vapor monitoring (including tracer compound analysis), groundwater monitoring, statistical inventory reconciliation, or other method meeting established performance standards.
- Efficacy requirements established by USEPA require that leak detection methods be able to detect certain leak rates and that they also give the correct answer consistently. In general, methods must detect the specified leak rate with a probability of detection of at least 95 percent and a probability of false alarm of no more than 5 percent. USEPA found that, with effective leak detection, operators can respond quickly to signs of leaks and minimize the extent of environmental damage and the threat to human health and safety.
- USTs and associated fuel delivery infrastructure (i.e., fuel dispensers) would be required to comply with applicable federal, state, and local regulations, including those provisions established by Section 2540.7, Motor Fuel Dispensing Facilities and Service Stations, of the California Occupational Safety and Health Administration Regulations; Section 3803.7, Liquefied Petroleum Gases, of the California Fire Code; and the Resource Conservation and Recovery Act.
- The proposed project would also be required to incorporate high-efficiency Phase I and Phase II enhanced vapor recovery (EVR) systems to capture and control gasoline fumes. EVR refers to a new generation of equipment to control emissions at gasoline dispensing facilities in California. EVR systems collect gasoline vapors that would otherwise escape into the atmosphere during bulk fuel delivery (Phase I) or fuel storage and vehicle refueling (Phase II). Since 2009, the installation of Phase I and Phase II EVR systems has been required for gasoline dispensing facilities.
- The fuel dispensers, USTs, and associated fuel delivery infrastructure would be subject to routine inspection by federal, state, and local regulatory agencies with jurisdiction over service station facilities.
- The handling, transport, use, and disposal of hazardous materials must comply with applicable federal, state, and local agencies and regulations.

In addition, the project, as presented in Costco's Fueling Facility Program (Appendix B) includes environmental safeguards/design features including:

- Employees would be trained to identify maintenance requirements and physically inspect the fuel islands regularly during operating hours. Their training would include the proper spill cleanup and emergency response procedures. Trained employees check for leaking hoses, malfunctioning nozzles, fuel spills, and physical damage to the dispensers and controller enclosure. During non-operating hours, the power to the dispensers is turned off and each nozzle pad is locked. Should the system require attention beyond what the trained site person could handle, the local authorized and certified service contractor would be contacted and dispatched to repair the equipment.
- Emergency shutoff switches would be installed next to the controller enclosure and in locations near the dispensers, as dictated by the fire code. In addition, the facility would be equipped with a “911” telephone that automatically contacts emergency dispatch in addition to a regular telephone line and roam phones.
- The tank and piping monitoring system would be programmed to activate visual/audible alarms in the event of an alarm condition. A visual/audible alarm would be located on the outside of the controller enclosure and a visual/audible alarm would be located in the Costco Warehouse entry/exit area. Further, the monitoring system would be designed so that if power is lost to the monitoring console the facility is shut down and will not operate.
- Certification of the tank and piping system to meet the Federal UST leak detection standards of 95 percent probability of detection and five percent probability of false alarm. Certification of the system by SWRCB under LG-113.
- Utilize durable joint sealers to seal concrete control joints. Prevention Technologies, Inc (PTi) sealer is a petroleum-resistant sealant developed by PTi. The sealer is used to prevent petroleum products from entering the underlying soil at the concrete joints. The elasticity allows the product to maintain a tight seal even with concrete expansion.
- The underground tank and piping control units would be housed inside the controller enclosure. The enclosure would contain the power console, the dispenser interface unit, the submersible pump variable speed controllers, and the monitoring system console. An air conditioner mounted on the side of the enclosure would have a preset thermostat to maintain a safe operating temperature.
- The USTs and all containment sumps, including the dispenser sumps would be constructed with double-walled fiberglass. Fiberglass is used for its corrosion resistance and plasticity. The double-walled storage tank system includes a hydrostatic interstitial space sensor that monitors the primary and secondary tank walls. If a tank wall is compromised, the interstitial sensor would immediately shut down the product delivery system and activate a visual/audible alarm.
- The tanks would be secured in place with anchoring straps (tie-downs) connected to concrete hold down deadmen. The entire tank excavation hole would be backfilled with pea gravel and capped with an 8-inch-thick reinforced concrete slab (overburden). The tie-downs, together with the overburden, overcome any possible buoyancy factors and resist buckling under hydrostatic pressures.
- All product, vapor, and vent piping would be non-corrosive and provide three levels of protection. First, all product piping would be monitored with pressure line leak detection. Second, all piping would be double walled to provide secondary containment. Third, all fiberglass piping would be additionally monitored under vacuum per California AB 2481 regulations such that if a breach is detected in the vacuum, the product delivery system shut down and sound an audible alarm.

- All piping connections to the tanks and dispensers would be flexible. Flexible connectors are used to prevent rupture from any form of ground movement.
- All piping would slope to the sumps at the USTs. If a piping leak occurs, the gasoline would flow through the secondary pipe to the sump, where a sensor would be triggered to immediately shut down the system and activate an audible/visual alarm.
- All tanks and dispensers would be equipped with the latest Phase I and Phase II EVR air pollution control equipment technology per CARB regulations and associated Executive Orders. Phase I EVR equipment controls the vapors in the return path from the tanks back to the tanker truck during offloading filling operations. Stage I EVR systems are 98 percent effective in controlling fugitive emissions from escaping into the environment. Phase II EVR equipment controls the vapors in the return path from the vehicles back to the tanks and are 95 percent effective in controlling fugitive emissions from escaping into the environment.
- The UST monitoring system would incorporate automatic shutoffs. If gasoline is detected in the sump at the fuel dispenser, the dispenser would shut down automatically and an alarm sounded. If a problem is detected with a tank, the tank would be automatically shut down and an alarm sounded. If the product piping system detects a failure of the 0.1 gallons per hour test, the line would be automatically shut down and the alarm sounded. Pursuant to federal requirements, monitoring equipment must be able to detect a minimum leak of 3 gallons per hour (equivalent to the accuracy of a mechanical leak detector). Proposed monitoring equipment would detect leaks at 0.1 gallons per hour.
- Each fuel dispenser would include several safety devices. Specifically, each dispenser sump would be equipped with an automatic shutoff valve to protect against vehicle impact. In addition, each fuel hose would include a poppeted breakaway device that will stop the flow of fuel at both ends of the hose in the event of an accidental drive-off. Also, each dispenser would be equipped with internal fire extinguishers. Lastly, all dispensers would include leak detection sensors connected to the alarm console inside the controller enclosure.

Implementation of the protections and regulations in conjunction with design features would maximize the proactive measures taken to minimize the need for reactive measures should an accident or hazard occur during operation of the proposed project. Best management practices are evaluated and align with permit requirements for travel, storage, use, and disposal of hazardous materials. Operational accidents were also considered and preventative measures are incorporated into the design guidelines to minimize public exposure. Therefore, public exposure to hazardous materials through routine use or accidents during construction and operation would result in a less than significant impact.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Impact HAZ-2 THE PROJECT WOULD NOT EMIT HAZARDOUS EMISSIONS OR HANDLE HAZARDOUS OR ACUTELY HAZARDOUS MATERIALS, SUBSTANCES, OR WASTE WITHIN 0.25 MILE OF AN EXISTING OR PROPOSED SCHOOL. THERE WOULD BE NO IMPACT.

The nearest public school is Lynnwood Elementary School, 2,800 feet west of the project site. The nearest private school is Good Shepherd Lutheran School, 2,400 feet southwest of the project site. There are no schools nor proposed schools within 0.25 mile of a hazardous materials site. Therefore, there would be no impact.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

There would be no impact.

Threshold 4: Would the project be located on a site that is included on a list of hazardous material 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?

Impact HAZ-3 ALTHOUGH THE PROJECT IS LOCATED ON A SITE THAT IS INCLUDED ON A LIST OF HAZARDOUS MATERIAL SITES COMPILED PURSUANT TO GOVERNMENT CODE SECTION 65962.5, THERE ARE NO KNOWN HAZARDOUS MATERIALS ISSUES ASSOCIATED WITH HISTORICAL USES OF THE PROJECT SITE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Pursuant to Government Code 65962.5, the following databases were reviewed to identify if the project site is a listed hazardous materials site:

- DTSC EnviroStor (DTSC 2023a) pursuant to Section 65962.5(a)(4);
- SWRCB GeoTracker (SWRCB 2023a) pursuant to Section 65962.5(c)(1);
- List of solid waste disposal sites (SWRCB 2023b) pursuant to Section 65962.5(c)(2); and
- List of “active” CDO and CAO (SWRCB 2023c) pursuant to Section 65962.5(c)(3).

The project site is listed on a Section 65962.5 hazardous materials lists as Costco Wholesale #141, Novato (ID: 71003434) and is designated as “No Further Action as of 6/19/2024” in the EnviroStor database. The site type is listed as “tiered permit,” with three documents located on the DTSC EnviroStor website¹ that indicate the following:

- A photofinishing lab was permitted for a silver recovery system onsite in 1996 (DTSC 1996a),
- A ‘Tiered Permitting Phase I Environmental Assessment Checklist’ indicating no further investigation was necessary was completed in December 1996 (DTSC 1996b), and
- Costco replaced their silver recovery system with a metallic replacement cartridge system in May 1997 (Costco 1997).

¹ These three documents were added to the EnviroStor website following several phone calls to DTSC staff requesting additional documentation regarding the inactive tiered permit listing (Yuen 2024).

Therefore, although the project site is listed on the DTSC EnviroStor database, there is no documentation of known hazardous materials release issues associated with the site resulting from historical uses of the project site. Per discussion with a DTSC representative, DTSC will be reviewing this inactive permit for closure (Yuen 2024). The site status was updated on June 19, 2024, to specify that no further action is needed (DTSC 2024).

Costco Wholesale is also listed as a large-quantity hazardous waste generator (1,000 kilograms or more of hazardous waste produced per month) on DTSC's Hazardous Waste Tracking System (HWTS) database (City of Novato 2014). In 2018, Costco generated 2.3 tons of hazardous waste (DTSC 2023b). As a large-quantity generator of hazardous waste, Costco is required to comply with hazardous waste management requirements in 40 CFR 262.17(a)(1-4), 40 CFR 265(W), and 40 CFR 265 (DD); hazardous waste manifest requirements in 40 CFR 262 (B) and 40 CFR (262.30-33); and hazardous waste emergency procedure requirements in 40 CFR 262(M) and 40 CFR 268. The database listing associated with the HWTS permit does not indicate a known or suspected release of hazardous substances (DTSC 2023b).

The site (300 Vintage Way – Marin County Flood Control) is also listed by HWTS as an area where illegal dumping occurred in July 2019; however, the record has been inactive as of October 2019, three months after the action was reported (DTSC 2020). The illegally dumped materials were removed and transported to an appropriate disposal facility in August 2019 thereby resolving the matter (DTSC 2019).

A search of the SWRCB GeoTracker and DTSC EnviroStor databases was performed on September 11, 2023, and revealed that no other hazardous materials sites are within 1,000 feet of the project sites (SWRCB 2023a; DTSC 2023a). Hazardous impacts pursuant to Government Code Section 65962.5 would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Impact HAZ-4 THE PROJECT WOULD NOT RESULT IN A SAFETY HAZARD OR EXCESSIVE NOISE FOR PEOPLE RESIDING OR WORKING IN THE PROJECT AREA. THERE WOULD BE NO IMPACT.

Gross Field, the nearest airport, is located approximately 3.2 miles north of the project site. The project site is not within the Gross Field area of influence identified in the airport land use plan (County of Marin 1991). Therefore, the project would not expose people residing or working in the project area to airport-related safety hazards or excessive noise. There would be no impact.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

There would be no impact.

Threshold 6: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact HAZ-5 THE PROJECT WOULD NOT IMPAIR IMPLEMENTATION OF OR PHYSICALLY INTERFERE WITH AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Novato is a participant in the MCM LHMP (2018). The project would not interfere with this adopted emergency response plan or the City's emergency evacuation plan since the project site and surrounding roads (including Rowland Boulevard and Vintage Way) is not an element of any emergency plan or any evacuation route. The fuel center would be completely located on private property and would not impair movement on Vintage Way or Rowland Boulevard. No roads in the vicinity of the project site would be closed as a result of the project. All construction would occur on site with the exception of re-striping of Vintage Way to add a left turn lane into the fuel center. Restriping of Vintage Way would require temporary traffic controls on Vintage Way and would not be anticipated to interfere with any emergency response. Impacts related to emergency response plans would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 7: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Impact HAZ-6 THE PROJECT WOULD NOT EXPOSE PEOPLE OR STRUCTURES, EITHER DIRECTLY OR INDIRECTLY, TO A SIGNIFICANT RISK OF LOSS, INJURY, OR DEATH INVOLVING WILDLAND FIRES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The project would not expose people or structures to a significant risk involving wildland fires. The project site is adjacent to existing urban development and is classified as a Local Responsibility Area, where responsibility for fire protection falls on the Novato Fire Protection District, rather than the state or federal government. The project site does not fall within a very high fire hazard severity zone. The nearest very high fire hazard severity zone is located approximately 1.4 miles southwest of the site (CAL FIRE 2023). The project site is not located in the wildland-urban interface, an area subject to high fire hazard, as mapped by the Novato Fire Protection District (Novato Fire Protection District 2020). Furthermore, the proposed project would comply with the applicable fire safety provisions of the California Building Code, thereby reducing the risk of damage from fire to the maximum extent practicable. Impacts pertaining wildland fires would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

4.6.4 Cumulative Impacts

The geographic scope for cumulative hazardous materials impacts is limited to projects within 0.25 mile of the project site. This geographic scope is appropriate because risks associated with hazards and hazardous materials occur largely in a site-specific and localized context as adverse impacts from a hazardous materials release or spill diminish in magnitude with distance. Cumulative buildout in this region, including projects listed in Table 3-1, would have the potential to adversely impact hazards and hazardous materials.

Cumulative development in the city would gradually increase population and therefore gradually increase the number of people exposed to the use and transport of hazardous materials; the routine use, storage, and disposal of hazardous materials; and existing contamination from listed hazardous materials sites. The magnitude of hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Compliance with existing laws and regulations, including any potential remedial action on contaminated sites and emergency response and evacuation plans would avoid potential hazard impacts, resulting in a less than significant cumulative impact. As discussed under Impacts HAZ-1 through HAZ-5, the project would result in less than significant impacts, and would therefore not make a cumulatively considerable contribution to any significant cumulative impact related to hazards and hazardous materials.

Cumulative wildland fire impacts would be less than significant because the project site and the surrounding flat areas are built-up urban land not located in a Fire Hazard Severity Zone. As discussed under Impact HAZ-6, the project would not increase risk of loss, injury or death due to a wildland fire, and would therefore not make a cumulatively considerable contribution to any significant cumulative wildland fire impacts.

Overall, hazards and hazardous materials impacts associated with individual developments are site-specific in nature and must be addressed on a case-by-case basis. Since hazards and hazardous materials are required to be examined as part of the permit application and review process, potential impacts associated with individual projects would be adequately addressed prior to permit approval. With adherence to existing regulatory standards for hazardous materials, no significant cumulative human health impacts would occur, and the project would not make a cumulatively considerable contribution to any significant cumulative impacts related to hazards and hazardous materials.

4.7 Hydrology and Water Quality

This section evaluates the potential environmental effects related to hydrology and water quality associated with implementation of the proposed project. It discusses the regional and local watershed characteristics, including water quality, drainage and infiltration patterns, and flood hazards. The analysis includes a review of surface water, groundwater, flooding (including inundation related to sea level rise), storm water, and water quality. For an analysis of wetlands and waters of the U.S., please refer to Section 4.2, *Biological Resources*.

4.7.1 Setting

The City of Novato is located in northern Marin County, approximately 30 miles north of downtown San Francisco and approximately one mile north of the City of San Rafael. Novato is in the Coast Ranges geomorphic province. This province is characterized by parallel northwest-trending mountain ranges and valleys, formed over the past 10 million years or less by active uplift related to complex tectonics of the San Andreas fault/plate boundary system (California Geological Survey 2002). Novato generally is bounded by Burdell Mountain to the north, San Pablo Bay to the east, Big Rock Ridge to the south and southwest, and Little Mountain to the west (United States Geologic Survey [USGS] 2023a). Further west, Bolinas Ridge runs southeast to northwest, parallel to the Pacific Ocean (USGS 2023a). Approximately 20 miles northeast of the city, Napa Valley runs southeast to northwest, parallel to Highway 29 (USGS 2023a).

Novato covers about 28 square miles, of which approximately two percent is water. Hills and steeper terrain lie to the north, south, and west of Novato's urban center, which occupies the relatively flat alluvial valley associated with Novato Creek (USGS 2023a). To the east, the land slopes down towards San Pablo Bay (USGS 2023a). The elevation of Novato ranges from sea level to 1,558 feet above sea level at the highest point on Burdell Mountain (City of Novato 2023).

Novato is characterized by a typical Mediterranean climate, generally dry in the summer with mild, wet winters. Average summer temperatures in degrees Fahrenheit are in the 60s and average winter temperatures are in the 50s. The warmest month of the year is August with an average maximum temperature of 81, while the coldest month is January, with an average minimum temperature of 41 (Icside.com 2022). Most rainfall occurs between November and April, with an average annual precipitation is 27.5 inches (City of Novato 2014). The wettest month of the year is January with an average rainfall of 7.38 inches (Icside.com 2022).

a. Surface Water

The California Department of Water Resources (DWR) divides surface watersheds in California into 10 hydrologic regions, which are further divided into Hydrologic Units and even smaller Hydrologic Areas (HA) within each hydrologic unit. Novato lies within the San Francisco Bay Hydrologic Region (HR), which covers approximately 2.88 million acres, or 4,500 square miles, and includes all of San Francisco and portions of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, and Alameda counties. Though it is the smallest HR in terms of size, it contains the second largest population (DWR 2013). The San Francisco Bay Regional Water Quality Control Board (RWQCB) governs basin planning and water quality within the San Francisco Bay HR (DWR 2013). Within the San Francisco Bay HR, Novato is located entirely within the San Pablo Hydrologic Unit (USGS 2023b). Within the San Pablo Hydrologic Unit, the project site is partially located within the Miller Creek-

Frontal San Pablo Bay Estuaries Subwatershed and San Pablo Bay Estuaries Subwatershed (Earthworks 2013).

In addition to the statewide watershed designations, watersheds in Novato are named locally by the Marin County Flood Control and Water Conservation District (MCFCWCD) through the Marin County Watershed Program. Based on those local designations, which generally correspond with major stream channels, the project lies within the Novato Creek Watershed (MCFCWCD 2023). The Novato Creek Watershed is located west of the northern portion of San Pablo Bay and is the largest watershed in eastern Marin County. The basin is 45 square miles and the main drainage in the watershed is Novato Creek, which bisects the city as it flows generally eastward from its headwaters west of Stafford Lake to San Pablo Bay. The Beverly Ehreth Ecological Preserve pond, located south of Vintage Way near the project site, provides habitat for 13 species of birds including the Canada Goose, Mallard, Gadwall, Snowy Egret, and American White Pelican (eBird 2023).

Novato has both undeveloped open space with natural drainage features and urban development with highly altered drainage systems, such as underground stormwater systems. The drainage network of Novato consists of a number of rivers, streams, and other water bodies, including the Novato Creek, Petaluma River, Rush Creek, Stafford Lake, and San Pablo Bay. Novato Creek is the dominant perennial stream in the Novato area. It extends about 17 miles and flows from east to west and bisects the city. The creek and its drainage basin encompass approximately 44 square miles. Several smaller creeks flow into Novato Creek, including Warner Creek, Arroyo Avichi Creek, and Arroyo San Jose Creek. San Pablo Bay, a navigable waterbody that provides access to San Francisco Bay and the Pacific Ocean, is located 8 miles southeast of the project site and borders a portion of the eastern edge of the city. The shoreline extends for approximately seven miles. For a description of jurisdictional features near the project site, including wetlands, see Section 4.2, *Biological Resources*.

b. Groundwater

The Novato Valley Groundwater Basin, which occupies a structural depression in the Coast Ranges immediately west of San Pablo Bay and north of San Rafael, underlies portions of Novato associated with the alluvial valleys of Novato Creek and Rush Creek. The basin has a surface area of approximately 32 square miles (DWR 2004). The Novato Valley Basin is bound by San Antonio Creek and the Petaluma River to the north, by Big Rock Ridge, Little Mountain, and Burdell Mountain to the west, by San Rafael Hill to the south, and by San Pablo Bay to the east. Groundwater in this basin occurs primarily in alluvial deposits composed of unconsolidated clay, silt, and sand with discontinuous lenses of gravel (DWR 2004). The thickness of the alluvial deposits ranges from 60 feet near the city center to more than 200 feet near San Pablo Bay. Streams discharging to San Pablo Bay recharge and drain the basin and are tidally influenced in the lower reaches. Natural recharge occurs primarily as infiltration from streambeds that exit the upland areas within the drainage basin and from direct percolation of precipitation that falls on the basin floor (DWR 2013). The Novato Valley Basin is not used for municipal water supply, and neither the storage capacity nor the current amount of groundwater in storage has been reported for this basin.

c. Water Supply

Novato's potable water supply is provided by the North Marin Water District (NMWD) via the Novato Water System. The Novato water system serves primarily the City of Novato and surrounding areas in Marin encompassing approximately 75 square miles (City of Novato 2014). The NMWD receives most of its water, approximately 80 percent, from Sonoma County Water Agency

(SCWA), which provides water principally from the Russian River to several retail water contractors, primarily in Sonoma County. NMWD does not extract groundwater for municipal water supply. In addition to the water purchased from SCWA, NMWD supplies water to the city from Stafford Lake. Recycled water is an additional source of non-potable water supply for the city.

d. Water Quality

Beneficial Uses and Impairments – Surface Water

Surface water quality in the city is governed by the San Francisco Bay RWQCB, which sets water quality standards in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan identifies surface waterbodies and groundwater basins within the region that have beneficial uses. It also establishes water quality objectives and standards to maintain those beneficial uses, such as maximum contaminant levels (MCL). The Basin Plan identifies beneficial uses for a number of surface waterbodies in Novato, including Arroyo Avichi, Arroyo San Jose, Bahia Lagoon, Bowman Canyon Creek, Novato Creek, Pacheco Pond, Rush Creek, and Warner Creek.

The Clean Water Act (CWA) 303(d) list is a register of impaired and threatened waters which states submit for United States Environmental Protection Agency (USEPA) approval. The list identifies all waters where pollution control measures have so far been unsuccessful in reaching or maintaining water quality standards. Waters that are listed are known as “impaired.” Novato Creek was included on the 303(d) list in 1998 due to the presence of diazinon, a popular insecticide for home gardening, potentially transported to the creek via urban runoff/storm sewers. Diazinon was banned from future sale by the USEPA in 2005 (Cone 2005). Diazinon contamination began being addressed in 2006 via a USEPA approved standard (total maximum daily load [TMDL]) for Diazinon. Novato Creek remains on the current 303(d) List/305(b) Report as an impaired waterbody that is being addressed by a USEPA approved TMDL (State Water Resources Control Board [SWRCB] 2021).

Stormwater and Urban Runoff

Stormwater runoff may play a role in water quality impairments. Runoff that occurs as overland flow across yards, driveways, and public streets is intercepted by the storm water drainage system and conveyed to local drainages before eventually being routed to the Pacific Ocean via San Pablo Bay. This storm water can carry pollutants that enter the local waterways and result in reduced water quality. Common sources of storm water pollution in the City include litter, trash, pet waste, paint residue, organic material (yard waste), fertilizers, pesticides and herbicides, sediments, construction debris, metals from automobile brake pad dust, air pollutants that settle on the ground or attach to rainwater, cooking grease, illegally dumped motor oil, and other harmful fluids.

Drinking Water Quality

As described under Section 4.7.1, *c. Water Supply*, Novato sources its potable drinking water primarily from Russian River water through an agreement with SCWA. Additional local sources of water supply include Stafford Lake and recycled water. The quality of the NMWD’s water deliveries is regulated by the SWRCB Division of Drinking Water, which requires regular collection and testing of water samples to ensure that the quality meets regulatory standards and does not exceed MCLs. Both NMWD and SCWA perform water quality testing, which has consistently yielded results within acceptable regulatory limits. The NMWD's Water Quality Division monitors water quality and provides supervision for water quality related issues. Surface water supply quality is expected to be adequate with no water quality deficiencies over the next 25 years. As described under Section

4.7.1, c. *Water Supply*, NMWD does not pump groundwater within the Novato Valley Groundwater Basin. The groundwater quality is considered poor due to high salinity, and well yields are too low for municipal supply (NMWD 2022).

e. Flood Hazards

Flood hazards can occur when the amount of rainfall exceeds the infiltration capacity of the surrounding landscape or the conveyance capacity of the storm water drainage system. Flood risk is defined as an annual percent chance of flooding, or the probability that flooding would occur in any given year. Although a 100-year flood will, on average, occur once every 100 years, the probability of a 100-year flood is one percent for any particular year. Two 100-year floods could occur in the same year or even in the same month, but the likelihood that two 100-year flood events would occur consecutively is very small.

Areas that are subject to flood risk are identified by the Federal Emergency Management Agency (FEMA) on the National Flood Hazard Layer. Winter storms can generate heavy wave action along the bay coastal areas of Novato, which either by itself or when combined with high tides and/or high winds, can initiate flooding along the ocean and by coastlines of Novato (MCFCWCD 2023). A portion of the project site is located in Flood Zone X (0.2 percent annual chance flood hazard) (FEMA 2023).

Novato has a history of flooding. Winter storms in 2016-2017 closed Highway 37 for 27 days and flooded neighborhood streets. The City now faces new threats of sea level rise and climate change (MCFCWCD 2023). As shown in the City of Novato's *General Plan 2035 Policy White Paper, Sea Level Rise and Adaptation* (City of Novato 2015), a rise in sea level of two feet (anticipated to occur by 2050 in worst-case prediction models, per Table 1 of the City's White Paper), would not inundate the project site. Similarly, the combination of a 20-inch rise in sea level with a 20-year storm event would not inundate the project site. For informational purposes, the National Oceanic and Atmospheric Administration Sea Level Rise Viewer indicates that the project site would not be inundated with four feet of sea level rise but would be inundated with five feet of sea level rise. A five-foot rise in sea level could occur by 2100 in worst-case prediction models, per Table 1 of the City's White Paper (City of Novato 2015). In the case of a tsunami, the project site is located 1.2 mile from the nearest tsunami zone (DOC 2009).

Dam Inundation

Novato is subject to potential flooding resulting from the structural failure of the Novato Creek Dam (also known as the Stafford Dam) at Stafford Lake. According to DWR, the dam is certified and may safely impound water. It is also in satisfactory condition, with no existing or potential dam safety deficiencies. The Stafford Dam is designed to withstand an earthquake of a magnitude up to 8.25 on the San Andreas Fault. Major flooding could occur in the event of a dam failure. The dam failure evacuation area extends approximately 4.5 miles, passing through downtown Novato and ending at Highway 37. The flood waters would reach the project site approximately 5 to 10 hours after dam failure (Michael Baker International 2020).

4.7.2 Regulatory Setting

a. Federal

Clean Water Act

The CWA, enacted by Congress in 1972 and amended several times since, is the primary federal law regulating water quality in the United States. The CWA established the basic structure for regulating discharges of pollutants into the waters of the United States. The CWA gave the USEPA authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various contaminants in surface water, and imposing requirements for controlling nonpoint-source pollution. At the federal level, the Clean Water Act is administered by the USEPA and the United States Army Corps of Engineers. At the State and regional levels in California, the act is administered and enforced by the SWRCB and the nine RWQCBs. The San Francisco Bay RWQCB is the CWA enforcement agency Marin County.

Clean Water Act Section 303(d)

Under Section 303(d) of the CWA, States are required to develop and update a list of water bodies under their jurisdiction which fail to meet water quality standards even after point sources of pollution have utilized the minimum levels of pollution control. These are referred to as '303(d) impaired' bodies. Jurisdictions must establish priority rankings for 303(d) impaired water bodies and develop action plans to improve water quality to minimum standards. The plans include the setting of TMDL for the pollutants which are impairing the water bodies; these limits are stricter than the normal minimum standards in order to bring the impaired bodies into compliance over time.

Clean Water Act Section 401

Section 401 of the CWA requires that any activity that would result in a discharge into waters of the U.S. be certified by the RWQCB. This certification ensures that the proposed activity does not violate State and/or federal water quality standards. Discharges to waters of the U.S. must be avoided where possible, and minimized and mitigated where avoidance is not possible. Section 303(d) of the CWA requires states to establish TMDL programs for streams, lakes and coastal waters that do not meet certain water quality standards.

Clean Water Act Section 402

As part of Section 402 of the CWA, the USEPA has established regulations under the NPDES program to control both construction and operation (occupancy) stormwater discharges. Individual projects in the City that would disturb at least one acre of land must provide stormwater treatment during construction and would be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction Stormwater General Permit Order 2022-0057 DWQ). The Stormwater Pollution Prevention Plan (SWPPP) must contain stormwater and erosion control Best Management Practices (BMP), a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

The proposed project would be subject to the SWRCB Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004, Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems, and the provisions set forth in Section E.12, *Post Construction Stormwater Management Program*. Provision E.12 of the NPDES Municipal Separate Storm Sewer Systems permit addresses post-construction stormwater requirements for new development and redevelopment projects that add and/or replace 5,000 square feet or more of impervious area, including 1) incorporate site design, source control, and stormwater treatment measures into the project design; 2) minimize the discharge of pollutants in stormwater runoff and non-stormwater discharge; and 3) minimize increases in runoff flows as compared to pre-development conditions. In addition, Low Impact Development requirements apply. Projects that create and/or replace between 2,500 and 5,000 square feet of impervious surface must implement site design measures, including stream setbacks and buffers, soil quality improvement and maintenance, tree planting and preservation, rooftop and impervious area disconnection, porous pavement, green roofs, vegetated swales, and rain barrels and cisterns (SWRCB 2013).

National Toxics Rule and California Toxics Rule

In 1992, USEPA promulgated the National Toxics Rule, 40 CFR 131, establishing numeric criteria for priority toxic pollutants in multiple states in order to bring all states into compliance with the Water Quality Standards requirements of section 303(c) of the CWA. The National Toxics Rule established Water Quality Standards for 42 pollutants not covered under California's Statewide water quality regulations at that time. After the court ordered revocation of California's Statewide Basin Plans in September 1994, USEPA initiated efforts to promulgate additional federal Water Quality Standards for California. In May 2000, USEPA issued the California Toxics Rule, which includes all the priority pollutants for which the USEPA has issued numeric criteria not included in the National Toxics Rule. The USEPA is in the process of rulemaking for setting a standard for selenium in the San Francisco Bay under the California Toxics Rule (USEPA 2023).

Safe Drinking Water Act

The Federal Safe Drinking Water Act was enacted in 1974, allowing the USEPA to promulgate national primary drinking water standards specifying MCLs for each contaminant present in a public water system with an adverse effect on human health. Primary MCLs have been established for approximately 90 contaminants in drinking water. The USEPA has also adopted secondary MCLs as non-enforceable guidelines for contaminants that may cause cosmetic or aesthetic effects. States have the discretion to adopt them as enforceable standards. USEPA has delegated to the SWRCB the responsibility for administering California's drinking-water program. In 1976, California adopted its own safe drinking water act (see *California Safe Drinking Water Act* subsection below).

National Flood Insurance Act/Flood Disaster Protection Act

The National Flood Insurance Act of 1968 made flood insurance available for the first time. The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for the protection of property located in Special Flood Hazard Areas. These laws are relevant because they led to mapping of regulatory floodplains and to local management of floodplain areas according to guidelines that include prohibiting or restricting development in flood hazard zones. Over 5,000 acres within Novato are designated as being in a Special Flood Hazard Area.

The project site is located in MCFCWCD-designated Flood Control Zone 1, which is the largest zone by area in Marin that covers over 45 square miles (MCFCWCD 2023). Zone 1 was established to

address flooding issues in downtown Novato and surrounding areas, and its boundaries roughly match the Novato Creek Watershed. The Zone 1 work program includes regular servicing of District-owned facilities including four pump stations along Novato Creek and nine miles of flood protection levees on Novato Creek. The work program also includes select tide gates, trash racks, and vegetation management on tributaries to Novato Creek and Rush Creek (MCFCWCD 2023).

Federal Emergency Management Agency

FEMA administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event.

b. State

Porter Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act of 1967 requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for State waters within the city are contained in the Water Quality Control Plan for the San Francisco Bay Basin (SWRCB 2013). The Water Quality Control Plan, or Basin Plan, protects designated beneficial uses of State waters through the issuance of Waste Discharge Requirements and through the development of TMDLs. Anyone proposing to discharge waste that could affect the quality of the waters of the State must make a report of the waste discharge to the RWQCB or SWRCB as appropriate, in compliance with the Porter-Cologne Act.

California Safe Drinking Water Act

The USEPA has delegated to the California Department of Public Health responsibility for administering California's drinking-water program. In 1976, two years after the Federal Safe Drinking Water Act was passed, California adopted its own safe drinking water act (contained in the Health and Safety Code) and adopted implementing regulations (contained in 22 California Code of Regulations). California's program sets drinking water standards that are at least as stringent as the Federal standards. Each community water system also must monitor for a specified list of contaminants, and the monitoring results must be reported to the State. The Division of Drinking Water is responsible for the State's Drinking Water Program.

Sustainable Groundwater Management Act

In September 2014, Governor Brown signed legislation requiring that California's critical groundwater resources be sustainably managed by local agencies. The Sustainable Groundwater Management Act gives local agencies the power to sustainably manage groundwater, provides for the creation of regional Groundwater Sustainability Agencies and requires Groundwater Sustainability Plans to be developed for medium- and high-priority groundwater basins. The Novato Valley Groundwater Basin has been designated a Low-Priority basin by DWR, due to the general lack of utilization for water supplies and is not required to form a Groundwater Sustainability Agency or submit a Groundwater Sustainability Plan (DWR 2019).

California Green Building Standards Code

The California Green Building Standards Code (24 California Code of Regulations, Part 11) includes mandatory measures for residential and nonresidential development. For example, Section 5.106.2 requires newly constructed nonresidential projects and additions of one acre or more to prevent the pollution of stormwater runoff from post-construction through compliance with the NPDES permits which require postconstruction runoff to match the pre-construction runoff with the installation of post-construction stormwater management measures. The NPDES permits emphasize the runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration through nonstructural controls such as Low Impact Development practices and conservation design measures. Section 5.303 sets measures for indoor water use for non-residential development requiring metering devices to conserve water.

Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code Section 10610 et seq.), which requires urban water suppliers to develop Urban Water Management Plans (UWMP) to actively pursue the efficient use of available supplies as well as conduct drought assessments and planning. This Act also requires the provision of water service to be affordable to lower income households (Section 10631.1). Similarly, Government Code Section 65589.7 (SB 1087) requires water service providers to reserve water allocations for low-income housing. Every five years, water suppliers are required to update their UWMPs to identify short-term and long-term water demand management measures to meet growing water demands. The 2020 UWMP for North Marin Water District was adopted in June 2021. The District relies on imported water from the SCWA and recycled water to meet its needs and does anticipate insufficient supply under multi-year drought conditions. The UWMP provides a Water Shortage Contingency Plan and notes the conservative and uncertain elements of key water supply projections (NMWD 2021).

California Construction Stormwater Permit

The California Construction Stormwater Permit (Order 2022-0057 DWQ), adopted by the SWRCB, regulates construction activities that include soil disturbance of at least one acre of total land area. The Construction General Permit authorizes the discharge of stormwater to surface waters from construction activities. It prohibits the discharge of materials other than stormwater, authorized non-stormwater discharges, and all discharges that contain a hazardous substance in excess of reportable quantities established at 40 CFR 117.3 or 40 CFR 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

The Construction General Permit requires that all developers of land where construction activities will occur over more than one acre do the following:

- Complete a Risk Assessment to determine pollution prevention requirements pursuant to the three Risk Levels established in the General Permit
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters
- Develop and implement a SWPPP which specifies BMPs that will reduce pollution in stormwater discharges to the Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology standards
- Perform inspections and maintenance of all BMPs

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment and pollutants from construction materials, and address post construction runoff. The SWPPP also includes a plan for inspection and maintenance of all BMPs, as well as procedures for altering or increasing BMPs based on changing project conditions.

c. Regional

San Francisco Bay RWQCB Water Quality Control Plan

The San Francisco Bay RWQCB 2012 Basin Plan, with amendments adopted in 2014, 2015, 2016, and 2018, describes the legal and technical water quality regulations for the San Francisco Bay Area, which includes rezone sites, including describing the beneficial uses for water bodies in the region, which is a factor in determining the types of regulations that apply to discharges to the bodies. The nearest creek to the project site, Novato Creek, is located 4 miles northwest of the project site. The Novato Creek supports diverse habitats from steep headwaters to salt marshes along the bay. The creek flows through oak and bay forests, grasslands, and baylands.

Marin County Flood Control and Water Conservation District

All of Marin County, including Novato, is under the jurisdiction of MCFCWCD, which is responsible for managing stormwater and flooding problems in the County. MCFCWCD is staffed by the Marin County Department of Public Works and is responsible for administering the Marin County Stormwater Pollution Prevention Program (MCSTOPPP) and FEMA Flood Insurance Programs. The goal of MCSTOPPP is to prevent stormwater pollution, protect and enhance water quality in creeks and wetlands, preserve beneficial uses in waterways and comply with State and federal regulations. MCSTOPPP submitted a county-wide Stormwater Management Plan (SWMP) to the RWQCB and coordinates consistency between individual SWMPs.

MCFCWD identifies eight “zones” within the County to focus on issues in specific watersheds. The City of Novato and a sizeable area of unincorporated Marin County are within MCFCWCD’s Zone 1. The boundary of Zone 1 is formed by the entire watershed tributary to Rush Creek and Novato Creek.

Action Plan 2010 is the five-year SWMP for the member agencies of MCSTOPPP. The County of Marin and each of the cities and towns in the County, including the City of Novato, are member agencies of MCSTOPPP. MCSTOPPP coordinates consistency between individual SMPs. *Action Plan 2010* was submitted to and approved by SWRCB in May 2005.

Marin County Multi-Jurisdictional Local Hazard Mitigation Plan

Marin County (the County) and its partners have developed this Multi-Jurisdictional Local Hazard Mitigation Plan (hereinafter referred to as the MCM LHMP) to assess risks posed by natural hazards and to develop a mitigation strategy for reducing the County’s risks. The MCM LHMP Planning Committee developed a handful of mitigation actions based on the MCM LHMP’s hazard analysis, vulnerability analysis, and capability assessments. The following mitigation actions relevant to hydrology and water quality and the proposed project are as follows:

- **FLD-2:** Incorporate flood planning into local permitting and planning.
- **FLD-11:** Encourage integration of SLR and climate change into planning documents, systems, operations, and maintenance.

- **MLT-4:** Develop/enforce regulations requiring replacement of aboveground utilities with underground utilities. Require underground utilities be effectively sealed to prevent backflow of floodwaters into buildings.
- **MLT-19:** Prevent infrastructure expansion in high-risk areas.

d. Local

Storm Drainage Master Plan

To accommodate 25-year flood flows, the City has implemented a Local Drainage Master Plan for improving storm drains. A detention pond has been constructed at Deer Island (located on the northern portion of Deer Creek in eastern Novato), and improvements have also been made to the channels of Novato Creek, Warner Creek, and Arroyo Avichi Creek (City of Novato 2014). In July of 2014 the City began developing a City-wide Storm Drain Master Plan. The work included an inventory and mapping of existing stormwater infrastructure as well as the creation of a computer model. The final product includes a detailed report that will guide the City in planning, financing, improving, and maintaining the current stormwater infrastructure (City of Novato 2014).

City of Novato General Plan

The City of Novato General Plan provides the following goals, policies, and programs regarding water quality (City of Novato 2020):

Goal CC 2: Promote high-quality and sustainable development.

- **CC 4: Environmental Constraints.** Assess environmental constraints when considering development of lands with high environmental value (e.g., wetlands or scenic ridgelines) or significant hazards (e.g., soil stability, fire or flood hazards).

Goal ES 1: Preserve, enhance and restore natural areas and features, including Novato's scenic hillsides, water- ways, riparian corridors, wetlands, baylands, and special status species.

- **ES 2: Watershed Management.** Minimize the effects of pollution in stormwater runoff in Novato and its effective watersheds. Retain and restore where feasible the natural hydrological characteristics of watersheds in Novato, including daylighting of drainages that were previously buried.
 - *ES 2a: NPDES Compliance.* Ensure that new development complies with the requirements of the National Pollutant Discharge Elimination System (NPDES) and the applicable Urban Runoff Pollution Prevention Ordinance.
 - *ES 2b: Maintenance.* Prioritize storm drain maintenance and street sweeping programs to reduce urban runoff pollutants.
- **ES 10: Water Quality.** Protect water resources from pollution and sedimentation, and preserve their environmental and recreation values.

In addition, Chapter 6, *A City that Works*, provides the following policies regarding flood and other hydrology hazards (City of Novato 2020):

Goal SH 1: Maintain high levels of public safety and emergency preparation.

- **Policy SH 2: Flood Hazards.** Reduce the risk of loss of life, personal injury and property damage resulting from flooding by properly maintaining storm drainage systems, natural flood control channels and waterways and regulating runoff from new construction and development projects. Encourage flood control measures that retain the natural features and conditions of watercourses to the maximum feasible extent.
 - *SH 2a: New Development.* Condition new development to maintain post development peak runoff rate and average volume similar to the predevelopment condition to the maximum extent practicable. Require runoff rate/volume analysis of projects where deemed necessary by City staff. Require new development to cover the costs of drainage facilities needed for surface runoff.
 - *SH 2b: Development within 100-year Flood Zone.* Require all development in the 100 year flood zone to comply with the floodplain regulations in the Novato Municipal Code.
 - *SH 2e: Rising Sea Level.*
 1. Consider the potential for sea level rise when processing development applications that might be affected by such a rise. Use current Flood Insurance Rate Maps and National Oceanic and Atmospheric Administration recommendations associated with base flood elevation adjustments for sea level rise in the review of development proposals. Adopt requirements to assess sea level rise risks on new development and infrastructure.
 - *SH 2g: Erosion Control.* Enforce measures to minimize soil erosion and volume and velocity of surface runoff both during and after construction through implementation of the Grading Ordinance.
 - *SH 2f: Storm Drainage System:* Maintain unobstructed water flow in the storm drainage system to the maximum extent feasible. Continue to carry out annual inspection and maintenance of drainage systems, including siltation and detention facilities.

Novato Municipal Code

The Novato Municipal Code (NMC) includes various provisions related to hydrology and water quality, including the following Sections.

- **NMC Section 5-15, Drainage,** establishes standards for drainage to ensure that underground and surface waters are conducted through and away from developments and does not damage existing development, and to correct or improve existing underground or surface water problems within a project site and within affected surrounding area. This section of the Municipal Code requires that existing drainage patterns be maintained or improved and that stormwater is prevented from intruding in new structures.
- **NMC Section 7-4, Urban Runoff Pollution Prevention,** requires minimizing discharges other than storm runoff to storm drains or watercourses, responding to the discharge of spills, preventing and controlling the discharge of spills or disposal of materials to storm drains or watercourses, reducing pollutants in stormwater discharges, requiring developers to install and maintain appropriate best management practices (BMPs), and requiring development projects to maintain or reduce the volume, velocity, peak flow rate, and duration of runoff as compared to pre-development stormwater runoff and to prevent stormwater pollution through stormwater management controls. This section of the Municipal Code requires an erosion and sediment control plan (ESCP) for any project subject to a grading permit. The City may also

require as a condition of project approval a stormwater control plan that details the implementation and maintenance requirements for post-construction permanent stormwater control measures. A Stormwater Control Plan has been prepared for the proposed project and has been included as Appendix K.

- **NMC Section 7-5, Regulatory Fee for Clean Stormwater Activities**, establishes a funding source to provide enforcement of the city's Urban Water Runoff Prevention Ordinance, to provide maintenance and repair of the city's stormwater drainage facilities, to provide capital improvements to the city's stormwater drainage system, and to provide other clean stormwater activities.

4.7.3 Impact Analysis

a. Methodology

This section describes the potential environmental impacts of the proposed project relevant to hydrology and water quality. The impact analysis is based on an assessment of baseline conditions for the project site, including climate, topography, watersheds and surface waters, groundwater, and floodplains, as described above under Section 4.7.1, *Setting*. This analysis identifies potential impacts based on the predicated interaction between the affected environment and construction, operation, and maintenance activities related to the development that would occur under the proposed project and recommends mitigation measures, when necessary, to avoid or minimize impacts.

b. Significance Thresholds

The following thresholds of significance are based on *CEQA Guidelines* Appendix G. For the purposes of this EIR, implementation of the proposed project may have a significant adverse impact if it would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would:
 - a. Result in substantial erosion or siltation on- or off-site,
 - b. Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site,
 - c. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or
 - d. Impede or redirect flood flows;
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; and/or
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

c. Project Impacts and Mitigation Measures

Threshold 1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Impact HYD-1 THE PROJECT WOULD NOT VIOLATE ANY WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS OR OTHERWISE SUBSTANTIALLY DEGRADE SURFACE OR GROUND WATER QUALITY. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Temporary site preparation, grading, and paving activities associated with construction of the project could result in limited soil erosion that may degrade water quality. However, such construction activities would be required to comply with the requirements of NMC Chapter 7-4 (the City's Urban Runoff Pollution Prevention Ordinance) and NPDES permit requirements. NMC Chapter 7-4 is enforced by City officials to ensure compliance with the City's requirements and ensure no discharge of non-stormwater to the City's storm drain system. This chapter includes various recommended BMPs for construction activities and allows the requirement of a condition of approval to ensure permanent structural controls to remove sediment and other pollutants from stormwater runoff.

An erosion and sediment control plan is required for projects subject to grading, building, or other City permits. Compliance with the NPDES Construction Stormwater General Permit also includes implementation of construction BMPs, such as erosion and sediment control measures. With federal requirements compliance and adherence to BMPs, as well as erosion and sediment control plan requirements, water quality standards or waste discharge requirements related to construction impacts would be less than significant.

Operation

Operation of the fuel center would be subject to the City's Urban Runoff Pollution Prevention Ordinance. Specifically, proposed operational activities would be required to comply with NMC Section 7-4.10(b), which requires frequent cleaning of gas station structures to prevent discharge of pollutants into the City storm drain system or watercourse, and NMC Section 7-4.10(c), which requires construction plans to include construction, erosion, and sediment control BMPs. In addition, the City adheres to the MCSTOPPP to minimize the negative impacts of stormwater runoff. The project's storm drainage system will be designed in accordance with the State of California's BMPs for water quality treatment standards and stormwater will be isolated and directed to a catch basin processed through an oil/water separator prior to discharge to the downstream system (Appendix K). Additionally, the project, as presented in Costco's Fueling Facility Program (Appendix B) includes environmental safeguards/design features regarding leak detection:

- Certification of the tank and piping system to meet the Federal UST leak detection standards of 95 percent probability of detection and five percent probability of false alarm. Certification of the system by SWRCB under LG-113.
- Utilize durable joint sealers to seal concrete control joints. Prevention Technologies, Inc (PTi) sealer is a petroleum-resistant sealant developed by PTi. The sealer is used to prevent petroleum products from entering the underlying soil at the concrete joints. The elasticity allows the product to maintain a tight seal even with concrete expansion.

- The underground tank and piping control units would be housed inside the controller enclosure. The enclosure would contain the power console, the dispenser interface unit, the submersible pump variable speed controllers, and the monitoring system console. An air conditioner mounted on the side of the enclosure would have a preset thermostat to maintain a safe operating temperature.
- The USTs and all containment sumps, including the dispenser sumps would be constructed with double-walled fiberglass. Fiberglass is used for its corrosion resistance and plasticity. The double-walled storage tank system includes a hydrostatic interstitial space sensor that monitors the primary and secondary tank walls. If a tank wall is compromised, the interstitial sensor would immediately shut down the product delivery system and activate a visual/audible alarm.
- All piping would slope to the sumps at the USTs. If a piping leak occurs, the gasoline would flow through the secondary pipe to the sump, where a sensor would be triggered to immediately shut down the system and activate an audible/visual alarm.
- The UST monitoring system would incorporate automatic shutoffs. If gasoline is detected in the sump at the fuel dispenser, the dispenser would shut down automatically and an alarm sounded. If a problem is detected with a tank, the tank would be automatically shut down and an alarm sounded. If the product piping system detects a failure of the 0.1 gallons per hour (GPH) test, the line would be automatically shut down and the alarm sounded. Pursuant to federal requirements, monitoring equipment must be able to detect a minimum leak of 3 GPH (equivalent to the accuracy of a mechanical leak detector). Proposed monitoring equipment would detect leaks at 0.1 GPH.

Compliance with City environmental safeguards, BMPs, and strategic project design features would result in less than significant operational impacts to water quality standards and waste discharge requirements.

The project includes the construction of two bioretention areas, sized to retain stormwater runoff from the entire project site. The drainage management area (DMA #8, 10,643 square feet in size; see Appendix K) that collects runoff from the proposed fueling area would drain to the existing sanitary sewer and be treated by an oil/water separator, consistent with Section SC-20 of the California Stormwater Quality Association Stormwater Best Management Practice Handbook. Runoff from one drainage management area (DMA #9, 944 square feet in size) that encompasses the proposed driveway, would remain untreated. Additionally, per the project's Stormwater Control Plan (Appendix K), the project will implement the following permanent and operational source control BMPs:

- All inlets will be marked with "No Dumping! Flows to Local Waterways" or similar.
- Landscaping will minimize irrigation and runoff and be selected for pest resistance, and will minimize the need for fertilizers and pesticides.
- Plants will be selected appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.
- Landscaping will be maintained using minimum or no pesticides.
- Integrated pest management information will be provided to new owners, lessees, and operators.
- Fueling areas will have impermeable floors that are graded at the minimum slope necessary to prevent ponding. This area will be separated from the rest of the site by a grade break that

prevents run-on of stormwater. The fueling area will be covered by a canopy that extends the area within the grade break. The canopy will not drain into the fueling area.

- Maintain and periodically repaint or replace inlet markings.
- Provide stormwater pollution prevention information to new site owners, lessees, or operators.
- Lease agreements will include the following provision: “Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains.”
- Inspect and maintain drains to prevent blockages and overflow.
- The property owner shall dry sweep the fueling area routinely.
- Plazas, sidewalks, and parking lots will be regularly swept to prevent accumulation of litter and debris. Debris from pressure washing will be collected to prevent entry to storm drain system. Washwater containing any cleaning agent or degreaser will be collected and discharged into the sanitary sewer and not into the storm drain.

The project would reduce the total existing impervious surface area from 62,061 square feet to 60,265 square feet (an approximately 1,796 square feet reduction) on the project site. In addition to this decrease in impervious surfaces, the previously mentioned stormwater management features would control and treat stormwater drainage. These proposed features would comply with NMC Sections 7-4.6 and 7-4.10, which require the project to be designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention, and/or rainfall harvest and use. Adherence to these regulations would ensure that pollutants do not affect water quality. Therefore, the proposed project would not violate any water quality standards or waste discharge requirements. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
--

Impact HYD-2 THE PROJECT WOULD NOT SUBSTANTIALLY DECREASE GROUNDWATER SUPPLIES OR INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE SUCH THAT THE PROJECT MAY IMPEDE SUSTAINABLE GROUNDWATER MANAGEMENT OF THE BASIN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The NMWD supplies water to the City of Novato from the Russian River, Stafford Lake and recycled water. The NMWD has no local, developed groundwater supply source (NMWD 2021). The project does not propose the use of groundwater and the NMWD has an existing water supply available to serve the proposed project. Additionally, the project would reduce impervious surfaces by 1,796 square feet and construct bioretention basins, which would allow groundwater recharge. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

<p>Threshold 3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:</p> <ol style="list-style-type: none">Result in substantial erosion or siltation on- or off-site,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 that would result in flooding on- or off-site,Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, orImpede or redirect flood flows?
--

Impact HYD-3 THE PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER OR THROUGH THE ADDITION OF IMPERVIOUS SURFACES, IN A MANNER WHICH WOULD RESULT IN SUBSTANTIAL EROSION OR SILTATION ON- OR OFF-SITE, RESULT IN FLOODING ON- OR OFF-SITE, CREATE OR CONTRIBUTE RUNOFF WATER WHICH WOULD EXCEED THE CAPACITY OF EXISTING OR PLANNED STORMWATER DRAINAGE SYSTEMS OR PROVIDE SUBSTANTIAL ADDITIONAL SOURCES OF POLLUTED RUNOFF, OR IMPEDE OR REDIRECT FLOOD FLOWS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The project would not alter the course of a stream or river as no such water bodies exist on the project site. The project would not substantially alter the drainage pattern of the area, and the project includes bioretention facilities and stormwater treatment on site. The proposed project would include the development of storm drainage systems throughout the project site to connect to the existing storm drain along the east side of the site, adjacent to the Costco warehouse building, and southwest of the site along Vintage Way. The Stormwater Control Plan (Appendix K) provides the square footage of each drainage management area and square footage of bioretention areas provided to capture the runoff. As mentioned in Impact HYD-1 above, the project's storm drainage system will be designed in accordance with California's BMPs pursuant to NMC Section 7-4 for water quality treatment standards and stormwater will be isolated and directed to a catch basin processed through an oil/water separator prior to discharge to the downstream system (Appendix K). In addition to compliance with the NMC Section 7-4, implementation of project design features would capture and treat stormwater runoff, reduce the quantity and level of pollutants in runoff leaving the site, and would ensure project runoff does not exceed the capacity of stormwater drainage systems. The project would not increase the rate or amount of surface runoff in a manner that would result in on- or off-site flooding or exceed the capacity of the stormwater drainage system, nor that would impede or redirect flood flows. This impact would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 4: In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Impact HYD-4 THE PROJECT WOULD NOT RISK RELEASE OF POLLUTANTS DUE TO PROJECT INUNDATION IN FLOOD HAZARD, TSUNAMI, OR SEICHE ZONES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The project site is located approximately 3.6 miles from San Pablo Bay and 5.0 miles from Stafford Lake, the nearest large bodies of water. Although a seiche could form on Stafford Lake during a seismic event, there would be no risk of inundation from seiche at the project site due to the relatively small size of Stafford Lake and distance of 5.0 miles from Stafford Lake to the project site. However, failure of the Stafford Lake Dam could result in inundation of the project site up to approximately 2 feet (City of Novato 2020). As mentioned above under Impact HYD-1, the proposed gasoline USTs and associated infrastructure would be watertight and installed with various leak protection safeguards. Inundation of the project site would not be expected to infiltrate the USTs or associated infrastructure; therefore, the project would not risk release of pollutants as a result of fuel facility site inundation.

Although an earthquake on the Hayward and Rodgers Creek fault complex, which runs under the bay, could create a tsunami, the potential for a tsunami to impact the City of Novato and the project sites are low (City of Novato 2020), and the project site is located 1.2 miles from the nearest tsunami zone (DOC 2009).

The project site is located in Flood Zone X, with the northeastern portion of the site also in the 500-year floodplain and has a low probability of inundation with potential flood depths of less than one foot. As described under Impact HYD-1, the proposed gasoline USTs and associated infrastructure would be watertight and installed with various leak protection safeguards. As a result, flooding of the project site would not be expected to infiltrate the USTs or associated infrastructure; therefore, the project would not be likely to release pollutants as a result of site inundation. Construction of the project would not alter the overall grade or elevation of the existing site, and no change in the floodplain elevation would occur. Additionally, the proposed bioretention areas and on-site stormwater treatment would ensure no off-site pollution occurs during project site inundation.

Similarly, future sea level rise resulting from climate change could result in inundation of the project site. Due to the distant time frame from when sea level rise could affect the project site (2100), along with the safety features built into the proposed design of the USTs, inundation of the project site would not be expected to infiltrate the USTs or associated infrastructure because of its watertight properties and various leak protection safeguards. Additionally, the City's General Plan includes policy language related to city-wide adaptation planning to address future sea level rise, regardless of implementation of the project.

Therefore, impacts resulting in flood hazard, tsunami, or seiche release of pollutants due to project inundation would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 5: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Impact HYD-5 THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF A WATER QUALITY CONTROL PLAN OR SUSTAINABLE GROUNDWATER MANAGEMENT PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The project site is located within the Novato Valley Groundwater Basin, which is a low priority basin according to the DWR Sustainable Groundwater Management Act Basin Prioritization dashboard (DWR 2019). Low priority basins are not required to adopt a groundwater sustainability plan, and no groundwater sustainability plan exists for this groundwater basin. The city is served by NMWD for water supply. As described in Section 7.4.1, *Setting*, NMWD does not supply water from groundwater sources (NMWD 2021). The project would not use groundwater and would not conflict with a sustainable groundwater management plan.

The proposed project would be subject to the San Francisco Bay Basin Water Quality Control Plan (Basin Plan) (SWRCB 2013). The San Francisco Bay RWQCB is responsible for adopting and updating the Basin Plan, which establishes water quality control measures and flow requirements needed to provide reasonable protection of beneficial uses in the watershed. As discussed in Impact HYD-1, the project would be required to comply with NPDES requirements and portions of the NMC relevant to water quality. As discussed under Impact HYD-1, the project includes features that comply with NMC Sections 7-4.6 and 7-4.10, which require the project site to be designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention, and/or rainfall harvest and use, which would decrease the amount of runoff from the site, allowing for more infiltration. Therefore, the project would therefore not conflict with or obstruct implementation of the Basin Plan. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

4.7.4 Cumulative Impacts

The geographic scope for cumulative hydrology and water quality impacts is the watersheds and groundwater basins where the project area is located. The cumulative impacts assessment area includes Novato, Marin County, the greater San Francisco Bay Area, the Miller Creek-Frontal San Pablo Bay Estuaries Subwatershed, and San Pablo Bay Estuaries Subwatershed. This is an appropriate assessment area for hydrology because there are significant bodies of water

surrounding this area where the impact occurs and may influence receiving waters into which they drain.

Cumulative development would generally increase impermeable surface area. Cumulative development could increase peak flood flows, alter drainage patterns, and increase pollutants in the regional stormwater. However, cumulative development would also be required to adhere to all applicable State and local regulations designed to control erosion and protect water quality, including the MCSTOPPP or applicable City municipal code, NPDES Construction Stormwater General Permit, and Basin Plan policies. All construction sites larger than one acre in size would be required to prepare and submit a SWPPP, thereby reducing the risk of water degradation on and off site from soil erosion and other pollutants, and smaller developments would still be required to adhere to any permit requirements imposed by the applicable policies and ordinances. Therefore, cumulative impacts would be less than significant. As discussed above under Impacts HYD-1 and HYD-3, the project would comply with NPDES, and City requirements related to stormwater runoff and water quality and consequently would not contribute to cumulative impacts to peak runoff, flooding, groundwater recharge, or water quality. Therefore, the project would not make a cumulatively considerable contribution to any significant cumulative water quality impacts.

Cumulative development would increase the demand for water delivered by the NMWD. Groundwater is not used as a source of water in Novato. Cumulative projects would continue to rely on imported water and surface water for water supply. Therefore, cumulative development would not result in a significant cumulative impact to groundwater. As discussed under Impact HYD-2 and Impact HYD-5, the project's impacts to groundwater supplies and groundwater management efforts would be less than significant. Therefore, the project would not make a cumulatively considerable contribution to any significant cumulative groundwater impacts.

Cumulative projects would be analyzed and mitigated on a case-by-case basis and would be designed to avoid or mitigate potential impacts related to flooding. Cumulative impacts related to flooding or seiche would therefore be less than significant with applicable mitigation. Projects would be required to adhere to all applicable building and fire codes, zoning requirements, and design standards related to potential flood flows and project inundation, and cumulative impacts would be less than significant. Because flooding is localized and site-specific, and the project area is not at risk of inundation as described under Impact HYD-4, the project would not make a cumulatively considerable contribution to any significant cumulative impact related to flood hazard or inundation risks.

This page intentionally left blank.

4.8 Transportation

This section presents the key assumptions, methods, and results of analysis for the transportation and circulation impacts of the proposed project. This section is based, in part, on the Transportation Impact Analysis prepared by Kittelson & Associates, Inc., in February 2024, which was peer-reviewed by W-Trans in March 2024. The Transportation Impact Analysis and peer review memo are included in Appendix D.

4.8.1 Setting

a. Existing Roadway Network

The following roadways provide local access to the project site and regional access to Novato and Marin County.

- **Highway 101** is a north-south United States highway providing statewide connections. In Marin County, it begins at the north end of the Golden Gate Bridge and traverses communities by the San Francisco Bay such as Mill Valley, Larkspur, San Rafael, and Novato. Near the project site, Highway 101 has four to five lanes and has interchanges at South Novato Boulevard/State Route (SR) 37, Rowland Boulevard, and De Long Avenue.
- **Rowland Boulevard** is a four-lane arterial at the Highway 101 interchange that turns into a major collector east of the interchange and west of Novato Boulevard. Near the project site, Rowland Boulevard provides access to the Vintage Oaks Shopping Center and Highway 101 and has a separated bicycle and pedestrian path.
- **Novato Boulevard** is a four-lane, north-south collector and it intersects Rowland Boulevard west of Redwood Boulevard. Novato Boulevard travels between Highway 101 and SR 37 and continues to Petaluma.
- **Vintage Way** is a two- to four-lane collector that circles around the Vintage Oaks Shopping Center, and it connects to Rowland Boulevard on either end. Vintage Way provides access to the shopping center via seven driveways. Vintage Way has a landscaped median and bike lanes on both sides.
- **Redwood Boulevard** is a four-lane, north-south arterial beginning at Olompali State Historic Park and ending at the Highway 101 and SR 37 interchange. North of Rowland Boulevard, Redwood Boulevard provides access to retail and light industrial uses. To the south, Redwood Boulevard primarily serves residential areas.

b. Existing Transit Facilities

Marin Transit (MT) and Golden Gate Transit (GGT) provide bus service near the project site. The Vintage Oaks Shopping Center has three bus stops served by MT Route 57. Between northbound Highway 101 and the intersection of Rowland Boulevard and Rowland Way, there are two more bus stops served by MT Route 57. Between northbound Highway 101 and the Rowland Boulevard off-ramp, the Novato Park & Ride lot provides commuters with access to GGT Routes 101 and 154. The Highway 101 northbound on-ramp at Rowland Boulevard has a bus stop that is served by MT Route 71. The routes, destinations, and frequency of these MT and GGT routes are summarized below in Table 4.8-1.

Table 4.8-1 Transit Routes Near the Project Site

Route	From/To	Operation Time	Frequency
Marin Transit			
57	Novato (San Marin SMART Station) – San Rafael (Transit Center)	Weekdays 6:30 AM to 9:30 PM Weekends 8:30 AM to 8:30 PM	Every 20-30 minutes, peak Every 60 minutes, off peak
71	Novato (Redwood Boulevard and Olive Avenue) – Marin City Hub	Weekdays 5:30 AM to 11:45 PM Weekends 5:30 AM to 12:45 AM	Every 30 minutes
Golden Gate Transit			
101	Santa Rosa (Piner and Industrial) – San Francisco (Salesforce Transit Center)	4:00 AM to 12:00 AM	Every 20-30 minutes, peak Every 60 minutes, off peak
154	Atherton (Atherton Avenue) – San Francisco (4 th and Folsom)	Weekdays southbound 6:00 AM to 9:00 AM Weekdays northbound 3:30 PM to 7:00 PM	Every 30 minutes

Source: Marin Transit 2023a, 2023b; Golden Gate Transit 2023a, 2023b

c. Existing Pedestrian and Bicycle Facilities

Near the project site, sidewalks are present on the inner loop around the Vintage Oaks Shopping Center on Rowland Boulevard and Vintage Way. Marked crosswalks are present at the intersections of Rowland Boulevard and Rowland Way, Rowland Boulevard and Vintage Way (north), Rowland Boulevard and Vintage Way (south), and at all except one of the driveways from Rowland Boulevard.

Bicycle facilities are categorized into the following four classes, as defined by the California Department of Transportation’s Highway Design Manual:

- **Class I bikeways (bike paths)** are completely separated facilities designed for the exclusive use of bicyclists and pedestrians with minimal roadway crossing points.
- **Class II bikeways (bike lanes)** are restricted right-of-way lanes for the exclusive or semi-exclusive use of bicycles, with through travel of vehicles or pedestrians prohibited.
- **Class III bikeways (bike routes)** provide a right-of-way for bicycles, designated by signs or permanent markings. Bike routes are shared with pedestrians and vehicles.
- **Class IV bikeways (cycle tracks)** are dedicated, separated, and protected on-street lanes for bicyclists. Cycle tracks are typically located along streets with high speeds or high traffic volumes, and provide additional protection for bicyclists using separators such as concrete curbs or safe-hit posts.

The following bicycle facilities are present near the project site:

- Class I bike lane on Rowland Boulevard between Vintage Way (north) and Vintage Way (south)
- Class II bike lane on Rowland Boulevard between Novato Boulevard and Vintage Way (north)
- Class II bike lanes on Redwood Boulevard north of Rowland Boulevard
- Class II bike lane on Novato Boulevard north of Rowland Boulevard
- Class I shared use path on Novato Boulevard south of Rowland Boulevard
- Class III bike route on Redwood Boulevard south of Rowland Boulevard

4.8.2 Regulatory Setting

a. Federal

Americans with Disabilities Act of 1990

The Americans with Disabilities Act (ADA) of 1990 prohibits discrimination toward people with disabilities and guarantees, among other things, that they have equal opportunities as the rest of society to become employed, purchase goods and services, and participate in government programs and services. The ADA includes requirements pertaining to transportation infrastructure. The Department of Justice's revised regulations for Titles II and III of the ADA, known as the 2010 ADA Standards for Accessible Designs, set minimum requirements for newly designed and constructed or altered State and local government facilities, public accommodations, and commercial facilities to be readily accessible to and usable by individuals with disabilities. These standards apply to accessible walking routes, curb ramps, and other facilities.

Federal Highway Administration

The Federal Highway Administration is the agency of the United States Department of Transportation responsible for the federally funded roadway system, including the interstate highway network and portions of the primary State highway network. The Federal Highway Administration funding is provided through the Fixing America's Surface Transportation Act. Federal funds can be used to fund eligible local transportation improvements in such as projects to improve the efficiency of existing roadways, traffic signal coordination, bikeways, pedestrian facilities, and transit system upgrades.

b. State

California Transportation Development Act

The Mills-Alquist-Deddeh Act (Senate Bill [SB] 325) (also known as the Transportation Development Act) was enacted in 1971 to improve public transportation services and encourage regional transportation coordination. This law provides funding to be allocated to transit and non-transit related purposes that comply with regional transportation plans. The Transportation Development Act provides two funding sources: 1) the Local Transportation Fund, which is derived from a 0.25 percent of the general sales tax collected statewide, and 2) the State Transit Assistance fund, which is derived from the statewide sales tax on diesel fuel.

Senate Bill 743

SB 743 was signed into law by Governor Brown in 2013 and tasked the State Office of Planning and Research (OPR) with establishing new criteria and metrics for identifying and mitigating transportation impacts under CEQA. In January 2018, the OPR transmitted its proposed *CEQA Guidelines* implementing SB 743 to the California Natural Resources Agency for adoption, and in January 2019 the Natural Resources Agency finalized updates to the *CEQA Guidelines*, which incorporated SB 743 modifications, and are now in effect. SB 743 changed the way that public agencies evaluate the transportation impacts of a project, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact. In addition to new exemptions for projects consistent with specific plans, the *CEQA Guidelines* replaced congestion-based metrics, such as auto delay and level of service, with vehicle miles traveled (VMT) as the basis

for determining significant impacts, unless the Guidelines provide specific exceptions. VMT is generally defined as the total miles of travel by personal motorized vehicles a project is expected to generate in a day. When assessing a residential project, the project generated home-based VMT is divided by the number of residents expected to occupy the project to determine the VMT per capita. For land use projects, OPR identified VMT per capita, VMT per employee, and net VMT as new metrics for transportation analysis.

CEQA Guidelines Section 15064.3

Originating from SB 743, *CEQA Guidelines* Section 15064.3 establishes VMT as the most appropriate measure of transportation impacts, shifting away from the level of service (LOS) analysis that evaluated a project's impacts on traffic conditions on nearby roadways and intersections. Section 15064.3 does the following:

1. Identifies VMT (amount and distance of automobile traffic attributable to a project) as the most appropriate measure of transportation impacts;
2. Declares that a project's effect on automobile delay shall not constitute a significant environmental impact (except for projects increasing roadway capacity);
3. Creates a rebuttable presumption of no significant transportation impacts for (a) land use projects within 0.5 mile of either an existing major transit stop or a stop along an existing high quality transit corridor, (b) land use projects that reduce VMT below existing conditions, and (c) transportation projects that reduce or have no impact on VMT;
4. Allows a lead agency to qualitatively evaluate VMT if existing models are not available; and
5. Gives lead agencies discretion to select a methodology to evaluate a project's VMT but requires lead agencies to document that methodology in the environmental document prepared for the project.

In December 2018, OPR issued a Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018). The technical advisory contains technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The technical advisory suggests a significance threshold for VMT that is based on state mandated GHG emission reduction targets. For non-retail uses, the technical advisory recommends a quantitative per capita or per employee VMT that is 15 percent below that of existing development as a possible threshold of significance that would comply with the state's long-term climate goals. For retail uses, the technical advisory recommends that a net increase in existing total VMT as a possible threshold of significance.

c. Regional and Local

Plan Bay Area 2050

The Metropolitan Transportation Commission is responsible for regional transportation planning in the nine-county San Francisco Bay Area. Metropolitan Transportation Commission and the Association of Bay Area Governments jointly updated the Regional Transportation Plan and Sustainable Communities Strategy, a federally-mandated 20-year blueprint for the region, in 2021. This Regional Transportation Plan/Sustainable Communities Strategy is known as Plan Bay Area 2050. Regional Transportation Plans must be developed in cooperation with state and local stakeholders and provide a clear vision of the regional transportation goals, policies, objectives, and strategies. This vision must be realistic and within fiscal constraints. Responsibility for approving and overseeing improvements to the State highway system rests with the California Department of

Transportation, while each local jurisdiction (cities and counties) is responsible for planning and implementing improvements to the streets within its boundaries.

Transportation Authority of Marin Congestion Management Program

The Transportation Authority of Marin (TAM) is designated as the congestion management agency for Marin County, and is tasked with preparing a Congestion Management Program (CMP) to fulfill the state legislative requirements of Propositions 111 and 116, approved in June 1990. TAM's CMP monitors the LOS of local multi-modal transportation networks, bicycle and pedestrian facilities, and transit services, and identifies improvements to the performance of these multi-modal systems. The CMP consists of a system monitoring effort, performance measurement, and capital improvement plan for these systems.

As required by state legislation, TAM maintains a travel demand model to forecast proposed changes to the transportation network. The Transportation Authority of Marin Demand Model is used to assess potential impacts on the transportation network from changes to roadways and local land uses, and is consistent with the regional model developed by the Metropolitan Transportation Commission. The Transportation Authority of Marin Demand Model incorporates land use and demographic data published by the Association of Bay Area Governments.

Novato 2035 General Plan

The City's 2035 General Plan includes the following mobility goals and policies related to transportation that are applicable to the project.

Goal MO 1: Provide a safe and efficient circulation system that accommodates all users and maintains acceptable levels of service.

- **MO 1: Land Use and Transportation Coordination.** Manage community growth and infrastructure projects so development can be adequately served by transportation facilities.
 - *MO 1a: Traffic Model.* Continue to maintain a Citywide traffic model to evaluate the balance between development and transportation. Continue to assess the cumulative traffic impacts of development proposals on the City's transportation system.
 - *MO 1b: Roadway Improvements.* Adopt a list of improvements (Table CW-2) that accommodates future growth consistent with the General Plan, enabling the roadway system to operate safely and efficiently. Prioritize construction of roadway improvements based on consideration of relevant factors including, but not limited to, funding availability, periodic analysis of traffic service levels, the location of new development, and safety considerations. Explore opportunities for innovative traffic management techniques where appropriate when considering intersection upgrades, such as roundabouts.
 - *MO 1c: Funding.* Ensure that development contributes to funding and/or implementing traffic mitigation measures. Continue to maintain and periodically update the Citywide Traffic Impact Fee.
 - *MO 1d: Construction Impacts on Streets.* Explore methods and options to secure funding for street maintenance based upon impacts associated with use.
 - *MO 1e: Traffic Signal Timing.* Optimize traffic signal timing and demand coordination to improve traffic flow and reduce fuel consumption, pollution and greenhouse gas emissions.

- **MO 2: Level of Service Standards.** Establish traffic Level of Service (LOS) standards as follows for use in evaluating the impacts of proposed development projects so the project can be redesigned or effective mitigation measures can be implemented, making improvements to the roadway system, and determining appropriate traffic impact fees. Continue to consider LOS standards in evaluating the merits of proposed development or traffic infrastructure projects in addition to consideration of standards associated with Vehicle Miles Traveled (VMT) in the required environmental review process. Acceptable LOS standards for intersections in the City are:
 - a. At intersections with signals or four-way stop signs: operation at LOS D
 - b. At intersections with stop signs on side streets only: operation at LOS E.

Goal MO 4: Provide a safe and convenient bicycle and pedestrian network that accommodates all ages and abilities.

- **MO 18: Comprehensive Bicycle Network.** Establish and maintain a bicycle network that is consistent with the adopted Bicycle/Pedestrian Plan.
- **MO 20: Safe and Convenient Pedestrian Facilities.** Promote, provide and maintain a safe and convenient pedestrian system, including consideration of lighting, sidewalk condition, road surface conditions, roadway crossings, access points, signage, shade landscaping, and street furniture.
 - *MO 20a: New Development and City Projects.* Require new development projects to include a sidewalk, path or shoulder on all property street frontages as deemed appropriate by City staff, and routinely include projects to close gaps in the pedestrian system on existing streets through the City's Capital Improvement Program.

Novato Bicycle/Pedestrian Plan

The City's Bicycle/Pedestrian Plan was adopted in March 2015, with an addendum adopted in June 2023. The plan outlines a recommended citywide network of sidewalks, bicycle paths, lanes, and routes, as well as bicycle and pedestrian related programs and support facilities. The plan intends to make bicycling and walking a viable transportation option for those who live, work, and recreate in Novato. The Bicycle/Pedestrian Plan outlines priority facility enhancements, safety improvements, and connectivity between destinations such as transit, neighborhoods, employment, and other community amenities, for bicyclists and pedestrians. The plan is part of a larger effort by the Transportation Authority of Marin to facilitate a coordinated update of bicycle and pedestrian plans for the County of Marin and eight of Marin's cities and towns.

4.8.3 Impact Analysis

a. Methodology

The analysis presented herein is derived primarily from a Transportation Impact Analysis prepared by Kittelson & Associates, Inc. for the project in February 2024, which was peer-reviewed by W-Trans in March 2024. The Transportation Impact Analysis and peer review memo are included in Appendix D.

As described above in 4.8.2, *Regulatory Setting*, SB 743 and *CEQA Guidelines* Section 15064.3 establish VMT as the appropriate metric for evaluating transportation impacts. Because the City of Novato has not yet adopted a standard of significance for evaluating VMT, the Transportation Impact Analysis uses the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA's*

standard of significance for VMT. OPR's guidelines provide a VMT standard of significance for retail uses, which is whether the project would result in a net increase in existing total VMT; therefore, the project would result in a significant impact if it would result in a net increase in VMT. Because the purpose of this EIR is to identify and mitigate potentially significant impacts of the project, LOS is not discussed in the analysis. However, the Transportation Impact Analysis (Appendix D) provides information on traffic delay resulting from the proposed project.

b. Significance Thresholds

According to Appendix G of the *CEQA Guidelines*, impacts related to transportation and circulation from the proposed project would be significant if the project would:

1. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
2. Conflict or be inconsistent with *CEQA Guidelines* section 15064.3, subdivision (b),
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and/or
4. Result in inadequate emergency access.

c. Project Impacts and Mitigation Measures

Threshold 1: Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Impact TRA-1 THE PROJECT WOULD NOT CONFLICT WITH A PROGRAM, PLAN, ORDINANCE, OR POLICY ADDRESSING THE CIRCULATION SYSTEM, INCLUDING TRANSIT, ROADWAY, BICYCLE, AND PEDESTRIAN FACILITIES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Transit

The project would be required to comply with Policy MO 1c of the 2035 General Plan, which requires payment of the Citywide Traffic Impact Fee. This fee, in part, would include the fair share fee for new and expanded transportation facilities, as applicable, to City, regional and/or state facilities. Additionally, according to the Transportation Impact Analysis, the project would not be anticipated to increase transit ridership as the project is a fuel facility, which would involve vehicle trips only (Appendix D). There are no other programs, plans, ordinances, or policies addressing transit that would apply to the project. Therefore, because the project would be required to pay fair share fees consistent with the 2035 General Plan and Novato Municipal Code, the project would not conflict with a program, plan, ordinance, or policy addressing transit facilities. Impacts would be less than significant.

Roadways

LOS is no longer the metric of transportation impacts under CEQA; therefore, LOS is not discussed further in this EIR. The City General Plan includes goals and policies related to the provision of a safe and efficient circulation system. The proposed project would restripe a portion of Vintage Way to ensure adequate queuing space is available for vehicles entering the project site, and to ensure that vehicles turning left are able to do so safely without adversely affecting the flow of traffic on Vintage Way adjacent to the project site. The project does not include any other modifications to

existing roadways, and therefore would not affect the operation of the City's roadway circulation system. Therefore, impacts would be less than significant.

Bicycle and Pedestrian Facilities

As described in Section 4.8.1, *Setting*, there are Class I, Class II, and Class III bikeways near the project site on Novato Boulevard, Rowland Boulevard, and Redwood Boulevard. There are sidewalks along the inner loop of Rowland Boulevard around the Vintage Oaks Shopping Center. The project would involve relocation of an existing driveway and construction of a left-turn pocket along Vintage Way to provide access to this driveway. This lane reconfiguration would result in the replacement of approximately 200 feet of a Class II bike lane with a Class III bicycle route. Therefore, the project would not significantly impact existing bicycle facilities. Additionally, because the project would involve construction and operation of a fuel facility, the project would involve vehicle trips only and would not be expected to generate additional bicycle or pedestrian trips (Appendix D). Therefore, the project would not conflict with existing facilities or the City's Bicycle/Pedestrian Master Plan, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Impact TRA-2 THE PROJECT WOULD NOT CONFLICT OR BE INCONSISTENT WITH CEQA GUIDELINES SECTION 15064.3, SUBDIVISION (B). THE PROJECT WOULD RESULT IN A NET DECREASE IN VEHICLE MILES TRAVELED. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed under *Methodology*, the project would conflict with the *CEQA Guidelines* and would have a significant impact if the project would result in a net increase in VMT. The Transportation Impact Analysis (Appendix D) used a database of Costco Wholesale traffic data, which includes more than 20 years of traffic counts and other travel characteristics, to estimate vehicle trips that would be generated by the proposed project. Six types of vehicle trips, defined below, would be generated by the project and would generate VMT.

1. **Shared Warehouse Plus Gas Trips** – These trips are assumed to already take place on the network either as existing warehouse plus gas trips at other Costco facilities or as two separate trips members take to shop at the Novato warehouse and to purchase gas elsewhere. The VMT for these trips is calculated by multiplying a portion of the shared warehouse plus gas trips by an average trip distance associated with trips shifting from other Costco facilities, and multiplying a portion of the shared warehouse plus gas trips by an average trip distance for trips shifting from other fuel stations.
2. **Employee Trips** – Employee trips are evaluated separately from Costco member trips because average trip lengths for employees may differ from member trips. VMT is calculated by multiplying the expected number of daily employee shifts with an average VMT per employee, as provided by the Transportation Authority of Marin's (TAM) VMT webmap.

3. **Truck Trips** – Based on Section 15064.3 of OPR’s *Technical Advisory on Evaluating Transportation Impacts in CEQA*, the VMT associated with trucks and the movement of goods is not required to be analyzed for potential transportation impacts. Therefore, truck trips are excluded from this analysis.
4. **Primary Gas-Only Trips** – Primary gas-only trips (vehicles traveling to the site for the sole purpose of visiting the fuel facility) are assumed to be trips that already exist on the network today that will shift to the new Costco fuel facility. The difference in VMT associated with shifting these trips to the new facility is calculated based on the anticipated change in average trip lengths.
5. **Diverted Gas-only Trips** – Diverted gas-only trips (vehicles making an existing trip on the roadway that travel out-of-direction to visit the site) are assumed to be existing trips shifted from existing non-Costco gas stations near the project site. The difference in VMT associated with shifting these trips to the new facility is calculated based on the anticipated change in average trip length.
6. **Pass-by-Gas-Only Trips** – Pass-by gas-only trips (vehicles making an existing trip on the adjacent roadway that stop at the site and then continue on their trip) are typically excluded from VMT calculations since pass-by trip lengths are assumed to be zero. Because the project site is located at the far end of a shopping center and is thereby offset from the arterial network, pass-by trip lengths for the project are assumed to be trips made by people already at the shopping center, are assumed to be slightly greater than zero, and are included in the VMT calculations.

VMT associated with each trip type is discussed in the following sections.

Shared Warehouse Plus Gas Trips

Regional

The Transportation Impact Analysis (Appendix D) used spatial data to determine the average trip lengths and number of trips to the two nearest existing Costco fueling facilities and the proposed facility for two scenarios: with and without the proposed fuel facility. Costco members who currently make shared trips to shop at the warehouse and get gas at Costco locations in Vallejo or Rohnert Park but who live closer to the Novato location are expected to shift these shared warehouse plus gas trips to the new location. The average trip lengths (provided in Table 4.8-2) are calculated based on weighted one-way distances, taking in to account the existing and expected shifts in member trips as a result of the project. Table 4.8-3 shows the anticipated reduction in VMT for shared warehouse plus gas trips with the introduction of the proposed fuel facility.

Table 4.8-2 Average Shared Warehouse Plus Gas Trip Lengths

Facility	Existing			With Project		
	Average Daily Transactions ¹	Total Distance (One-Way)	Average Trip Length (One-Way)	Average Daily Transactions ¹	Total Distance (One-Way)	Average Trip Length (One-Way)
Rohnert Park	658	7,346	11.2	561	4,893	8.7
Vallejo	603	4,010	6.6	589	3,588	6.1
Novato (New Facility)	0	0	0	112	1,507	13.5

Totals may not add due to rounding.

¹ This data is used to establish the proportion of trips expected to shift to the new facility. The proportions were then applied to the trip generation estimates for the existing and proposed fuel stations to estimate the portion of warehouse plus gas trips in the region expected to shift to Novato.

Source: Appendix D

Table 4.8-3 Change in VMT Associated with Regional Shared Warehouse Plus Gas Trips

	Existing			With Project		
	Average Trip Length	Daily Trips	Daily VMT	Average Trip Length	Daily Trips	Daily VMT
Rohnert Park	11.2	2,071	23,195	8.7	1,760	15,312
Vallejo	6.6	1,979	13,061	6.1	1,939	11,828
Novato (New Facility)	0	0	0	13.5	351	4,739
Total	-	4,050	36,256	-	4,050	31,879
Difference in Daily VMT (With Project Minus Existing)						(4,377)

Totals may not add due to rounding.

VMT = vehicle miles traveled

Source: Appendix D

Internal (Novato Warehouse)

A portion of the trips associated with the proposed project would be shared trips with the existing warehouse, when members who shop at the warehouse also buy gas during a single trip. A portion of these internal warehouse plus gas trips are existing trips shifted from other Costco sites (as described in the previous subsection). The remainder of these internal trips are anticipated to replace existing trips to non-Costco gas stations, eliminating these separate trips and the associated VMT. To assess the change in VMT associated with this trip type, it was assumed that new internal trips to the fuel facility would proportionally replace the same daily trip types—specifically, the same percentage of gas-only diverted, pass-by, and primary trips relative to total gas-only trips. Table 4.8-4 provides the estimation of daily VMT for the project’s internal shared warehouse plus gas trips.

Table 4.8-4 Change in VMT Associated with Internal Shared Warehouse Plus Gas Trips

Trip Type	Existing (Separate Gas Trip)			Project (Shared Warehouse Plus Gas Trip)		
	Daily Trips	Average Trip Distance	Daily VMT	Average Trip Distance	Daily VMT	Change in Daily VMT
Primary	324	0.83	270	0	0	-270
Diverted	765	0.72	551	0	0	-551
Pass-by	810	0	0	0	0	0
Total	1,899¹	-	821	-	0	-821

¹ 2,250 total internal trips – 351 expected to shift from other Costco facilities (see Table 4.8-3); 1,899 remaining trips expected to shift from non-Costco gas stations.

Source: Appendix D

Employee Trips

The project is expected to require two employees on site to operate the facility. With two shifts occurring daily, a total of four employees are expected to make eight daily trips. The VMT associated with these eight trips was estimated to be about 83 miles using an average VMT per employee of 20.7, which is the Marin County average VMT per employee by the Transportation Authority of Marin Demand Model.

Primary Gas-Only Trips

The project would generate a total of 4,620 gas-only trips, of which 1,385 trips would be primary gas-only trips to non-Costco gas stations already existing in the transportation network. To assess the potential change in regional VMT resulting from these trips shifting to the new Costco facility, average trip distances from member households to both the new Costco fuel facility and non-Costco gas stations were estimated. The Transportation Impact Analysis computed the average trip distance a Costco member that is a Novato resident drives from their residence to the nearest non-Costco gas station at approximately 0.83 miles, while the average trip distance to the new Costco fuel facility is 2.5 miles. Shifting of these trips to the new Costco facility would result in a daily regional VMT increase of 2,309 miles, as shown in Table 4.8-5.

Table 4.8-5 Change in VMT Associated with Primary Gas-Only Trips

	Existing	With Project	Difference
Number of Trips	1,385	1,385	-
Average Trip Length (miles)	0.83	2.5	1.67
Daily VMT	1,154	3,463	2,309

VMT = vehicle miles traveled
 Source: Appendix D

Diverted Gas-Only Trips

Diverted trips are trips associated with members who are traveling on the surrounding street network for some other primary purpose and stop by the fuel facility during that trip. Diverted trips for the project site are likely to originate from US-101. The Transportation Impact Analysis used calculated diverted trip distances and the total number of diverted trips to calculate both existing and with-project VMT for each diversion route. Table 4.8-6 provides a summary of the average diverted trip distance for non-Costco gas stations and the new Costco fuel facility, number of diverted trips, and associated increase in daily regional VMT, estimated to be 1,607 miles.

Table 4.8-6 Change in VMT Associated with Diverted Gas-Only Trips

	Diverted Trip Distance (miles)			Number of Daily Diverted Trips	Daily VMT
	US 101 NB	US 101 SB	Average		
Non-Costco Gas Stations (Existing)	0.64	0.80	0.72	1,560	1,123
Novato Fuel Facility (With Project)	1.4	2.1	1.75	1,560	2,730
Change in Daily VMT					1,607

NB = northbound; SB = southbound; VMT = vehicle miles traveled
 Source: Appendix D

Pass-by Gas-Only Trips

Pass-by trips are typically assumed to add no new VMT, as they are existing trips that require no out-of-direction travel. However, because the project site is situated more than 0.5 mile south of Rowland Boulevard within a shopping center, pass-by gas-only trips were quantified in the Transportation Impact Analysis. The project would result in new pass-by trips that would replace existing pass-by trips at nearby non-Costco gas stations. As shown in Table 4.8-7, the project would result in an anticipated increase of 497 daily regional VMT from pass-by gas-only trips.

Table 4.8-7 Change in VMT Associated with Pass-By Gas-Only Trips

	Existing	With Project	Difference
Number of Trips	1,655	1,655	-
Average Trip Length (miles)	0	0.3	0.3
Daily VMT	0	497	497

VMT = vehicle miles traveled
 Source: Appendix D

Summary

The overall change in regional daily VMT associated with the project is summarized below in Table 4.8-8. As shown therein, the proposed project would be expected to result in a net decrease of 702 daily VMT. Therefore, the proposed project would result in a net decrease in VMT. Accordingly, the project would not exceed the standard of significance used for this analysis (net increase in VMT). The project would not conflict or be inconsistent with *CEQA Guidelines* Section 15064.3, subdivision (b), and impacts would be less than significant.

Table 4.8-8 Overall Change in Daily VMT Associated with the Proposed Project

Member Trip Type	Existing Daily VMT	With Project Daily VMT	Change in Regional Daily VMT
Regional Warehouse Plus Gas Trips	36,256	31,879	-4,377
Internal Shared Warehouse Plus Gas	821	0	-821
Employee Trips	0	83	83
Primary Gas-Only Trips	1,154	3,463	2,309
Diverted Gas-Only Trips	1,123	2,730	1,607
Pass-by-Gas-Only Trips	0	497	497
Total VMT	39,354	38,652	-702

VMT = vehicle miles traveled
 Source: Appendix D

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

Impact TRA-3 THE PROJECT WOULD NOT SUBSTANTIALLY INCREASE HAZARDS DUE TO A GEOMETRIC DESIGN FEATURE OR INCOMPATIBLE USE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The fuel facility would be primarily accessed by two driveways along Vintage Way. As part of the project, the westernmost driveway would be relocated approximately 60 feet north of its current

location, and a left-turn pocket would be added to Vintage Way to provide access to this driveway. This lane reconfiguration would result in the replacement of an approximately 200-foot segment of Class II bike lane with a Class III bicycle route (i.e., bicycles and vehicles share the same lane) and associated pavement markings and signs.

The project, including the lane configuration, would not increase hazards due to a geometric design feature or incompatible uses. The lane configuration would provide a separate left turn lane to enter the Costco site and the fuel facility, which would maintain an acceptable flow of traffic on Vintage Way with the addition of vehicle trips generated by the project. Additionally, most vehicles traveling to and from the project site under existing conditions are shoppers' passenger vehicles and commercial vehicles performing deliveries. The project would also involve passenger and commercial vehicle trips, and would not introduce an incompatible use to the project site. Therefore, the project would not substantially increase hazards due to a geometric design feature or incompatible uses, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

Threshold 4: Would the project result in inadequate emergency access?
--

Impact TRA-4 THE PROJECT WOULD NOT RESULT IN INADEQUATE EMERGENCY ACCESS TO THE PROJECT SITE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

During construction and operation of the proposed project, the project site would continue to be accessible via Vintage Way, Rowland Boulevard, and internal driveways within the Vintage Oaks Shopping Center. During construction, the westernmost driveway to the Costco parking lot along Vintage Way would be relocated approximately 60 feet north; although this driveway would be closed during construction, adequate emergency access would be maintained via other driveways to the project site. Construction of the project would not require closure of Vintage Way. Therefore, the project would not result in inadequate emergency access, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance After Mitigation

Impacts would be less than significant.

4.8.4 Cumulative Impacts

The cumulative impacts assessment area for transportation includes Novato, Marin County, and the greater San Francisco Bay Area. This is an appropriate assessment area for transportation because most regional traffic originates from and has destinations within this area. While some vehicle trips do originate and end outside of the region, these trips are generally on freeways and do not contribute to trips on local collectors.

The project and other cumulative projects in the area would increase VMT and demand for bicycle and pedestrian facilities in the project vicinity and in the cumulative region. Buildout of cumulative projects (Table 3-1 in Chapter 3, *Environmental Setting*) would add additional residential and commercial development to the region. Development that is proximate to transit stops would increase ridership on MCT and GGT routes and the SMART rail line. If transit service and capacity remain unchanged as buildout of the planned projects occur, increased ridership could cause deficiencies in transit service. Cumulative impacts to transit would be potentially significant. As described above for Impact TRA-1, the proposed project would be consistent with 2035 General Plan policies and City planning documents related to transit, roadway, bicycle, and pedestrian facilities. The project would also pay the required traffic impact fees. Therefore, the project would not result in a considerable contribution to significant cumulative impacts related to transit, roadway, bicycle, and pedestrian facilities.

Cumulative projects would result in increased vehicle use on area roadways. The increased use of vehicles in the area would result in a correlating increase in VMT. Development of cumulative projects would increase VMT above existing conditions; therefore, cumulative impacts would be significant. The proposed project would result in a net decrease in VMT. Therefore, while cumulative impacts would be significant, the project would not result in a considerable contribution to this cumulative impact.

Impacts related to design hazards and emergency access are generally site specific, and cumulative impacts from planned development would not be significant. As described under Impacts TRA-3 and TRA-4, impacts related to these topics resulting from the proposed project would be less than significant; therefore, the project would not have a considerable contribution to this cumulative impact.

4.9 Tribal Cultural Resources

This section analyzes the proposed project's potential impacts related to tribal cultural resources, as identified by locally affiliated Native American tribes. The analysis in this section is based on tribal consultation as well as a Cultural Resources Study prepared for the project by Rincon Consultants, Inc. (Rincon) in October 2020 and additional background research conducted by Rincon in April 2023. The full Cultural Resources Technical Memorandum is referenced as confidential Appendix H of this EIR; this Memorandum is not included in the EIR to protect sensitive information about cultural resources.

4.9.1 Setting

a. Ethnographic Background

The project site is located in the traditional tribal territory of the Coastal Miwok. The Coastal Miwok are members of the larger Miwokan subgroup of the Utian language family inhabiting the northern area of Sherman Island surrounding Mount Diablo (Kroeber 1925; Levy 1978). Coastal Miwok territory is bordered by the Pomo to the north, Wappo to the northeast, and Patwin to the east.

Miwok settlements typically included thatched, conical houses and semi-subterranean earth-covered dwellings in winter, constructed by higher status families. Houses generally had a central hearth and an earth oven for cooking purposes. Large, semi-subterranean assembly houses were constructed for use as a ritual and social gathering place. In summer, a circular brush hut was constructed for use in mourning ceremonies. Other structures included sweathouses for curing disease and purification prior to hunting, small conical structures used by menstruating women, and grinding houses built over bedrock mortars to permit food processing in inclement weather. Acorn granaries were constructed for long-term acorn storage (Kroeber 1925; Levy 1978).

Miwok social organization is characterized by the moiety pattern, with all living things belonging to one of two categories: land and water. Moieties typically married outside their own groups which played an important role in many ceremonies (Levy 1978). On the other hand, political organization centered on small tribelets of approximately 300 to 500 people and several distinct settlements. A chief headed each tribelet, and a representative of the chief of each settlement had oversight of local affairs. Chiefs acted as advisors and managed use of natural resources by preventing trespassing on tribelet territory and determining the appropriate time to begin the acorn harvest each season. The chief also arbitrated any disputes and sanctioned the punishment of criminal offenders (Kroeber 1925; Levy 1978).

Traditional Miwok artistry includes twined and coiled basketry, usually from willow and redbud trees. Other activities included the manufacturing of tule mats used as floor covering. Woven blankets were often made of rabbit skin strips or feathers attached to cordage woven from plant fibers. Tule balsa rafts would be used to navigate rivers and sloughs (Levy 1978).

Traditional Miwok subsistence practices centered on the use of acorns and other seeds as primary plant food sources and on hunting of mule deer, tule elk, pronghorn antelope, and various species of waterfowl. Hunting was done typically with a sinew-backed bow and arrow. Fishing was a particularly important activity for the Miwok, primarily with various types of nets. Seines were used in large rivers and sloughs where the pace of water flow was slow. Hook and line was typically used to take sturgeon, while harpoons were the most common implement for salmon fishing (Levy 1978).

The Coast Miwok were exploited for labor by Mission Dolorés, established in 1800 in San Francisco, and later by the Mexican land grant holders. As a direct result of the establishment of the mission system, the Coast Miwok population dramatically declined. After the establishment of the United States, the Coast Miwok were legally prevented from owning land in their traditional territories. Despite this, Coast Miwok continue to populate the Marin area, with the federal recognition of the Federated Indians of Graton Rancheria restored in 2000 (Milliken et al. 2009; Federated Indians of Graton Rancheria 2016). The Coast Miwok Tribal Council of Marin was established in 2020 with the purpose of renewing the traditional customs and practices of their ancestors and continue, with prayer and ceremony, to feed the land (Coast Miwok of Marin 2023).

b. Existing Conditions

As part of the project’s tribal cultural resource identification process pursuant to California Assembly Bill (AB) 52, the City prepared and sent letters via certified mail to Native American tribal contacts identified by the NAHC as being traditionally and culturally affiliated with the project site on May 8, 2020. The tribal contacts included Greg Sarris, Chairperson of the Federated Indians of Graton Rancheria (FIGR) and Merlene Sanchez, Chairperson of the Guidiville Indian Rancheria.

Guidiville Indian Rancheria did not request consultation. The City received a response from FIGR on July 16, 2020, requesting consultation for the project. The City and FIGR met via conference call to discuss the project on July 20, 2020. On August 12, 2020, the City provided FIGR with the results of the NWIC request and cultural resources memorandum prepared by Rincon. FIGR provided comments via email on draft mitigation measures on October 19, 2020. The City agreed to FIGR’s requested revisions on November 20, 2020, and concluded consultation. The impact analysis and mitigation measures included in this section incorporate requests from FIGR.

In addition, Rincon completed a cultural resources study of the project site in October 2020 (Appendix H). The study consisted of a California Historical Resources Information System records search of the project site as well as a 0.5-mile radius around the project site at the Northwest Information Center (NWIC) including a review of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and the California State Office of Historic Preservation Built Environment Directory, a review of the Sacred Lands File, informal Native American outreach, and a pedestrian field survey. Following the cultural resources study, Rincon conducted additional background research in April 2023 to determine the likelihood of the site containing subsurface Native American archaeological resources. Background research included a review of historical aerial photographs, topographic maps, ethnographic publications, and a geotechnical report conducted for the project.

4.9.2 Regulatory Setting

a. State Regulations

Assembly Bill 52

AB 52 expanded CEQA by defining a new resource category, “tribal cultural resources.” AB 52 establishes that “a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). AB 52 further states when feasible, the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural

resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe,” and meets either of the following criteria:

- a. Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k).
- b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

In recognition of California Native American tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments and with respect to the interests and roles of project proponents, it is the intent AB 52 to accomplish the following:

1. Recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities.
2. Establish a new category of resources in CEQA called “tribal cultural resources” that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation.
3. Establish examples of mitigation measures for tribal cultural resources that uphold the existing mitigation preference for historical and archaeological resources of preservation in place, if feasible.
4. Recognize that California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated (because CEQA calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources).
5. In recognition of their governmental status, establish a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level of required confidentiality concerning tribal cultural resources, early in the CEQA environmental review process, so that tribal cultural resources can be identified, and culturally appropriate mitigation and mitigation monitoring programs can be considered by the decision-making body of the lead agency.
6. Recognize the unique history of California Native American tribes and uphold existing rights of all California Native American tribes to participate in, and contribute their knowledge to, the environmental review process pursuant to CEQA.
7. Ensure that local and tribal governments, public agencies, and project proponents have information available, early in CEQA environmental review process, for purposes of identifying and addressing potential adverse impacts to tribal cultural resources and to reduce the potential for delay and conflicts in the environmental review process.
8. Enable California Native American tribes to manage and accept conveyances of, and act as caretakers of, tribal cultural resources.
9. Establish that a substantial adverse change to a tribal cultural resource has a significant effect on the environment.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. AB 52 requires that lead agencies “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those that have requested notice of projects proposed in the jurisdiction of the lead agency.

Codes Governing Human Remains

The disposition of human remains is governed by Section 7050.5 of the California Health and Safety Code and Sections 5097.94 and 5097.98 of the PRC and falls within the jurisdiction of the Native American Heritage Commission (NAHC). If human remains are discovered, the County Coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

b. Local Regulations

The City of Novato General Plan 2035, which was adopted in October 2020, includes the following policy relating to tribal cultural resources (City of Novato 2020). As presented in the Community Character section of Chapter 2: Great Places, this policy is:

- **CC 2a: Tribal Cultural Resources Protection.** The city shall comply with AB 52, which may require formal tribal consultation on a project-by-project basis.

4.9.3 Impact Analysis

a. Methodology and Significance Thresholds

If a project may cause a substantial adverse change in the characteristics of a resource that convey its significance or justify its eligibility for inclusion in the CRHR or a local register, either through demolition, destruction, relocation, alteration, or other means, then the project would have a significant effect on the environment (*CEQA Guidelines* Section 15064.5[b]). Appendix G of the *CEQA Guidelines* indicates that a project’s impacts to tribal cultural resources would be significant if the project would:

1. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
 - b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Direct impacts can be assessed by identifying the types and locations of proposed development, determining the exact locations of cultural resources within the project site, assessing the significance of the resources that may be affected, and determining the appropriate mitigation. Removal, demolition, or alteration of historical resources can permanently impact the historic fabric of an archaeological site, building, structure, or historic district.

b. Project Impacts and Mitigation Measures

Threshold 1a: Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Threshold 1b: Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision © of Public Resources Code Section 5024.1?

Impact TCR-1 GRADING AND EXCAVATION REQUIRED FOR THE PROPOSED PROJECT HAS THE POTENTIAL TO IMPACT TRIBAL CULTURAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

One tribal cultural resource has been previously recorded within the project site. Additionally, because the project involves ground disturbance, there is the possibility of encountering previously undisturbed subsurface tribal cultural resources during construction of the project. Therefore, the project could result in potentially significant impacts to tribal cultural resources. The following mitigation measures were developed in consultation with FIGR to avoid or minimize potentially significant impacts to tribal cultural resources. Accordingly, Mitigation Measures TCR-1a through TCR-1c are required to reduce impacts to a less than significant level.

Mitigation Measures

TCR-1a Avoidance of Tribal Cultural Resources

When feasible, project construction shall avoid tribal cultural resources.

TCR-1b Tribal Cultural Resources Treatment Plan

Prior to construction of the fuel facility project, the City of Novato, project proponent, or its consultant(s), shall prepare a tribal cultural resource treatment plan to be implemented in the event an unanticipated archaeological resource that may be considered a tribal cultural resource is identified during construction, subject to review and acceptance by the City of Novato. The plan would include suspension of all earth-disturbing work in the vicinity of the find, avoidance of the resource or, if avoidance of the resource is infeasible, the plan would outline the appropriate treatment of the resource in coordination with the FIGR and, if applicable, a qualified archaeologist. Examples of appropriate treatment for tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, or heritage recovery.

TCR-1c Native American Monitoring

All earth-disturbing work, including archaeological excavation, associated with the fuel facility project shall be observed by a local Native American monitor affiliated with the FIGR. In the event of a discovery of tribal cultural resources, the steps identified in the tribal cultural resources plan prepared under measure CUL-2b shall be implemented.

Significance After Mitigation

By implementing Mitigation Measures TCR-1a, TCR-1b, and TCR-1c, the City would require steps to protect or treat significant tribal cultural resources if encountered during construction, resulting in a less than significant impact. Impacts would be reduced with TCR-1a because tribal cultural resources will be avoided when feasible, thereby eliminating any impacts. Impacts would be reduced with TCR-1b because the treatment plan outlines procedures in the event of an unanticipated discovery, thereby preventing confusion or delay in the treatment of those discoveries. Finally, impacts would be reduced with TCR-1c because tribal monitors will be able to observe construction, thereby identifying unanticipated discoveries and preventing disturbance or destruction by stopping work appropriately.

4.9.4 Cumulative Impacts

The geographic scope for cumulative tribal cultural resource impacts includes FIGR traditional territory. This geographic scope is appropriate for tribal cultural resources because tribal cultural resources are regionally specific and determined by the local tribes. Cumulative buildout in this region, including projects listed in Table 3-1 in Section 3, *Environmental Setting*, would have the potential to adversely impact tribal cultural resources. Cumulative development within the vicinity of the project site would continue to disturb areas with the potential to contain tribal cultural resources. For other developments that would have significant impacts on tribal cultural resources, similar conditions and mitigation measures described herein would be imposed on those other developments consistent with the requirements of CEQA, along with requirements to comply with all applicable laws and regulations governing said resources.

Future cumulative projects could result in impacts to previously unknown tribal cultural resources. Such impacts would be addressed on a case-by-case basis, and appropriate mitigation measures developed; however, cumulative impacts to tribal cultural resources are conservatively considered to be significant. Because of the lack of known tribal cultural resources on the project site or in the immediate vicinity, the project would not make a cumulatively considerable contribution to significant cumulative historic resource impacts.

Cumulative development could impact known or unknown tribal cultural resources. This would be a potentially significant cumulative impact. Cumulative projects would undergo project-specific environmental review when it is determined that the potential for significant impacts exists. If future cumulative projects would result in impacts to known or unknown tribal cultural resources, impacts to such resources would be addressed on a case-by-case basis and would be subject to required tribal consultation to identify potential impacts to tribal cultural resources, similar to the requirements imposed for the proposed project. As such, cumulative impacts would be less than significant with mitigation. As described under Impacts TCR-1, Mitigation Measures TCR-1a, TCR-1b, and TCR-1c, would ensure that project-level impacts to unknown tribal cultural resources are adequately mitigated. After implementation of these proposed mitigation measures, the project would not have a considerable contribution to cumulative tribal cultural resources impacts.

5 Other CEQA Required Discussions

This section discusses growth-inducing impacts, irreversible environmental impacts, and removal of obstacles to growth that would be caused by the proposed project.

5.1 Growth Inducement

CEQA Guidelines Section 15126(d) requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The proposed project's growth-inducing potential is therefore considered significant if project-induced growth could result in significant physical effects in one or more environmental issue areas.

5.1.1 Population Growth

The proposed project would not directly generate population growth because it does not include residential uses. The proposed project will be staffed by four Costco employees, two per shift, which would be a negligible increase in the number of employees and residents within Novato. Although the proposed project would generate incremental job growth within the City, this growth is planned for within the City's General Plan, which designates the site as General Commercial (GC). The site is zoned Planned District (PD), as defined by the City's Zoning Ordinance and the Land Use Element of the General Plan. In addition, the project site is regulated by the Vintage Oaks Precise Development Plan (PDP). The PDP specifies the level of intensity and type of development that can occur at Vintage Oaks consistent with the General Plan's vision for the area. The proposed project would neither directly nor indirectly lead to substantial or unforeseen population growth in the City, but could marginally contribute to anticipated growth. Therefore, any population growth associated with the project would not result in significant long-term physical environmental effects.

5.1.2 Economic Growth

As discussed in Section 5.1.1, *Population Growth*, the proposed project could generate minimal incremental job growth within the city that aligns with the current land use, zoning, and goals of the City's General Plan. As mentioned above, the Vintage Oaks PDP specifies the level of intensity and type of development that can occur at Vintage Oaks consistent with the General Plan's vision for the area. The proposed project would likely result in considerable economic benefits to the City of Novato due to tax revenue from gasoline sales, but would neither directly nor indirectly lead to substantial or unforeseen private sector economic growth but would contribute to anticipated growth.

The proposed project would not be expected to induce substantial economic expansion to the extent that direct physical environmental effects would result. Moreover, the environmental effects associated with any future development in or around Novato would be addressed as part of the CEQA environmental review for such development projects.

5.1.3 Removal of Obstacles to Growth

The proposed project is located in a fully developed area that is well served by existing infrastructure. Existing infrastructure in Novato would be adequate to serve the project. Minor improvements to water, sewer, and drainage connection infrastructure would be needed, but would be sized to specifically serve the proposed project. The proposed project would not introduce a significant change to existing circulation and would be intended to accommodate expected traffic volumes and project site access needs. No new roads would be required. Because the project constitutes development within a developed area and would not require the extension of new infrastructure through undeveloped areas, project implementation would not remove an obstacle to growth.

5.2 Irreversible Environmental Effects

The *CEQA Guidelines* require that EIRs contain a discussion of significant irreversible environmental changes. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the proposed project.

The proposed project involves development on a currently developed lot in the City of Novato. Construction and operation of the project would involve an irreversible commitment of construction materials and non-renewable energy resources. The project would involve the use of building materials and energy, some of which are non-renewable resources, to construct the overall 10,244-square-foot fuel dispenser canopy. Consumption of these resources would occur with any development in the region and are not unique to the proposed project.

The proposed project would also result in the irreversible use of non-renewable energy resources such as petroleum products; however, as described in Section 4.8, *Transportation*, and the Transportation Impact Analysis (Appendix D), the project would result in a net decrease in vehicle miles traveled (VMT), which would result in a net decrease in the use of vehicle fuel. The project would not connect to or utilize natural gas. The project would be subject to the energy conservation requirements of the California Energy Code (Title 24, Part 6, of the California Code of Regulations, *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*) and the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations). The California Energy Code provides energy conservation standards for all new and renovated buildings constructed in California, and the Green Building Standards Code requires solar access, natural ventilation, and stormwater capture. Consequently, the project would not use unusual amounts of energy or construction materials and impacts related to consumption of non-renewable and slowly renewable resources would be less than significant. Again, consumption of these resources would occur with any development in the region and is not unique to the proposed project.

The proposed project includes the construction of a new gasoline fueling facility, which would sell gasoline to Costco members. The fueling facility is intended to accommodate existing demand for gasoline. While operation of the project would result in the sale of petroleum products, the project itself would not increase the demand for or use of petroleum products as compared to existing conditions. Due to the nature of gas purchases, members who would purchase fuel at the proposed fuel facility are already purchasing gas at existing gas stations under existing conditions. Additionally, as described in Section 4.8, *Transportation*, the project would result in a net decrease in VMT, thus decreasing the use of petroleum products in the region.

The project would also require a commitment of law enforcement, fire protection, water supply, wastewater treatment, and solid waste disposal services. However, as discussed in Environmental Checklist Sections 15 and 19 of the Initial Study (Appendix A), impacts to these service systems would be less than significant.

The proposed project would redistribute local traffic and thus, vehicle-generated regional air pollutant and GHG emissions through the modification of driver behavior, with more trips to the project site and fewer trips to other gas station facilities, as described in Section 4.8, *Transportation*, and Appendix D. However, as discussed in Section 4.1, *Air Quality* of this EIR, development and operation of the project would not generate air pollutant emissions that would result in a significant impact. Additionally, Section 4.8, *Transportation*, of this EIR concludes that there would be no net increase in VMT as a result of the project, and long-term impacts associated with the proposed project would be less than significant based on City and regional thresholds.

CEQA requires decision-makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. The analysis contained in this EIR concludes that the proposed project would not result in significant and unavoidable impacts.

This page intentionally left blank.

6 Alternatives

As required by Section 15126.6 of the *CEQA Guidelines*, this EIR examines a range of reasonable alternatives to the proposed project that would attain most of the basic project objectives but would avoid or substantially lessen the project's significant adverse impacts. Although there are no unavoidable significant adverse impacts identified in this EIR, this analysis is included in order to meet the requirements of CEQA and to consider whether any feasible alternative would lessen or avoid significant effects requiring mitigation. As discussed in Section 2, *Project Description*, the objectives for the proposed project are as follows:

- Develop a new fuel facility as an extension of the Costco Wholesale in the Vintage Oaks Shopping Center to support the fueling needs of local Costco members.
- Design and construct a project in accordance with Costco's Fueling Facility Program that provides details on proposed safety and design features intended to provide environmental safeguards and prevent public health or hazardous materials issues.
- Develop a fuel facility of a design providing safe and efficient vehicle circulation (customer vehicles and fuel trucks) and minimizing customer wait and vehicle idling times.

Included in this analysis are three alternatives, including the CEQA-required "no project" alternative, that involve changes to the project that may reduce the project-related environmental impacts as identified in this EIR. Alternatives have been developed to provide a reasonable range of options to consider that would help decision makers and the public understand the implications of revising certain components of the proposed project.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project
- Alternative 2: Reduced Project
- Alternative 3: Alternative Location

Descriptions of the alternatives are included in the impact analysis for each alternative. The potential environmental impacts of each alternative are analyzed in Sections 6.2 through 6.4.

6.1 Alternatives Considered but Rejected

The *CEQA Guidelines* state that an EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination (*CEQA Guidelines* Section 15126.2[c]). The City considered and subsequently rejected the following alternatives, for the reasons listed below:

- **Installation of electric vehicle (EV) chargers in lieu of the proposed gas station.** This alternative was recommended by a commenter during scoping of the EIR. This alternative would not meet the basic objectives of the project, which are to install a new Costco gasoline fueling facility to meet the fueling needs of local Costco members. Although California is experiencing rapid growth in EV ownership, a majority of the State's fleet is still gasoline powered. As of 2022, 82 percent of on-road vehicles in Marin County are gasoline powered, indicating a high existing demand for gasoline service stations (CEC 2022).

- **Construction of housing in lieu of the proposed gas station.** This alternative was recommended by a commenter during scoping of the EIR. This alternative would not meet the basic objectives of the project, which are to install a new Costco gasoline fueling facility to meet the fueling needs of local Costco members. Additionally, the project site is zoned Planned Development (PD) and has a General Plan land use designation of General Commercial (CG). This zoning and land use designation do not allow for the development of housing.

6.2 Alternative 1: No Project

6.2.1 Description

The No Project Alternative assumes that the proposed fuel facility would not be constructed, the existing driveway along Vintage Way would not be relocated, the lane reconfiguration on Vintage Way would not occur, and the proposed landscaping and parking lot modifications would not occur. The No Project Alternative would not involve removing 129 parking spaces and the project site would remain a parking lot for Costco and the Vintage Oaks Shopping Center. The No Project Alternative would not fulfill any project objectives because this alternative would not include construction and operation of a new fuel facility.

As noted below, Alternative 1 would have greater transportation impacts than the proposed project, and lesser impacts than the proposed project to the remaining resources areas, including air quality, biological resources, cultural resources, energy and greenhouse gas emissions, geology and soils, hazards and hazardous materials, hydrology and water quality, and tribal cultural resources.

6.2.2 Impact Analysis

a. Air Quality

Under Alternative 1, no construction would occur. Therefore, this alternative would not result in new air emissions that could conflict with or obstruct implementation of the Bay Area Air District's (Air District) Air Quality Management Plan, result in a cumulatively considerable net increase of any criteria air pollutant, expose sensitive receptors to substantial pollutant concentrations, or expose sensitive receptors to substantial odor emissions. Therefore, Alternative would have no impact. Overall, impacts to air quality under Alternative 1 would be reduced compared to the proposed project.

b. Biological Resources

Under Alternative 1, no ground disturbance would occur. Therefore, this alternative would not result in any new impacts to special-status species, and Mitigation Measures BIO-1 would not be required. No impact would occur to sensitive natural communities or wetlands. Alternative 1 would not interfere with wildlife movement and would not conflict with local policies or ordinances. Therefore, no impacts to biological resources would occur under Alternative 1, and impacts would be reduced compared to the proposed project.

c. Cultural Resources

Under Alternative 1, no construction would occur. Therefore, this alternative would not result in new impacts to cultural resources. Because no ground-disturbing activities would occur under Alternative 1, implementation of Mitigation Measure CUL-2a, CUL-2b, and TCR-1a through TCR-1c

would not be required. There would be no impact to cultural resources under Alternative 1, and impacts would be reduced compared to the proposed project.

d. Energy and Greenhouse Gas Emissions

Alternative 1 would not involve construction or operation of new a new fuel facility at the project site. Therefore, this alternative would not generate construction or operational greenhouse gas (GHG) emissions or increase energy use. Alternative 1 would therefore not conflict with the Air District thresholds . Thus, implementation of Mitigation Measure GHG-3 would not be required. There would be no impact to energy or GHG under Alternative 1, and impacts would be reduced compared to the proposed project.

e. Geology and Soils

Under Alternative 1, no construction would occur. Alternative 1 would not involve construction of new residences or additional structures on site and would therefore not increase the exposure to risk of loss, injury, or death due to rupture of a known earthquake fault; increase exposure to ground shaking; or introduce new risks to life or property due to expansive soils, liquefaction, or landslide. No impact would occur, and impacts would be reduced compared to the proposed project.

Alternative 1 would not result in substantial erosion or the loss of topsoil, and preparation of a Stormwater Pollution Protection Plan (SWPPP) would not be required. Additionally, because Alternative 1 would not involve ground-disturbing activities, this alternative would not result in impacts to underlying geologic units. Therefore, no impact to paleontological resources would occur and implementation of Mitigation Measure GEO-9 would not be required.

Overall, Alternative 1 would have no impacts related to geology and soils, and implementation of Mitigation Measures GEO-9 would not be required. Impacts to geology and soils would be reduced under this alternative compared to the proposed project.

f. Hazards and Hazardous Materials

Under Alternative 1, no construction would occur. Impacts to hazardous materials, including the transport and use of hazardous materials, accidental release of hazardous materials, and interference with an emergency response plan or evacuation plan would be less than that of the proposed project, as there would no longer be a new fuel facility. Overall, no impact to hazard and hazardous material would occur under Alternative 1 and impacts would be reduced compared to the proposed project.

g. Hydrology and Water Quality

Under Alternative 1, no construction would occur. Alternative 1 would result in no new impacts to surface or groundwater quality. Alternative 1 would not introduce a new conflict with sustainable groundwater management objectives for the basin, similar to the proposed project. Alternative 1 would not modify existing drainage patterns, risk of flooding, or water quality control. Alternative 1 eliminates the risk of releasing pollutants due to inundation, as there would be no new structures or facilities. Overall, Alternative 1 would result in no impact to hydrology and water quality, and reduced impacts in comparison to the proposed project.

h. Transportation

This alternative would not construct a fuel facility or relocate an existing driveway along Vintage Way. Accordingly, Alternative 1 would not result in new impacts to existing transit, roadway, bicycle, and pedestrian facilities and would not conflict with a program, plan, ordinance, or policy addressing the circulation system. This alternative would not change vehicle miles traveled (VMT) from existing conditions (i.e., Alternative 1 would result in 0 daily VMT); however, as the proposed project results in a net reduction of 702 daily VMT, Alternative 1 would result in greater VMT than the proposed project. Alternative 1 would not involve alterations to existing roadways and would therefore not increase hazards due to geometric design features or result in inadequate emergency access. Therefore, Alternative 1 would have no impacts to transportation impacts, but overall impacts would be greater than the proposed project due to the increase in total daily VMT as compared to the project.

i. Tribal Cultural Resources

Under Alternative 1, no construction would occur. Therefore, this alternative would not result in new impacts to tribal cultural resources. Because no ground-disturbing activities would occur under Alternative 1, implementation of Mitigation Measure TCR-1a through TCR-1c would not be required. There would be no impact to tribal cultural resources under Alternative 1, and impacts would be reduced compared to the proposed project.

6.3 Alternative 2: Reduced Project

6.3.1 Description

Similar to the proposed project, this alternative would involve removal of 129 parking spaces in the Costco parking lot and construction of a new fuel facility within the project site, with a reduced number of pumps (10) and fueling positions (20) as compared to the proposed project, which proposes 14 pumps and 28 fueling positions. This alternative would also involve relocation of the existing driveway along Vintage Way, reconfiguration of the lanes along Vintage Way, and proposed landscaping, the same components as the proposed project. The reduction in gasoline fueling positions would result in reduced vehicle trips through modified consumer behavior associated with the smaller station.

This alternative would generally fulfill two of the three project objectives as it would involve development of a new fuel facility to support the fueling needs of local Costco members, and construction of a fuel facility in accordance with Costco's Fueling Facility Program. However, this alternative would less effectively fulfill the first project objective compared to the proposed project as it would not meet the full demand for gasoline fueling services by local Costco members. This alternative would not fulfill the remaining project objective to develop a fuel facility of a design providing safe and efficient vehicle circulation and minimizing customer wait and vehicle idling times because it would result in longer vehicle queues and customer wait time compared to the project.

As noted below, Alternative 2 would have similar impacts to biological resources, cultural resources, and tribal cultural resources as compared to the proposed project; and lesser impacts than the proposed project to the remaining resources areas, including air quality, energy and greenhouse gas emissions, geology and soils, hazards and hazardous materials, hydrology and water quality, and transportation.

6.3.2 Impact Analysis

a. Air Quality

Construction of the reduced facility would be generally the same as construction of the proposed project and no changes to construction emissions are anticipated.

Alternative 2 would not conflict with the applicable air quality plan and federal or state air quality standards. This alternative simply reduces the number of pumps. Because this alternative would result in fewer vehicle trips than the proposed project, air pollutant emissions are anticipated to be less than the proposed project. Therefore, consistent with the proposed project, Alternative 2 would not conflict with the Air District’s 2017 Plan nor would it exceed the Air District daily or annual thresholds for any criteria pollutants, as shown in Table 6-1 and Table 6-2. Impacts would be less than significant and less than those of the proposed project; overall carbon monoxide (CO) emissions would increase due to increased regional VMT while ROG emissions would decrease due to less operational throughput.

Table 6-1 Alternative 2 Average Daily Operational Emissions

Sources	Average Daily Emissions (pounds/day)					
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	SO _x
Mobile	1	6	<1	<1	<1	<1
Area	<1	<1	<1	<1	<1	<1
Energy	0	0	0	0	0	0
Fuel Stations	37	-	-	-	-	-
Total Alternative 2 Emissions	40	1	7	<1	<1	<1
Thresholds	54	54	N/A	82	54	N/A
Threshold Exceeded?	No	No	N/A	No	No	N/A
Proposed Project	52	<1	<1	<1	<1	<1

Note: Numbers may not add up due to rounding.

N/A = not applicable; there is no Air District threshold for CO or SO_x

Source: Appendix L (Table 2.5 from CalEEMod output. Results rounded to the nearest whole number.); ROG Emissions from fuel throughput)

Table 6-2 Alternative 2 Annual Operational Emissions

Sources	Maximum Annual Emissions (tons/year)					
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	SO _x
Area	1	<1	1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile	<1	1	<1	<1	<1	<1
Fuel Station	7	-	-	-	-	-
Total Alternative 2 Emissions	7	1	<1	<1	<1	<1
Thresholds	10	10	N/A	15	10	N/A
Threshold Exceeded?	No	No	N/A	No	No	N/A
Proposed Project	9	<1	<1	<1	<1	<1

Note: Numbers may not add up due to rounding.

N/A = not applicable; there is no Air District threshold for CO or SO_x

Source: Appendix L (Table 2.5 from CalEEMod output. Results rounded to the nearest whole number.) ; ROG Emissions from fuel throughput)

Similar to the proposed project, this alternative would potentially expose sensitive receptors to substantial pollutant concentrations in the form of CO and toxic air contaminants (TAC). Alternative 2 would result in fewer vehicle trips than the proposed project, which would not exceed vehicles per hour thresholds for potential CO impacts. Similar to the proposed project, the sources of CO at the facility would be temporary, and the concentration of CO emissions would be low and would rapidly disperse. TAC emissions from Alternative 2 would be less than the modeled TAC emissions for the proposed project as the annual throughput of gasoline would be less. As shown, in Section 4.1, Air Quality, TAC emissions from the proposed project would not exceed the Air District's project-level or cumulative health risk thresholds at the Maximum Exposed Individual Worker and Maximum Exposed Individual Resident. Because regional construction emissions associated with Alternative 2 would be similar to the proposed project, risk would not be expected to exceed applicable thresholds as operational risk would be reduced from what was identified in the proposed project. Impacts would be less than significant.

Alternative 2 would involve similar excavation and paving activities compared to the proposed project. These construction activities would emit generally the same construction odors as the proposed project. During operation, gasoline fumes would be considered a nuisance odor, similar to the proposed project. Odors from construction emissions would be intermittent and dissipate rapidly with increasing distance, and operation would include the implementation of vapor recovery systems, similar to the proposed project, which would significantly reduce odorous emissions. Therefore, odor impacts would be less than significant and similar to the proposed project.

Overall, Alternative 2 would result in less than significant impacts to local and regional air quality, with less operational impacts than the proposed project.

b. Biological Resources

Alternative 2 would result in construction activities within the same project site as the proposed project, which would have a similar potential to impact nearby nesting birds as the proposed project. Similar to the proposed project, Alternative 2 would require implementation of Mitigation Measures BIO-1, which would reduce impacts related to nesting birds to less than significant. As with the proposed project, Alternative 2 would not impact riparian or sensitive natural communities and wetlands as the project site does not contain such features; interfere with wildlife movement as no known regionally significant wildlife movement corridors or habitat linkages are known to occur on the project site; or conflict with local policies, ordinances, or applicable plans protecting biological resources. Overall, impacts to biological resources would be similar to those of the proposed project under Alternative 2 and would be less than significant with mitigation.

c. Cultural Resources

Alternative 2 would result in construction activities within the same project site as the proposed project. As no historical resources were identified within or adjacent to the project site, similar to the proposed project, Alternative 2 would not cause a substantial adverse change in the significance of a historical resource, and there would be no impact. Similar to the proposed project, grading and excavation that would occur under Alternative 2 could potentially unearth, adversely change, or damage previously unidentified archaeological resources. Mitigation Measures CUL-2a and CUL-2b would be required under this alternative, and impacts would be less than significant with mitigation, similar to the proposed project. Alternative 2 would still have the potential to unearth and disturb previously unidentified or unknown human remains. However, similar to the project, mandatory adherence to existing regulations pertaining to the discovery of human remains would ensure impacts to human remains are less than significant.

Overall, impacts to cultural resources would be similar to the proposed project under Alternative 2 and would be less than significant with mitigation.

d. Energy and Greenhouse Gas Emissions

With regard to wasteful or unnecessary energy consumption, construction of the reduced facility would be temporary and would not result in wasteful energy consumption. Operation of the facility would increase energy use but reduce the British thermal units per square foot as compared to the proposed project as there would be fewer pumps operating in the same general space. The reduction of number of pumps would result in fewer cars using the project, which would result in less energy consumption and waste generation (waste/trash from patrons). Additionally, Alternative 2 would conform with the latest version of California’s Green Building Code, and would not increase overall demand for gasoline in the region, but rather redistribute demand from existing gas stations. Therefore, Alternative 2 would not result in wasteful or unnecessary energy consumption. Impacts would be less than significant and similar to the proposed project.

This alternative would also comply with the applicable energy efficiency goals and policies from Novato’s Climate Action Plan (CAP), similar to the proposed project.

Alternative 2 would generate GHG emissions predominantly through building energy consumption and area source emissions, water consumption, and waste and wastewater generation. Consistent with proposed project, this alternative would reduce regional VMT. As described further under *h. Transportation*, Alternative 2 would result in less VMT than the proposed project. The reduction in VMT would result in less GHG emissions under Alternative 2 as compared to the proposed project, although this alternative would continue to require implementation of Mitigation Measure GHG-3 in order for the alternative to meet Air District threshold criteria, which require that Tier 2 standards be met. Implementation of this mitigation measure would result in less than significant impacts related to GHG emissions. Table 6-3 shows the GHG emissions from Alternative 2. Impacts would be less than significant with mitigation.

Table 6-3 Alternative 2 GHG Emissions

Emission Source	Annual Emissions (CO ₂ e in metric tons)
Construction	
2024	95.8
2025	30.1
Total	125.9
Amortized ¹	4
Operational	
Area	<1
Energy	7
Solid Waste	3
Water	1
Mobile	677
Total²	692

¹ Construction activity would generate 126 MT CO₂e over the entire three-month construction period. Construction emissions were amortized over 30 years consistent with South Coast AQMP guidance, as the Air District has no guidance for no construction emissions.

² Total annual emissions are comprised of the sum of amortized construction emissions, all operational emissions, and mobile emissions.

Source: Appendix L

Overall, Alternative 2 would have less than significant impacts related to energy and GHG emissions with implementation of Mitigation MeasureGHG-3. Impacts to energy emissions would be reduced under this alternative compared to the proposed project.

e. Geology and Soils

Alternative 2 would be located on the same project site as the proposed project, and accordingly would be subject to the same seismic and soil-related hazards as the proposed project. However, Alternative 2 would construct a smaller fueling facility, and would therefore expose fewer people visiting the facility to the risk of loss, injury, or death involving rupture of a known earthquake fault, ground shaking, ground failure, seismic-related liquefaction, landslides, lateral spreading, and subsidence. Impacts would be slightly reduced compared to the proposed project.

Similar to the proposed project, Alternative 2 would be required to comply with the CBC and Geotechnical Study recommendations would ensure impacts from expansive soils are less than significant. Similar to the proposed project, grading and excavation would be managed with National Pollutant Discharge Elimination Permit (NPDES)-compliant SWPPP and erosion control measures, minimizing potential impacts from soil erosion or the loss of topsoil. Alternative 2 would result in less than significant impacts to soil erosion, unstable soils, and expansive soils, similar to the proposed project.

Similar to the proposed project, this alternative would involve the construction and operation of a fuel facility and would not involve the installation or operation of septic tanks or alternative wastewater disposal systems. Accordingly, there would be no impact.

Similar to the proposed project, Alternative 2 would result in ground disturbance of low-sensitivity geologic units, and would require the implementation of Mitigation Measure GEO-9 to reduce impacts to paleontological resources to less than significant.

Overall, Alternative 2 would result in slightly reduced impacts to geology and soils compared to the proposed project, and impacts would be less than significant with mitigation.

f. Hazards and Hazardous Materials

Similar to the proposed project, Alternative 2 would not be located in close proximity to schools, within an airport planning area, or within a high or very high fire hazard severity zone. Construction of a new fuel facility on the project site would not impair implementation of, or physically interfere with, the Marin County Multi-Jurisdictional Local Hazard Mitigation Plan. Therefore, Alternative 2 would result in no impact related to these topics, similar to the proposed project.

Construction and operation of Alternative 2 would require the transport, use, and disposal of hazardous materials but possibly at somewhat smaller quantities than the proposed project due to the reduced project size. Use and transportation of these substances could pose a risk to public safety and the environment from accidental release or explosion. With implementation of applicable federal, state, and local requirements, impacts would be reduced in comparison to the proposed project and would remain less than significant.

Although the project site is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, as discussed in Section 4.6, *Hazards and Hazardous Materials*, this listing is not applicable to the project site and there is no documentation of known hazardous materials release issues associated with the site resulting from historical uses of the project site. Similar to the proposed project, impacts would be less than significant.

Overall, Alternative 2 would result in slightly reduced impacts to hazards and hazardous materials compared to the proposed project, and impacts would be less than significant.

g. Hydrology and Water Quality

As with the proposed project, Alternative 2 would not be located within a 100-year floodplain, in an area subject to flood from dam failure, or in seiche or tsunami inundation zones. Alternative 2 would result in the construction of a smaller fueling facility on the same project site. Therefore, similar to the proposed project, Alternative 2 would not impede or redirect flood flows or result in risk of release of pollutants due to project inundation.

Construction and operation of Alternative 2 could generate pollutants of concern that could enter stormwater. Similar to the proposed project, Alternative 2 would be required to comply with NPDES, SWPPP, and City requirements, including implementing best management practices to reduce pollutants of concern. Ground disturbance required under Alternative 2 would be similar compared to the proposed project; therefore, water quality impacts would be less than significant.

Similar to the proposed project, stormwater runoff from Alternative 2 would discharge to on-site bioretention areas and would not discharge to a receiving water body with beneficial uses or water quality objectives identified by the San Francisco Bay Basin Water Quality Control Plan (Basin Plan). Additionally, no Groundwater Sustainability Plan has been prepared for the underlying groundwater basin, and Alternative 2 would not be served by groundwater. Similar to the proposed project, Alternative 2 would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Overall, Alternative 2 would result in similar impacts to hydrology and water quality compared to the proposed project, and impacts would be less than significant.

h. Transportation

Alternative 2 would construct a smaller fueling facility than the proposed project, resulting in different transportation behavior and resulting vehicle miles traveled (VMT). Kittelson and Associates prepared a VMT analysis for Alternative 2, dated June 3, 2024, for an accurate comparison of VMT impacts between Alternative 2 and the proposed project. This report was then peer reviewed by W-Trans on June 10, 2024, to ensure the accuracy of the Alternative 2 VMT analysis. Both reports are included as Appendix M.

The VMT analysis for Alternative 2 is summarized below in Table 6-4. The analysis reviewed the same trip types as the proposed project, which are described in detail in Section 4.8, *Transportation*, as well as in Appendix M. As shown therein, Alternative 2 would be expected to result in a net decrease of 798 daily VMT. Therefore, Alternative 2 would result in a net decrease in VMT similar to the proposed project, which would result in a net decrease of 702 VMT. Accordingly, Alternative 2 would not exceed the standard of significance and would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and impacts would be less than significant. Because Alternative 2 would result in a smaller VMT than the proposed project, impacts would be slightly reduced as compared to the proposed project.

Table 6-4 Change in Regional Daily VMT Associated with Project Alternative

Member Trip Type	Existing Daily VMT	With Alternative 2 Daily VMT	Change in Regional Daily VMT
Regional Warehouse Plus Gas Trips	36,256	32,220	-4,036
Internal Shared Warehouse Plus Gas	814	0	-814
Employee Trips	0	83	83
Primary Gas-Only Trips	1,038	3,113	2,075
Diverted Gas-Only Trips	1,012	2,459	1,447
Pass-by-Gas-Only Trips	0	447	447
Total VMT	39,120	38,322	-798

VMT = vehicle miles traveled

Source: Appendix M

Similar to the proposed project, Alternative 2 would not result in conflicts with transit, roadway, bicycle, or pedestrian facilities, through the payment of required Traffic Impact Fees. Similarly, relocation of the Vintage Way intersection would improve vehicle flow, would maintain bicycle and pedestrian routes along Vintage Way, would not result in hazards due to a geometric design feature, and would not impede emergency access to the project site. Alternative 2 would result in less than significant impacts related to conflicts with transportation-related policies and programs, hazards, and emergency access, similar to the proposed project.

Overall, Alternative 2 would result in slightly reduced impacts to transportation compared to the proposed project, and impacts would be less than significant.

i. Tribal Cultural Resources

Alternative 2 would result in grading and excavation on the same site as the proposed project, which could result in potential impacts to tribal cultural resources on the site. The level of disturbance under Alternative 2 would be similar to the project. Similar to the proposed project, Mitigation Measure TCR-1a through TCR-1c would be required under this alternative, and impacts would be less than significant with mitigation. Overall, Alternative 2 would result in similar impacts to tribal cultural resources compared to the proposed project.

6.4 Alternative 3: Alternative Location

6.4.1 Description

This alternative would involve construction of the proposed fuel facility in a different location, instead of in the existing Costco parking lot as proposed. The alternative site considered in this analysis is within the approved Hanna Ranch Mixed Use Project area, which is within the currently undeveloped area immediately southeast of the Vintage Oaks Shopping Center. Under this alternative, the fuel facility would be constructed southeast of the existing Costco warehouse, across the intersection of Vintage Way and Rowland Boulevard, in the undeveloped area east of the Beverly Ehreth Ecological Preserve and west of the railroad tracks. Demolition of the existing Costco parking lot; relocation of an existing driveway to the parking lot along Vintage Way; the addition of a left-turn lane on Vintage Way; and the increase of permeable surfaces, landscaping, and bioretention areas within the project site would not occur. A driveway would be constructed at the southern intersection of Vintage Way and Rowland Boulevard to provide access to the fuel facility

and the rest of the Hanna Ranch Mixed Use Project site. Figure 6-1 shows the conceptual master plan for the Hanna Ranch Mixed Use Project and the Costco fuel facility site included therein. The application for the Hanna Ranch Mixed Use Project was filed in January 2017, including a master plan showing a proposed gasoline fueling facility (identified specifically as a Costco fueling facility) as part of the proposed project. The Hanna Ranch Mixed Use Project is currently under review by the City of Novato.

This alternative would fulfill all three project objectives as it would involve development of a new fuel facility to support the fueling needs of local Costco members, construction of a fuel facility in accordance with Costco's Fueling Facility Program, and would develop a fuel facility of a design providing safe and efficient vehicle circulation and minimizing customer wait and vehicle idling times. However, this alternative would not fulfill project objectives as well as the proposed project, by being located on a separate site from the existing Costco warehouse building.

As noted below, Alternative 3 would have greater air quality, biological resources, energy and greenhouse gas emissions, geology and soils, hydrology and water quality, and transportation impacts than the proposed project; and similar impacts to cultural resources, hazards and hazardous materials, and tribal cultural resources as compared to the proposed project.

6.4.2 Impact Analysis

Because this Alternative consists of buildout under the Hanna Ranch Mixed Use Project, the environmental impacts of the Alternative Location would be consistent with the impacts identified in the Hanna Ranch Mixed Use Project EIR (certified in 2011, addendum prepared in 2018; State Clearinghouse Number 2005072141). These impacts are summarized below.

This alternative assumes only the fuel facility is located on the Hanna Ranch site. Therefore, the analyses presented below include new assessments of the fuel station on the site informed by background data from the Hanna Ranch EIR and addendum. Accordingly, the Hanna Ranch Mixed Use Project EIR determined the following environmental impacts to be significant and unavoidable even with mitigation:

- **Greenhouse Gas Emissions** – operational greenhouse gas emissions impacts

The Hanna Ranch Mixed Use Project EIR determined the following environmental impacts to be less than significant with mitigation:

- **Aesthetics** – light and glare impacts
- **Transportation**– vehicle queueing, pedestrian and bicycle facilities, and transit facilities impacts
- **Air Quality** – obstructing implementation of an air quality plan
- **Noise** – construction and operational traffic noise impacts
- **Geology and Soils** – impacts related to seismic ground shaking, ground failure, and expansive soils
- **Hydrology and Water Quality** – impacts to stormwater runoff and storm drain capacity, development within a floodplain
- **Biological Resources** – impacts to western pond turtles, nesting birds, and natural communities; impacts related to invasive plants; impacts to wetlands and habitat connectivity; tree removal impacts
- **Cultural Resources** – impacts to archaeological resources, paleontological resources, and tribal cultural resources

The Hanna Ranch Mixed Use EIR determined impacts to remaining resource areas, namely public services, land use and planning, and utilities and infrastructure, would be less than significant without mitigation.

The 2018 addendum to the Hanna Ranch Mixed Use EIR did not identify any impacts as substantially greater than those identified in the EIR. The addendum included additional mitigation measures for biological resources, but concluded that impacts to biological resources and all other environmental resource areas would not be greater than those identified in the 2011 EIR.

a. Air Quality

Alternative 3 would involve construction of the fuel facility on an alternative site, which is currently undeveloped. Construction of the facility on the alternative site would require more excavation and grading compared to the proposed project site, as the undeveloped site would require more ground disturbance for site preparation and utility connections. Additionally, Alternative 3 would require greater paving efforts than the proposed project as the alternative site is currently unpaved.

Alternative 3 would not conflict with the applicable air quality plan and federal or state air quality standards. This alternative simply changes the location of the fuel facility; because the size of the facility would be the same, air quality emissions are anticipated to be similar to the proposed project. Therefore, Alternative 3 would not be anticipated to conflict with the Air District's 2017 Plan nor would it be expected exceed the Air District daily or annual thresholds for any criteria pollutant. Impacts would be less than significant and the same as those of the proposed project.

Similar to the proposed project, this alternative would potentially expose sensitive receptors to substantial pollutant concentrations in the form of Carbon Monoxide (CO) and Toxic Air Contaminants (TAC). Alternative 3 would result in the same number of trips as the proposed project, which would not exceed vehicles per hour thresholds for potential CO impacts. Similar to the proposed project, the sources of CO at the facility would be temporary, the concentration of CO emissions would be low and would rapidly disperse.

TAC emissions from Alternative 3 would be similar to the TAC emissions identified for the Hanna Ranch Gasoline facility, provided as part of the cumulative health risk analysis in Section 4.1, *Air Quality*, and in Appendix F. However, there may be differences as project specific details would be accounted for where in Appendix F very general non-specific details were used to determine risk. TAC emissions for cumulative impacts were estimated using the California Air Resources Board's Gas Station Risk Assessment Tool. These risk levels would not be expected to exceed Bay Area Air District (Air District's) project-level health risk thresholds at the Maximum Exposed Individual Worker and Maximum Exposed Individual Resident. Regional construction emissions associated with Alternative 3 would be similar to proposed project would not be expected to exceed applicable health risk thresholds and impacts would be less than significant.

Alternative 3 would involve greater excavation and paving activities compared to the proposed project. However, these construction activities would emit generally the same construction odors as the proposed project. During operation, gasoline fumes would be considered a controlled nuisance odor, similar to the proposed project. However, construction emissions would be intermittent and dissipate rapidly with increasing distance and operation would include the implementation of vapor recovery systems, similar to the proposed project, which would significantly reduce these odorous emissions. Therefore, impacts would be less than significant and similar to the proposed project.

Overall, Alternative 3 would result in less than significant impacts to air quality, greater than the proposed project.

b. Biological Resources

Because Alternative 3 would be located on an undeveloped site adjacent to the Beverly Ehreth Ecological Preserve and would involve greater construction activities (such as a greater quantity of vegetation removal, greater quantities of grading, and greater quantities of paving), impacts to biological resources could be greater than under the proposed project.

The alternative site is currently undeveloped, and may include special-status plant species and habitat suitable for special-status wildlife species, including, but not limited to: purple needlegrass, western pond turtle, white-tailed kite, loggerhead shrike, San Pablo song sparrow, and saltmarsh common yellowthroat. Development of the alternative site under Alternative 3 would be subject to the mitigation measures provided in the Hanna Ranch Mixed Use EIR and subsequent Addendum, including Mitigation Measure BIO-1 (also referred to as BIO-1a), BIO-1b, BIO-1c, BIO-1d, BIO-2 (alternatively, Mitigation Measure BIO-1 provided in Section 4.2, *Biological Resources*, whichever is determined to be more stringent), BIO-4, BIO-7, BIO-10d, BIO-10e, BIO-11e, and BIO-11f, in order to reduce potential impacts to special-status plant and wildlife species to a less than significant level. Impacts to special-status species would be greater than under the proposed project.

Because the Beverly Ehreth Ecological Preserve and alternative site are surrounded by existing barriers (e.g. roadways, SMART rail line, and a fence), there would be minimal impacts to special-status plants or animals associated with the Preserve. This alternative may still impact nesting birds which may find ornamental landscaping and trees as suitable habitats. Thus, this alternative would require implementation of Mitigation Measure BIO-1.

Sensitive natural communities located in the vicinity of the alternative site include riparian habitat within the Beverly Ehreth Ecological Preserve, oak woodland, and purple needlegrass grassland. Development of the alternative site has the potential to impact these communities, and implementation of Mitigation Measures BIO-3 and BIO-4 from the Hanna Ranch Mixed Use EIR would be necessary to reduce impacts to a less than significant level. This impact would be greater under Alternative 3 than under the proposed project.

The alternative site does not include any mapped federally-protected wetlands; however, the Beverly Ehreth Ecological Preserve is adjacent to the west of the alternative site, and an unnamed pond is adjacent to the south of the alternative site. Alternative 3 would not involve direct or cause indirect removal, filling, or hydrological interruption of these features; however, Mitigation Measures BIO-5a, BIO-5b, BIO-6a, and BIO-6b from the Hanna Ranch Mixed Use EIR and subsequent Addendum would be required prior to ground-breaking, to ensure no encroachment of these adjacent wetlands. The drainage design would ensure that no operational runoff from the alternative site travels into the nearby wetland and pond features. Compliance with NPDES Construction General Permit requirements and the preparation of a SWPPP would ensure pollutants carried off by stormwater do not enter nearby wetland features during construction and operation. Therefore, impacts would be less than significant, but increased in comparison to the proposed project.

The Beverly Ehreth Ecological Preserve and Petaluma Marsh Wildlife Area provide corridors for wildlife movement and proximity to these areas could interfere with that movement. However, the alternative site would be bounded by the SMART commuter rail line. Both the SMART commuter rail line and US 101 create an existing barrier to wildlife entering the alternative site. In addition, the

Beverly Ehreth Ecological Preserve is surrounded by a 4-foot chain link fence to control access to the preserve. The existing fencing also constrains wildlife movement into the alternative site. Therefore, the alternative would not result in any impacts that would 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. This impact would be less than significant, but increased in comparison to the proposed project.

While Alternative 3 would require vegetation removal, there are no trees currently located on the alternative site. Therefore, Alternative 3 would not conflict with any local policies or ordinances protecting biological resources, such as those related to tree removal. This impact would be less than significant, and reduced as compared to the proposed project.

This alternative site is not located on the site of any Habitat Conservation Plan so there would be no impact, similar to the proposed project.

Overall, Alternative 3 may result in potentially significant impacts to biological resources. However, compliance with regulations, the existence of enclosures, implementation of Mitigation Measure BIO-1 (refer to Section 4.2, *Biological Resources*), and Mitigation Measures BIO-3 and BIO-4 (refer to the Hanna Ranch Mixed Use EIR) would reduce impacts to less than significant, but greater than the proposed project.

c. Cultural Resources

Alternative 3 would involve construction of a fuel facility on the alternative site, which is within the area of the Hanna Ranch Mixed Use Project. The Hanna Ranch Mixed Use Project EIR determined that there are no eligible historical resources according to NRHP, CRHR, or local registers' criterion within the alternative site. Therefore, Alternative 3 would have no impact to historical resources and impacts would be similar to the proposed project.

This alternative would involve grading and excavation in an undeveloped area, and these ground-disturbing activities could potentially unearth, adversely change, or damage previously unidentified archaeological and tribal cultural resources. Mitigation Measures CUL-2a, CUL-2b, and TCR-1a through TCR-1c (refer to Section 4.3, *Cultural Resources*, and Section 4.9, *Tribal Cultural Resources*, for the full text of these measures) would be required under this alternative, and impacts would be less than significant with mitigation, similar to the proposed project. Additionally, due to grading and excavation, this alternative would have the potential to unearth or disturb previously unidentified or unknown human remains. However, impacts would remain less than significant due to mandatory adherence to existing regulations pertaining to the discovery of human remains.

Overall, Alternative 3 would have minor impacts related to cultural resources, and implementation of Mitigation Measures CUL-2a, CUL-2b, and TCR-1a through TCR-1c (refer to Section 4.3, *Cultural Resources*, and Section 4.9, *Tribal Cultural Resources*, for the full text of these measures) would be required to maintain less than significant impacts. Impacts to cultural resources would be less than significant and similar under this alternative as compared to the proposed project.

d. Energy and Greenhouse Gas Emissions

Alternative 3 would involve construction of the fuel facility on an alternative site. With regards to wasteful or unnecessary energy consumption, construction of the facility would be temporary and would not result in wasteful energy consumption. The operation of the facility would increase energy use but would conform with the latest version of California's Green Building Code, and the project is not anticipated to increase overall demand for gasoline in the region, but rather would

redistribute demand from existing gas stations. Therefore, the project would not result in wasteful or unnecessary energy consumption. Impacts would be less than significant and similar to the proposed project.

This alternative would also comply with the applicable energy efficiency goals and policies from Novato's Climate Action Plan (CAP), similar to the proposed project.

Alternative 3 would generate greenhouse gas (GHG) emissions predominantly through building energy consumption and area source emissions, water consumption, and waste and wastewater generation. . As described further under *h. Transportation*, Alternative 3 would result in greater VMT than the proposed project but would still result in a reduction in VMT regionally. As the number of pumps and the anticipated throughput and increased traffic to the site would be the same, the non-vehicle related GHG emissions from this Alternative would be anticipated to be the same as the proposed project. This alternative would continue to require implementation of Mitigation Measure GHG-3 in order for the alternative to meet the Air District threshold criteria, which require that Tier 2 standards be met. Implementation of this mitigation measure would result in less than significant impacts related to GHG emissions. Although impacts would be slightly greater than the proposed project, impacts would be less than significant with mitigation.

Overall, Alternative 3 would have less than significant impacts related to energy and less than significant impacts related to GHG emissions, with implementation of Mitigation Measure GHG-3. Impacts to energy and GHG emissions would be greater under this alternative compared to the proposed project.

e. Geology and Soils

Due to its proximity, the geologic conditions of the alternative site are substantially the same as the project site. However, the alternative site is currently undisturbed and undeveloped. As discussed in Section 4.4, *Geology and Soils*, the project site is proximate to several faults but is not underlain by a known earthquake fault. Because the geologic conditions of the alternative site are substantially similar to the proposed project site, Alternative 3 would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. There would be no impact, similar to the proposed project.

Strong seismic ground shaking is an existing risk at the project site and Alternative 3 would involve construction of the new fuel facility that may increase exposure to ground shaking. However, compliance with the CBC will make this impact less than significant, similar to the proposed project. Alternative 3 would not introduce new risks to life or property due to expansive soils, liquefaction, or landslide. Therefore, no impacts to soil hazards would occur under Alternative 3, and impacts would be similar compared to the proposed project.

Because the alternative site is currently undeveloped, Alternative 3 may potentially result in substantial erosion or the loss of topsoil during construction, and preparation of a SWPPP would be required. With mandatory implementation of the SWPPP and erosion control measures, the proposed project would not result in substantial soil erosion or the loss of topsoil. Impacts would be slightly greater than the proposed project but would be less than significant. Additionally, Alternative 3 would involve ground-disturbing activities and could result in unearthing or damaging unique paleontological resources. Implementation of the Mitigation Measure GEO-9 (refer to Section 4.4, *Geology and Soils*, for the full text of these measure) would be required to reduce this impact to less than significant. Finally, this alternative would not involve the use of a septic system and there would be no impact, similar to the proposed project.

Overall, Alternative 3 would have slightly greater impacts related to geology and soils. However, compliance with NPDES permit requirements, including preparation of a SWPPP, and implementation of Mitigation Measure GEO-9 (refer to Section 4.4, *Geology and Soils*, for the full text of these measure) would result in less than significant impacts.

f. Hazards and Hazardous Materials

Under Alternative 3, the fuel facility would be constructed in a different location and there would be potential for public exposure to hazardous materials through routine use or accidents during construction or operation. Implementation of the same protections and regulations listed in Section 4.6, *Hazards and Hazardous Materials*, would reduce this impact to less than significant. The alternative site is not included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 (California Department of Toxic Substances Control 2024; State Water Resources Control Board 2024; California Environmental Protection Agency 2024a, 2024b). Additionally, the alternative site is not located within 0.25 mile of a school or within two miles of an airport. Accordingly, impacts would be similar to the proposed project and would be less than significant.

The alternative site is outside the jurisdiction of any emergency evacuation plans, similar to the project site. Consequently, these plans do not apply to the site. This impact would be less than significant, similar to the proposed project. The alternative site is not located in a very high fire hazard severity zone (CAL FIRE 2024) and would be adjacent to existing urban development. Impacts pertaining to wildland fires would be less than significant, similar to the proposed project.

Overall, impacts to hazard and hazardous materials would be less than significant under Alternative 3 and would be similar to the proposed project.

g. Hydrology and Water Quality

Under Alternative 3, the construction of the proposed fuel facility would occur on an alternative site and construction and operation of the facility may impact surface or ground water quality. However, adherence to the same protective regulations discussed in Section 4.7, *Hydrology and Water Quality*, would reduce this impact to less than significant. This alternative would not require the use of groundwater and impacts to sustainable groundwater management would be less than significant.

Because the alternative site is currently undeveloped, Alternative 3 would alter the drainage pattern of the alternative site. Additionally, areas of Novato are at risk of sea level rise. As shown in City of Novato's *General Plan 2035 Policy White Paper, Sea Level Rise and Adaptation* (City of Novato 2015), a rise in sea level of two feet (anticipated to occur by 2050 in worst-case prediction models, per Table 1 of the City's White Paper) would partially inundate the alternative site. Therefore, impacts associated with flooding and sea level rise would be greater under Alternative 3. Similar to the proposed project, Alternative 3 would have safety features built into the proposed design of the USTs so inundation of the alternative site would not be expected to infiltrate the USTs or associated infrastructure because of their watertight properties and various leak protection safeguards. Impacts resulting in flood hazard, tsunami, seiche, or release of pollutants due to project inundation would be less than significant. This alternative would be required to follow mandatory regulations which require the alternative site to be designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible. Therefore, the project would not conflict with or obstruct implementation of the Basin Plan and impacts would be less than significant.

Overall, Alternative 3 would result in less than significant impacts to hydrology and water quality, but impacts would be greater than the proposed project.

h. Transportation

Similar to the proposed project, Alternative 3 would not impact any existing transit, roadway, bicycle, and pedestrian facilities and would not conflict with a program, plan, ordinance, or policy addressing the circulation system. Because the alternative site is located farther from the highway than the project site by approximately 270 feet,¹ Alternative 3 would result in greater total VMT as customers would have to travel farther to visit the fuel facility (an additional approximately 0.1 mile per trip). Assuming the same number of vehicle trips would be generated by Alternative 3 as would occur under the proposed project, and assuming a 0.1 mile per trip increase in trip distances to the alternative site, total VMT would decrease under Alternative 3, but the reduction in VMT would be less than under the proposed project (refer to Table 6-5 through Table 6-10 for VMT calculations related to each trip type under Alternative 3). Impacts would be less than significant, similar to the proposed project.

Table 6-5 Change in VMT Associated with Regional Shared Warehouse Plus Gas Trips

	Existing			With Alternative 3		
	Average Trip Length	Daily Trips	Daily VMT	Average Trip Length	Daily Trips	Daily VMT
Rohnert Park	11.2	2,071	23,195	8.7	1,760	15,312
Vallejo	6.6	1,979	13,061	6.1	1,939	11,828
Novato (New Facility)	0	0	0	13.6 ^a	351	4,773 ^b
Total	-	4,050	36,256	-	4,050	31,914
Difference in Daily VMT (With Project Minus Existing)						(4,342)

Totals may not add due to rounding.

VMT = vehicle miles traveled

^a Increased by 0.1 mile due to the alternate location

^b Calculated based on increased trip distance

Source: Appendix D

Table 6-6 Change in VMT Associated with Internal Shared Warehouse Plus Gas Trips

Trip Type	Existing (Separate Gas Trip)			With Alternative 3 (Shared Warehouse Plus Gas Trip)		
	Daily Trips	Average Trip Distance	Daily VMT	Average Trip Distance ^a	Daily VMT ^b	Change in Daily VMT
Primary	324	0.83	270	0.1	32	-238
Diverted	765	0.72	551	0.1	77	-474
Pass-by	810	0	0	0.1	81	81
Total	1,899¹	-	821	-	190	-631

¹ 2,250 total internal trips – 351 expected to shift from other Costco facilities (see Table 6-5); 1,899 remaining trips expected to shift from non-Costco gas stations.

^a Increased by 0.1 mile due to the alternate location

^b Calculated based on increased trip distance

Source: Appendix D

¹ Approximately 780 feet (from the southern Vintage Way and Rowland Boulevard intersection to the alternative site) minus approximately 510 feet (from the southern Vintage Way and Rowland Boulevard intersection to the project site).

Table 6-7 Change in VMT Associated with Primary Gas-Only Trips

	Existing	With Alternative 3	Difference
Number of Trips	1,385	1,385	-
Average Trip Length (miles)	0.83	2.6 ^a	1.77 ^b
Daily VMT	1,154	3,601	2,447

VMT = vehicle miles traveled

^a Increased by 0.1 mile due to the alternate location

^b Calculated based on increased trip distance

Source: Appendix D

Table 6-8 Change in VMT Associated with Diverted Gas-Only Trips

	Diverted Trip Distance (miles)			Number of Daily Diverted Trips	Daily VMT
	US 101 NB	US 101 SB	Average		
Non-Costco Gas Stations (Existing)	0.64	0.80	0.72	1,560	1,123
Novato Fuel Facility (With Alternative 3)	1.5 ^a	2.2 ^a	1.85 ^a	1,560	2,886 ^b
Change in Daily VMT					1,763

NB = northbound; SB = southbound; VMT = vehicle miles traveled

^a Increased by 0.1 mile due to the alternate location

^b Calculated based on increased trip distance

Source: Appendix D

Table 6-9 Change in VMT Associated with Pass-By Gas-Only Trips

	Existing	With Alternative 3	Difference
Number of Trips	1,655	1,655	-
Average Trip Length (miles)	0	0.4 ^a	0.4
Daily VMT	0	662^b	662

VMT = vehicle miles traveled

^a Increased by 0.1 mile due to the alternate location

^b Calculated based on increased trip distance

Source: Appendix D

Table 6-10 Overall Change in Daily VMT Associated with the Proposed Project

Member Trip Type	Existing Daily VMT	With Alternative 3 Daily VMT	Change in Regional Daily VMT
Regional Warehouse Plus Gas Trips	36,256	31,914	-4,342
Internal Shared Warehouse Plus Gas	821	190	-631
Employee Trips	0	83	83
Primary Gas-Only Trips	1,154	3,601	2,447
Diverted Gas-Only Trips	1,123	2,886	1,763
Pass-by-Gas-Only Trips	0	662	662
Total VMT	39,354	39,336	-18

VMT = vehicle miles traveled

Source: Table 6-4 through Table 6-9

Alternative 3 would not involve alterations to existing roadways as the fuel facility would be accessed by a new driveway at the southern intersection of Vintage Way and Rowland Boulevard. Therefore, this alternative would not increase hazards due to geometric design features or result in inadequate emergency access. Alternative 3 would have less than significant impacts to transportation, and impacts would be similar to the proposed project.

Alternative 3's impacts to transportation would be greater compared to the proposed project as this alternative would result in a higher daily VMT; however, all transportation impacts would remain less than significant.

i. Tribal Cultural Resources

Alternative 3 would involve constructing the fuel facility on the alternative site, which is within the area of the Hanna Ranch Mixed Use Project. Formal Assembly Bill (AB) 52 consultation was not conducted during preparation of the Hanna Ranch Mixed Use Project EIR, as the original EIR was published in 2011, prior to the enactment of AB 52. Therefore, it is unknown if there are specific tribal cultural resources present on the alternative site. However, similar to the proposed project, because Alternative 3 would involve ground disturbance, there is the possibility of encountering previously undisturbed or unknown tribal cultural resources during construction. Mitigation Measures TCR-1a through TCR-1c (refer to Section 4.9, *Tribal Cultural Resources*, for the full text of these measures) would be required under this alternative, and impacts would be less than significant with mitigation, similar to the proposed project.

6.5 Environmentally Superior Alternative

CEQA requires the identification of the environmentally superior alternative among the alternatives to the proposed project. The environmentally superior alternative must be an alternative that reduces some of the environmental impacts of the project, regardless of the financial costs associated. Identification of the environmentally superior alternative is an informational procedure and the alternative identified as the environmentally superior alternative may not be that which best meets the goals of the approving agency or the project objectives.

Table 6-11 indicates whether each alternative's environmental impact is greater than, less than, or similar to that of the proposed project for each of the issue areas studied. Based on the alternatives analysis provided above, Alternative 1, the No Project Alternative, would be the environmentally superior alternative. Alternative 1 would eliminate project-level impacts related to ground disturbance, including biological resources, cultural resources, geology and soils, and tribal cultural resources. However, Alternative 1 would not meet any of the project objectives nor would it result in decreased VMT.

If the No Project Alternative is the environmentally superior alternative, CEQA requires that an environmentally superior alternative among the remaining alternatives be identified (*CEQA Guidelines* Section 15126.6[e]). Based on this consideration, Alternative 2 would be the environmentally superior alternative. Alternative 2 would result in similar but reduced impacts to air quality, energy and GHG emissions, geology and soils, hazards and hazardous materials, and transportation due to decreased buildout and fewer residents. Alternative 2 would generally meet project objectives by developing a new fuel facility to support the fueling needs of local Costco members, constructing a fuel facility in accordance with Costco's Fueling Facility Program, and developing a fuel facility of a design providing safe and efficient vehicle circulation and minimizing customer wait and vehicle idling times. However, Alternative 2 would less effectively fulfill the first

objective compared to the proposed project as it would not meet the full demand for gasoline fueling services by local Costco members.

Alternative 3 would result in greater impacts to air quality, biological resources, energy and GHG emissions, geology and soils, hydrology and water quality, and transportation due to the alternative location of this alternative. Therefore, Alternative 3 is not environmentally superior to the proposed project. Alternative 3 would likely meet project objectives, including developing a new fuel facility to support the fueling needs of local Costco members, constructing a fuel facility in accordance with Costco’s Fueling Facility Program, and developing a fuel facility of a design providing safe and efficient vehicle circulation and minimizing customer wait and vehicle idling times. However, Alternative 3 may be infeasible given that the applicant has no guarantee of ability to acquire and locate its fuel facility on the site of Alternative 3. Furthermore, Alternative 3 is part of the overall mixed-use plan for Hanna Ranch that has not yet been considered and approved by the City of Novato and there is no indication that such plan would proceed within a timeframe that would enable the applicant to meet its project objectives.

Table 6-11 Impact Comparison of Alternatives

Issue	Proposed Project Impact Classification	Alternative 1: No Project	Alternative 2: Reduced Project	Alternative 3: Alternative Location
Air Quality	Less than Significant	+	+	-
Biological Resources	Less than Significant with Mitigation Incorporated	+	=	-
Cultural Resources	Less than Significant with Mitigation Incorporated	+	=	=
Energy and Greenhouse Gas Emissions	Less than Significant with Mitigation Incorporated	+	+	-
Geology and Soils	Less than Significant with Mitigation Incorporated	+	+	-
Hazards and Hazardous Materials	Less than Significant	+	+	=
Hydrology and Water Quality	Less than Significant	+	=	-
Transportation	Less than Significant	-	+	-
Tribal Cultural Resources	Less than Significant with Mitigation Incorporated	+	=	=
Total		8 + 0 = 1 -	6 + 3 = 0 -	0 + 3 = 6 -

+ Superior to the proposed project (reduced level of impact)
 - Inferior to the proposed project (increased level of impact)
 = Similar level of impact to the proposed project

This page intentionally left blank.

7 References

7.1 Bibliography

Executive Summary

No references are cited in this section.

Section 1 Introduction

No references are cited in this section.

Section 2 Project Description

Costco. 2024. Kirkland Signature™ Gasoline. <https://www.costco.com/kirkland-signature-gasoline.html> (accessed May 2024).

Section 3 Environmental Setting

Novato, City of. 2023. Planning Projects. <https://www.novato.org/government/community-development/planning-division/planning-projects> (accessed May 2023).

Western Regional Climate Center. 1990. Hamilton AFB, California (043734).1960-1990 Monthly Climate Summary. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3734> (accessed April 2023).

Section 4 Environmental Impact Analysis

No references are cited in this section.

Section 4.1 Air Quality

Bay Area Air Quality Management District (BAAQMD). 2017. Final 2017 Clean Air Plan. San Francisco, CA. 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

_____. 2022a. CEQA Roadway Screening Tool – Cancer Risk. December 8.

https://data.bayareametro.gov/Environment/CEQA-Roadway-Screening-Tool-Cancer-Risk/kz4a-ueki/about_data (accessed March 2024).

_____. 2022b. CEQA Roadway Screening Tool – Chronic Hazard. December 8.

https://data.bayareametro.gov/Environment/CEQA-Roadway-Screening-Tool-Chronic-Hazard/sfnx-xg6j/about_data (accessed March 2024).

_____. 2022c. CEQA Roadway Screening Tool – PM2.5. December 8.

https://data.bayareametro.gov/Environment/CEQA-Roadway-Screening-Tool-PM2-5/r9gy-qwx/ceqa/about_data (accessed March 2024).

_____. 2023a. 2022 CEQA Guidelines. April 20, 2023. <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>

- _____. 2023b. BAAQMD Stationary Source Screening Map. April 10.
<https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3> (accessed 2023).
- California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005. <https://ww3.arb.ca.gov/ch/handbook.pdf>
- _____. 2016. Ambient Air Quality Standards. Last modified: May 4, 2016.
<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf> (accessed September 2022).
- _____. 2022. Maps of State and Federal Area Designations. November 2022.
https://ww2.arb.ca.gov/sites/default/files/2023-02/State_2022_O3.pdf (accessed May 2023).
- _____. 2023a. Overview: Diesel Exhaust & Health. [website] N.d.
<https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health> (accessed April 2023).
- _____. 2023b. "Top 4 Summary: Select Pollutant, Years, & Area."
<http://www.arb.ca.gov/adam/topfour/topfour1.php> (accessed April 2023).
- _____. 2023c. "National Ambient Air Quality Standards."
<https://ww2.arb.ca.gov/resources/national-ambient-air-quality-standards> (accessed April 2023).
- _____. 2023d. "California Ambient Air Quality Standards."
<https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards> (accessed April 2023).
- San Joaquin Valley Air Pollution Control District. 2015. Brief for San Joaquin Valley Unified Air Pollution Control District as Amicus Curiae Supporting Respondents, Sierra Club, Revive the San Joaquin, and League of Women Voters Fresno v. County of Fresno and Friant Ranch, L.P. (2018), 6 Cal.5th 502, Case No. S219783.
- Transportation Authority of Marin. 2019. Marin County Congestion Management Plan.
<https://www.tam.ca.gov/cmp/#documentsandreports> (accessed March 2024).
- United States Environmental Protection Agency (USEPA). 2014. Ambient Concentrations of Lead.
<https://cfpub.epa.gov/roe/indicator.cfm?i=5> (accessed March 2024).
- _____. 2015. Clean Air Act Title I – Air Pollution Prevention and Control, Parts A through D. Section 109. <https://www.epa.gov/clean-air-act-overview/clean-air-act-title-i-air-pollution-prevention-and-control-parts-through-d#ia> (accessed March 2024).
- _____. 2022. Process of Reviewing the National Ambient Air Quality Standards. Last Modified: October 22, 2022 (accessed September 2023).
- _____. 2023a. Health Effect of Ozone Pollution. Last Modified: May 24, 2023 (accessed August 2023).
- _____. 2023b. Basic Information about Carbon Monoxide (CO) Outdoor Air Pollution. Last Modified: July 13, 2023 (accessed August 2023).
- _____. 2023c. Basic Information about NO₂. Last Modified: July 25, 2023 (accessed August 2023).
- _____. 2023d. Sulfur Dioxide Basics. Last Modified: February 16, 2023 (accessed August 2023).
-

- _____. 2023e. Basic Information about Lead Air Pollution. Last Modified: July 5, 2023 (accessed August 2023).
- _____. 2023f. Health and Environmental Effects of Hazardous Air Pollutants. Last Modified: March 27, 2023. (accessed August 2023).
- _____. 2023g. Monitor Values Report. <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report> (accessed September 2023).
- _____. 2023h. "NAAQS Table". Last modified: March 15, 2023. <https://www.epa.gov/criteria-air-pollutants/naaqs-table> (accessed August 2023).
- _____. 2023i. Nonattainment Areas for Criteria Pollutants (Green Book). Last Modified: September 1, 2023. <https://www.epa.gov/green-book> (accessed September 2023).
- Western Regional Climate Center. 2023. San Rafael Civic Center of Record Monthly Climate Summary. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7880> (accessed March 2024).

Section 4.2 Biological Resources

- ArborWell. 2020. Tree Survey. Prepared By: Jennifer Hoppel - ISA Certified.
- California Department of Fish and Wildlife (CDFW). 2023a. California Natural Diversity Database, Rarefind V. 5.3.0 Accessed May 2023.
- _____. 2023b. California Natural Community List. Vegetation Classification and Mapping Program (VegCAMP). Thursday, June 1, 2023.
- _____. 2024. Biogeographic Information and Observation System (BIOS). www.wildlife.ca.gov/data/BIOS (accessed March 2024)..
- California Department of Transportation (Caltrans). 2023. Typical Noise Levels. Intensity and the Decibel Scale. <https://dot.ca.gov/programs/maintenance/pavement/noise-levels> (accessed May 2023).
- California Native Plant Society (CNPS). 2023. Inventory of Rare and Endangered Plants. Online edition V9.5. www.rareplants.cnps.org (accessed May 2023).
- Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. September 2018. FTA Report No. 0123. U. S. Department of Transportation.
- Novato, City of. 1990. Vintage Oaks Precise Development Plan. <https://www.novato.org/home/showdocument?id=31372> (accessed March 2024).
- Sawyer, J. O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation online, Second Edition. California Native Plant Society, Sacramento, California. <http://vegetation.cnps.org/> (accessed March 2024).
- Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Preserving Connected California. For the California Department of Transportation and California Department of Fish and Game. Sacramento, CA. February 2010
- United States Department of Agricultural, Natural Resources Conservation Service (USDA, NRCS). 2023a. Web Soil Survey. Soil Survey Area: Marin County, California. Soil Survey Data: Version 16, September 13, 2022.

- _____. 2023b. Lists of Hydric Soils. National Cooperative Soil Survey, U.S. Department of Agriculture. Accessed via: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/> (accessed July 2023).
- United States Fish and Wildlife Service (USFWS). 2023. National Wetlands Inventory. Accessed May 2023.
- _____. 2024. Critical Habitat Portal. Available at: <https://ecos.fws.gov/ecp/report/table/critical-habitat.html> (accessed March 2024).
- United States Geologic Survey (USGS) 2024. National Hydrography Dataset (NHD). Located at: <https://www.usgs.gov/core-science-systems/ngp/national-hydrography> (accessed March 2024).

Section 4.3 Cultural Resources

- Bancroft, Hubert How. 1885. History of California, Volume III: 1825-1840. San Francisco, California: A.L. Bancroft & Co.
- Bean, Walton. 1968. *California: An Interpretive History*. McGraw-Hill Book Company, San Francisco, California.
- Borejzsa, Aleksander, D. Frederick, Luis Morett Alatorre and Arthur A. Joyce. 2014. "Alluvial Stratigraphy and the Search for the Preceramic Open-Air Sites in Highland Mesoamerica." *Latin American Antiquity*, 25(3): 278–299
- Burns, Gregory, Susan Cook Talcott, Kathryn Demps, Jason Edmonds, John Lambert, Andrew Tremayne, and Jelmer Eerkens. 2012. Isotopic Evidence for Changing Residence Patterns through the Middle to Late Holocene in Central California. *SCA Proceedings* 26:164-171.
- Byrd, Brian, Adrian Whitaker, Patricia Mikkelsen, Jeffrey Rosenthal, Todd Jaffke, Philip Kaijankoski, Jack Meyer, Randall Milliken, and Eric Wohlgemuth. 2017. "San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4." Report on file with the California Department of Transportation (Caltrans).
- California Office of Historic Preservation. 1995. Instructions for Recording Historical Resources. Office of Historic Preservation, Sacramento, California. <https://ohp.parks.ca.gov/pages/1054/files/manual95.pdf> (accessed June 29, 2023).
- California Soil Resource Lab. 2023. *SoilWeb Viewer – Novato, California*. <https://casoilresource.lawr.ucdavis.edu/gmap/> (accessed June 28, 2023).
- Coady, M.A. 2005. Novato Mexican Land Grants to 1976. *The Novato Historian* 29(3):1-4.
- Coady, M.A. 2006. The Birth of an Air Base. *The Novato Historian* 30(1):1-4.
- Coast Miwok of Marin. 2023. History. <https://www.coastmiwokofmarin.org/our-history.html> (accessed July 20, 2023).
- Dockendorf, Dan, and Andrea Traum. 2020. Geotechnical Study Proposed Fuel Facility Costco Wholesale Warehouse No. 141 300 Vintage Way, Novato, California 94945, CW# 19-0843. Report on file with City of Novato.
- D’Oro, Stella. 2009. *Native California Prehistory and Climate in the San Francisco Bay Area*. Master’s Thesis, Department of Anthropology, San Jose State University, San Jose, California.

- Dumke, Glenn S. 1994. The Boom of the 1880s in Southern California. *Southern California Quarterly* 76(1):99-114.
- Federated Indians of Graton Rancheria. 2016. History. <https://gratonrancheria.com/culture/history/> (accessed September 27, 2021).
- Gifford, Edward W. 1916. Composition of California Shellmounds. *American Archaeology and Ethnology* 12(1):1-29.
- Graymer, R.W., Moring, G.J. Saucedo, C.M. Wentworth, E.E. Brabb, and K.L. Knudsen. 2006. Geologic map of the San Francisco Bay Region. U.S. Geological Survey, Scientific Investigations Map 2918. Map scale: 1:275,000.
- Gumprecht, Blake. 1999. *The Los Angeles River: Its Life, Death, and Possible Rebirth*. Baltimore, Maryland: Johns Hopkins University Press.
- Hackel, Steven W. 1997. Land, Labor, and Production: The Colonial Economy of Spanish and Mexican California. *California History* 76(2/3):111-146.
- Hylkema, Mark G. 2002. Tidal Marsh, Oak Woodlands, and Cultural Florescence in the Southern San Francisco Bay Region. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, edited by Jon M. Erlandson and Terry L. Jones, pp.233–262. Perspectives in California Archaeology, Vol. 6. Cotsen Institute of Archaeology, University of California, Los Angeles.
- Kelly, Isabel. 1991. Map of the Coast Miwok Settlements, California. Sonoma State University Environmental History Collection. <https://northbaydigital.sonoma.edu/digital/collection/EHDC/id/1357/> (accessed June 28, 2023).
- Kroeber, Alfred L. 1925. Handbook of the Indians of California. Bulletin 78, Bureau of American Ethnology, Smithsonian Institution. Government Printing Office, Washington, D.C. Reprinted 1976 by Dover Publications, Inc., New York.
- Kyle, Douglas E. 2002. *Historic Spots in California*. Stanford, California: Stanford University Press.
- Lentz, Kari. 2012. Flaked and Groundstone Technology at CA-ALA-554: Mortar Bowls and Stockton Points. *SCA Proceedings* 26:192-211.
- Levy, Richard. 1978. Eastern Miwok. In *Handbook of North American Indians*, Vol. 8 (California), edited by William C. Sturtevant and Robert F. Heizer, pp. 398-413. Smithsonian Institution, Washington, D.C.
- Lightfoot, Kent G., and Edward M. Luby. 2002. Late Holocene in the San Francisco Bay Area: Temporal Trends in the Use and Abandonment of Shell Mounds in the East Bay. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, edited by Jon M. Erlandson and Terry L. Jones, pp.263-281. Perspectives in California Archaeology, Vol. 6. Cotsen Institute of Archaeology, University of California, Los Angeles.
- Livingston, M.M. 1914. The Earliest Spanish Land Grants in California. *Annual Publication of the Historical Society of Southern California* 9(3):195-199.
- Luby, Edward M. and Mark F. Gruber. 1999. The Dead Must be Fed: Symbolic Meanings of the Shellmounds of the San Francisco Bay Area. *Cambridge Archaeological Journal* 9(1):95-105.

- McLaren, Duncan, Daryl Fedje, Quentin Mackie, Loren Davis, Jon Erlandson, Alisha Gauvreau, and Colton Vogelaar. 2019. Late Pleistocene Archaeological Discovery Models on the Pacific Coast of North America. *PaleoAmerica* 6(1):43-63.
- Milliken, Randall. 2009. Ethnohistory and Ethnogeography of the Coast Miwok and Their Neighbors, 1783-1840. National Park Service, Golden Gate National Recreation Area, San Francisco, California.
- Milliken, Randall, Laurence Shoup, and Beverly Ortiz. 2009. Ohlone/Costanoan Indians of the San Francisco Peninsula and Their Neighbors, Yesterday and Today. National Park Service, Golden Gate National Recreation Area, San Francisco, California.
- Milliken, R. T., R.T. Fitzgerald, M. G. Hylkema, R. Groza, T. Origer, D. G. Bieling, A. Leventhal, R. S. Wiberg, A. Gottsfield, D. Gillette, V. Bellifemine, E. Strother, R. Cartier, and D. A. Fredrickson. 2007. Punctuated Cultural Change in the San Francisco Bay Area. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 99-124. AltaMira Press, Lanham, Maryland.
- Moratto, Michael J. 1984. *California Archaeology*. Academic Press, New York.
- National Park Service. 1983. Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. http://www.nps.gov/history/local-law/Arch_Standards.htm (accessed June 28, 2023).
- Nationwide Environmental Title Research Online. Various. "HistoricAerials," Historical aerial photographs and topographical maps of Novato, California. www.historicaerials.com (accessed June 28, 2023).
- Novato, City of. 2014. Existing Conditions Report. April 1, 2014. <https://www.novato.org/government/community-development/general-plan-update/existing-conditions-report> (accessed June 28, 2023).
- _____. 2020. 2035 General Plan. <https://www.novato.org/home/showpublisheddocument/32287/637526315486370000> (accessed September 2023).
- Novato Historical Guild. 2023. Chronological History of Novato. <https://www.novatohistory.org/timeline/> (accessed June 28, 2023).
- Ragir, Sonia. 1972. *The Early Horizon in Central California Prehistory*. Contributions of the University of California Archaeological Research Facility, No. 15. Berkeley.
- Rice, Salem, Theodore Smith, Rudolph Stand, David Wagner, Carolyn Randolph-Loar, Robert Witter, and Kevin Clahan. 2002. Geologic Map of the Novato 7.5' Quadrangle, Marin and Sonoma Counties, California. United States Geological Survey Map.
- Rolle, Andrew. 2003. *California: A History*. Sixth printing. 1963. Harlan Davidson, Inc. Wheeling, Illinois.
- Simons, Dwight and Tim Carpenter. 2009. Fish Remains from CA-MRN-44/H, Angel Island, Marin County, California. *Proceedings of the Society for California Archaeology* 21:69-81.
- Tom Origer & Associates. 2018a. Department of Parks and Recreation (DPR) 523 Forms for Resource P-21-002586. Report on file with the Northwest Information Center, Sonoma State University.

- Tom Origer & Associates. 2018b. Department of Parks and Recreation (DPR) 523 Forms for Resource P-21-002618. Report on file with the Northwest Information Center, Sonoma State University.
- United States Geological Survey (USGS). Various. *Novato, California* [map]. topoView [topographical map database]. <https://ngmdb.usgs.gov/topoview/viewer> (accessed June 28, 2023).
- Van Der Porten, Peter, Katherine Dixon, and Alex DeGeorgey. 2014. Seriation of Clam Shell Disk Beads in Central California. *SCA Proceedings* 28:267-281.
- Waters, Michael R. 1983. "Late Holocene Lacustrine Chronology and Archaeology of Ancient Lake Cahuilla, California." *Quaternary Research* 19: 373-387.
- Waugh, John C. 2003. *On the Brink of Civil War: The Compromise of 1850 and How It Changed the Course of American History*. The American Crisis Series: Books on the Civil War Era, No 13.

Section 4.4 Geology and Soils

- Blake, M.C., R.W. Graymer, D.L. Jones, and A. Soule. 2000. Geologic map and map database of parts of Marine, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California. [map.] United States Geological Survey. Miscellaneous Field Studies Map MF-2337, scale 1:75,000.
- California Geological Survey. 2002. Note 36 – California Geomorphic Provinces. <https://www.conservation.ca.gov/cgs/Documents/CGS-Note-36.pdf>.
- _____. 2021. Landslide Inventory. <https://maps.conservation.ca.gov/cgs/lisi/> (accessed September 2023).
- _____. 2023. Earthquake Zones of Required Investigation. <https://maps.conservation.ca.gov/cgs/EQZApp/> (accessed September 2023).
- Natural Resources Conservation Service. 2023. Web Soil Survey. <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx> (accessed September 2023).
- Novato, City of. 2020. 2035 General Plan. <https://www.novato.org/home/showpublisheddocument/32287/637526315486370000> (accessed September 2023).
- Paleobiology Database. 2023. The Paleobiology Database, <http://paleobiodb.org/> (accessed September 2023).
- Society of Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology Impact Mitigation Guidelines Revision Committee. https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf.
- United States Geological Survey. 2019. U.S. Quaternary Faults. <https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf> (accessed September 2023).
- University of California Museum of Paleontology. 2023. UCMP online database specimen search portal, <http://ucmpdb.berkeley.edu/> (accessed September 2023).

Wagner, D.L. and C.I. Gutierrez. 2017. Preliminary geologic map of the Napa and Bodega Bay 30' x 60' quadrangles, California. [map.] California Geological Survey. Preliminary Geologic Maps PGM-17-04, scale 1:100,000.

Section 4.5 Energy and Greenhouse Gas Emissions

Bay Area Air Quality Management District (BAAQMD). 2023. BAAQMD 2022 CEQA Air Quality Guidelines. Available: <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines> (accessed July 2023).

California Air Resource Board (CARB). 2008. Climate Change Scoping Plan. Available: <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents> (accessed July 2024).

_____. 2011. Advanced Clean Cars Summary. Available: https://ww2.arb.ca.gov/sites/default/files/2019-12/acc%20summary-final_ac.pdf (accessed July 2024).

_____. 2021. "California Greenhouse Gas Emissions for 2000 to 2019 – Trends of Emissions and Other Indicators." https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000_2019_ghg_inventory_trends_20220516.pdf (accessed September 2023).

_____. 2021b. Senate Bill 100 Implementation. <https://ww2.arb.ca.gov/sites/default/files/2021-11/SB100-CEC-CPUC-sp22-electricity-ws-11-02-21.pdf> (accessed July 2024).

_____. 2022. "2022 Scoping Plan Documents." <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents> (accessed September 2023).

_____. 2023. "Regional Plan Targets." <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets> (accessed September 2023).

California Climate Change Center (CCCC). 2006. Climate Scenarios for California. March. <https://research.fit.edu/media/site-specific/researchfitedu/coast-climate-adaptation-library/united-states/west-coast-amp-hawaix27i/california---statewide/CCCC.--2006.--Climate-Scenarios-for-California.pdf> (accessed September 2023).

California Department of Finance (DOF). 2024. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2023. <https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2024/> (accessed July 2024).

California Department of Food and Agriculture. 2020 California Agricultural Statistic Review 2019-2020. Available: https://www.cdfa.ca.gov/Statistics/PDFs/2020_Ag_Stats_Review.pdf (accessed July 2024).

California Department of Water Resources. 2018. Indicators of Climate Change in California. May 2018. <https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf> (accessed September 2023).

California Energy Commission. 2023a. "Electric Load-Serving Entities (LSEs) in California" <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-load-serving-entities-lses> (accessed October 2023).

- _____. 2023b. *2021 Total System Electric Generation*. <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation> (October 2023).
- _____. 2023c. Oil Supply Sources to California Refineries. http://www.energy.ca.gov/almanac/petroleum_data/statistics/crude_oil_receipts.html (accessed November 2023).
- _____. 2023d. “Electricity Consumption by County” <http://ecdms.energy.ca.gov/elecbycounty.aspx> (accessed October 2023).
- _____. 2023f. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting> (accessed November 2023).
- _____. 2023g. 2023 Integrated Energy Policy Report Update. <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2023-integrated-energy-policy-report> (accessed March 2024).
- California Gas and Electric Utilities. 2023. 2022 California Gas Report. https://www.socalgas.com/sites/default/files/Joint_UTILITY_Biennial_Comprehensive_California_Gas_Report_2022.pdf (accessed October 2023).
- California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy. March 2009. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf (accessed September 2023).
- Intergovernmental Panel on Climate Change (IPCC). 2021. IPCC Sixth Assessment Report. https://report.ipcc.ch/ar6/wg3/IPCC_AR6_WGIII_Full_Report.pdf (accessed September 2023).
- Marin County Flood Control and Water Conservation District. 2023. Flood Control Zone 1: Novato. <https://marinflooddistrict.org/flood-control-zone-1-novato/> (accessed October 2023).
- National Aeronautics and Space Administration. 2023. “Global Climate Change – Vital Signs of the Planet – Sea Level.” <https://climate.nasa.gov/vital-signs/sea-level/> (accessed September 2023).
- National Highway Traffic Safety Administration. 2023. Corporate Average Fuel Economy. <https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy> (accessed September 2023).
- National Oceanic and Atmospheric Administration. 2020. “Global Climate Report for Annual 2019.” State of the Climate. January 2020. <https://www.ncdc.noaa.gov/sotc/global/201813> (accessed September 2023).
- Novato, City of General Plan 2035 Policy white Paper Climate Action Plan. March 2015. Available: <https://www.novato.org/home/showdocument?id=12601> (accessed July 2024)
- _____. 2020. 2035 General Plan. Available: <https://www.novato.org/home/showpublisheddocument/32287/637526315486370000> (accessed July 2024).
- Pacific Gas & Electric (PG&E). 2022. 2021 Power Content Label <https://www.energy.ca.gov/filebrowser/download/4653>.

- _____. 2023 “Company Profile.” Retrieved on December 5, 2018, from https://www.pge.com/en_US/about-pge/company-information/profile/profile.page
- Parmesan, C. 2006. Ecological and Evolutionary Responses to Recent Climate Change. August. https://www.fws.gov/southwest/es/documents/R2ES/LitCited/LPC_2012/Parmesan_2006.pdf (accessed September 2023).
- State of California. 2018. California’s Fourth Climate Change Assessment Statewide Summary Report. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf (accessed September 2023).
- United States Department of Energy (DOE). 2024. Alternative Fueling Station Locator. <https://afdc.energy.gov/stations/#/find/nearest> (accessed July 2024).
- United States Department of Transportation, Bureau of Transportation Statistics. 2021. National Transportation Statistics. Available at: <https://www.bts.gov/topics/national-transportation-statistics>.
- United States Environmental Protection Agency (USEPA). 2023a. “Overview of Greenhouse Gases.” Last updated: August 25, 2023. <https://www.epa.gov/ghgemissions/overview-greenhouse-gases> (accessed September 2023).
- _____. 2023b. “Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019.” Last updated: January 25, 2023. <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019> (accessed September 2023).
- _____. 2023c. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019 – Data Highlights. <https://www.epa.gov/sites/default/files/2021-04/documents/us-ghg-inventory-1990-2019-data-highlights.pdf> (accessed July 2024).
- World Meteorological Organization. 2013. WMO statement on the status of the global climate in 2013. https://library.wmo.int/doc_num.php?explnum_id=7862 (accessed September 2023).

Section 4.6 Hazards and Hazardous Materials

- California Department of Forestry and Fire Protection (CAL FIRE). 2023. Fire Hazard Severity Zone Viewer. <https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008> (accessed October 2023).
- California Department of Toxic Substances Control (DTSC). 1996a. Onsite Hazardous Materials Waste Treatment Notification Form, Costco Wholesale #141. December 4, 1996. https://www.envirostor.dtsc.ca.gov/getfile?filename=/public%2Fdeliverable_documents%2F8760670304%2FOnsite%20Hazardous%20Waste%20Treatment%20Notification%20Form.pdf (accessed June 2024).
- _____. 1996b. Tiered Permitting Phase I Environmental Assessment Checklist, Costco Wholesale #141. December 31, 1996. https://www.envirostor.dtsc.ca.gov/getfile?filename=/public%2Fdeliverable_documents%2F7304020524%2FPhase%20I%20Environmental%20Assessment.pdf (accessed June 2024).
- _____. 2019. Uniform Hazardous Waste Manifest, Tracking Number 006185000 GBF. August 2019. <https://hwts.dtsc.ca.gov/facility/cac003024914> (accessed June 2024).

- _____. 2020. EPA ID Profile: CAC003024914. Last Updated September 18, 2020.
https://hwts.dtsc.ca.gov/hwts_Reports/ReportPages/Report03.aspx?epaid=CAC003024914
(accessed October 2023).
- _____. 2023a. EnviroStor. <http://www.envirostor.dtsc.ca.gov/public/>. (accessed September 2023).
- _____. 2023b. EPA ID Profile: CAR000005512. Last Updated August 2, 2023.
https://hwts.dtsc.ca.gov/hwts_Reports/ReportPages/Report03.aspx?epaid=CAR000005512
(accessed October 2023).
- _____. 2024. Costco Wholesale #141, Novato (71003434).
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=71003434 (accessed
June 2024).
- Costco Wholesale. 1997. Letter to DTSC. May 7, 1997.
https://www.envirostor.dtsc.ca.gov/getfile?filename=/public%2Fdeliverable_documents%2F1994328141%2F1997%20Letter%20from%20Costco.pdf (accessed June 2024).
- California Office of Emergency Services (Cal OES). 2017. State of California Emergency Plan.
https://www.caloes.ca.gov/wp-content/uploads/Preparedness/Documents/California_State_Emergency_Plan_2017.pdf
(accessed September 2023).
- Marin, County of. 1991. Airport Land Use Plan: Marin County Airport Gness Field. June 10, 1991.
<https://www.marincounty.org/~media/files/departments/cd/planning/currentplanning/publications/landuseplan/airport-land-use-plan--marin-county-airport-gness-field.pdf>
(accessed October 2023).
- _____. 2018. Marin County Multi-Jurisdictional Local Hazard Mitigation Plan (MCM LHMP).
<https://storage.googleapis.com/proudcity/marinwatershedprogramca/uploads/2022/07/Marin-County-Multi-Jurisdictional-Local-Hazard-Mitigation-Plan-2018-min.pdf> (accessed
September 2023).
- Novato, City of. 2014. Existing Conditions Report.
<https://www.novato.org/government/community-development/general-plan-update/existing-conditions-report> (accessed October 2023).
- Novato Fire Protection District (NFPD). 2020. WUI Map.
<https://www.novatofire.org/home/showpublisheddocument/183/635984085232470000>
(accessed July 2020).
- State Water Resources Control Board (SWRCB). 2023a. GeoTracker Database.
<https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5c/> (accessed November 2023).
- _____. 2023b. List of solid waste disposal sites identified by Water Board.
<https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5c/> (accessed November 2023).
- _____. 2023c. List of "active" CDO and CAO. <https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5c/> (accessed November 2023).
- United States Environmental Protection Agency (USEPA). 2023. Household Hazardous Waste (HHW).
<https://www.epa.gov/hw/household-hazardous-waste-hhw> (accessed October 2023).
- Yuen, Nicole. 2024. Personal communication between Rincon (Julie Welch) and DTSC (Nicole Yuen) staff. June 6, 2024, via phone and June 17, 2024, via email.

Section 4.7 Hydrology and Water Quality

- California Geological Survey (CGS). 2002. California Geomorphic Provinces Note 36. <https://www.conservation.ca.gov/cgs/Documents/Publications/CGS-Notes/CGS-Note-36.pdf> (accessed October 2023).
- Cone, Marla. 2005. "EPA Takes Pest Killer Diazinon Off the Shelves." Los Angeles Times, January 1, 2005. <https://www.latimes.com/archives/la-xpm-2005-jan-01-na-pest1-story.html> (accessed October 2023).
- California Department of Conservation (DOC). 2009. Tsunami Inundation Map for Emergency Planning. Novato Quadrangle, Petaluma Point Quadrangle. July 1, 2009. https://www.conservation.ca.gov/cgs/Documents/Publications/Tsunami-Maps/Tsunami_Inundation_NovatoPetalumaPoint_Quads_Marin.pdf (accessed October 2023).
- Department of Water Resources (DWR). 2004. Novato Valley Basin. Bulletin 118. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/2_030_NovatoValley.pdf. (accessed November 2023).
- _____. 2013. California's Groundwater Update 2013. San Francisco Bay Hydrologic Region Groundwater Update. <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/California-Groundwater-Update-2013/California-Groundwater-Update-2013---Chapter-4---San-Francisco-Bay.pdf> (accessed October 2023).
- _____. 2019. Groundwater Basin Prioritization. <https://gis.water.ca.gov/app/bp-dashboard/final/> (accessed November 2023).
- Earthworks. 2013. Subwatershed Boundaries, California (12-digit HUC), 2013 <https://earthworks.stanford.edu/catalog/stanford-dq651jm0302> (accessed November 2023).
- eBird. 2023. Checklist S151015636. <https://ebird.org/checklist/S151015636> (accessed November 2023).
- Federal Emergency Management Agency (FEMA). 2023. FEMA Flood Map Service Center: Search by Address. <https://msc.fema.gov/portal/search?AddressQuery=novato%20ca> (accessed November 2023).
- Idcide.com. 2022. Novato, CA Weather. <https://www.idcide.com/weather/ca/novato.htm> (accessed October 2023).
- Marin County Flood Control and Water Conservation District (MCFCWCD). 2023. Flood Control Zone 1: Novato. <https://marinflooddistrict.org/flood-control-zone-1-novato/> (accessed October 2023).
- Michael Baker International. 2020. Novato Creek Dam, Stafford Dam, Sunny Day Dam Failure Scenario, Flood Wave Arrival Time. April 15, 2020. https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2 (accessed February 2024).
- North Marin Water District (NMWD). 2021. 2020 Urban Water Management Plan for North Marin Water District. https://nmwd.com/wp-content/uploads/2021/07/NMWD-UWMP-2020_w_appendices.pdf (accessed October 2023).

- _____. 2022. 2022 Local Water Supply Enhancement Study. <https://nmwd.com/wp-content/uploads/2022/07/R-861-Local-Water-Supply-Enhancement-Study-Final-Report-July-2022-reduced.pdf> (accessed October 2023).
- Novato, City of. 2014. Existing Conditions Report. <https://www.novato.org/government/community-development/general-plan-update/existing-conditions-report> (accessed October 2023).
- _____. 2015. General Plan 2035 Policy White Paper. Sea Level Rise and Adaptation. https://www.marincounty.org/~media/files/departments/cd/planning/slr/more-information/novato_slr_adaptation_white_paper_march_2015.pdf?la=en (accessed October 2023).
- _____. 2020. 2035 General Plan. <https://www.novato.org/home/showpublisheddocument/32287/637526315486370000> (accessed September 2023).
- _____. 2023. About City of Novato. <https://visitnovato.com/about-city-of-novato/> (accessed October 2023).
- State Water Resources Control Board (SWRCB). 2013. San Francisco Bay Basin Water Quality Control Plan (Basin Plan). https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html (accessed October 2023).
- _____. 2021. Final 2018 California Integrated Report. https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report.html (accessed October 2023).
- United States Environmental Protection Agency (USEPA). 2023. Water Quality Standards: Establishment of Revised Numeric Criteria for Selenium for the San Francisco Bay and Delta, State of California. <https://www.epa.gov/wqs-tech/water-quality-standards-establishment-revised-numeric-criteria-selenium-san-francisco-bay> (accessed November 2023).
- United States Geological Survey (USGS). 2023a. The National Map. <https://apps.nationalmap.gov/viewer/> (accessed October 2023).
- _____. 2023b. Science in Your Watershed. <https://water.usgs.gov/wsc/cat/18050002.html> (accessed November 2023).

Section 4.8 Transportation

- Golden Gate Transit. 2023a. Route 101 Santa Rosa to San Francisco Schedule. https://www.goldengate.org/assets/1/6/kiosk_std_101.pdf?10578 (accessed October 2023).
- _____. 2023b. Route 154 Novato to San Francisco Schedule. https://www.goldengate.org/assets/1/6/kiosk_std_154.pdf?10582 (accessed October 2023).
- Marin Transit (MT). 2023a. Route 57 Novato to Downtown San Rafael Schedule. <https://marintransit.org/routes/57> (accessed October 2023).
- _____. 2023b. Route 71 Novato to Marin City Schedule. <https://marintransit.org/routes/71> (accessed October 2023).

State Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. December 2018. https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf (accessed March 2024).

Section 4.9 Tribal Cultural Resources

Coast Miwok of Marin. 2023. History. <https://www.coastmiwokofmarin.org/our-history.html> (accessed July 20, 2023).

Federated Indians of Graton Rancheria. 2016. History. <https://gratonrancheria.com/culture/history/> (accessed September 27, 2021).

Kroeber, Alfred L. 1925. Handbook of the Indians of California. Bulletin 78, Bureau of American Ethnology, Smithsonian Institution. Government Printing Office, Washington, D.C. Reprinted 1976 by Dover Publications, Inc., New York.

Levy, Richard. 1978. Eastern Miwok. In Handbook of North American Indians, Vol. 8 (California), edited by William C. Sturtevant and Robert F. Heizer, pp. 398-413. Smithsonian Institution, Washington, D.C.

Milliken, Randall, Laurence Shoup, and Beverly Ortiz. 2009. Ohlone/Costanoan Indians of the San Francisco Peninsula and Their Neighbors, Yesterday and Today. National Park Service, Golden Gate National Recreation Area, San Francisco, California.

Novato, City of. 2020. 2035 General Plan. <https://www.novato.org/home/showpublisheddocument/32287/637526315486370000> (accessed September 2023).

Section 5 Other CEQA Related Discussions

No references are cited in this section.

Section 6 Alternatives

Novato, City of. 2019. Hanna Ranch Master Plan and Precise Development Plan. <https://www.novato.org/home/showpublisheddocument/22610/636452353384270000> (accessed October 2023).

California Department of Forestry and Fire Protection (CAL FIRE). 2024. Fire Hazard Severity Zone Viewer. <https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/> (accessed June 2024)

California Department of Toxic Substances Control. 2024. EnviroStor Database. https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29 (accessed June 2024).

California Energy Commission (CEC). 2022. Light-Duty Vehicle Population in California. Light-Duty Vehicle Population in California. <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/light-duty-vehicle> (accessed March 2024).

California Environmental Protection Agency. 2024a. List of solid waste disposal sites. <https://calepa.ca.gov/SiteCleanup/CorteseList/> (accessed June 2024).

- _____. 2024b. List of “active” CDO and CAO from Water Board. <https://calepa.ca.gov/SiteCleanup/CorteseList/> (accessed June 2024).
- Novato, City of. 2015. General Plan 2035 Policy White Paper. Sea Level Rise and Adaptation. https://www.marincounty.org/~media/files/departments/cd/planning/slr/more-information/novato_slr_adaptation_white_paper_march_2015.pdf?la=en (accessed October 2023).
- _____. 2019. Hannah Ranch Mixed Use Project. <https://www.novato.org/government/community-development/planning-division/planning-projects/hanna-ranch-mixed-use> (accessed June 2024).
- State Water Resources Control Board. 2024. GeoTracker Database. <https://geotracker.waterboards.ca.gov/map/?myaddress=California&from=header&cqid=4634931266#> (accessed June 2024).

7.2 List of Preparers

This EIR was prepared by the City of Novato, with the assistance of Rincon Consultants, Inc. Consultant staff involved in the preparation of the EIR are listed below.

RINCON CONSULTANTS, INC.

Matt Maddox, MESM, AICP, Principal
Aileen Mahoney, Project Manager
Josh Carman, Director
Heather Dubois, Senior Environmental Planner
Kayleigh Limbach, Environmental Planner
Antonia Davetas, Environmental Planner
Michael Huang, Environmental Planner
Samantha Kehr, Senior Biologist
Hannah Haas, Supervising Archaeologist
Elaine Foster, Archaeologist
Andrew McGrath, Paleontologist
Jennifer Guenther, Legal Counsel
Nikole Vannest, GIS Analyst

W-TRANS

Zack Matley, AICP, Principal

This page left intentionally blank.